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INSTITUTE OF SOCIAL SCIENCES

INNOVATION & ENTREPRENEURSHIP in BUSINESS ECOSYSTEMS: A STUDY on the NEED for a PARADIGM SHIFT in TURKEY

by

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Özet

Bu yüksek lisans tezinde insanlar tarafindan oluşturulan ve yönlendirilern iş ekosistemleri ve bu ekosistemlerin sağlıklı ve sürdürülebilir bir şekilde var olmaya devam edebilmeleri için ihtiyaç duyulan ve iyileştirilmesi gereken stratejiler analiz edilmektedir. Bu yeni iş ekosistemlerinin yapısal karmaşıklığı; aktörler, aracılar, roller ve stratejiler üzerinden tanımlanmaktadır. İlk dört global ülkenin BRIC ülkeleriyle birlikte iş ekosistemleri, bu sistemlerin ana hatlarının neler olduğu ve bu ana hatların başarıyı yakalamak adına nasıl çalıstığını açıklamak icin Küresel Rekabetcilik Endeksi Raporu (2013-2014) derinlemesine analiz edilmektedir. Bu analizin teyidi ekosistem stratejileri ve operasyonlarına göre tasarlanan bir dizi mülakat sorusu sonucu sağlanmıştır. Global ve BRIC olan iki grup ülkelerin ve şirketlerinin karşılıklı menfaat ilişkileri doğrultusunda yapılan analiz sonrası, Türkiye'deki iş trendine odaklanılmaktadır. Bu analiz, yüksek teknelojiye dayalı inovasyon ve ar-ge çalışmalarının ve girişimciliği içeren yeni küresel rekabet stratejilerinin ve bunların nasıl bir küresel ölçütlerin içinde bulunduğunu içermektedir. Bu tezde sağlanan tüm analizlerin ışığında, Türkiye'deki ekosistemlerin benzerlikleri ve farklılıkları tanımlanmakta ve bu benzerlik ve farklılıkların avantaj ve dezavantajlarının küresel iş ekosistemlere ve Türkiye ekonomisine etkileri karşılaştırılmaktadır. "Tek tip" konseptli seri üretimin yok oluşu hatırlatılarak, sağlıklı bir ekonomiye kavuşmada çok geç kalmamak için Türkiye'deki zayıf yönlerin iyileştirilmesi yoluyla yeni ekosistem trendine acil yönelme çağrısı yapılmaktadır.

Abstract

In the thesis, as human dominated ecosystems, vital strategies of healthy and sustainable business ecosystems are analyzed from the point of the new business trend. The structural complexity of these new manmade ecosystems is clearly defined via business ecosystem actors, agents, their roles and strategies. The business ecosystems of the global top four countries together with BRIC countries in regard to the Global Competitiveness Report (2013-2014) are deeply analyzed to explain what the guidelines of health and sustainability in their own human ecosystems are and how these guidelines function to capture success. The confirmation of this analysis is obtained through a set of interview questions designed in terms of ecosystem strategies and operations. After the analysis of the two groups of countries and their companies' review through symbiotic relationships, the business trend in Turkey is focused using a customized chart to provide a healthy measurement. The result of this analysis depicts a framework within global measures in which the new global competition strategies including innovation and R&D with advanced technology and entreprenurship lie. In the spotlight of all the analysis provided in the thesis, the similarities and differences in Turkey's business ecosystems are identified, the impact of pros and cons of these similarities and differences on global business ecosystems and on Turkey's economy are compared. Reminding of the extinction of the traditional way of business and the disappearance of mass production with the concept of "one fits for all", an urgent call for a shift to the new business trend, at least, through the improvement of the weaker parts in Turkey is made in order not to be too late for a healthy economy.

Acknowledgements

I dedicate this thesis to my beloved family; my father Ali Etem, my mother Sevim Etem and my lovely brother Hakkı Etem. Without their guidance, support, patience, love and affection, it would be too hard for me to pursue my M.S. degree. I also thank to my mother's true friend, Ms. Argun who helped me get the required connections with some of the companies in Istanbul; without her help, it would be too difficult for me to perform the in-person interviews.

Abbreviations

AAA	Agricultural Adjusmet Act
API	Application Program Interface
ARPA	Advanced Research Projects Agency
BIST	Borsa Istanbul
BR	Brazil
BRIC	Brazil, Russian Federation, India and China
CH	Switzerland
CHF	Swiss Frank
CN	China
CRM	Customer Relationship Management
DE	Germany
EFQM	the European Foundation for Quality Management
EFTA	European Free Trade Association
EMCC	European Monitoring Center on Change
EPU	European Payments Union
ERP	Enterprise Resource Planning
ESCS	European Coal and Steel Community
EURO V	Emission Standards
FI	Finland
GCI	Global Competitiveness Index
GDP	Gross Domestic Product
GTE	Gran Tierra Energy, Inc.
GW	Gigawatt
IDEFO	Icam DEFinition for Function Modeling
IMF	Internatinal Monetary Fund
IN	India
ISO	International Organization for Standardization
IŞ KUR	Türkiye İş Kurumu
IT	Information Technology
ITI	Itnernational Tranining Institute
KNEXT	Knowledge Based Engineering
MDI	Media Delivery Index
MIT	Massachusetts Institute of Technology
MW	Megawatt
OECD, OEEC	the Organisation for Economic Co-operation and Development
OYAK	Ordu Yardımlaşma Kurumu
PRC	People’s Republic of China
PV	Photovoltaics
R	Rand
RMB	Renminbi
RU	Russian Federation
RUR	Russian ruble before the 1998 redenomination
SAP	Systems Applications Products
SFDA	State Food and Drug Administration
SG	Singapore
SME	Small-Medium Enterprises

SWOT	the Strenghts, Weaknesses, Opportunities and Threats
TÜBITAK	Türkiye Bilimsel ve Teknolojik Araştırma Kurumu
TÜSİAD	Türk Sanayicileri ve İşadamları Derneği
TML	Technosoft Motion Language
TR	Turkey
TPAO	Türkiye Petrolleri Anonim Ortaklığı
UNRR	United Nation’s Relief and Rehabilitation Administration

Chapter 1
Introduction

Chapter 2
Historical Background of Business

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INTRODUCTION

Human dominated ecosystems, inspired by the complex relationships of the ever-lasting cycle of the biological ecosystems, go through a deep structural change derived from advanced technology in every aspect of life and this overall change which ensures a sustainable economy for advanced countries, threatens the survival of the enterprises in Turkey and urge them to make a quick shift from traditional style business to business ecosystem cycle where competition and cooperation through all the contributors of the environment provide the survival of species of living organisms.

To provide the hypothesis with strong evidence, the thesis starts with the description of the stages in the creation and the development of a highly complex but unified structure of the new business trend. Through the passages of time, political, cultural, social and economic changes and their impact on commerce are clarified; the extinction of the traditional style business in advanced countries and the reasons behind the extinction are clearly defined via the historical background of trade and how the conversion from the traditional concept of business to the technology-driven concept has taken place is explained. Besides, this new business trend in connection with biological ecosystem as the core man-made ecosystems in the world are deeply analyzed by means of its highly complex technology-driven structure and the innovation and entrepreneurship capacity in advanced countries both of which are vital for the establishment of business ecosystems, and this new business style is compared to those of the ones in BRIC countries which are also known as emerging countries. The rank of Turkey, as an emerging country, not being among the BRIC countries though, from the point of the new business concept by means of innovation and entrepreneurship in organizations, companies, institutions, higher education, and the government approach to the new system are identified from the point of the twelve pillars of the GCI Report (2013-2014).

Thus, the thesis tries to explain how this new business system through innovation and entrepreneurship led by highly advanced technology dangerously reshapes businesses and economies all around the world, in what ways this new business trend create danger for all the enterprises across the world, how the strategies are designed by large global companies to avoid the danger and why Turkey, despite its strong manufacturing capacity and high population rate, is about to fall pray to the new system.

Starting with the historical background of business, the thesis first aims to display how the needs of the humankind create inventions and discoveries and how each invention and discovery is an innovation of its time and how they lead the way to new business areas. How the business paradise based on mass-production was created by the dominant companies in some countries particularly led by the ones in the USA after WW II, how these recent changes cause the destruction of that paradise, what the end results of the collapse of the paradise are, how they try to handle the destructive threat are all illustrated through *destructive creation* (Schumpeter, 1947). To do this, using the book *The Death of Competition* (Moore, James F., 1996) business ecosystems are explained, why the traditional style business based only on competition died is analyzed; the facts lying beneath the death of the old style business are unveiled and the complex structure of the new style business is depicted. What Moore, James, F. tries to imply when he declares the death of competition is explained through the terms and definitions he used in his book. To explain the latest business shifts among companies big or small, biological terms such as *ecology* and *ecosystems* are used.

Objectives

Despite the number of books and scholarly articles about the new business trend that have existed since the end of WW II, even if, "innovation", one of the most important terms used in the construction of the new business trend, has not had a clear-cut definition among the scholars, yet. According to Moore, innovation is not directly related to one single product; it is the complete new design of an entire system in which all the related and unrelated actors should involve and act in harmony through sharing. Through the driving factors of the new business trend, the thesis tries to identify the recent changes – motivational, theoretical, and practical – designed by advanced countries and by their global companies to benefit the most while creating some benefits for the countries they operate and how domestic companies in Turkey are situated to handle this global change to survive.

In addition, similarities and differences between the global companies and the companies in Turkey are discussed from the point of competitiveness. The thesis not only tries to enable the reader understand the role of education and advanced technology but also increase the awareness of the utmost importance of sharing knowledge. Due to the lack of empirical studies conducted on the impact of the new business trend on the enterprises in Turkey, large or small, a large variety of research techniques, including a set of custom made interview questions are designed and used to find out the missing parts between the global companies and the companies in Turkey. In fact, trying to restrict the driving factors within a relatively small framework in such a vast environment with hundreds of thousands of invisible driving factors and actors may not seem to depict the entire setting of the new business system. It is a known fact that BRIC countries meet the needs of the advanced countries with abundant natural resources and high rate of population but, in fact, there is more to say. For instance, advanced countries and BRIC countries have common life styles, including shared values and assets such as religion and governance structure. With a closer look into these two hidden areas, similar federal systems, similar codes of law and the same religion could be observed. China, despite its so-called anti-capitalist restrictive political structure, does not create much risk for advanced countries' outsourcing since it has adapted itself to the new business trend due to the vital need to feed its massive population through jobs provided by the plants of those countries' established on its land. In addition to these shared values, there are hundreds of common points between the two groups of countries but these are all beyond the topic of the thesis. Since Turkey is named as an emerging country like BRIC countries, but not a BRIC country, the question below which undermines the major problem should be asked to find out the strategical and operational differences of the companies in Turkey between the companies of the two groups of countries' that operate all together in different regions of the world.

"Whether the enterprises in Turkey, large or small, have adapted themselves to the new business trend or are they are still doing business in the same old way"

After answering the question above through a set of research methods, the results are transferred into a customized measuring under general topics to clarify the problems that the companies face in general and the areas that need urgent improvement. Main motivations of the thesis are to analyze i) the impact of creative destruction through ages, ii) the construction of business strategies with each destructive invention, iii) species of the new business trend, iv) the role of competitiveness in terms of the new business design, v) the attitude of companies in Turkey toward the new business trend, vi) the driving factors of the missing parts among companies in Turkey which create difficulty competing globally from the point of the companies interviewed with the aim to highlight the gap between the global business design and the business settings in Turkey.

Finally, the reasons of the extinction of the traditional style business in advanced countries and the obstacles that set back Turkey in the formation of this new business concept are summarized. The fundamentals behind Turkey's belated shift are categorized and what kind of shifts Turkey need to make and which areas seem to be more convenient than others are traced through the analysis of the outcome of the research techniques used for the thesis and from the point of the Turkish companies interviewed.

HISTORICAL BACKGROUND OF BUSINESS

The First Signs of Trade in Prehistory

In the early stages of prehistoric times, humans led a nomadic way of life based on hunting and gathering. Not until towards the end of the Stone Age had humans a permanent life style. Due to the discovery of farming including the domestication of some animals around the 10th millennium BCE, humans started to settle in some fertile river valleys (sacredearth.com, September 2007). Due to better development of agriculture by the end of the Neolithic Age, food surplus existed. In fact, it was not only food surplus that existed; excess clay pots, weapons of that age, domesticated animals and any item of value were sold and bought in markets using barter system as there was no monetary medium. However, barter system itself was problematic because the exchange of goods was never at equal value, besides, the buyer and the seller's needs would rarely meet. For example, the seller of clay pots had to find a buyer who wanted to have a clay pot and in return could sell the item the seller wanted to purchase (mint.com). In that period, with the effort to find a medium, every possible exchange item was used including sea shells and beads. Then Shekel was discovered. It is assumed that at the beginning it was a standard weigh of grain about which each unit is equal to 180 grams of barley (support.amazingdiscoveries.org, May 10, 2012). The first coin Shekels made of silver were seen among early Anatolian traders. This early period points out one of the biggest shifts in human history; the discovery of farming led the way to a new style of living and this new style of living led the way to the new needs of mankind and the outcome of those new needs created a new order. Are the establishment of civilizations, empires, established armies, law codes, class ranks including slavery and the invention of money the outcome or vice versa? What created what or who created what is a difficult question to answer. Whatever the reason was, trade as the most powerful connector of the entire system in the center of human life started to function with all the other connectors of life. Slaves like commercial products were sold and bought as well as foods, weapons, tools and pottery. However, slavery was different than that of the one in the US., slavery in those ages existed through battles and invasions.

Feudal System

Due to the outcome of the previous ages, another new order was established. Some people had become landlords and owned great wealth so the need to protect the wealth created the feudal system. In the past, Europe was not a secure place; villains would attack towns and castles killing people and grasping valuable goods and with the lack of established armies, it seemed impossible to protect that wealth. So, local kings and big landlords selected some warriors to protect their wealth and named them knights. By this way, the anxiety to protect wealth created a kind of political and social system called the feudal system. It was a close system with the king together with the Church in the center and the noble (lordsand ladies.com) around this center with the knights they had. However, the noble had no real protection at all because lords could easily declare war on each other as the loyalty was only to a person, the king. The lowest rank was peasants with almost no rights in the system. They had to work on the lands of the noble to produce the needs of the upper classes. Though the king seems to have the utmost power, in fact the Church was the most powerful as the church could easily replace the king. This new order based on military hierarchy had no unified government and blocked trade and economic growth. There was only land transformation in this system; the king granted lands to the noble and the noble granted the given lands to the less noble and the knights in smaller units as the knights served the noble. There was no infrastructure for the lowest rank. Mills, ovens, bridges and roads belonged to the lords they worked for; serfs had to pay money to the lord whenever they used the mills or the ovens even for their own bread (vlib.us/medieval). Thanks to the system based on milking the serfs, there were some rights which were on sale. Commune and Charter were the two rights that could be provided by the former serfs in return of an amount of money paid to the noble. Commune was a kind of cooperative government for the lowest rank and charter was a kind of legal permission which permitted the former serfs to sell what they produced or the land they had. Both were sold by the lord to the former serf or serfs and started to highlight the baby steps of a new social class in the future. Through time, some serfs (freeman) became tenant farmers and started selling crops and goods. Beginning with the 12th century, the use of money instead of exchanging goods, started to rise and a merchant class began. Some former serfs rented small pieces of land near castles and sold all sorts of things needed by people around (medievaltimes.com). The Black Death in Europe in the 14th century was the first turning point of the feudal system signalling the end of it (lordsandladies.com). Millions of deaths caused the wages skyrocket as there was little labor power left behind and most of the serfs who survived managed to buy their own freedom and in the end, most feudal lords became landlords. Powerful kings by having their own armies converted the feudal system into a monarch. The outcome of this era, with the rise of a new social class, had created a new order by 1500 with a new social, economic, and governmental body.

The Colonization of Europe in Different Parts of the World

The leading factor in colonization policy of European monarchs especially that of Spain's was religion (medievaltimes.info) granted ships and crew by the European kings, some explorers had discovered new lands in Asia and Africa and sailed back to Europe loaded with precious stones, metals, furs and silk fabric. Meanwhile some clergymen charged by the Church as missionaries had gone to different parts of the world to convert the native people in those countries to the Catholic faith. Soon, news about the wealth in far countries spread like fireworks and European kings fascinated by the wealth in far countries sent his men to establish their own system to get both direct and indirect control of the new lands. The discovery of a new land, in 1492 changed the fate of the poor and miserable Europeans. Thousands risked their lives and crossed the Atlantic to have a better life on the new land. Colonies both in America and in wealthy countries started to appear one after another. With the heavy flow of immigrants from different countries of Europe, trade boosted in America. On the other hand, raw materials, spices, exotic foods, precious stones and metals and silk from the colonies in India and Africa boosted the wealth in Europe but that wealth did not reach most of the ordinary citizens; European kings and their noble relatives would share it. Discovery of new lands and new routes offered new opportunities to people from all ranks. Living standards were rising and a new culture transformation was reshaping societies. Companies from different countries, individual enterprises, entrepreneurs raced for new trade routes and invested in newly found, resource rich India, some countries in Africa, Canada, America and some islands. Large plantations in America started slave industry and this free labor created an incredible wealth. Until colonization, agriculture was the main commodity but with the discovery of new lands, through mining and transportation all kinds of raw materials were traded. The outcome of that era was culture and wealth transformation, creation of free labor and baby steps of globalization.

Renaissance (The New Creative Sprit)

Once again the outcome of the previous order known as Medieval Age, created a new order. Renaissance which means rebirth changed the entire structure of Europe and became the master stage for creativity worldwide (history-world.org). It is assumed that Renaissance, triggered by worldly pleasures of human kind through the new wealth, started in the 14th century in Italy and considered as an intellectual and cultural transformation that indicates a transition between the Middle Ages to the Modern era. Social and financial contacts with other parts of the world through the expansion of trade brought not only growth of prosperity and luxury but also the birth of strong desire to have personal independence and individual expression in every aspect of life; separation of faith and reason started to gain momentum (historyguide.org). Soon, Renaissance, destructing the troublesome Middle Ages and its religious way of life created long ago by the Christian Doctrine, was born as a new creation and design of life.

Backed by the commercial elite in major cities, Renaissance art created value and artists began to charge high amount of money from their work of art. With the increase of the literacy rate due to the invention of printing and the accumulation of wealth through commerce in middle class led this class have aristocratic way of life. Others led a way of life not much different than that of the feudal system times'.

Through the innovations in cartography and navigation, the new trade routes across the Atlantic contributed positively to the banking system and created value for major ports and urban areas but the economic gap between the rich and the poor was getting worse. Then, in 1789 France revolution burst out after so many bloody riots and a long time unrest. The king and his family were executed and the feudal system was banned in France. In the end, a new class whose members were mostly educated called Bourgeoisie was born. They bought land to receive respect and status and the bourgeoisie with lands fenced the lands to raise sheep for wool for the textile industry. This fencing tendency led the way to urbanization as peasants were forced to leave their rural life and adapt to the new conditions in big cities.

Then came the Industrial Revolution. During this period, other parts of Europe especially England had great economic expansion (history-world.org). The lunar distance method, the invention of the octant and the development of marine chronometer were the major innovations in sailing. With the other innovations in the sailing system of the ships and in their body structures, together with better navigational instruments and Isaac Newton's rules, Great Britain had the chance to sail faster and safer to their colonies abroad. Besides, the world was measured by modern latitude instruments. Economy improved in the light of the new theories. Banks, insurance, and stock exchange were the new economic instruments to manage the risk in the markets. Trade was renewed. Former informal methods disappeared and a new economic system declaring the Commercial Revolution existed. After the bankruptcy of the first bank in Italy which belonged to a family with mining experience, most of the business transactions were moved to Amsterdam. The Bank of Amsterdam was the first bank to issue paper money in exchanges. Even in those centuries, though it did not have a specific name, there was a kind of ecosystem established by the banks; banking offices were all opened near trade centers. Largest centers were at the ports of Amsterdam, London and Hamburg. With joint stock companies and stock exchange, Europeans had established a massive banking system. Despite various economic and social turbulences, a bloody revolution and a devastating disease that wiped off millions of lives in Europe, Renaissance with loads of discoveries, inventions and innovations strongly centering around the social and cultural change in which value conversion, value creation, and value connection were the main points created power transformation from the noble to the middle class that led the way to modern era and shifting from Medieval to Modern. As a result, Renaissance, based on secularism, established the modern scientific and critical attitude of a new way of life for human kind.

Simple trade was also changing the lane; the new lane was production and manufacturing. At the beginning of the 17th century, North America was colonized first by the Spanish and the French. Between 1607 and 1675 protestant British people followed by other Europeans from Dutch Republic and Sweden started to settle in three main locations which are all along the Atlantic coast. These regions were New England, the Middle Atlantic, and the Chesapeake. Although the English brought distinct traditions across the Atlantic with them, their experience in the coastal colonies pushed them into new forms of social life and material culture; they adopted a new identity called Britons. Due to the dense population in British colonies, manufactured goods of Great Britain were heavily sold and bought in the new continent. Soon, those manufactured goods because of the taxes that were getting heavier day after day resulted in a political crisis and soon War of

Independence broke out between the new continent and Britain. In the end, people in the new continent got their independence and a new innovative concept for sharing the political power was accepted in the U.S; a federal government and a federal culture existed.

Industrial Revolutions I & II Together with the Market Revolution in the US (1760-1870)

Industrial revolution first started in England then, spread to other European countries and then to the U.S. (webs.bcp.org). High productivity and low food prices due to new scientific methods in agriculture, a sophisticated central bank and a credit market for farming were probably the major driving factors of a sustainable environment in England. The inventions of two separate spinning devices that could easily turn cotton into a yarn were other major steps toward a more industrialized world; cotton textile production boosted making it cheaper for all ranks of people to buy. In addition, the enclosure acts provided the utmost benefit for the country because those acts not only increased the profitability of wool but also made each individual a commodity that could be sold and bought as labor power; peasants who were left landless headed for big cities to work in factories. Moreover, the invention of steam power which was first used for pumping water, then in transportation created the major change in the country; steam power became the major energy source in England. That's why, despite the monarchy in England, the English Parliament was dominated by wealthy merchants and capitalist classes in the 18th century because wealth could only be gained through surplus and surplus could only derive from more production with less cost which means the better the technology the higher the surplus and the higher the wealth. England, with all the developments in technology, transportation, communication, and agriculture had become the first industrial nation in the world. According to MaxWeber all these could be directly related to cultural issues. He says, "It was their Protestant work ethic that led English entrepreneurs have a much wider scope of activities than did their Continental counterparts at the same time". It was somehow true that other European countries were not as successful as England though they had benefited from industrial revolution. For instance Spain built its first railway in 1848 and within twenty years railways covered the country. Despite all the colonies it had and loads of precious metals supplied from these colonies Spain had never been a wealthy country. Due to industrial revolution the country started to change with the development of mining and iron and steel industries but, Spain remained a poor agricultural country with a huge rate of illiteracy. The major factor was probably the religion which had no tolerance to other religions and other cultures. As there was not much cultural transformation, the country could not establish strength in business.

On the other hand, Netherlands, despite being invaded by the Spanish, had established a multi-cultural society in its Northern provinces by 1648 as they had managed to get back their Northern land from the Spanish Empire. When they seemed to lose the Southern provinces, cultural elite, rich merchants and intellectuals moved to north where they met people from Portugal, France and Spain. They all had run away from religious massacre and migrated there. And Amsterdam once a small town, suddenly turned into one of the major ports of the World with the big move. Huge flow of capital together with the intellectual minds established the Dutch Golden Age; deep cultural interaction (politics), education (science), and huge capital (economy) had created a golden era for the people in the Northern provinces of Netherlands. France, despite being one of the major countries in Europe, could not keep up the pace of the industrial revolution.

In fact, the pace of the industrial revolution and economic growth in France was too slow because it had experienced a violent and bloody revolution and there were Napoleonic wars around that created a huge financial burden over the country. Tariffs, restrictions, unrests had set back France in the race. Though industrial revolution in France seemed to start in 1815, soon French people faced an economic slowdown which lasted about half a century; 1905 was the year when the economic growth restarted. Germany in those years was the leader of chemicals with research centers and industrial laboratories. At the beginning, partially due to its disunited state system and partially the conservative approach, they could not install railroads but, in 1840 they started to build trunk lines between some cities. As Germany did not have a base for technology, the country supplied hardware and engineering from Britain. Soon they acquired the required skills and started to produce railways which led the way to steel industry in Germany. Their perfection in manufacturing was far ahead of Britain. By the end of the 1800s, heavy lines had connected major ports to one another pulling thousands of passengers and thousands of tons of freight. Sweden had two economic revolutions parallel to each other. The first one was agricultural revolution and the other one was protoindustrilization. Agricultural revolution was directly related to large lands, new crops and tools of farming.

Protoindustrialization was a kind of lane changing in which farmers of the summer worked in factories in the winter. This lane changing changed the fate of the people in Sweden forever and led to a boom in economy which the boom itself created the consumption revolution in 1820. Sweden, from 1815 to 1850 experienced so many institutional changes each of which carried Sweden each time a step further than the other European countries. Export in Sweden, literally, exploded. The halting of the previous ban on commercial products opened up the closed freeway carrying mainly wood, steel, textile goods and agricultural crops to other countries at full speed. New Acts and Measures by the government in Sweden created the second industrial revolution in which Sweden was the leader.

Meanwhile, in the US, there was a new manual labor organization. Cities in the north of US had created a more powerful economy when compared to a mid-sized city in Europe. Before the war of 1812, American economy was based on imported goods but after the war, with the improvement of infrastructure like railroads, canals, and roads, they built up an immense domestic commerce. This giant growth in business was due to a new system called mail order delivery. Even though mail order delivery system was created by a British entrepreneur in Wales, the United States of America was the most benefitted country from the new business system as the well-established transportation system in the United States supported the change in retail. The system started as a single page tiny catalogue with the list of items for sale, including an instruction how to place an order. As time passed by, the catalogues grew to hundreds of pages. The mail-order catalogue created many advantages not only for customers but also for the producers, retailers and wholesale distributors. It was a win-win environment; with no new stores and no new staff hirings, prices got lower and sales skyrocketed (encyclopedia.chicagohistory.org). Customers from all walks of life, especially elderly people who had little chance to travel long distances and people in remote areas, would easily purchase the items at lower prices. Mail-order catalogue delivery is still used in the United States but it is not as common as it was in the past because the mail-order was transported to on-line order through advanced technology. In the Northern states business and trade shaped the economy whereas in the Southern parts the economy was based on agricultural export that came from free-labored (slave-based) plantations. Though the nation had problems like slavery, native Americans, distortion of some cities, and speculation mania, it was growing fast; more and more states were entering the Union. By means of economy, America seemed to be divided into 3 regions; business and trade in the North, plantation-design export in the South, and frontier West. This period had three major inventions: The first one was a musket with interchangeable parts. The new system developed by Eli Whitney not only provided an incredible reduction in the cost but also accelerated the production in manufacturing. The second invention was another major accelerator for the economy in America. It was a steel-plow pulled by horses. Tilling the soil was no more a problem. The last major invention boomed the economy. It was a mechanical mover-reaper invented by Cyrus McCormick. Due to the incredible difficulty in wheat farming, most farmers used to grow corn which was far less profitable than wheat. Then, with the invention of mover-reaper, farmers rushed for wheat. The huge surplus created wealth both for the farmers in the West and for the economy of the States. South was the wealthiest part with huge plantations based on slavery. It was free labor. Large plantations of cotton, tobacco, and coffee were being harvested by thousands of slaves. North banned slavery and urged the South to end it. The slave trade lived no longer but slavery did. The driving factor for slavery was the fast growing textile industry in the North. Northern states needed more cotton and the large plantations in the South were the only source for this demand. So the more demand for cotton triggered the more demand for free labor. As a result, the Northern part could not insist on the abolishment of slavery in the South. By 1840s, most of the workshops had been converted into factories with machineries as a result of the huge capital and the technology that laid behind. So, the northeast market, due to the specialization and trade among the four port areas, incorporated different sections of industry and commerce into an integrated national market. In the end, this market revolution started to convert into industrial revolution with massive production. Between the War of Independence (1775-1783) and the Civil War (1861-1865), this period in the United States depicts a giant picture with over 30 million people working in agriculture, in stores and factories producing all kinds of goods, buying insurance against unexpected situations, borrowing loans from banks to make investments for their future, traveling on steamboats and on trains (history-world.org). The transition created a massive economy and a deep cultural transformation. When the industrial revolution of the West is considered, there seemed to be great differences between the East and the West of those days'. However, amazingly, China, long before the Industrial Revolution in Europe and the new continent, was one of the major commercial places of the world trade during Medieval Ages; Chinese people had produced coal for iron. Besides the industrial techniques in China were so advanced that they had a power-driven spinning machine. China, known as the Orient by the West had had a massive economic growth and wealth for centuries. Today, China is again about to lead the world economy.

The Recent Past

Two world wars created new opportunities for almost all nations on earth despite the massive destruction and pain they left behind. After a few years of financial turbulance particularly in Europe, the U.S.A as the new leader of the world recreated the business eco-cycles worldwide. Reconstruction of the destroyed cities was the major driving factor for growth. With the changing needs, new technological tools started to exist for almost every aspect of life. Production rapidly increased after 1950s but, about two decades after the last war, excess problem for production companies appeared as they produced more than the overall consumption of the world population.

Before World War I: The first signs of a digital world

During the period from 1776 to 1905, wealth and power were shared by the countries where the industrial revolution had taken place because the industrial revolution I & II had created new areas of businesses, new technologies and new jobs in the West, particularly in Britain, France, Russia, and in the U.S. Though the biggest innovation was the printing press for mass communication, it was not based on a digital format. With the 4 inventions each of which had direct connection to one another changed the communication system of the world forever. First the invention of the telegraph, next the telephone, then the movie camera and finally the invention of the radio including the radiotelegraphy between 1835 to 1896, people were introduced to the digital system (www.timetoast.com). The telegraph was the first completely digital communication system. Then, the invention of motion camera stood as a symbol not only of another digital format but also of the deep change in politics, technology, and the arts through motion picture films. The flow of interaction on every aspect of life, particularly communication among individuals, companies and countries became quicker. The developed countries providing cheap resources from their colonies established in underdeveloped countries and selling them back at a much higher price to the same countries or other countries in the world, had tremendous economic growth and a massive rise of wealth in the West. Yet, there were also new and serious conflicts in various regions of the world and even in developed countries because mercantilism which was directly connected to gold and silver bullion with strict rules over import goods to protect the trade balance was about to disappear. Moreover, though the new wealth was unable to cover all the residents of the developed countries, poorer people were not as miserable as the poor people in Russia (spartacus-educational.com). People had to work in terrible conditions to provide surplus for the upper classes. They were just serfs with almost no right to survive. As a result of such harsh and insane conditions, a new cultural and political approach started to take place in Russia. Besides, smaller countries of eastern Europe were tired of monarchies. Monarchies were under threat. Due to some unrests and riots in those smaller countries, monarchies either disappeared or were banned, but the riots in Russia were getting more severe and a new ideology started to appear. The name was communism; a harsh political, social, and economic system in which every human right is possessed by the state. Russia soon found itself out of the global business ecosystem because her own political system was completely against the capitalist system. Empires including the Ottoman Empire were also under threat. In Italy and Germany a new ideology against communism began to be noticed. The balance of power was again changing and new social and political environments began to flourish. So did new businesses and business ecosystems whereas some former ones pass away.

Trade rivalry: The major conflict of the World War I

Despite various so-called reasons, the major reason of World War I was the outcome of the Industrial Revolution I & II which was the dominance of Britain in trade and commerce and the first signals of a new rival approaching silently. Just before World War I, Britain, followed by France and Russia, had become the leader of Europe in industry. In fact, Britain had grasped one fourth of the world and its seaborne trade due to its powerful Royal Navy and outperforming industry. In those days, most of the underdeveloped countries such as India, New Zealand and South Africa were under the control of Britain and so were their natural resources which were traded as Britain's world commerce tools. Yet, another power was about to be born. Germany after the unification in 1871, was a powerful country, much more powerful than it was expected. The pace of the development in industry soon passed Britain, and Germany with its unbeatable economic power and a fleet challenging the Royal Navy of Britain, had become a threat to Britain's world leadership (worldheritage.org). Britain scared of Germany's rise as world power started to make some secret military agreements with France and then, with Russia. Germany had some similar agreements with Austria and Hungary. Soon, Britain not to let Germany be the dominator of the world trade, decided to create a reason to declare war on Germany and soon, known as the major factor of such a war, Austria heir to the throne was killed. So World War I, as a result of individual greed of harsh financial competition broke out and killed millions of lives. In the end, when Germany lost the war and so did the Ottoman Empire as a member of the Central Powers, Britain and her allies decided to take advantage of that loss; they designed a treaty to wipe off Germany from global trade and commerce and to invade the lands of the Ottoman Empire to exploit her rich resources. The compensation Germany was obliged to pay for the damage she caused during World War I was massive and the restrictions were severe and unbearable (education-portal.com).

Greed, revenge, hatred, and racism were the only factors of World War II

Versailles Treaty and its secret goal to destroy Germany for good which was the outcome of World War I became the income of World War II (education-portal.com). The burden of the treaty of Versailles for German people was unbearable and people in Germany had become poor. In that desperate but sharpened mood, they looked for a powerful man whom they thought was Hitler. Soon a new ideology called fascism led by Hitler and Mussolini of Italy was born. Hitler secretly started to establish a country more powerful than before World War I (educationportal.com). Technology was rapidly changing the lane in developed countries of those days. The race for more destructive tools of war was incredible. Besides, for the first time in history women started to work in factories and earned money because most male population had been killed in World War I and factories needed workers to function. Despite so many agreements, German troops started to invade the territory (germanculture.com.ua). Hitler made 2 significant alliances; the first one with Italy and the next with Japan. After those alliances, Germany united with Austria, and soon Hitler invaded Czechoslovakia and then Poland. In 1919, an international organization called the League of Nations had been established. Its major goal was to arrange negotiations among nations to prevent war. In theory it was a good idea, but in practice it did not work. In the late 1920s the economy of nations started to fall apart and soon nations faced a deep recession. Unemployment had skyrocketed, trade had sharply been diminished, businesses had gone bankrupt. Two years later, when the recession hit Japan badly, the Japanese Army, urged to find a solution to help the miserable people in Japan, invaded a region in China called Manchuria where minerals and resources were so abundant. China urgently asked for help and the League of Nations wanted the member countries to stop trading with Japan but none of the nations obeyed the call as they did not want to lose Japanese business ecosystem in such a scarce economy. Japan left the League of Nations and conquered Manchuria. Japanese aim was to dominate East Asia. The war broke out on September 1, 1939 and killed millions of civilians because so many countries as Allies and Axis got involved and used all their economic and technological tools to be the winner. The war lasted from 1939 to 1945 and so many times changed lanes. In the end, in 1945 the U.S with two A-Bombs over Japan ended the war as the new-born leader of the world economy. The end result of WW II was the fall of Italian and Japanese empires, establishment of the United Nations, millions of dead bodies of all ages, invaded and divided countries like Germany and destroyed cities of the world. Despite all the misery, World War II changed the entire world in terms of social, political, and financial restructuring.

After World War I & II: Recreation of the business eco-cycles

After World War II, the capitalist nations faced a new era with new threats. The first threat the world faced was the financial chaos that emerged first in the US in 1929. After the war, it spread to European countries and Great Britain. Post-war problems such as shortage of agricultural and industrial products urgently needed restructuring. During World War II, as food was scarce in Europe, the food prices had skyrocketed and so, US, Canada, and Australia had increased the production of agricultural products to meet the demand in Europe and adjusted their economy. After World War II, those countries as the dominators, kept producing agricultural products and manufactured goods and tried exporting them as they did during the war but, the international markets had shrunk and that lack of demand due to nationalistic policies of post-war period and efforts to improve agricultural products in Europe created production surplus. The war was over but European countries with destroyed cities and the unbearable cost of the World War II had almost little financial power left to purchase imported goods (vanrcook.tripod.com). After the war, each country should have cleaned up her own home first, to be able to adjust herself to international equilibrium. The US, after experiencing a harsh economic downturn had done the cleaning long ago with the Agricultural Adjustment Act (AAA) in 1933 and Trade Agreements Act in 1934 and despite the conflict between the two Acts, she was the new leader of the new order but she knew she had to arrange and rearrange the environment as she would need all the required players of a financial system not to experience another financial crisis. Consequently, the US like a parent providing support to her child with food and money helped Europe. In order to establish a fully functioning financial system, from 1943 to 1947, the United Nation's Relief and Rehabilitation Administration (UNRR) delivered approximately $4 billion worth of food and other vital supplies to aid Europe but Europe was still in need. Due to the slow recovery in production, European exports were unable to meet the financial need to provide the required imported goods; there was a severe "dollar shortage" in European countries. From 1945 to 1947, Europe was given loans mostly by the US but, even those loans did not help Europe adjust its financial imbalance (u-s-history.com). So, in 1947 the Marshall Plan (the European Recovery Plan) was offered by the US. This plan was not a kind of donation, the US aimed to re-set the business ecosystem that was lost due to two world wars; otherwise the US herself would face another Great Depression worse than the one existed in 1929 as the dominators, suppliers, and other market players of developed countries would be wiped off. To administer the aid, the Organization of European Economic Cooperation (OEEC) was established in 1947. Marshall plan started to function as planned because cooperation between European countries which was supported by the European Payment Union (EPU) was successfully constructed. Realizing the positive outcome of cooperation, three European countries Holland, Luxembourg and Belgium made a consensus in 1944 and established a customs union among themselves in 1948. Ten years later, these three countries, known as Benelux Union, had success in substantial measure of internal tariff reduction and factor mobility. In fact, Benelux union has become the first cornerstone of the long walk to European Union (historiasiglo.org). Then another union known as the Shuman Plan, European Coal and Steel Community between Germany and France was started. When Italy and the Benelux Union were included, the next cornerstone for European Union was seen and in 1952, a common market for the commodities coal and steel, called European Coal and Steel Community (ESCS) was founded. After the successful formation of these two groups and their achievements in various areas, the idea of having a larger economic union was discussed and in 1957, Treaty of Rome was signed; European Economic Community was formed. Then in 1959, Stockholm Convention which brought the European Free Trade

Association (EFTA) was started. The member states were Sweden, Switzerland, Portugal, Spain, Austria, Norway, Denmark, and the United Kingdom. The amazing point in all the agreements of these groups was the agriculture part; agricultural products were either ignored or treated separately. Through similar agreements on international trade, today's International Money Fund (IMF) and similar organizations and institutions are all the adjustment tools of trade in those years and they still are. The other new threat after World War II was a new war but, this time it was not a war, it was a silent psychological war against the Communist ideology and its parent land USSR. Meanwhile, to protect the capitalist system that was under threat, secure cooperation was established as mentioned above, and underdeveloped and developing countries rich in resources were shared both by the Allies and the Axis. From 1948 until 1968, exports from non-communist countries increased by almost 3 fold due to the role of the monetary union called Bretton Woods international monetary system. The goal of this system was to establish a common currency to supply a stable environment for multilateral payments so that trade could find ways to reach every corner. However, Bretton Woods probably do more harm than good because developed countries produced and exported far more than the overall consumption of the world population.

The Beginning of The End

Changing conditions due to technological revolutions started to change the regular pace of life. Consumption rapidly accelerated, and large companies left almost no space for smaller companies and became dominators, but the extinction of smaller companies soon hit the dominators. The first signs of local companies in foreign lands began to appear when dominator companies faced profit loss in their homelands.

Shrinking environment

After 1950s, another revolution, this time an immense technological revolution began to appear on the road. Then, soon the new form and probably the best form of mass-communication existed (inventors.about.com). It was the television which made a massive change in people's way of life. Despite the creation of thousands of jobs, the negative impacts of television can not be ignored. The capitalist system was on the screen. Television was the new hub for all the tools and toys of the system. Competition through TV commercials urged people to consume more because the influence of audiovisual broadcasting was irresistible and people affected by TV commercials could not stop purchasing similar products of mass-production items. Large companies benefitted the most from TV commercials as TV commercials were very expensive for small companies to be able to afford; only large companies could afford them. Moreover, the system itself did not allow small companies to compete with larger ones. Thus, larger companies became the dominators of their sectors in their home countries. In 1970s, when labor cost started to increase, dominator companies felt the need to search for cost reduction because profits and revenues were not as much as they used to have. Soon, they discovered some countries which they name developing and / or undeveloped. Labor in those countries, due to high population with millions of unskilled and jobless people, was incredibly cheap and government incentives were generous. There were enterprises in those countries but with limited financial opportunities and poor quality technology, they were stuck in their homelands. Large companies spotting the opportunity for growth, carried their production units to such countries. As years passed by, countries in Asia and Middle East, some countries in South America and North and South Africa became the production centers of developed countries. However, the clock was ticking counterclockwise; the invention of computer was going to change the entire world but dominant companies were so busy making profits on poor lands of the world that they did not sense the change. Late 1990s with the best invention of all times in human history changed the entire system for all businesses in the world; in fact, for everyone on Earth. The ARPANet which is today's Internet, first appeared for military purposes as an idea of undestructible communication system through computers in times of danger, delivered its first message from one computer to another in 1969. Having been redesigned several times for public use, the Internet in late 1990s, together with advanced technology was like a magic wand; both creative and destructive. Once locked by large companies, all the doors and windows of the markets were burst open to smaller companies and individuals. Soon, e-commerce started to function (mivamerchant.com). Small companies, individual entrepreneurs with inefficient capital, high school and college students with interesting ideas, small family businesses, homemakers with handcraft items have all gained easy global access to suppliers, consumers and to capital, big or small. Unknown designers, artists and brands with almost no hope to get recognized could gain reputation within days when web technologies are used. New e-commerce companies are established and they operate as a hub for people who wish to have an online store in an e-commerce company. It is claimed that the Internet has created more jobs than it killed. Probably it is tue that the Internet has risen the living standards of some individuals but collapsed others because the change started to create another change which would end up with the worst economic global turmoil after a decade long. Imitating from one another, hundreds of thousands of small companies were trying to sell the same or similar products at discount prices through the Internet. With the effort to sell more, discounts were often far below the cost of the product. Some niche players through aggressive discounts were drying up not only the natural resources but also other niche players and even big global dominators supply stocks and customers. They were drying up themselves too. As profits were lost, it was financially impossible for almost all companies, particularly smaller ones to purchase or produce new items to sell. So they were closed down one after another. Suppliers of small companies with massive stocks of products also went out of business. Large global companies started to have significant losses; they had to find a way to survive. It is clear that, in the beginning, the Internet and advanced technology offered numerous opportunities and benefits for companies and individuals from all walks of life but they also created two different problems for the entire world. The first one occurred in advanced countries; the job market shrank. Dominator global companies with the aim to provide cost reduction and easy access to abundant resources started to move their production sites to BRIC countries each of which once used to be claimed as undeveloped by advanced countries themselves. Those large global companies of advanced countries functioning in undeveloped countries were able to provide sustainable growth due to generous cost reduction but they missed a very important point which their own mistakes created: people in their homelands started to be remained jobless. Jobless people in US and in Europe could not afford to buy their own companies' mass-production items. Then in 2008, the USA experienced the hardest market crash; the economic system collapsed in advanced countries. Bailouts of banks and other financial institutions weakened the governments in those countries; the financial burden was unbearable. The entire world suffered financially for about two years because the traditional business system had broken into pieces. Dominant species tried to clean up their homes to survive; job-cuts and lay offs had become regular daily issues of the advanced countries. Soon, advanced countries faced the sharpest rise in unemployment; at first thousands, then millions of people were left unemployed (canadafreepress.com). Governments of advanced countries had difficulty handling welfare as millions of people had no money even to pay the regular bills.

On the other side of the world, on poorer lands, in other words in emerging countries the economic turbulance was not as violent as it was in advanced countries because high rate of unemployment, corruption, poverty, unregistered businesses, illegal activities and chaos, more or less, were ordinary issues in such countries. Yet, those countries despite all the negative indicators had abundant natural resources. High rate of unemployment and abundant natural resources attracted the struggling countries and the companies in these countries. Sensing the approaching opportunity, governments of emerging countries made the required shifts in their code of law to welcome the newly-comers. With a new business design inspired by the nature, global companies started to cooperate with one another, large or small and with the smaller companies on local lands to benefit from low-cost production to survive. The new busiess was gaining momentum because once deliberately hidden treasures of the undeveloped nations, only known by some big global companies, were on display for all companies in the world big or small via the Internet. Low laber costs, cheap and abundant raw material, massive government incentives and lack of safety measures at work in such countries fascinated the companies in advanced countries (canadafreepress.com). Other companies seeing the opportunities started to track the footsteps of the pioneer companies. Through mergers, joint-ventures, and license agreements with domestic and/or foreign companies, more and more firms and countries were creating ecosystems one after another to build up a stable and sustainable global economy. Yet, the new business trend was immature; it was a kind of transition period which has a long dangerous path from the old traditional style business to the new business ecosystem style. In the beginning, development was slow but through cooperation and competition, they achieved a relatively sustainable environment. Profits were not as massive as they used to have in the past, they captured growth, though. Even BRIC countries with their once unskilled, unemployed and poor people head for a better way of life which is based on symbiotic relationship of the new business trend. It is obvious that not all individuals or not all companies in BRIC countries achieved success due to the new business trend; only the ones that are stronger and more flexible than the others were able to survive in such stiff competition; others passed away. Within a few years time, products from BRIC countries covered the world markets. Today's smart phones and software applications with their headquarters in their parent countries and production units in BRIC countries, unveil almost all the secrets of life; people are informed instantly on any issue. Despite its potential security and privacy problems, it is clear that advanced technology has urged all enterprizes and individuals to be more productive and more innovative as it allows no one to stop the other.

Where have all the consumers gone?

Who benefits the most sounds like consumers, entrepreneurs and small businesses and who loses the most seems like large enterprises as they fall prey to the Internet. Markets have shrunk because of the Internet. Competing with one another severely, thousands of small companies producing and selling millions of similar items worldwide at discount prices through the Internet within seconds have killed the consumers of big production companies and exploited the limited resources of the world. In fact, most of those small companies also killed themselves; products that were sold almost at clearance prices wiped off the profits and small e-commerce businesses with massive financial problems went out of business. Dot com age at full speed stormed for a while creating massive new wealth for some entrepreneurs as well as financial wreckages in some sectors. Meanwhile, once global dominator companies were struggling to survive because on one side they had the shrinking markets and on the other side, they had massive expenditure and loans to be paid; the major roads to big profits were all clogged.

Changing the lane

Big global companies of advanced countries had nothing to do but build up their own ecosystems inspired by the business ecosystem model (Moore, James F., 1996). Yet, the system was far too complex, even more complex than the biological system inspired. The companies needed new product designs and new countries with cheap labor cost and abundant resources. New departments such as R&D and Risk Management departments and new facilities for advanced technology should be established. First, convenient regions of the world for manufacturing were selected. Then, another selection was made; the countries in better conditions when compared to the others in each region were chosen and they were named Emerging Countries. BRIC countries and Turkey were among the countries called emerging countries (economywatch.com). Through various agreements such as mergers and acquisitions and/or generous governmental incentives big global companies started to function. So does the symbiotic relationship of the ecosystem. Such companies seem to create a better way of life for the people of the countries they are in but, in fact, these companies benefit the most. For instance, a foreign investment in Turkey not only creates a new market for itself but also easy access to new markets particularly the markets in Middle East. Yet, despite the benefits emerging countries offer to foreign investments, they also create risk for such companies; unstable governments, unexpected changes in regulations and unstable economies are the major threats for foreign investments. So, establishing a functioning complex business ecosystem with thousands of instruments successfully interacting with one another is easier said than done. Countries with different political systems based on different cultural backgrounds and different religious norms within different locations around the world often have difficulty establishing a commercial consensus. Since business ecosystem is a complicated process having influences on different nations by means of economic, cultural and social activities, it is often confused with globalization which is defined as an organized process of economic, cultural, and social worldwide interaction and integration movement of all nations including companies, governments and people through international trade. However, globalization, in general, is believed to be an organized strategy designed by the USA to capture the world's riches through one common language and one common culture. In other words, the USA, as the leading power, is claimed to be establishing globalization for a one way of life in the entire world by the opponents. Whether there might have been such a strategy or not, but what comes out today is the true definition of globalization, not the claim because all global companies of advanced countries, not one single country, are involved in establishing business ecosystems in different parts of the world. Without sharing and adapting, including cultural and social activities of different countries, no one single economy could stay healthy, let alone establishing its own way of life in such scarce world economy. Sharing and adaptation could be voluntarily or involuntarily but the change takes place spontaneously; it is a natural process during interaction. For instance, English language which is claimed to be imposed on people of different nations has become a common foreign language to be learned for global communication issues; it has not become a language among family members of any foreign country. Despite being used in technology, and technology itself exists from the USA where the official language is English, globalization does not reinforce people not to use their native tongue. For instance, the Internet despite being designed originally in English, could be used in various native languages including Arabic and Chinese. Changing needs create the change, and countries who wish to survive should adapt themselves to changes through well-designed mutual benefits.

Entrepreneurship Activities in Turkey

The destruction of the old system (the Ottoman Empire) and the establishment of the new system (the Turkish Republic) created massive political, cultural and economic changes and development in Turkey. This massive alteration addresses to Schumpeter's argument of creative destruction (1946).

The first plants and companies in Turkey started to appear soon after the establishment of the Turkish Republic in 1923. So, Turkey does not have a long historical background in business. During the reign of Ottoman Empire, there were only non-muslim merchants, craftsmen groups and small muslim farmers. With the establishment of the Republic, the new order created new organizations and new institutions and the formation of the business ecosystems. Due to the business trend in those years, plants and companies were all based on industrial business system. Thanks to the ethnic diversity in Turkey, among the stakeholders of all private enterprises established in those years, there were non-muslim entrepreneurs of minority groups of Turkish citizens who were loaded with leadership skills as of the former merchants of the Ottoman Empire. They were placed in those enterprises as partners by governmental legislatives to act like today's Risk Management Departments of big industrial plants. Through generous grants, government incentives and the business skills of non-muslim partners, those plants created value and new wealth. Rapid urbanization led the way to all kinds of business serving for the needs of people. Businesses in those years were mostly small retailers selling goods in their stores or a few factory owners in major cities. There were not any construction companies or chain stores. Education and transportation were limited. Despite all the setbacks, the country slowly reached better standards through individual efforts of wild spirits but, was never ever able to catch up the standards of a developed nation of those years. Almost all machinery was imported though the production was industry based. Due to the massive imbalance in export and import activities, heavy tariffs and bans on vital materials resulted in sharp rises in costs and soon clogged the production. In 1970s, Turkey faced the black market.

Turkey experienced another entrepreneurship activity in 1980s. After some severe currency and oil crisis in 1970s, encouraged and guided by the PM Turgut Özal who had a "wild spirit", (Schumpeter, 1947) groups of businessmen were continuously on business trips with the Prime Minister Turgut Özal who himself particularly focused on creating and sharing value with foreign investment groups and companies. Not only the owners of large renowned enterprises with respected seats at TUSIAD (Turkish Industrialists' & Businessmen's Association, 1971) but also the owners of family-businesses in small towns and cities who noticed the opportunity to expand, established their own groups under the name of "Anadolu Aslanları" to form their own ecosystem and sent representatives to these trips. Creating awareness and gaining reputation in production, Turkey managed to create an ecosystem of its own and the economy started to get stable through thousands of business agreements signed with companies from foreign countries. Interactions with various businesses in foreign countries had created new entrepreneurs in areas like textile and import-export goods. Some entrepreneurs of commerce in those years created massive incentives both for companies big or small and for Turkey that acted like a hub, particularly for textile production. Then, the threat from China, particularly for textile goods, soon entered the Turkish market. Lack of work ethic by some so-called newly-established domestic companies, and the sudden change in business climate created by China, started to harm the domestic species. Soon, stiff competition among smaller companies, the corruption created by some export-import companies and the entrance of the products made in China destructed the business ecosystems created in Turkey. Companies with capital which had the ability to foresee the approaching threats switched to other sectors but, others fell prey to new comers. In fact, it was not only China that invaded the markets of the world; other countries started to appear in Turkey one after another across the world. Designer names opened stores and offices in major cities to benefit from the large market size in Turkey. Consumption accelerated due to brand awareness. With production units in various developing countries, foreign brand names started to storm over Turkey. It was a win-win situation for foreign companies as they not only provided cost-reduction but also captured massive growth through large sales. Then, the move accelerated. Through cooperation and competition, smaller foreign companies also entered the business ecosystem and started production in undeveloped locations of the world. The business ecosystem which is the foreigners own creation and design begin to function.

Meanwhile in Turkey (mongabay.com), except larger companies and a few smaller ones, businesses were struggling though some of them were able to sign some agreements with some foreign companies but those foreign companies had limited financial resources to place bulk orders and the small domestic companies still had the traditional way of business. In some developing regions of Turkey, government incentives were fascinating but due to high cost of production and unstable foreign currency, most people had no courage to establish new businesses. Domestic production slowed down. Seeing the businesses closing down one after another, entrepreneurs with capitals were scared to lose their fortunes. Larger domestic companies with financial resources decided to shift the lane and started eyeing the opportunities in foreign lands. In fact, some smaller companies had offices and construction sites in Europe and in the Middle East countries even though the financial figures in their annual reports could not be compared to those of the ones in large global companies. Soon, they started entrepreneurship activities in available regions such as East Europe and South Africa; some of them entered mergers, some signed buyouts. Yet, some domestic businesses insist on driving the same old car in the same lane; they do not want to cooperate. Today, large global companies are racing through cooperation; they raise better financial resources and more information to operate in foreign lands as shown in the following parts of the thesis.

LITERATURE REVIEW

Definitions and Conceptualizations

The literature reviewed reflects on subjects covering basic definitions and conceptualizations by renowned commentators of the field such as Moore, James F., Schumpeter, Joseph, A., Iansiti, M. and Levien, R. and Drucker, Peter F., as well as a historical review on creative destruction, similarities between the biological ecosystem and the business ecosystem, the steps to maintain a sustainable business ecosystem, and finally the spirit of the red queen effect.

This literary framework is designed to support the hypothesis of the dissertation. The following sections provide detailed reflections on the literature reviewed as covered by the sub-headings mentioned above.

Since the topic is relatively new, the variety of resources are limited especially when published books on the topic is considered. However, there are various scholarly papers most of which refer to major scholars and authorities on innovation and entrepreneurship. So, acredited names such as Drucker, Peter F., Iansiti, M., and Levien, R. with their theories and ideas on innovation, entrepreneurship and symbiotic relationships take part in the thesis to be able to explain the new business trend clearly. The detailed analysis of the new concept is also explained through a set of theories gathered through secondary resources each of which matches with the recent business system.

For Drucker, Peter F., who is a leading authority on innovation and entrepreneurship, the opportunity could be in any unexpected event that help innovative ideas enter the market because for Drucker, innovation’s driving force is unexpected events since such events create inconsistencies between the expected and the real, new process requirements, unanticipated changes in industry or market structure, demographic changes, changes in mood, perception, or meaning, and new knowledge.

The other two theoreticians, Iansiti, M. and Levien, R. (Strategy as Ecology, 2004), whose ideas about the required steps of a healthy ecosystem match with Moore’s required steps of a sustainable business ecosystem, focus on symbiotic relations in business through keystone strategy. Iansiti & Levien believe, keystone companies, with the aim to ensure their own survival and prosperity, try to promote the ecosystem as a whole. Then they argue that keystones, in many ways, are in an advantageous position because in biological ecosystems, keystones exercise a systemwide role despite being only a small part of their ecosystems' mass.

Unlike Schumpeter, Joseph A., Moore (The Death of Competion, 1996) does not consider innovation or entrepreneurship activities as single units carrying the entire economy of a nation to a better stage. Moore seems to declare the death of competition in business but, what Moore tries to emphasize is not the competition itself; it is the death of the traditional style business in which dominant companies leave no business space for smaller companies. In fact, he says that within the new system the competition is worse than ever before due to advanced technology and in this new style competition, once dominant companies are obliged to offer smaller companies business opportunities via partnerships, licence agreements and mergers. Inspired by nature, Moore claims that even though biological ecosystem is dominated by nature and business ecosystem by humans, both function almost the same way.

For Schumpeter, Joseph A., innovation is the new product which destroys the old. In his term creative destruction he claims that the process of creative destruction is the essential fact about capitalism (Capitalism, Socialism and Democracy, 1942). Schumpeter, Joseph A. describes creative destruction as a process of industrial mutation that incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one.

Last but never the least, Stevenson, J. and Kaafarani, B (Breaking Away: How Greate Leaders Create Innovation that Rise Sustaiable Growth – and Why Others Fail, 2011) is also used to show the steps of establishing a successful business through 3W formation.

In addition to the resources mentioned above, a scientific report known as the GCI Report, which measures the competitiveness of various countries and ranks them by means of its 12 pillars is used to provide a much stronger theoretical foundation for the analysis.

The analysis of foreign and domestic companies in selected countries reflects the driving factors of the latest trend in business in relation with the 12 pillars of the GCI Report (2013-2014), the GCI Report itself, and the analysis of the results is supposed to identify the urgent improvements and adjustments required in Turkey to be able to shift from traditional style business to business ecosystem style Turkey faces.

Creative Destruction through the Passages of Centuries

In the first part of the thesis, the conditions that created new business trends are defined through a detailed presentation of the historical background of business. The historical background is divided into several parts to provide better explanation for the stages of the extinction of the characteristics which belong to each specific era when invaded by the new characteristics of the new era. From this point of view, each extinct era due to the replacement of the specific norms of the newly comer -political, social, economic and cultural- reveals the accuracy of the metaphor in The Death of Competition (Moore, 1996).

Inspired by nature, Moore claims that comparatively isolated and protected biological ecosystems like Hawaii do not develop strong defensive strategies and when they are invaded by exotic species, they can not rebound. In fact, the eras in the historical background is better supported by Schumpeter's term creative destruction. From these points of view, the historical background part depicts the interaction of inputs and outputs of eras and how outputs of each previous era becomes the inputs of the new era while the former era's inputs become extinct. The historical background part also helps the reader interpret the construction of the capitalist system through the continuous destruction of the old supporting Schumpeter's claim which argues that the process of creative destruction is the essential fact about capitalism. In his book (Capitalism, Socialism, and Democracy, 1942), Schumpeter says capitalism, then, is by nature a form or method of economic change and not only never is but never can be stationary. And this evolutionary character of the capitalist process is not merely due to the fact that economic life goes on in a social and natural environment which changes and by its change alters the data of economic action; this fact is important and these changes such as wars and revolutions often condition industrial change, but they are not its prime movers. Nor is this evolutionary character due to a quasi-automatic increase in population and capital or to the vagaries of monetary systems of which exactly the same thing holds true. The fundamental impulse that sets and keeps the capitalist engine in motion comes from the new consumers' goods, the new methods of production or transportation, the new markets, the new forms of industrial organization that capitalist enterprise creates. After this explanation, Schumpeter adds the contents of the laborer's budget, say from 1760 to 1940, did not simply grow on unchanging lines but they underwent a process of qualitative change. Similarly, the history of the productive apparatus of a typical farm, from the beginnings of the rationalization of crop rotation, plowing and fattening to the mechanized thing of today, linking up with elevators and railroads, is a history of revolutions. So is the history of the productive apparatus of the iron and steel industry from the charcoal furnace to our own type of furnace, or the history of the apparatus of power production from the overshot water wheel to the modern power plant, or the history of transportation from the mail-coach to the airplane.

The Similarities Between Biological Ecosystem and Business Ecosystem

Moore, James F. claims that the term business ecosystem functions like the one in nature; species are born into a community with thousands of diverse members in which all members not only interact with one another but also with all the biotic components of the environment including all physical factors and pass away based on various reasons. According to Moore, James F. for instance, a forest is a biological ecosystem with thousands of species in which the green plants are the major producers whereas animals are the major macroconsumers, fungi and bacteria are the microconsumers. For Moore, James F., both ecosystems function alike. The only difference between the business ecosystem and the biological ecosystem is the type of the ecosystems; biological ecosystem is directly related to nature which is nature made whereas business ecosystem is directly related to economy which is manmade. Both systems are nourished on highly diversed interactions and have highly complex relation. According to Moore’s argument, some species have become extinct whereas some manage to survive despite severe conditions and the survivors are the ones that have the ability to adapt themselves to new conditions. The needs of species and businesses are almost the same; like the species which need abundance in variety and diversity in a biological ecosystem in order to survive, businesses need the same.

Moore says that there is significant difference between the two ecosystems, in the former, the ecosystem is natural whereas in the latter, it is human dominated. Moore explains the complex structural body through a set of principles including the major stages of these principles. Since business ecosystems could only be established through innovative approach, the two new terms innovation and entrepreneurship, which are defined from two different point of views one of which belongs to Schumpeter and the other to Moore, could not be separated from one another by means of business ecosyem.

For Schumpeter, innovation and entrepreneurship are single units. Schumpeter seeing innovation as the critical dimension of economic change, says, economic change revolves around innovation, entrepreneurial activities, and market power. For Schumpeter J., all entrepreneurs are Unternehmergeist which refers to wild-spirit in English. In his theory entitled Mark I, Schumpeter claims that innovation and technological change of a nation come from the entrepreneurs or wild-spirits and smaller companies have more space for innovation in terms of quick shifts whereas larger companies have massive bodies blocked by bureaucratic procedures.

On the other hand, in his explanation of creating ecosystem, Moore, unlike Schumpeter, argues that innovation by single product can not make sense. By innovation, he says that he does not mean simply product or process improvements, or whatever gets pumped out of the research and development engines. That is not enough for him. What he means is an entirely original outcome. He is talking about a new set of benefits available to customers, demonstrably better than what it supplants. He highlights that, otherwise, there is no way to justify the costs of creating the ecosystem. These costs include the expense of developing new processes and dedicating new assets, patching together networks of collaborators, and coaxing customers to switch to the new way. Moore also believes and provides examples showing how real wealth comes from finding new, more efficient and effective ways of doing business. Moore, James F. argues that such progress can only be attained by understanding one's ecosystem, broadly defined. The spaces between status quo, business as usual and its forward looking alternatives are the breeding grounds of primary wealth, for consumers and producers alike. And the breeding grounds for growth of nonprofits. The integration of knowing what is needed in your environment, knowing all of the technologies that are available to help the organization develop and deliver new products and services (with a reasonable margin) and the ability to sell into newly created markets brings wealth and sustainability to organizations.

Inspired by www that indicates world wide Web, Stevenson, J. and Kaafarani, B. go a little further than Moore, James F. and adapted the 3 W each in a circle of the same size to a new strategy for business. Through the alignment of 3 W or WWW, each of which stands for "WHO-WHAT-WHY", they explain and illustrate how the selling point of innovation is created. For them, the only important issue is the type of the innovation, not the time of the alignment process. They state that the type of the innovation should be identified well.

What type of innovation is needed; operational innovation, marketing innovation, category innovation, or recycling innovation? Through various real life examples of renowned CEOs', Stevenson, J. and Kaafarani, B. explain different types of innovation across multiple industries in detail.

Sustainable Business Ecosystem

Moore, James F.'s argument is supported by a previous claim which takes place in Schumpeter's book "Capitalism, Socialism and Democracy (Part II / Can Capitalism Survive)". In his book (1947), Schumpeter introduces the term *creative destruction* to identify innovative entry of entrepreneurs which is also explained by Moore as the destruction of business paradise the dominator companies created for themselves. Both Moore and Schumpeter agree with the idea of the destructive power of innovation on the system established by dominators of the market. Schumpeter says that creative destruction, despite the term that implies the destruction of the value of dominator companies that created and enjoyed some degree of monopoly power, is the force that provide long-term sustainable economic growth because the threat of market entry of new players urges monopolists and oligopolists to invest in new ideas and new products which is the major driving factor for economic growth. Schumpeter also adds that market dominators become more disciplined and more competitive in order not to lose their leadership positions in the market. Years later, shifting from his first theory known as Mark I (Schumpeter, J., The Theory of Economic Development, 1911)**,** which states that only small companies have the capacity to innovate fast due to their simple management structure, Schumpeter creates his second theory known as Mark II. In his new theory, he changes his idea and states that only large companies could be the drivers of innovation and economy as they have the required capital and resources to be able to make investments in research and development. However, while explaining innovation and how it is used by big global companies, Schumpeter does not clarify when new players' entry into the market usually occur. Though Schumpeter wrote his book 'Capitalism, Socialism, and Democracy' in 1942, it is obvious that his warning about technological innovation which was witnessed during dot.com age is accurate. Schumpeter warns that the life span of technological innovation is short. It creates temporary monopolies and incredible profits for a short period of time just to get killed by copycat rivals soon. He continues that these temporary monopolies however, are necessary to provide the incentive necessary for firms to develop new products and processes”. A good example of online commerce that provides incentive to its founder in Turkey is ‘yemeksepeti.com’ whose owner has founded a construction company after selling his on-line company to a foreign investment group.

Iansiti, M. and Levien, R. in their book The Keystone Advantage: What the New Dynamics of Business Ecosystems Mean for Strategy, Innovation, and Sustainability (2004), they claim that keystones can increase ecosystem productivity by simplifying the complex task of connecting network participants to one another or by making the creation of new products by third parties more efficient. They continue that keystones can enhance ecosystem robustness by consistently incorporating technological innovations and by providing a reliable point of reference that helps participants respond to new and uncertain conditions. Iansiti, M. and Levien, R also argue that keystone companies can encourage ecosystem niche creation by offering innovative technologies to a variety of third-party organizations. They also warn that the keystone’s importance to ecosystem health is such that, in many cases, its removal will lead to the catastrophic collapse of the entire system.

The Red Queen Effect

Moore, James F. inspired by the biologist Van Valen, Leigh has developed the Red Queen Effect. According to Van Valen, Leigh the Red Queen Hypotesis maintains that many of the most important biological adaptations-such as sexual reproduction- originate during times of particularly intense coevolutionary pressure. Moore, James F. adapting this hypothesis to the Red Queen character of Carroll Lewis (Through the Looking Glass and What Alice Found There, 1871), describes the scene when the Red Queen takes Alice’s hand and leads her on a run in the woods. Moore says even though Alice and the Queen run very fast, they never leave the place where they are standing. Moore continues that finally Alice asks the Queen why they never seem to get anywhere. The Queen looks queerly at Alice and explains, “It takes all the running you can do to stay in the same place. If you want to get somewhere else, you must run at least twice as fast as that.” Moore adds that in business, simply running fast is often equated with lowering prices- and then struggling to get costs under control. In regard to Moore’s Red Queen Effect, the competition power of some countries and some of their large multinational companies competition through cooperation to lower the costs is compared to the competition power of Turkey and some companies in Turkey through GCI Report 2013-2014 in regard to its twelve pillars and Moore's point of view on competition who asserts, that in the old world, large companies would primarily see themselves as competing with similar businesses within their respective places whereas in the new world, companies compete to unite disparate contributors to create powerful total solutions or experiences – and then to establish thriving business ecosystems dedicated to providing these solutions to customers (The Death of the Competition, 1996). From Iansiti and Levien's (2004) point of view on symbiotic relationships that indicate the multi-sectional benefits among the seller, the supplier, and the consumer, the cooperation of the companies among the top four countries with one another and with the selected companies in BRIC countries are also illustrated to identify how the platforms for business ecosystems are enlargened and how they function in the new business system. The results are expected to match what Schumpeter states in his theory known as Mark II, only large companies could be the drivers of innovation and economy as they have the required capital and resources to be able to make investments in research and development.

THE NEW BUSINESS TREND

Business Ecosystem

The cooperation of diversity of raw materials with free energy together with large workforce maintains mass production of goods and services led by numerous companies in Earth's ecosystems. Human-dominated ecosystems establish core organizations with a shared environment on which individual companies could benefit from. In fact, each organization or each individual company has an ecosystem of its own. The abundance in the types of the ecosystems involved could not be underestimated when the number of companies in the world are concerned. Due to variety and diversity of the firms and organizations which lead the stiff competition, and unavoidable boundaries and restrictions of the adaptation driven by globalization, innovation and R&D have become super heros for both individuals and organizations. Hence, individual firms and organizations that own ecosystems called business ecosystem as a whole, have become reshaped by the blend of determiners which are the information and technology ecosystem (innovation), the entrepreneurship ecosystem and/or start-up respectively. In fact, the term "assembly rules" (uvm.edu) discovered by ecologists and later coined by Moore (1996) tells only the convenient communities in which species can coexist offer them the opportunity to colonize an ecosystem. Moore (1996) claims that assembly rules are divided into two. The first group of assembly rules are basic rules as no ecosystem has appeared overnight; first a plant appears, then a grasshopper comes to have a bite of the plant, and then a dragonfly arrives to dine on the grasshopper. Moore, James F. (1996) continues saying that other assembly rules are directly related to competition. What Moore, James F. (1996) tries to describe is the capacity of the competition in the environment. For instance, a group of birds of the same species settle in a lakeside abundant with food. The more they multiply the more they consume, and when a new group of birds of another species arrive in the same location, only a few of the new comers could find food to feed themselves, others have to discover another environment with abundant food. If they insist to stay there, the new comers would not only destroy themselves but also the entire ecosystem as food scarcity would end up with the death of the species of both parties. Like the example given for the biological ecosystem, companies in business ecosystems face the same extinction risk unless they have a well-planned design before entering a new market. They have to understand the new marketplace, new customers, new business models, and new technologies. For this purpose, Moore, James F. (1996) argues that each and every company should design a multidimensional campaign to create the new. Moore's (The Death of Competition, 1996) multidimensional campaign has seven dimensions of competitive advantage:

i. Customers :Individual or corporate customers
ii. Markets :Domestic or foreign markets with high population rate
iii. Products :Marketable innovative products
iv. Processes :Operations from production to market
v. Organizations :Private or public institutions
vi. Stakeholders :Multinational shareholders and market value
vii. Government & Society :Regulations and public benefits

The flow of interaction in the new business trend goes through various complex cycles with highly flexible designs ready to avoid the risk whenever it exists. In this new trend, each actor, including private and public institutions, legislative bodies, natural capital, individual and corporate companies is a contributor. Interactions among actors, in other words contributors are multi-sectional; for instance, suppliers of my supplier (Figure 4.1) indicates how the new business trend operates.

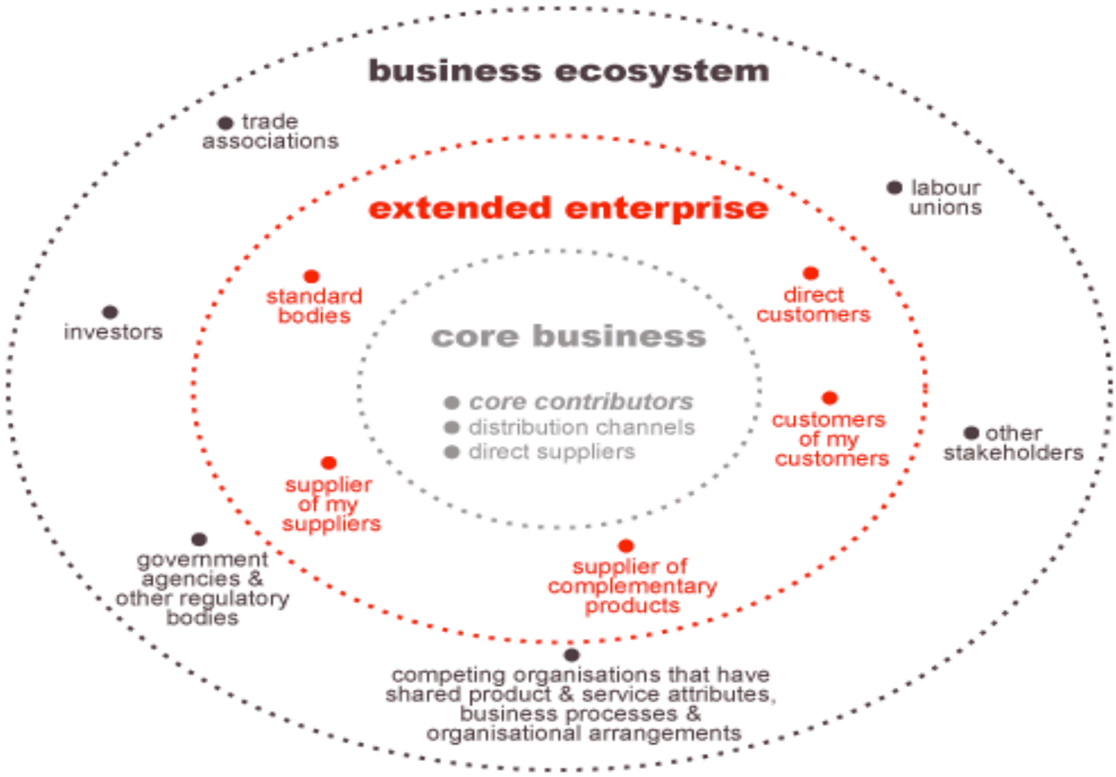


Figure 4.1 A schematic diagram of business ecosystem.

As seen in Figure 4.1, the core business in a specific domain establishes its ecosystem through a complex connection with its contributors. All the actors of the system which surround the core business, though they have different names and different structures, they are, in fact, contributors of the core business. The actors locate themselves around the business like water ringlets. In the center employees, employers and partners of the company are situated. Yet, there are two more groups of contributors one of which is the distribution channels, in other words the marketing channels of the company that take its products to the market to make them available for consumption, and the other group in the center is its direct suppliers which provide the company with the required items for production. In the inner ringlet that surrounds the center, there are invisible actors who support the direct suppliers. Large wholesale companies, unless they are producers, purchase large bulks of items from smaller suppliers. These large suppliers have hundreds, if not thousands, of small suppliers. These small suppliers also form an invisible circle surrounding the direct suppliers. Within the extended business circle, there are also suppliers of complimentary products such as suppliers selling packaging materials.

In order to make a better understanding of the creation of business ecosystem in Turkey, among the Turkish companies selected for the thesis, two large production companies are taken as an example in Figure 4.2 that is created by using the diagram in Figure 4.1.

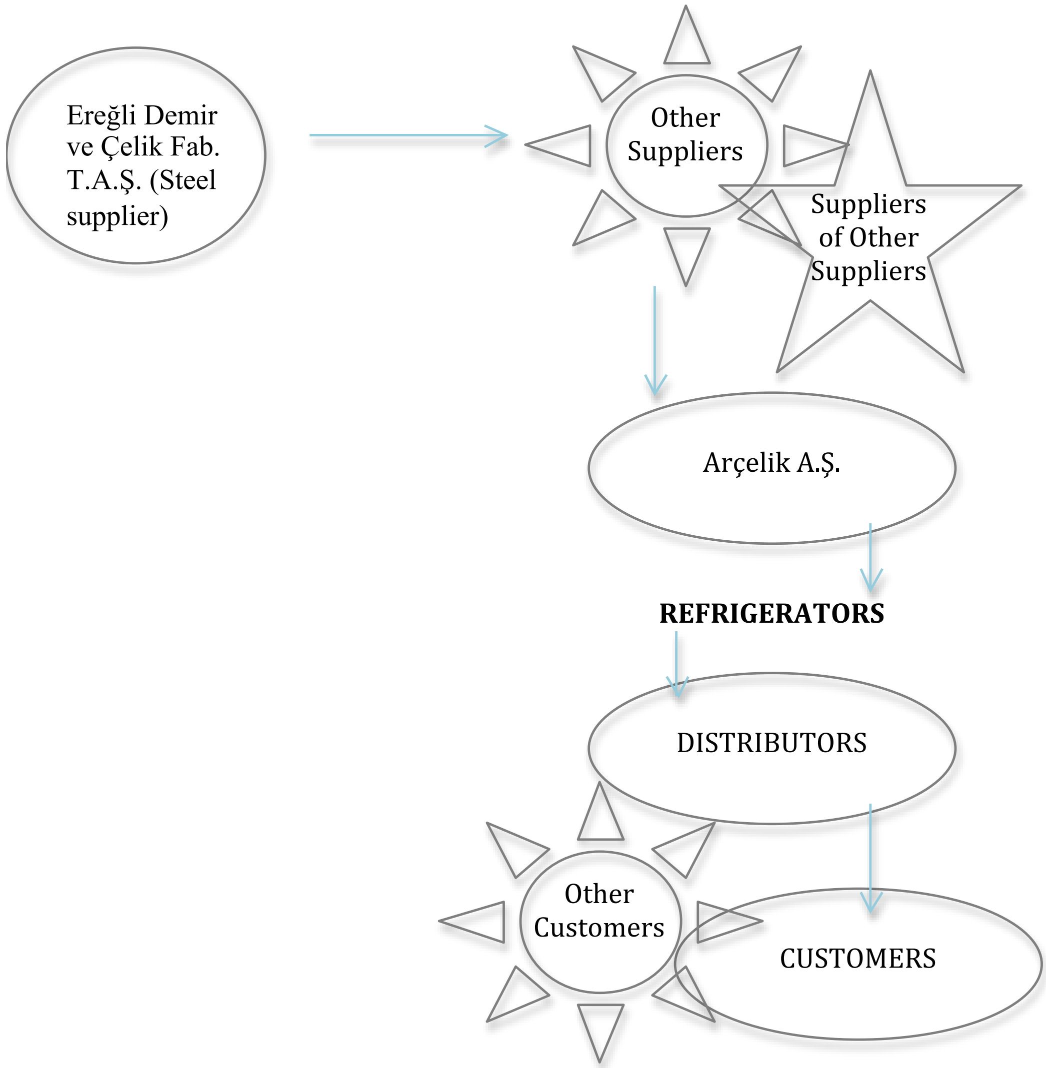


Figure 4.2 An illustration of a basic formation of business ecosystem of Arçelik A.Ş..

Direct customers are often corporate companies with individual customers. For instance, Ereğli Demir ve Çelik Fab. T.A.Ş. sells some of the steel it produces to Arçelik A.Ş. as well as to its other corporate customers, then Arçelik A.Ş. produces refrigerators using the steel it purchases from Ereğli Demir ve Çelik Fab. T.A.Ş. and transports them to its distributors to have them sold and distributors sell the refrigerators to its individual customers as illustrated in Figure 4.2. To provide better explanation, it could be argued that

Ereğli Demir ve Çelik Fab. T.A.Ş. is not the only direct supplier of Arçelik A.Ş. It is no doubt that there are other suppliers which are shown as a group (Figure 4.2) using the sun shape. Arçelik A.Ş. seems to have all the required actors within the business ecosystem the company has established. Yet, the company's business ecosystem design is not global, it is international. On the other hand, Ereğli Demir ve Çelik Fab. T.A.Ş., despite its massive impact on the economy in Turkey, seems to be pursuing the traditional business system. The core business of Ereğli Demir ve Çelik Fab. T.A.Ş., is iron ore mining and coal mining as well as the production of various sizes and shapes of industrial metal particularly metal rolls that are made of iron and steel. Even though the company does not have any direct suppliers, it regularly purchases scrap iron from individual or corporate sellers. The company does not have any direct distributors but, it has global customers as well as local companies and individual buyers. Like Arçelik A.Ş., Ereğli Demir ve Çelik Fab. T.A.Ş., owns a production plant in Romania to provide easy access to various locations in the world. Both companies are listed in the stock exchange and satisfy their shareholders with regular dividents. Yet, Ereğli Demir ve Çelik Fab. T.A.Ş., has some missing parts when the Figure 4.1 is considered. For instance, in the core business, the company does not have any direct distributors, and in the extended business area, supplier of my suppliers is missing as the company does not seem to have any significant suppliers.

The Stages of Business Ecosystem

Creation and design of a business ecosystem involve various complex stages, they seem to be four, though. These stages are sometimes so complicated that some of them even have their own specific sub-stages such as community contribution, in-house training, etc. (Moore, James F., 1996).

Stage 1 (Creating Value): This first stage involves *creating value* focusing on performance and innovation. In the traditional style business, there are two major drivers for value creation one of which is the cost-cutting strategies the company uses and the other is the revenue the company manages to earn. In this traditional style business, creating value for customers increases the sales of the products or the services offered by the company because skills, processes, and systems which are used to produce and transfer quality products and services are invaluable to the company if prompt delivery and steady quality are valued by customers. Then with the increase in sales, the stock price of the company rises which creates stakeholder satisfaction and, with this satisfaction the company insures to fund future operations through a stronger investment capital. This traditional style business is believed to develop short-term profitability to insure a long-term sustainable growth for the company. However, in the new business, value creation drivers are indefinite assets supported by brand building, employee training, and R&D, like advanced technology, intellectual property, innovation, management competence, customer relations, community relations, agreements, employee relations, and brand value some of which may differ according to the sector the company activates. So, if high performance and innovation are valued by customers, skills, processes, and systems that create new products and services with excellent performance bring high value creation in the new style business.

Stage 2 (Expansion): This stage points to the *expansion* with the target goal to design market domination where the key challenge is the critical mass. Expansion means growth and growth means market share expansion which involves a large variety of new challenges. Expansion could be provided in many ways, one of which is rediscovering the strongholds and establishing business subecosystems around these strongholds together with other companies through customer preferences. Then, connecting these subecosystems to one another, new positions could be designed in related territories. Another type of expansion is lending economies of scale from one position to another. However, the most effective is HP's motto which says attack the undefended hill. If the undefended hill offers a profitable product or idea, it should be captured before others attack (Moore, James,F. p.33-34). Yet, due to the expansion, new target goals and new strategies should be designed to cope with larger competitors and these new designs and objectives may raise concern over internal issues and protectionist approach of the company as the company starts to experience a less centralized management strategy. In addition, these new business strategies needs extra capital which means extra financial burden to investors, shareholders, and institutional lenders.

Stage 3 (Authority of Mature Business Ecosystem): This stage points to challenges to *authority* by insiders and outsiders of a mature business ecosystem. During the design and expansion period, none of the players could crack the borders of the ecosystem, but when some of them get stronger, they race for a leading role. Some time later, roles are set and the ecosystem becomes mature. However, in a mature ecosystem, even the existing players including the leaders are at risk at any time as business ecosystems are also vulnerable to newcomers. Leaders of the matured ecosystem do not only struggle with the newcomers but also with the insiders as they are attacked by their competitors who are eager to capture the leading role within the ecosystem. What insiders and outsiders are doing is the challenge to authority. If the authority is well-maintained and contributes to the community through sharing and encourages innovation and coevolution, the ecosystem is generally stabilized, and new comers do not have much impact on the established business ecosystem.

Stage 4 (Renewal or Death): This last stage points to the most critical part in the life of a company within an ecosystem. Will it be able to survive through the implementation of some *renewal* strategies, or will it *drown* in its own business conservatism? For established companies, the priority is the prolonging life because thousands of entrepreneurs are plotting to design new ecosystems to destruct even the well-established business ecosystems. In some cases, environmental conditions might change- buying patterns of consumers or new regulations- the ecosystem changes too. In some other cases, a new ecosystem is developed which is more effective than the others and captures the opportunities from others. Cases of destruction are infinite, so companies should insert new ideas into the existing ecosystem to provide continuous performance improvement to stay competitive in the business ecosystem.

The Formation of Business Ecosystem

Business ecosystem has a complex structure and this complexity primarily needs principles. Complexity principles of business ecosystem has four major parts (Moore, James F., 1996). These four parts are:

i. Interdependence: Symbiotic relationship.
ii. Self-sustainability: Efforts not only to minimize the destruction of the environment during production but to ensure their own existence as well.
iii. Adaptability: Flexible strategies for risk management.
iv. Creating a new order: During times of attacks, shifting to an alternative ecosystem which is designed in advance.

Interdependence

Like the biological ecosystem in which each living organism is dependent on one another for survival, in business ecosystems each company depends on another or anothers in each step of production. Yet, all companies, large or small, have their own business cycles in terms of management. If a company is not run well, its disappearance in the market might create a turbulance for its customers and suppliers depending on the size of the enterprise. As a company's disappearance is the same as the extinction of species in a biological ecosystem, it harms the business ecosystem it is in. In that sense, it is obvious that each company needs almost the same kind of a business ecosystem in the workplace. In other words, business ecosystem starts in offices. New ideas, offers and plans should be interdependent. Yet, it is easier said than done because companies are in different sizes. Besides, interdependence itself has also a complex structure.

Self-sustainability

Self-sustainability could be explained in two different ways. The first one is the company's financial *sustainability* as the company's own survival is the major point for a healthy business ecosystem. Through well-functioning business strategies, risks should be downsized, if not avoided because if the company is wiped off, the entire ecosystem faces the extinction risk. Each company, large or small, should be in the alert position to capture opportunity. Companies should always have some marketable assets. Besides, each company should provide its own sustainable existence through investments in better technology to obtain cost reduction. The second *self-sustainability* is related to environment. In terms of environment, self-sustainability is a kind of source-saving behavior adapted by production companies with the aim to provide the continuity of the limited natural resources to ensure their own existence; through technology, those companies produce more but exploit less. As mentioned in section 4.3, self-sustainability, which is the second major part of complexity principles on which business ecosystems are based, also has its own pillars. These are given below as:

Radical Resource Productivity: The first pillar of self-sustainability is radical resource Productivity which means the same or the more the amount of work the less the materials used. For instance, a paper-box company manufacturing the same number of paper boxes or more in number using less material and energy, and less natural resources in its processes indicates are source-saving behavior by means of money and nature.

Investment in Natural Capital: The second pillar is the general conceptualization to refer to the world's natural ecosystems on which a sustainable flow for the life cycle of all ecosystems, both biological and human dominated depend. Natural capital could either be renewable or nonrenewable. Fossil fuel is an example for nonrenewable natural capital whereas biomass for renewable. For instance soil functions as an unlimited storage of stocks of living organisms and is a natural capital. However, this vital resource has been reaped by natural activities like erosions and by human activities like land alterations, expansion of urbanization, etc. that ends up with net losses. So, to compensate such losses in natural capital, new flows of funding through financial resources is urgently needed for a sustainable business ecosystem.

Ecological Design: The next pillar for self-sustainability is ecological redesign. 'Ecological design is any form of design that minimizes environmentally destructive impacts by integrating itself with living processes' (Van Der Ryan S, Cowan S, 1996). Having been damaged by greedy and irresponsible attitude of human activities, natural resources need to be restored, again by human efforts. Companies have been trying to improve the way they use for production and manufacturing and redesign what they once destroyed. For instance, not so long ago, almost all clothing companies would use poisonous chemicals to dye fabrics. Those chemicals not only contaminated the water resources of the world but also created health hazard for people who wore them. Today, more companies start to establish new ecological design methods to shift to a more environmentally friendly manufacturing. These companies, to minimize the negative impact on the environment, use biodegradable textile materials. In addition to these redesigning efforts, they also make use of plant dyes for their textile products.

Service and Flow Economy: Many products have recently been transformed into service, and the outdated concept of product & service changed into a service-product continuum as service economy could be integrated to most of the products easily. For instance, including the service industry of waste disposal in the bottle of any drink and charging a small amount of money as container deposit during the purchase provides a revenue for the supplier and the producer. When it is taken back, whether by the consumer or by a homeless, that tiny amount of deposit is given back and that tiny money provides not only a tiny income for that person but also recycling opportunity for another company and lower costs for other manufacturers. If the same bottle is somehow broken, the damage of the broken pieces to the environment is claimed to be paid in advance by the purchaser. So, in any case, in advanced countries, service and flow economy is being integrated with most of the areas even with technology companies that manufacture computers. In developing countries, service sector includes tourism, education, health, financial services, and distribution.

Responsible Consumption: The last pillar for self-sustainability is responsible consumption. The life cycle of each product from design to disposal damage the environment. Therefore, consumers should urge themselves to buy the products of companies with better environmentally friendly background so that consumers can support the sustainability of resources for companies to produce more in the future.

Adaptability

Adaptability is the readiness of actors in the system to affect resilience. Resilience is the capacity to delicately reshape the ecosystem during turbulences without creating any dramatic changes that might affect the fundamental structure negatively. Adaptability itself has three pillars.

Self-organization: It is a dynamic structure with no specific decision maker. Self-organization, with the constant essential modifications, reinventions and recalculations due to sudden and often unexpected disruptions depicts the core dynamic alterations within the company as a solution for adaptation, survival, growth and development.

Emergence: It is a kind of new product created spontaneously by the system integration without any external involvement, and this new product does not resemble any of its components.

Co-evolution (endogenous & exogenous): Endogenous variable is an indicator in a specific model whose value is dependent on other variables in the system. The number of workers in a clothing company is endogenous to the company's system whereas any sharp rise of the price of cotton in the market is exogenous because exogenous variable is independent from other variables in the company's system (smallbusiness.chron.com). In fact, exogenous variable is almost the major financial risk for a company, particularly for small enterprises. Risk management together with related departments in the company should have alternative financial solutions as well as a well-planned detailed strategy before production. A well-planned detailed strategy should cover competitive forces as co-evolution deals with competitive environment (yourarticlelibrary.com) which includes the number of competitors - direct and/ or indirect - within the industry, their capacity to compete and the interdependence depth. Another important point for a well-planned strategy is the value map of the company; in other words, pros and cons of the role the company wants to play in the system. The main question is whether the role is worth playing or not. For instance, a company that offers a low-cost commodity service could be quickly replaced by another company with better offerings. Last but never the least, the strategies should also consider the rapidly developing advanced technology to meet the changing needs of the company's customers; otherwise, the loss in the number of customers is unavoidable for the company.

Creation of a new order

Most new companies enter the business ecosystem soon to exit as they intend to do business in the old traditional way in which companies used to fight one another for dominance and profit. However, in the new complex system, companies use innovative ways to integrate competition and cooperation because they know they need to adapt to new business conditions. Whenever a problem exits, they change leadership and a new role is taken on because successful companies know the fact that high capacity of adaptability leads the company to a new order to survive in such a rapidly changing world. "It should be kept in mind that", Moore, James F. warns, "Even the best functioning ecosystem will be attacked someday and probably destructed to be replaced by a new ecology with better offers for customer value because there are always entrepreneurs around planning to create new alternative ecosystems". For Moore, James F., when the creation of a new order is inevitable, companies should take some vital steps for the survival of the ecosystem. The steps are as follows:

- Companies should find ways to insert new ideas into the existing order to buy time; when necessary, they should work with innovators,
- Companies should stay competitive with other alternatives such as asset reuse which means carving up and recombining the assets of the ecosystem,
- Companies should challenge to meet the four tests to evaluate the robustness of the business ecosystem and the leadership contributions of a specific member. Moore, James F.'s four test includes:
  i. Creation of something of real value relative to what else is available by establishing a system and sequence of symbiotic relationships,

ii. With the available customers, markets, allies, and suppliers, establishing the critical mass,
iii. Leading innovation and coevolution,
iv. Ensuring the extinction of high obsolescence risk through continuous performance improvement.

Business Ecosystem Health through Innovation & Entrepreneurship

Though the concept is recognized as a recent invention of the business world and its description differs from one interpreter to another, innovation is as old as the first human groups. For instance, hunting and gathering was a basic motive but carving stones to create better hunting tools was innovation from the point of today's understanding (innovation-management.org).

What is innovation?

The word innovation which has closed and open models (ezinearticles.com), first appeared after WW II with the aim to protect intellectual property (IP) because it was believed that control and ownership of IP (cs.stanford.edu) were the driving factors of successful innovation. Until mid 1980s companies performed closed innovation with the aim to protect IP. In closed innovation every step of each new item should be taken too fast to capture the profit from R&D. For that reason, companies are in a race with one another to load their R&D departments with the smartest people to be the first to provide the fastest discovery, the fastest development, the fastest launching, the fastest IP registration, and the fastest shipment for the item they create so that no other company could benefit from the new product but their own company. However, in open innovation, companies have discovered that they could benefit more when they use external ideas which could be sourced out through individuals, public and private institutions and/or other companies as well as internal ideas, and IP is something that could be purchased from outside sources. With the best blend of internal and external ideas through the use of outflows and inflows of knowledge could be the winner. In open innovation, for instance a company or an individual creates and designs a novel idea, and decides to sell the idea to another company due to the lack of financial resources to carry it to market itself. The company that purchases the IP of the former company carries the idea into the market.

Today, more and more companies are shifting to open business models to take advantage of the opportunities available in this new model. Apart from these two models of innovation, there are mainly four types of innovation which are operational innovation, management innovation, product and service innovation and strategic innovation respectively. In fact, there are many more types of innovation such as value-engineering and value-migration. Despite all these different types and models of innovation, in Turkey Oslo Manual which has been designed by the Organization for Economic Co-operation and Development (OECD) together with Eurostat is used. According to the Oslo Manual, there are four types of innovation which include product (goods or service), process, marketing methods, and new organizational method in business practices, workplace organization and external relations (innovation-management.org).

Innovation should not be confused with invention. The main difference between the two is that innovation must be turned into an economy in some way. For instance, steam power was an invention but, using that new energy in different fields was innovation. For instance, blue jeans was not an invention, it was an innovation. During the Gold Rush, Levi Strauss went to California to sell dry goods as California loaded with thousands of people was a hub for businessmen (ezinearticles.com) Levi Strauss began selling bedding, clothing, handkerchiefs as well as canvas for the tents of the gold prospectors. Then he noticed what was needed for those people searching for gold in harsh conditions; canvas was for hard wear but, the fabric of ordinary trousers were not, so he started sewing trousers made of canvas. They were sold out. Then he founded the first blue jeans company in San Francisco. Strauss invented neither the canvas nor trousers but his wisdom and creative personality met the needs of the market and an everlasting massive industry was born. Today, with new designs and from regular brand names to designer names, blue jeans themselves have been an everlasting brand name.

According to Peter Drucker there are seven possible birthplaces for innovation (section 3.1). All unexpected events need new process requirements, and these new requirements create all kinds of changes in every aspect of life. For instance, the fall of Berliner Mauer or Wall of Shame as coined by the mayor Willy Brandt was an unexpected event despite the few weeks' unrest. The reunification of the Germans had changed the mood of the Germans as well as the German economy (germanculture.com.ua). Despite the happiness and the pride the fall created, German economy found itself soon in trouble; the sharp and unbearable demographic change and two contrasting political and economic systems one of which is capitalist and the other socialist were about to create destruction in the entire system; after a few years' of counter attacks to improve the destructed areas, German government managed to adapt the entire system to the new environment (germanculture.com.ua).

Innovation, even though is claimed to be a new marketable product, is not necessarily an item; it could be any unexpected event that changes the entire system of the related and unrelated areas. The fall of Berliner Mauer suddenly created the last two stages of business ecosystem which are authority-lead co-evolution and death or renewal. Easterners destructed the established political system but what if Western Germany had not been able to adapt itself to the sudden outcome. Millions of people trained by a strict political system would collapse the entire political, cultural, social and economic system of West Germany, and would probably destroy the other European countries' established system as Germany is the leading power of Europe.

What is entrepreneurship (corporate/individual entrepreneurship)?

Business systems need technology. Like the invention of steam power that created a better technology for goods and people, business systems either of today's or of the past need technology, but then they need the skills of people; design, manufacturing, marketing, sales, distribution and service skills. Like the health of any living organism on Earth, the health of business ecosystems depend on a blend of agents with their own unique areas and the contributions to one another due to positive interactions among them. Entrepreneurs constantly eye the markets to capture the available opportunities to assemble a sound business in anywhere at any time. For instance, Starlight Telecommunications' Somalia establishment (Moore, James F., 1996) is one of the best success stories based on entrepreneurship activity. In fact, it is the creation and well-established design of business ecosystem as if out of nowhere through excellent combination of innovation and entrepreneurship activity. The true story below shows creative destruction (Schumpeter) is not always a must-to-have to establish a healthy business ecosystem; though there is not any destruction of a former system, the innovation in Somalia has created various business cooperations and symbiotic relations through sharing. Two white-collar employees of GTE discovered a business opportunity in Somalia; the country had no linkage to the worldwide telephone network despite the availability of customers who are ready to pay to be connected. The two men offered a proposal to GTE's New Ventures Group which accepts proposals from employees for new businesses and judging them to fund or not. It was first approved, then disapproved because Somali with no legal system was probably one of the last locations to establish a business. The two men were left alone with their project, but started to design the new business in Somalia where no company would dare to go. First of all, there was the connection problem as well as other problems such as lack of currency, lack of reliable postal service and lack of banking. Overcoming the problems using advanced technology, the two men created and designed the new business. Then they circulated the plan to outside investors to find the required funding. Soon, a wealthy businessman from Kenya with a business group from Somali called O'Brien to start a phone business with GTE in Somali. O'Brien quit GTE, and in 1994, 0'Brien, Nielsen, and another man from GTE incorporated Starlight. High-technology slide-in smart cards made in Japan in a low-technology setting solved the billing problem. They put up pay phones and inexpensive radio technology. The satellite of a local ground station operated by Starlight sends the international call signals to a large, highly sophisticated teleport run by Norwegian Telecom in Norway and from Norway, calls are directed as normal international long-distance phone calls and can reach the developed areas of the world. Incoming calls were dialled through Norway but in 1995, Somalian area code of 252 was activated. Since then, all incoming calls have been received by the satellite, and connected to the Starlight's bases, and then the calls are routed to subscribers. Starlight and its local partners have developed relationships with local stakeholders. They are also the customers of the company. Somalia fruit have been advertising on the smart cards paying fifty cents per card. There are other players like aid organizations such as the Red Cross and multinational companies as stakeholders or customers. The success of the company founded by three former white-collar employees of GTE tells the importance of entrepreneurs who constantly eye the markets, spot the opportunities, share the knowledge, create well-established designs for viable projects, make the required individual connections to fund individual projects, and enter the most dangerous environments where no company would dare to step in (Moore, James F., 1996).

Innovation and entrepreneurship can not be considered as separate parts; innovation, in other words a marketable idea is the base from which business ecosystem roots but without the required funding, any marketable idea could be a lost treasure. Business ecosystems could only be established through innovation and entrepreneurs (cs.stanford.edu). If the project in Somali had not been funded by local and foreign entrepreneurs, it would have had no value to share. Even though innovation and entrepreneurship are the two terms that are must-to-have to establish a business ecosystem, to provide its sustainability in stiff competition is more complicated because healthy business ecosystems need coopetition.

Business ecosystem health

Like healthy biological ecosystems in which everlasting cycle of life, despite various predictable and unpredictable events continue through symbiotic relationships, healthy business ecosystems offer sustainable business environments to companies large or small to survive and capture growth (learn.uvm.edu). Yet, unlike biological ecosystems, it is the companies that should design and construct healthy business ecosystems. For this reason, companies should focus on various points of vital importance as they establish business ecosystem health.

The agents of a healthy business ecosystem

Niche Creation, Robustness, and Productivity which are the agents of a healthy business ecosystem help companies organize the strategic path they should take and make the essential shifts when needed (Iansiti, Marco & Levien, Roy., February 24, 2004. The Operational Dynamics of Business Ecosystems (aroundthefuture.com) are as follows:

Robustness: The term that refers to the capability of an ecosystem to face and survive barriers and disruptions through the capacity that adapt to sudden changes, is also partially in relation with critical mass. In general, robust monitoring diminishes risks even in diverse functions of the company such as production storage, shipping and logistical tracking. It not only prevents losses rooting from individual lawsuits, regulatory penalties, and reputation of a collapsed marketplace but also points to the inefficiencies and defects in production. Any company with no robust monitoring for quality - control ends up with loss of money and time due to poor quality production.

Productivity: It refers to the continuity in performance improvement. Some segments in companies are money makers whereas some reap the money made by those segments which weaken not only the substantial income of the company but the quality and the quantity in production as well. However, tracking expenses and separating segments into two as segments gaining money and as segments losing money help companies run efficient processes with continuous improvement. In terms of profits, it looks much more feasible to close down money reaper departments and purchase the same products or the service at discount prices from small suppliers**.** By this way, business ecosystem cycle starts to run healthier as niche creation is supported by parent companies.

Niche Creation: It is a part of another ecological metaphor refers to creating value for smaller companies through sharing. Like a species in ecology, smaller companies, particularly SMEs from diverse backgrounds focusing on various niches creating new ideas form a crowd, and keystone companies support these crowds by creating value for their new ideas. In other words keystone strategies used by larger companies supports niche creation because keystone companies are supposed to be establishing the overall health of the ecosystem through implementation of a set of strategies.

Company portraits in a healthy business ecosystem

In addition to these agents, a blend of three strategic roles should carefully be considered for a healthy business ecosystem. These are the dominators, keystones and niche players. According to Iansiti & Levien (2004), companies that want to take a shaping role in a business ecosystem can do so in different ways: they can try to become dominator or a keystone.

Dominator Company: A dominator company could either be a physical dominator or a value dominator. If the company has the value dominator strategy, the company is said to be leading a business ecosystem that defeats other companies to get the larger part of the added value created by other species in the business ecosystem. In the short run, the value dominator gets the utmost value but the business ecosystem in the long run collapses due to such dominance as it leaves no space to smaller companies on which the dominator lives, and smaller companies with little or no profitability go out of business. With a few players left, the value dominator starts having difficulty providing the required items for production. For instance, Yahoo in 1990s pursued a rapid growth to be the dominant power and accomplished what it aimed to find itself soon in trouble. However, if the company is in a mature, stable industry in which diversity that creates innovation does not play an important role, the company could perform as a physical dominator. Through buyouts or stake acquisitions, the company could directly control the assets it needs. Yet, in the end, there would not be a business ecosystem strategy left as the physical dominator company itself becomes its own ecosystem.

Keystone Company: By establishing a common technology platform to provide participants a powerful connection in its hub in the network, a keystone company tries to adjust the business ecosystem as a whole. This keystone approach not only provides a healthy growth both for the participants and the keystone company but also ensures the sustainability of the business ecosystem in the long run. For instance, eBay as a keystone company, via incorporated innovations from outside the system, enables the business ecosystem to discover the possibilities of self-renewal. This role helps eliminate the risk of death.

Niche Players: These are small companies like family businesses which are specialized on specific products or services that are sold on demand. Niche players are provided space to survive by keystone companies. If they are not supported by keystone companies, they are wiped out by dominant companies creating an economic disaster for all the players of the markets, large or small. In unstable economies, some niche players often go bankrupt due to exogenious variables, such as a sudden sharp increase in raw materials. Some others fall prey to dominant companies during growth period. For instance, local supermarket chains are often taken over by dominant food retail companies or sometimes dominant companies open tens of their own small stores in various communities to capture the profit the niche player makes. With large capital, the dominant company is capable of making incredible discounts for the same product the niche player sells. The end result is the extinction of the niche player as it can not compete with the dominant company's discount strategies. For instance, Migros started to open small food retail stores in 2009 called M-Jet which diminish the sales of small local food stores called "bakkal". Ignoring the health of business ecosystem, dominator companies create a risky environment not only for niche players but for themselves as well.

Coopetition: Entrepreneurship activities & innovation in a healthy business ecosystem

In healthy business ecosystems adaptation through flexibility which is vital in mutual relations among companies is also unavoidable among the consumer and the producer. Coopetition concept derived from the combination of competition and cooperation, is the cornerstone of the ecosystem. In fact, coopetition is a kind of coevolution which is the evolution of various types of businesses interdependent to one another, each adapting to changes in the others. Without flexible adaptation, companies can not create or design healthy business ecosystems. Coevolution takes place among different businesses whereas coopetition is among the customer and the producer because mutual benefits are the main drivers of business ecosystems.

Coopetition strategies in other words offerings should include some benefits both for the customer and the producer to enhance its competition power in the market and create profits for the company to reinvest. As coopetition concept is mutual, the customer should have some benefits in return, too. For instance, free installation or free delivery offerings with the product sold sounds appealing to the customer. For service companies, coopetition functions the same. For instance, attaching a small pre-paid phone card to an overseas flight ticket not only create satisfied passengers but also provide support for the phone company and the smart card company the airline company works with. Other airline companies might have some other offerings like free extra miles, various discounts during overseas stays, free seats for concerts and many more. Consequently, each coopetition makes the ecosystem stronger creating value to all the related sectors in the market. The figure below illustrates how the business ecosystem cycle works.

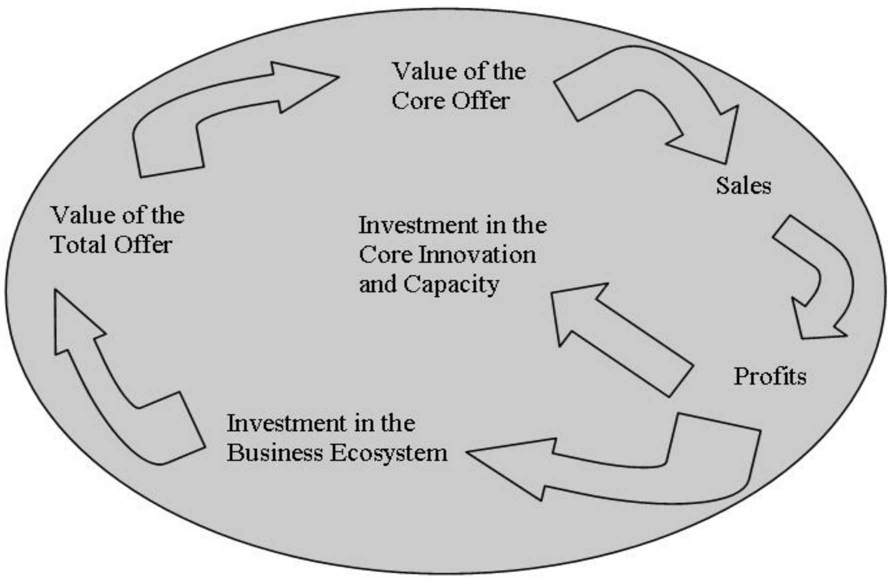


Figure 4.3 Moore's (1996) 'Strategy - Making in a World of Ecosystem (virtuous cycle of investment and return)'.

Figure 4.3 illustrates Moore's (1996) double-looped virtuous cycle of investment and return to develop strategies for business ecosystem. In this cycle, according to Moore, if a core product embodies various new capabilities to create large volume of sales and reaches powerful economies of scale, customers, individual and/or corporate could benefit not only from the core product but also from its complementary products. For instance, a new type of foam does contribute to many areas, from packaging to construction creating strong economies of scale, and when profits from its complementary products are reinvested to develop new offers, innovation trajectory is established to decrease the prices through the expansion of performance. Sometimes sales volume become so large that, the cost of the product reduces sharply. Profits from the core business are invested, too in leadership and support for the alliances that make up the ecosystem such as community development activities. The double loop in the cycle shows continuous improvement in both the community of allies and the core offer.

Identifying all the entities in the business ecosystem and monitoring even the slightest changes in any of them helps the company create smarter strategic decisions in advance. However, the major point is the ability to adopt a competitive mind to maintain the new way of thinking. There are seven major points that reshape the point of view in order to be able to design strategies for coopetition. These are as follows:

i. **Eyeing the foreign markets in alert position:** Any unexpected event could take place anywhere any time as argued by Drucker (see section 3.4). Any unexpected event could create business opportunities.

ii. **Sensing the changes:** The possible next-steps of any unexpected event should be sorted out and possible outcomes should be designed to be ready to capture the opportunities.

iii. **Seeing the opportunities**: The outcomes should be redesigned when some of the possible next-steps occur, and other next-steps should be kept aside in case there are sudden shifts.

iv. **Sharing with partners:** The information should be shared with business partners not only to provide the required support but also get informed about other alternatives.

v. **Analyzing the new environment:** All the actors in the new environment, and the official reports about its natural resources as well as the environments missing parts should be analyzed deeply to redesign the focused project to take the advantage of the opportunity in advance.

vi. **Sorting out the species:** Inquiring the companies in the new environment and grouping them according to a set of business principles and strategies would provide the company with the accurate information with which they merge or could enter business agreements.

vii. **Entering the available environment through various business agreements:** After some business negotiations with the selected companies and their alternative competitors, the company establishes its new unit in the new environment through a series of business agreements.

METHODOLOGY

Research Framework

How large trusted companies in advanced countries create and design their ecosystems, where they create and design these systems and why they need to operate in other countries, how they select those foreign countries, why those foreign countries approve of their entry, what kind of benefits these companies offer in return, and the business trend in Turkey, what domestic companies -big or small- are doing, what kind of changes they need to adapt themselves to the new business trend are analyzed through various research methods. These research methods that are used in the thesis aim to help individual and /or corporate investors have detailed information about the business strategies and operations of the selected companies in Turkey and their missing parts in terms of the new business trend each of which roots from various factors explained in the last two chapters of the thesis.

Research Methods Used

Global Competitiveness Index (GCI) Report (2012-2013) is deeply analyzed to select and identify the countries and the companies that play an important role in the creation and design of business ecosystems through mutual benefits. Based on the ecosystem stages and health factors, a set of interview questions are prepared to collect data with the aim to unveil the business strategies by means of the new success criteria that take part in the construction of business ecosystem environment and the benefits offered to one another by the selected countries and their companies through the new business system. Compatibility of the interview questions with the twelve pillars of the GCI Report (2012-2013) is measured to clarify whether the interview questions cover all the twelve pillars. Then analyzing the selected companies in Turkey in groups through the interview questions, data for Turkey is also collected and compared to the data of the selected foreign countries with the aim to identify the existing business trend in Turkey.

Global Competitiveness Index (GCI) Report (2013-2014)

Since a healthy business ecosystem could only be created through mutual benefits among companies and their countries' political, economic and social policies, to establish a stable basis for the illustration of the creation of the ecosystems and the symbiotic relationships among the global companies, their parent countries, and the foreign countries where the global companies operate, the official GCI Report 2013-2014 is taken as the main reference. The report has been available since 2004 and each and every year, based on the latest empirical and theoretical methods, it ranks countries according to the Global Competitiveness Index. GCI report, with 110 variables grouped into 12 pillars includes Executive Opinion Survey which covers two third of the entire variables. The selection of the countries is based on the point where the needs meet. In fact, the GCI Report plays a very important role in the selection of the countries and the companies taken part in the thesis. Since economic success involves competition, the twelve pillars of the GCI Report 2013-2014 (Chapter 3, section 3.1) are used as a platform to compare the selected countries' competitiveness to Turkey's rankings and the business strategies of some of their multinational companies to the companies in Turkey; the aim is to illustrate the creation of business ecosystems designed by advanced countries and the compliance rules approved by some emerging countries in order not to miss the opportunities offered by the multinational companies of the advanced countries. That's why, for the thesis, some major countries in the GCI Report (2013-2014) are selected to display the criteria for the new business trend and how the criteria is measured to rank the countries. Their rankings according to the twelve pillars of the GCI Report unveil the factors that support the companies in these countries and the opportunities that enable them create and design the new business trend in foreign lands to capture sustainable economic growth both for themselves and for their parent countries. The reason in the selection of some big global companies from Brazil, Russia, India and China is that they not only represent a new business ecosystem called BRIC countries but also named as the emerging countries. Emerging countries stand for another business ecosystem, and Turkey, though it is not a BRIC country, is in the cycle of emerging countries. BRIC countries have massive resources and act like hubs for big multinational companies but in fact, these rich resources do not contribute much to their placement which are ranked in terms of the twelve pillars of the GCI Report and due to this fact, in the GCI Report (2013-2014), except China, they are ranked lower than Turkey. Turkey, ranked 44th in the GCI Report (2013-2014), is between the two groups of countries so Turkish companies selected for this thesis could be reviewed and compared to the companies in these countries to obtain sufficient evidence for the thesis statement of the thesis.

Selection of the countries

The framework of the thesis is formulated with a closer look into the top four countries of the GCI Report (2013-2014) and some of their trusted brands; most of their plants are in BRIC countries. Advanced countries need cheap labor and easy access to raw materials. Emerging countries, particularly, BRIC countries, with rich and abundant natural resources and minerals, have the chance to offer them cheap labor due to the high rate of population. In other words, BRIC countries have what advanced countries name or vice versa. BRIC countries are designed to function like massive hubs for advanced countries while advanced countries, in terms of mutual relations, provide the people in developing countries with a better way of living through jobs and infrastructure. After the selection of the countries, mainly two different approaches for the thesis are used to capture the required basic data for the outlook. Due to the existence of the parameters that are scattered differently, business ecosystem concept and GCI Report's twelve pillars are analyzed separately from two different points of view; the country's point of view and the company's point of view. In fact, even the outlook is divided into two as country outlook and company outlook.

Table 5.1 The GCI Report (2013-2014) rankings of the 12 pillars of the countries' analyzed in the thesis.

Countries	**CH**	**SG**	**FI**	**DE**	**CN**	**TR**	**BR**	**IN**	**RU**
Overall Index	1	2	3	4	29	44	56	60	64
Basic Requirements	3	1	7	9	31	56	79	96	47
Institutions	7	3	1	15	47	56	80	72	121
Infrastructure	6	2	21	3	48	49	71	85	45
Macroeconomic Environment	11	18	36	27	10	76	75	110	19
Health &Primary Education	12	2	1	21	40	59	89	102	71
Efficiency Enhancers	**5**	**2**	**9**	**8**	**31**	**45**	**44**	**42**	**51**
Higher Education & Training	4	2	1	3	70	65	72	91	47
Goods Market Efficiency	6	1	15	21	61	43	123	85	126
Labor Market Efficiency	2	1	20	41	34	130	92	99	72
Financial Market Development	11	2	5	29	54	51	50	19	121
Technological Readiness	9	7	11	14	85	58	55	98	59
Market Size	40	34	55	5	2	16	9	3	7
Innovation & Sophistication Factors	1	13	2	4	34	47	46	41	99
Business Sophistication	2	17	5	3	45	43	39	42	107
Innovation	2	9	1	4	32	50	55	41	78

Starting with the top four countries and the BRIC respectively, a short summary for each selected country including Turkey from the point of their recent political, cultural and economic outlook based on the rankings of the GCI Report 2013-2014 is written to underline the differences in foreign countries to those of Turkey's. All three categories in the GCI Report (2013-2014), which are basic requirements, efficiency enhancers and innovation and sophistication factors as seen in Table 5.1, are explained through the pillars each category involves including their own rankings. These twelve pillars that are grouped in three different stages are: 1- institutions 2- infrastructure 3- macroeconomic environment 4- health and primary education 5- higher education and training 6- goods market efficiency 7- labor market efficiency 8- financial market development 9-

technological readiness 10- market size 11- business sophistication 12- innovation. Through the analysis of the rankings of each pillar, countries in the table are compared in terms of business ecosystem strategies, Turkey's improvement areas are cleared out.

Selection of the companies

The foreign companies in the table are largely selected among the most reknowed brand.names to highlight the symbiotic relationships to one another despite the significant differences the companies do have.

Table 5.2 Foreign companies selected for the thesis.

Company Name	Country	Fortune Global 500	Sector
Nestle S.A.	Switzerland	69	Production
SIA	Singapore	31	Service
Orion Pharma	Finland	-	Production
BASF	Germany	65	Production
Petroleo Brasileiro S.A.	Brazil	25	Production
Empresa Brasileira de Compressores S.A.	Brazil	-	Production
Alrosa	Russian Fed.	-	Production
Yandex	Russian Fed.	-	Service
Tata Motors	India	314	Production
Lafarge India	India	Foreign Direct Investment	Production
Alibaba Group	China	-	Service
Nepstar	China	-	Service

Since stakeholder satisfaction cycle according to the recent success criteria is the most important indicator for success, the companies among the top four countries in the GCI Report (2013-2014) are selected according to their achievement of global success and global recognition (Table 5.2). In fact, all the foreign companies selected for the thesis are in Stock Exchange Listings in their countries satisfying their stakeholders. Another criteria for the selection of all companies is the sustainable growth; except a few domestic companies, all the companies in the thesis seem to capture growth. In addition to the two major criteria, symbiotic relations among companies, particularly the companies in the top four countries play an important role in the selection. The foreign companies are selected among the top enterprises of the selected countries for the thesis (Table 5.2). Four large multinational companies for advanced countries -one for each- and eight large companies for BRIC countries -two for each- are chosen to provide a better understanding of the creation of ecosystems and the symbiotic relations among eight countries despite the large gap among them in the rankings of the GCI Report 2013-2014.

Table 5.3 Companies in Turkey selected for the thesis.

Company Name	**Country**	**ISO 500**	**Sector**
Arçelik A.Ş.	Turkey	5	Production
Ereğli Demir ve Çelik Fab. T.A.Ş.	Turkey	8	Production
Sütaş Süt Ürünleri A.Ş.	Turkey	51	Production
Boytaş Mobilya A.Ş.	Turkey	98	Production
GE Turkey	Turkey	Foreign Direct Investment	Production
HİSAR Çatal Kaşık ve Paslanmaz Madeni Eşya Sanayi ve Ticaret A.Ş.	Turkey	SME Medium	Production
SME1	Turkey	Small	Production
SME2	Turkey	Small	Production
Çağlar Makina Sanayi ve Ticaret Ağaç İşleme Makinaları Hidrolik Pres İmalatı	Turkey	SME Small	Production
bpet - Balpet Petrol Ürünleri A.Ş.	Turkey	Large	Service
Vistek ISRA Vision	Turkey	SME	Service
PUBLIK	Turkey	Startup	Service

Table 5.3 illustrates the companies in Turkey which are selected for the thesis. Domestic company selection is mainly based on size and sector, particularly for the first four companies. The first four companies, Arçelik A.Ş. (household appliances), Ereğli Demir ve Çelik Fab. T.A.Ş. (steelmaker), Sütaş Süt Ürünleri A.Ş. (dairy products), Boytaş Mobilya A.Ş. (furniture maker) respectively are among the companies in ISO 500 (2013). The fifth company GE Turkey (production) is selected as an example to global foreign investment concept. HİSAR Çatal Kaşık ve Paslanmaz Madeni Eşya Sanayi ve Ticaret A.Ş. (Medium/Production) which produces cutlery and small metal household items sets a good example for companies with license agreements. In-person interviews with SME1

(production), SME2 (production), and Çağlar Makina Sanayi ve Ticaret Ağaç İşleme Makinaları Hidrolik Pres İmalatı (SME/Production) unveils the fragile business environment for small enterprises and how they survive through time and money consuming individual efforts. The company, bpet-Balpet Petrol Ürünleri A.Ş. (Large/Service) with over 400 distributors across Turkey, identifies the importance of niche players in service sector. Vistek ISRA Vision (SME/Service) shows how technology-driven SMEs are supported by some foreign investment groups. The last company PUBLIK (Startup/Service) is a good example to depict the fragile business environment of digital advertising despite its well-established structure.

For the companies in Turkey, particularly the first four companies are selected among ISO 500 (2012-2013) ranking to identify whether these companies preserve the existing outlook within a year's time as this is the first rule of the new success criteria. In addition to growth, brand recognition, brand trust, profitability, company profile as dominant, keystone or niche player, other criteria like foreign investments and symbiotic relations with foreign companies and/or with one another are used. The SMEs selected for the thesis have criteria based on reliance on other businesses and customer profile. The companies in Turkey selected for the thesis are compared to the foreign companies selected among the top four and the BRIC countries in the GCI Report (2013-2014) because the twelve pillars of the GCI Report do not only rank the countries but also the companies that function in those countries because companies create the driving factors of countries; it is the companies that urge infrastructure, higher education, and labor market. In fact, it is the companies that contribute to financial market development, technology, business sophistication, innovation and goods market efficiency.

The foreign companies selected for the interview questions are grouped in two categories; in the first category, the top four countries in the GCI Report (2013-2014) are selected to display the differences of business trends between the companies in foreign countries and the companies in Turkey from the point of investments, entrepreneurship activities, R&D expenditures, innovation and other required areas. The aim is to highlight how companies of related and unrelated sectors in advanced countries collaborate with one another to provide more sustainable standing in foreign countries. Sustainability, in the thesis, is analyzed mainly from the point of business ecosystem sustainability, not only as renewable energy sustainability. In the second category, BRIC (Brazil, Russia, India and China) countries though ranked lower than Turkey except China, are selected to show how companies in BRIC countries expand globally through mergers, joint-ventures and partnership agreements with the companies of the top four countries as well as with other domestic and/or foreign companies to compete globally. The aim is to reveal how domestic companies in BRIC companies are supported by their own governments.

Consequently, the countries and the companies in those countries are selected within the framework of new strategies and new principles that create business ecosystems. Moreover, the company examples for all parties are based mainly on the new criteria of success and the questions are created according to the essential factors of business ecosystem underlined particularly by Moore (1996) and Schumpeter (1947). Table 5.2 and Table 5.3 illustrate how the companies are grouped in two different categories as companies in foreign lands and companies in Turkey. These two categorize are also analyzed through their sectors as production and service companies including their official rankings based on global standards which are Fortune Global 500 (2013) and/or ISO 500, if available.

Design of interview questions

For the thesis two major methods, one of which is in depth analysis and the other in person interview are used. The interview questions are prepared not only to unveil the missing parts among the Turkish companies but also to make the required emergency call for an urgent shift towards the global business trends. Due to the inconvenience of a live interview with foreign companies, the questions were replied through the information on each company's official website and some secondary resources provided by online articles and reports. In the last part, selected companies in Turkey are interviewed to highlight the missing parts for the construction of a stable ecosystem and to provide the required data for a healthy measurement. Interview Questions are grouped according to their target areas. How the interview questions are grouped according to their target areas are as follows:

Target Area: Supply Chain/Ecosystem Sustainability

- Does the company have a major specific supplier or does it work with various small suppliers on a basis of specific agreements? (niche creation)

- What are some of the mutual benefits between the supplier and/ or suppliers and the company?

Target Area: Symbiotic Relationship/Entrepreneurship Activities

- Does the company have any business agreements with other companies of other sectors by means of sharing their ecosystem?- Merger, a joint-venture or stakeholder?
  - If no, is the company thinking of such business agreements in the near future?
- In the name of establishing a sustainable business environment, does the company share any knowledge and info today with any of the rival companies of the past in order to be able to compete more effectively with other companies in the market?
  - If yes, in what ways? –Workshops, training etc..
- To be able to compete more efficiently and effectively with smaller companies in the market, does the company have any collective work by means of projects and/or products with other companies within its sector?

Target Area: Globalization/Internationalization

- Does the company have a trademark? If yes, when was it registered?
- Prior to company benefits, what type of investment in a foreign country is more advantageous– buying an available company or establishing a brand new one?
- Has the company had any entrepreneurship activities by means of domestic or foreign investment in recent years? –Merger, a partnership, or an acquisition?
- Since the establishment of the company, which investment seemed to be the riskiest among all the investments the company has had as of today?
- Among the investments the company has had so far, which investment seems to be the most beneficial both to the company and the employment rate of the location?

Target Area: Advanced Technology/Innovation

- What are the innovation strategies and targets of the company? Are they set on a quarterly or annual basis?
- Does the company perform SWOT before the production of new items? What is the criteria for measuring the feedback of a new product?

- Does the company have its own separate R&D Department?

  - If yes, is the technology used by the company's own R&D efficient enough to arrange every step of manufacturing or the service created?
  - If no, does the company receive any technological support by means of science and technology?

- What is the total annual budget set for R&D including all kinds of external professional support and what is the ratio of this amount to the company's annual sales' figure?
- How many patents does the company have for its commercialized products as of today? Is the company planning to have some new patents registered in the coming years?
- What kind of technological networks does the company use to share knowledge and information with its suppliers, dealers and/or cooperate customers within its ecosystem?
- Does the company use social media effectively and efficiently for its customer relations? What are the networks the company prefers for social media?
- Has the company had any patent sales for domestic and / or foreign companies?

Target Area: Collaboration

- Which strategy does the company use the most within the ecosystem it has created?
  - Keystone
  - Physical dominator
  - Value dominator
  - Niche player

- Does the company have any licence agreements with any of the domestic or international companies?
  - If yes, what are the names of the companies the company works with?
  - Is it contract manufacturing?
- Has the company had any private-labelled products? If yes, for which companies has the company provided such products?

- If no, is the company thinking of such business agreements in the near future?

- Does the company have any kind of cooperation with any of the universities' related departments in the countries' it functions by means of job opportunities, trainee programs, technical and/or technological support, reports, etc…?

Target Area: Risk Management

- On what issues does the company face the most difficulties at the customs both inland and/or on ports? And, why?
  - Bureaucratic slowness
  - Freight fees
  - Cargo insurance
- Has the company faced any quota barriers for its export goods? If so, which countries?
- Does the company have any long-term pending patents due to bureaucratic processes?
- Does the company face any management problems with individual and/or corporate customers? If any, can the risk management department's emergency plans solve the problem, preferably with no negative impact on the operational process?

Target Area: Adjustments & Improvements (Problematic areas in Turkey)

To sum up the information derived from these interview questions, in this new traffic-pattern on a five lane freeway where the most sophisticated vehicles on the first 3 lanes on the left are going at full speed, in what areas Turkey, though seems to be belated in some sophisticated areas, needs urgent improvements in order not to be thrown out of the lane involuntarily and for these urgent improvements, according to the company, what kind of lane shifting has to be done at least not to miss the latest business trend? (applied only to Turkish companies).

- Infrastructure
  - port
  - highways
  - railroads
  - airport

- Educational
  - universities & vocational schools
  - employee training
  - workshops
  - certificate programs
- Government Incentives
  - taxes
  - loans with zero/low interest rates
  - free land
  - inexpensive equipment, machinery, power and water

Except the first four large company interviews, eight of the interviews are made in-person. The first four companies which are Arçelik A.Ş., Ereğli Demir ve Çelik Fab. T.A.Ş., Sütaş Süt Ürünleri A.Ş., and Boytaş Mobilya A.Ş. respectively, declined the offer of an in-person interview due to lack of extra time needed for an interview at work. Guided by their employees, the interview with the four large companies whose names mentioned above is made through the information on their official Web sites and other related online topics of the secondary resources such as business articles. Due to the request of two of the companies each of which is an SME, the company names are kept hidden from public view and named as SME1 and SME2. Through the interview questions (Appendix A) which are formulated and designed in advance in regard to business ecosystem concept, the strategies and operations of large global companies and the GCI Report's (2013-2014) twelve pillars, the selected companies of the selected countries including the companies in Turkey are analyzed. The aim to formulate and design the interview questions from the point of the global company operations and strategies is to capture an accurate measurement for the missing parts among Turkish companies. The mismatching points between foreign companies and the companies in Turkey are identified and the mismatches are underlined by means of business ecosystem stages and principles. In the following part, differences between the foreign companies and the Turkish companies selected for the thesis are highlighted and the importance of R&D departments of companies from the point of innovative products and business sophistication for a sustainable business ecosystem is analyzed. The differences in innovation as a concept are criticized through some specific examples of foreign and domestic companies and the end result is compared to

Schumpeter’s (1947) argument on innovation. Focusing on the replies of the interview questions, required tables are designed to provide a better understanding for the similarities and differences of the manufacturing and service companies, and why domestic companies face difficulties competing with foreign companies is illustrated by means of new terms and advanced technology. Visible and invisible factors are argued and the reasons why Turkish companies, even the major ones can not be in the same lane with their foreign competitors are listed through the analysis of the big global companies of the top four countries in the GCI Report (2013-2014). To make this analysis, the major business sectors in Turkey are classified, the number of the companies selected for the thesis that have R&D budget is clarified, and whether these budgets are enough to share knowledge with global companies are identified. Then, how many companies have trademarks and/or property rights, and whether these companies have had new products recently are tracked. In addition, these companies’ business alliances with other domestic and/or global parent companies and their scientific and/or technological alliances with universities are underlined. Whether these selected companies have some joint-ventures, mergers, and/or some acquisitions abroad and how many of these companies have such opportunity and to what extent are analyzed. Then, the new common approach of the selected companies to business is highlighted and in what ways the new style business is different than that of Turkey’s are discussed. In the next part of the thesis, through the results that come out via the comparison of the interview questions together with the country rankings of the GCI Report (2013-2014) and the stages, principles, health factors of the new business trend called business ecosystem are classified. After the classification, major reasons for the urgent creation of the new trend, and the missing parts of the new business trend among Turkish companies and the negative impact of these missing parts are listed. The aim of such a listing is to illustrate the claim that the old traditional style business which is based only on competition and market dominance by big companies and organizations has been replaced by a new style business in which competition demands cooperation. Yet, first of all, in order to be able to illustrate the new business trend, the new definition of success, particularly economic success is explained. In regard to the driving factors of various business relations identified in the previous parts and through the analysis of the interview questions with the companies of various financial capacities (Table 5.2), systems, inadequacies and inefficiencies of the recent conditions are enlarged to indicate why domestic companies, big or small, could hardly compete with big global companies.

Measurement compatibility

To find out on which pillar each question in the customized interview focuses, and whether there are any questions that do not match with the pillars, the questions are grouped by means of the business ecosystem concept. With the aim to provide an accurate measurement in terms of Ecosystem Sustainability, R&D Investment, Customer Relations & Risk Management, Globalization, IT & ICT, SWOT & Feedback, and Sharing Information with Competitors for the selected companies in Turkey, the pillars matching the customized questions are identified, and the pillars that do not fit in the questions are highlighted. In the end, derivations based on the mismatching areas are formulated. In regard to the business ecosystem stages, principles and health factors, including 'the Red Queen Effect' (1996, Moore, James F.), the Table 5.4, Table 5.5, Table 5.6 and Table 5.7 illustrate the correlation of the twelve pillars of the GCI Report 2013-2014 with the customized interview questions. The aim is to display the existing problems and what difficulties such problems have recently created and would create in the future are analyzed through the following tables formulated specifically.

Table 5.4 Data collection questions to measure the availability of the stages of business ecosystem in the companies selected.

Stages of Business Ecosystem	Pillars Match	Areas of Interview Questions
Creating Value	Goods Market Efficiency (6) Labor Market Efficiency (7) Technological Readiness (9) Business Sophistication (11) Innovation (12)	• Symbiotic Relationship & Entrepreneurship Activities • Supply Chain & Ecosystem Sustainability • Advanced Technology & Innovation
Expansion Critical Mass	Business Sophistication (11) Financial Market D. (8) Market Size (10) Labor Market Efficiency (7)	• Supply Chain & Ecosystem Sustainability • Collaboration • Globalization & Internationalization • Risk Management • Advanced Technology & Innovation
Authority-lead Coevolution & Innovation	Institutions (1) Infrastructure (2) Health & P. Education (4) H. Education & Training (5) Macroeconomic Env. (3) Innovation (12)	• Advanced Technology & Innovation • Collaboration • Symbiotic Relationship & Entrepreneurship Activities
Death or Renewal (Continuous Performance Improvement)	Innovation (12) Infrastructure (2) Macroeconomic Env. (3) Business Sophistication (11) Financial Market D. (8)	• Supply Chain & Ecosystem Sustainability • Advanced Technology & Innovation • Risk Management

As illustrated in Table 5.4 interview questions on value creation focus on the number of suppliers supported by large companies, compliance policies required for suppliers, supplier-parent company contributions to one another, creation of local suppliers by parent companies, shared benefits between companies, related organizations, local businesses and communities. The numbers in brackets in Table 5.4 are the numbers of the pillars used in the GCI Report (20120-2013).

For the formulation of value creation questions, matching pillars which are goods market efficiency, labor market efficiency, technological readiness, business sophistication and innovation are used because innovation needs entrepreneurship activities and technology. So, first, pillar for labor market efficiency, then pillars for business sophistication and goods market efficiency are analyzed to see if the country is efficient enough to meet the needs for value creation as labor market efficiency is the key indicator for business sophistication, and business sophistication is directly related to goods market efficiency. The ranking of the pillar for technological readiness is also another important indicator for the entrepreneur as it shows the feasibility of the innovation. The interview questions for expansion involve domestic and/or foreign investments, number of products produced or offered, quantity and quality of suppliers companies work with to show company capacity to capture growth through expansion. Pillars for labor market efficiency supports business sophistication but expansion, without an efficient financial market development, could never occur. The pillar for market size is another important indicator for expansion because companies expand through large market size. Authority-lead coevolution and innovation questions aim to find out if the company is sustainable enough to compete with its local and/or global competitors. For this reason, company R&Ds and expenditures for innovation, number of patents registrations, government incentives and domestic and/or foreign investments are identified through interview questions. Since patents are registered by institutions, transparency of private and public institutions is prior to innovation. Efficient infrastructure, health and education and macroeconomic environment are the other significant driving factors for a healthy business ecosystem. These driving factors also unveil the difficulties companies face and some common risks in the market.; that’s why those pillars are used for the formulation of authority-lead coevolution. In addition, death or renewal questions focus on various business agreements of companies, company willingness to share knowledge, company sustainability to enhance competition power through continuous performance improvement, ability to create and design flexible operational strategies during times of hardships and extinction risk. Innovation is unavoidable for continuous performance improvement as well as infrastructure, business sophistication and macroeconomic environment. Yet, the most important part belongs to financial market development since companies survive through loans when adaptation for new business switches are required.

Table 5.5 Data collection questions to measure the availability of the principles of business ecosystem in the companies selected for the thesis.

Principles of Business Ecosystem	Pillars Match	Areas of Interview Questions
Interdependence	Goods Market Efficiency (6) Market Size (10) Business Sophistication (11)	• Symbiotic Relationship & Entrepreneurship Activities • Collaboration
Sustainability (Adapted to business ecosystem species)	Macroeconomic Environment (3) Health & Primary Education (4) Higher Education & Training (5) Labor Market Efficiency (7) Market Size (10)	• Globalization & Internalization • Collaboration • Advanced Technology & Innovation • Supply Chain & Ecosystem Sustainibility
Adaptability Self-organization Emergence Co-evolution - Endogenous - Exogenous	Technological Readiness (9) Business Sophistication (11) Goods Market Efficiency (6) Labor Market Efficiency (7) Innovation (12) Institutions (1) Macroeconomic Environment (3) Financial Market Development (8)	• Risk Management • Collaboration • Advanced Technology & Innovation • Symbiotic Relationship & Enterpreneurship Activities
Creation of A New Order	Innovation (12)	• Investments

As seen in Table 5.5, interview questions related to principles of business ecosystem stages mainly involve shared information and benefits among companies within the borders of the same business ecosystem environment for interdependence. In other words, interdependence needs collaboration through mutual relations. So, interdependence could function well only in an environment with efficient business sophistication to which efficient goods market is directly related; that's why pillars for business sophistication and goods market efficiency as well as the pillar for market size that shows the strength in sales are used to analyze the interdependence efficiency of the selected companies. Second principle which is sustainability involves radical resource, natural capital, ecological redesign, service & flow economy and responsible consumption, but in the interview questions, this principle is switched to emphasize increase in production in a sustainable environment where there is abundance of natural resources, minerals, a large market and cheap labor due to high population rate. In regard to the locations of investments, the questions about sustainability aim to display how large global companies, through cooperation, benefit the most in time and money saving environment. Pillars for health and education and labor market efficiency are used because health and education are the driving factors for labor market efficiency. Pillar for macroeconomic environment is used to understand whether the environment is fragile or not. Pillar for market size is used as the last indicator to be able to calculate potential sales. For the third stage, the interview questions which aim adaptability focus on the flexibility of company management strategies during sudden climate changes in markets, company capacity to create spontaneous products and/or services through self-organization in times of danger. Interview questions also concentrate on various investments of companies to see if they could create a new order through innovation. For this purpose, as they are interrelated to one another, pillars for institutions, technological readiness and innovation are used for the adaptation principle of business ecosystem to see if they are efficient enough to create a new order. Then, pillars for business sophistication and goods market efficiency together with the pillar for labor market efficiency are included in the interview questions to understand if the company could find available players to create and design co-evolution for innovation to survive. Pillars for macroeconomic environment and financial market development show the financial efficiency or inefficiency of the environment as companies need loans to innovate. The numbers used in brackets are again the numbers of the pillars used in the GCI Report (2012-2013).

Table 5.6 Data collection questions to measure the entrepreneurship activities of the companies selected for the thesis.

Health Factors of Business Ecosystem	Pillars Match	Areas of Interview Questions
Innovation	Innovation (12) Institutions (1) Technological Readiness (9)	• Advanced Technology & Innovation • Collaboration
Entrepreneurship a) Robustness b) Productivity c) Niche creation	Market Size (10) Infrastructure (2) Macroeconomic Environment (3) Technological Readiness (9) Goods Market Efficiency (6) Labor Market Efficiency (7) Business Sophistication (11)	• Globalization & Internationalization • Advanced Technology & Innovation • Symbiotic Relationship & Enterpreneurship Activities • Supply Chain & Ecosystem Sustainibility

To observe the environment where companies settle, interview questions for Table 5.6 aim to find out if the selected areas are healthy enough to provide the companies with a sustainable climate. So, business agreements and tracking processes of the operations of companies are identified through the interview questions that are related to innovation by advanced technology, robustness, collaboration through value sharing which is based on entrepreneurship activities and symbiotic relationship and productivity by means of the GCI (2013-2014) rankings of the country where each company operates. As in Table 5.4, Table 5.5 and Table 5.6, the numbers used in brackets for each pillar are the numbers of the pillars used in the GCI Report (2012-2013). Through the pillars for goods market efficiency and business sophistication based on technological readiness together with the pillar for labor market efficiency, the environment for entrepreneurship is analyzed to see if the environment is productive enough. Then, using the rankings of the pillars for infrastructure, macroeconomic environment and market size, robustness is clarified to see if the environment is feasible enough for entrepreneurship activities.

Table 5.7 Data collection questions on the Red Queen Effect to measure the companies' competitiveness.

The Red Queen Effect	Pillars Match	Areas of Interview Questions
Innovation	Business Sophistication (11) Technological Readiness (9) Innovation (12) Institutions (1)	• Advanced Technology & Innovation • Collaboration
Criticality	Market Size (10) Goods Market Efficiency (6)	• Risk Management • Symbiotic Relationship & Entrepreneurship Activities
Embeddedness	Business Sophistication (11) Infarasturucture (2) Technological Readiness (9)	• Supply Chain & Ecosystem Sustainability • Symbiotic Relationship & Entrepreneurship Activities

To identify whether the selected companies for the thesis use Moore's (1996) Red Queen Effect questions about cooperation and coevolution are asked. The numbers in the Pillars Match column show the pillar numbers in the GCI Report (2012-2013).

The Red Queen Effect questions' aim to reply the question which asks, 'Why some companies capture growth while others tackle'. The major goal is to clarify the vital importance of the Red Queen Effect and to show the benefits of running faster than others through sharing information and creating value to one another (Table 5.7). Another goal is to unveil how mutual benefits are shared both by the guest and the host countries and companies in terms of the new business ecosystem strategies. To emphasize the driving factors of "running faster than the others", the rankings of the pillars for business sophistication, innovation and technological readiness are used as they are directly connected to one another. Then, pillars for goods market efficiency and market size are analyzed as goods market also shows how well the business sophistication in the selected location is. Since market size is another indicator for a healthy business ecosystem, the ranking of the pillar for market size could unveil the speed of the running.

RESULTS & DISCUSSIONS

Changing Criteria

Every aspect of life, even the way of life has changed with the new order. In such fast changing world, the definition of success has completely changed for the business world and so has the traditional business. Success criteria for any business is no more the same as it was in the past. Success criteria in the past had the following steps:

i. High levels of sales
ii. High levels of profits
iii. High levels of consumer satisfaction
iv. Producing high quality products
v. Strong reputation
vi. Sustained growth

Today, for most of the companies in the world success is first to preserve the existing outlook and, competition through cooperation, to maintain a sustainable growth. To establish a sustainable economic growth in such a scarce business environment, big global companies of the advanced countries design symbiotic relations with one another in different regions of the world, particularly in emerging countries where the items vital for the survival of their companies are cheap and abundant**.** In fact, it is not only the global companies that create custom-made designs for a sustainable growth, it is also their parent countries that create symbiotic relations with one another through bilateral agreements to support the new ecosystem designs of their companies in foreign lands. Because for big global companies like Nestlé, the major focus is on earnings per share for stakeholders and to provide high earnings, new success criteria has three major stages:

i. Economic Success : Rise in profit
ii. Social Success : Employee satisfaction
iii. Environmental Success: Minimizing negative impact on environment

In addition to the three stages above, successful companies set company objectives for the long run and create stakeholder satisfaction because creating stakeholder satisfaction cycle is the most important criteria for success in today's world. Since economic success involves competition, the first four countries in the GCI Report (2013-2014) Switzerland, Singapore, Finland and Germany are selected to display the differences of business trends between the foreign companies and the domestic companies in Turkey from the point of investments, entrepreneurship activities, R&D expenditures, innovation and other required areas such as governance systems. Since trust for the political system is vital for the country to attract global investors and entrepreneurs, governance systems in countries play the most important role for a sustainable economy; countries nourish from stable political systems.

Countries in terms of Business Ecosystem

To help the companies maintain a healthy business ecosystem to be capable of being globally sustainable and competitive for a long time, countries where the companies are established should develop a healthy business environment and a healthy business ecosystem infrastructure in a suitable manner. With the aim to compare and evaluate the business ecosystem infrastructure of the countries in the thesis, all the twelve pillars of the GCI Report (2013-2014) are used as pillars are firmly tied to one another.

Business ecosystem infrastructure of the most competitive countries (parent countries/guest countries)

In order to capture economic growth, it is obvious that countries should establish a healthy business ecosystem through required negotiations and adjustments made by the related governments as well as well-designed business creations by companies that are based on innovation and entrepreneurship activities supported by advanced technology. Even though business sophistication and innovation seem to be the most significant driving factors of innovation-driven economies, the required integration and collaboration of high quality infrastructure, education, technology and transparency of public and private institutions are the main drivers of sustainable business ecosystems. When the GCI Report (2013-2014) is analyzed, it could be clearly observed that the top four countries which are Switzerland, Singapore, Finland and Germany respectively are the most competitive countries whose companies operate on foreign lands using business ecosystem strategies; that's why they are called not only parent countries but also guest countries. These four countries named as the parent countries of the selected companies in the thesis all have innovation-driven economies due to their countries' healthy business ecosystem infrastructure as shown in Figure 6.1 taken from the GCI Report (2013-2014).

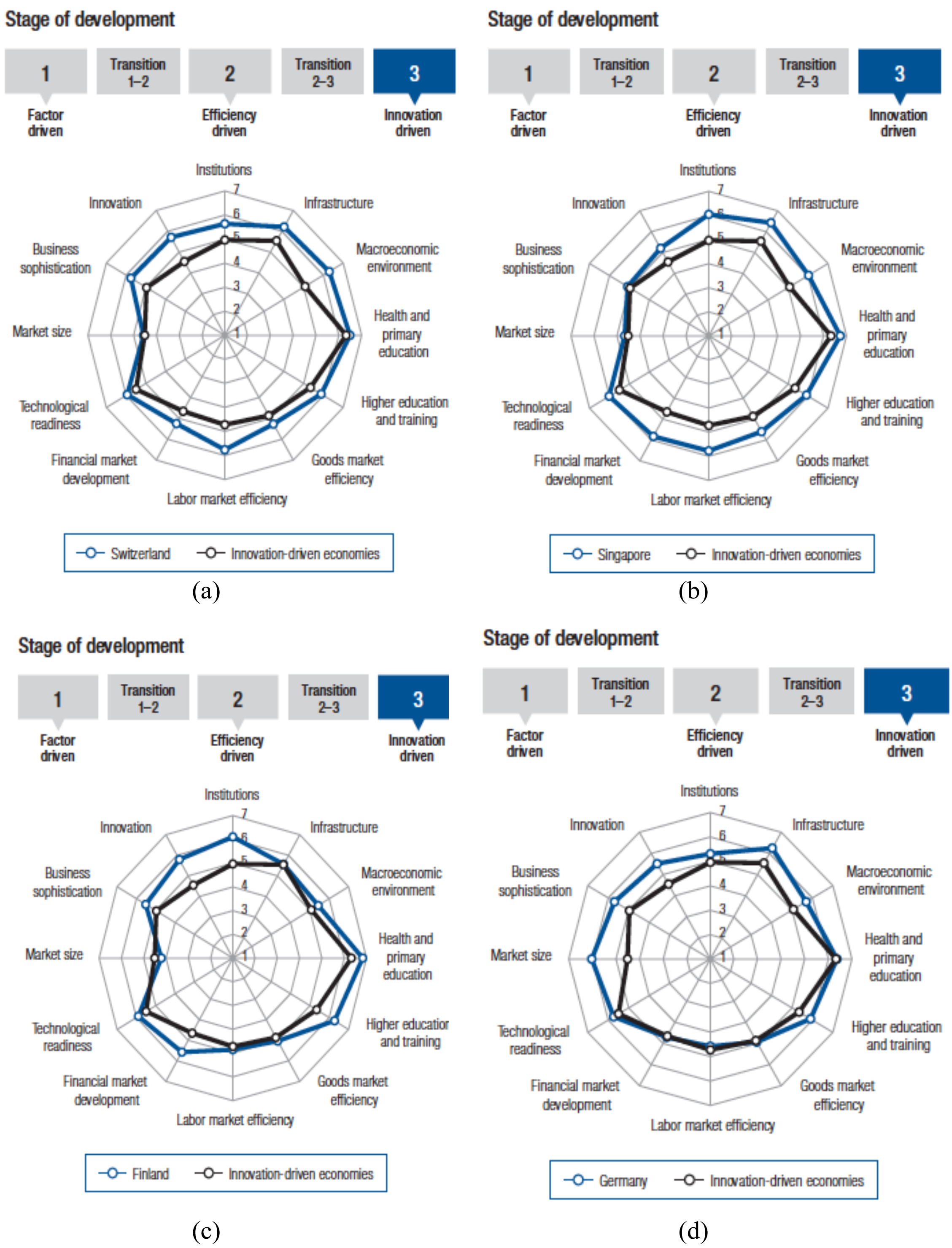


Figure 6.1 Illustrates the top four countries' economic development; a) Switzerland, b) Singapore, c) Finland, d) Germany (GCI Report 2012-2013).

Switzerland: Switzerland, the last five-year-winner of the GCI Report, has a different type of governance system. Despite being a form of federalism, the Swiss government is not centralized; federal Council has seven members and all decisions, as a collective head of the state, are taken by these seven members of the Federal Council. This unique decision-making system enables the country to arrange long term agenda for economy through strong leadership across political boundaries. Besides, the Swiss citizens are asked to vote on major decisions directly; probably that's why the recent economic crisis does not have much negative impact on Switzerland while its neighboring countries are still struggling against high unemployment rate and indebtedness. Despite some weaknesses such as market size (40th) the country owns a worldwide reputation with its public and private institutions and their transparency (Table 5.1, Figure 6.1.a). These institutions are a kind of creation centers for innovation and business sophistication that create competitiveness. With its state-of-the-art infrastructure, financial institutions, independent judiciary, a strong rule of law and fast adaptation of the most advanced technologies, Switzerland possesses one of the most stable macroeconomic environments in the world. Its highly competitive multi-national companies and entrepreneurs all derived from this stable environment create their own complex ecosystems in different regions of the world. For Switzerland, the priority is always on its official residents and the country's large, multinational companies. Unlike other European countries, Switzerland is not loaded with immigrants from developing countries; only skilled labor force from other EU countries could circulate in the country which seems to be the major driving factor for Switzerland to capture growth despite the economic turbulence in its neighbors decision to limit immigration in Switzerland in a referendum (news.yahoo.com). Switzerland's stable macroeconomic development also roots from the country's decision to remain outside the European Union in 2001 referandum (economist.com). Yet, through bilateral agreements with EU member countries, Swiss economy is integrated with their economy. The country has a wide range of high quality products despite its relatively small geographical size when compared to its neighbors'; from expensive watches to industrial machines, from high-quality chocolate to touristic locations, and from global financial services to pharmaceuticals, the country's offerings are based on its excellent innovative system. This large variety of innovative goods supports the high ranking market share of the country which in fact help the Swiss frank be stable; this export-driven healthy environment might partially be driven by its almost perfect education system and its massive financial institutions. Consequently, Switzerland seems to have managed to create and design the best business ecosystem with its well-functioning actors, stages, and principles all integrated to one another in a highly complex structure. As seen in Figure 6.1, Switzerland has innovation-driven economy that functions through the highly complex symbiotic relations of a well-designed business eco-system.

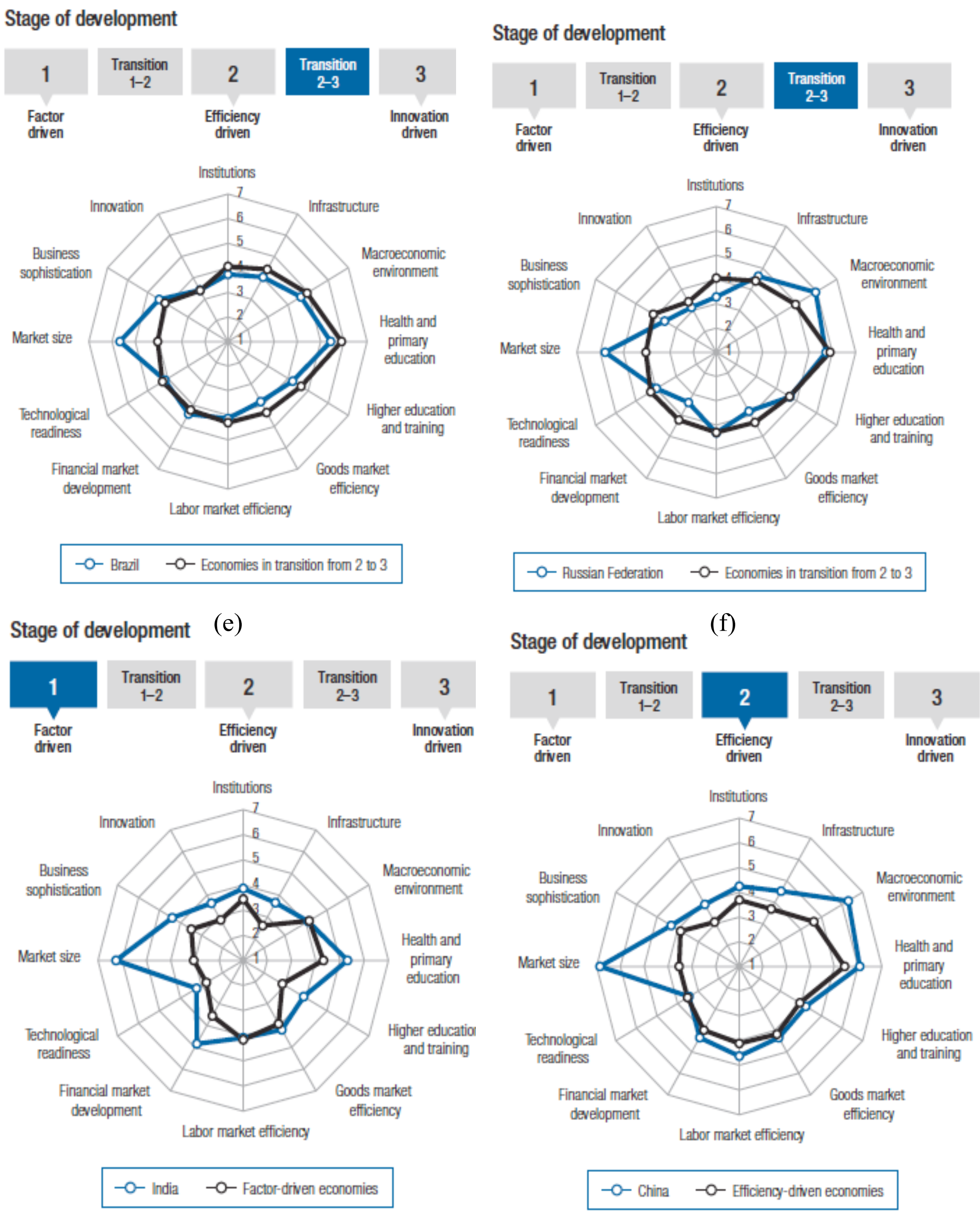
Singapore: Singapore, ranked the last three year top two country, has been performing an outstanding harmony with most of the twelve pillars of the GCI Report. With its unique regulatory system in which opening a new business requires no minimum capital and needs only three days with three procedures, Singapore is one of the wealthiest countries in the world. Singapore is ranked far ahead of Switzerland and Finland in most of the 7 pillars out of 12 which are institutions (3), infrastructure (2), health and primary education (2), higher education and training (2), goods market efficiency (1), labor market efficiency (1), financial market development (2). However, when the other 5 pillars are considered, Singapore ranked 17 for business sophistication, 9 for innovation, 7 for technological readiness, 34 for market size and 18 for macroeconomic environment (Table 5.1, Figure 6.1.b). This, from business ecosystem point of view illustrates the fact that Singapore, as a country, uses keystone strategy that creates value both for individual entrepreneurs and companies worldwide. With its top ranked labor market efficiency supported by high quality higher education, stable financial market development and incredibly simple procedure for founding a new company, Singapore harbors one of the best business environments in the world fulfilled with hundreds of thousands niche players as well as large global enterprises and individual or corporate entrepreneurs. Singapore is also one of the member countries of the Association of Southeast Asian Nations (ASEAN) which was founded in 1967. At the beginning, ASEAN had five member states including Singapore, Thailand, Malaysia, Indonesia and the Philippines. The association has become highly diverse by means of socio-economic and socio-cultural development with the accession of Brunei Darrusalam, Laos PDR, Vietnam, Myanmar and Cambodia. Even though the countries mentioned above are the members of the ASEAN, most of the countries in the group have deeper economic problems from one another when living standards, life span, infant deaths and other socio-economic indicators are considered (see GCI Report 2013-2014, p.32) Among the countries within ASEAN, Singapore has become the only country that could enter the advanced countries' category as it operates like a hub for all kinds of entrepreneurs. Therefore, Singapore due to its geographic location and its flexible code of law, seems to be the best place to create and design any complex business ecosystem for all companies in the world. Providing companies with a highly healthy factors of business ecosystem for innovation and entrepreneurship, offering easy access to competition through cooperation, creating and sharing value with all types of players, Singapore seems to preserve its highly sustainable business environment for a long time as long as other countries do not play a destructive role in its system.

Finland: Like the first two, Finland is among the most innovation-driven economies with its individual and political freedom and homogenous diversity. The country's strong focus on education sets it apart from the first two countries. In four of the pillars which are 1^{st}, 4^{th}, 5^{th}, and 12^{th} pillars of the GCI Report (Chapter 3, section 3.1) Finland is ranked the top country. These two pillars are health and primary education and higher education and training that enhance the skills gained by the workforce both to adapt to the changing business trends and to create innovative products, and innovation. Yet, for infrastructure, Finland is ranked 21^{st} and for macroeconomic environment 36^{th}. In other pillars, Finland is ranked 15^{th} for goods market efficiency, 20^{th} for labor market efficiency, 5^{th} for financial market development, 11^{th} for technological readiness, 55^{th} for market size and 5^{th} for business sophistication (Table 5.1, Figure 6.1.c). It is obvious that Finland has a strong focus on education of all levels and health which are the main drivers of a skilled workforce that is highly capable of making the required quick shifts in a changing environment. With its innovation-driven economy based on its top-ranked public institutions renowned for their transparency and private institutions famous for being the most ethical, and the highest level of innovation among all the countries analyzed in the GCI Report 2013-2014, Finland, owns almost the best overall ranking among the European countries. Despite the risk of the rise of inflation, with its innovation-driven economy, Finland seems to have established a highly competitive business ecosystem. As a result, the country's stable business ecosystem enables its own players compete with other successful players of the world through cooperation.

Germany: The previous year's 6^{th}, is ranked 4^{th} in the GCI Report (2013-2014). With its almost perfect infrastructure, ranked 3^{rd}, Germany is another federal parliamentary republic with its federal legislative power. Germany is famous for its transportation system of all modes, particularly its railroad transportation which is less expensive, more practical, safer, and cleaner when compared to highway transportation. The country is again ranked 3rd for higher education and training, focusing on education for innovation. Another ranking for the third place is for business sophistication in Germany. Then, the country is ranked 4th and 5th for innovation and for market size respectively. Yet, other rankings are not as good as expected as Germany is ranked 41st for labor market efficiency, 21st for goods market efficiency, 21st for health and primary education, 15th for private and public institutions, 29th for financial market development, 14th for technological readiness, and 27th for macroeconomic environment (Table 5.1, Figure 6.1.c). From the point of business ecosystem, Germany plays more like a dominator role within the borders of Europe due to its leadership skills and export-driven economy. The country's lower rank of labor market efficiency (41st) mostly roots from its unskilled immigrants. Most immigrants in European countries are from Islamic countries, and Germany is the major location of those people. Hence, lack of female participation in the workforce due to religion, particularly the religious norms of Islam that do not empower females, is another additional negative impact on the lower ranking of the labor market efficiency (ftp.iza.org, 2012). Moving up by two notches when compared to previous year's overall ranking mostly derives from the improvements of the country's education quality. If Germany keeps improving its weaker points, it would depict a more stable business ecosystem environment by means of sustainable growth.

Business ecosystem infastructure in BRIC countries (host countries/emerging countries)

In order to benefit the most from foreign company investments, poorer countries do not only need to have rich minerals and natural resources as well as cheap workforce; they economic structure which was established by its former political structure and its recent protectionist policies, is constantly moving up to have a better business ecosystem should offer a relatively healthy business infrastructure to the companies of advanced countries. For instance, Russian Federation, despite its tarnished and cumbersome infrastructure through mutual benefits, BRIC countries are capable of making improvements in various areas that are directly related to economy. The BRIC countries named as the host countries In order to benefit the most from foreign company investments, poorer countries do not only need to have rich minerals and natural resources as well as cheap workforce; they the selected companies in the thesis have different stages of economic development as factor driven, efficiency driven or transition stage from efficiency driven economy to innovation driven economy (Figure 6.2).



(g) (h)

Figure 6.2 Illustrates the economic development of BRIC Countries; e) Brazil, f) Russian Federation, g) India, h) China (GCI Report 2012-2013).

Brazil: The country which was ranked 48th (20120-2013) the previous year in the GCI Report (2012-2013), falls down 8 places to 56th in the same report this year (2013-2014). In this sense, it could be argued that the Latin American country looks more like India which is another BRIC country. In fact, Brazil and India have so many common points when the new business trend is considered. Brazil is placed 80th for institutions, 71st for infrastructure, 75th for macro economic environment and 89th for health and primary education (Table 5.1, Figure 6.1.e). Consequently, Brazil for basic requirements is placed 79th which is relatively a better ranking than that of India's, except the ranking for institutions; it is 72 for India. For efficiency enhancers category, Brazil ranked 72nd for higher education, 123rd for goods market efficiency, 92th for labor market efficiency, 50th for financial market development, 55th for technological readiness, and 9th for market size. In this category, Brazil's overall ranking for efficiency enhancers is 44 which is not far behind India's (42nd) even though there is significant grading differences in some areas like financial market development and technological readiness. Brazil's overall ranking for the last category, which is for innovation and business sophistication factors is 46 in which the country ranks 39th for business sophistication and 55th for innovation. When compared to India's ranking for the last category, India's better ranking for innovation (41st) seems to have become the major driver. Brazil, despite being well on some environmental indicators such as abundant natural resources, performs poor in terms of deforestation. Yet, this poor performance is balanced by the good results in some other areas. So, Brazil has an above-average performance for environmental sustainability despite deforestation. Social sustainability in Brazil is worsening due to various problems such as wide gap of income inequality, high inflation, poor access to loans, poor level of accessibility to healthcare, improved drinking water and sanitation. In recent years, Brazil has been facing unrest in different regions of the country, particularly in major cities; government inefficiency, corruption and lack of trust in politicians are the driving factors of the protests. That's why government efficiency ranks the worst among 148 countries. Politician-corruption connection is almost the same as India's. In addition to these negative impacts, lack of improvement in infrastructure and education deteriorate the overall look. Moreover, protectionist policy in economy tackles foreign competition which ranks 144th. Thanks to the high rate of population, the country's weakening competitive edge still benefits from massive market size and quite sophisticated business community with innovative products in high-value-added activities. Despite some informal and illegal activities, Brazil seems to have established a moderate business sophistication. This large market size and well-established business sophistication provide interdependence, but this interdependence exists largely through the contribution of large global companies; otherwise the country seems to be unable to offer a stable and sustainable business ecosystem for its companies as burden of bureaucratic procedures and taxes to do business is too hard to bear. As a result, Brazil is in a transition period from efficiency-driven to innovation-driven economy which seems to benefit from the new business trend despite various negative impacts driven largely by the government (see Figure 6.2). In fact, lack of required shifts for the new order by the government creates an unhealthy business ecosystem infrastructure due to weak niche-creation.

Russian Federation: Despite the poorest ranking among the BRIC countries with a placement of 64 overall, Russian Federation has moved up by three steps since the previous year (2012-2013). The country depicts an interesting picture with extreme contrasting results, particularly when the results are analyzed deeper. The country is placed 47^{th} for basic requirements which displays a much better condition than that of Brazil and India's. The country is ranked 121^{st} for institutions which is the worst when compared to the other BRIC countries, but its macroeconomic environment which includes government budget balance (as a percentage of GDP), gross national savings, inflation, government debt and country credit rating has a much better outlook. In fact, Russian Federation's ranking for government budget balance which is 23^{rd} is better than some of the most competitive countries such as Switzerland, Germany and Finland's. Due to low government debt and a surplus in government budget, Russian federation ranks 19^{th} for macroeconomic environment which was ranked 44^{th} in the GCI Report in 2011-2012. Russian Federation, with the least government debt among all the countries analyzed in the thesis is placed 10^{th}; perhaps, that's why Russian Federation is ranked 39^{th} for country credit rating even though it is placed 45^{th} for infrastructure, and 71^{st} for health and primary education (Table 5.1, Figure 6.1.f). The country ranks 51^{st} for efficiency enhancers including higher education and training placed as 47^{th}, goods market as 126^{th}, labor market as 72^{nd}, financial market as 121^{st}, technological readiness as 59^{th}, and market size as 7^{th}. For innovation and business sophistication factors, Russian Federation ranks 99^{th} where business sophistication is placed 107^{th} and innovation 78^{th}

among 148 countries. Despite weaker results of innovation and business sophistication factors, the country has established a stronger outlook in various areas, particularly in education and infrastructure. The country also performs relatively well on environmental issues in terms of international standards despite its lax environmental regulations that slowly degrade the quality of its natural environment; Russian Federation owns rich natural resources including some of the richest water reserves in the world and massive forest areas. In addition to all these improvements, its massive domestic market is another positive impact on the country's competitiveness. On the other side, the country's inefficiencies in its goods markets, labor markets, and financial markets due to high restrictions on foreign ownership and trade, inefficient anti-monopoly policy, and lack of trust in the financial system are the hunches that should be overthrown. In addition to all these areas of concern, the weakness of its public institutions which ranks 118th sets back the country's innovation capacity that ranks 78th. Moreover, weak technological adoption with a ranking of 127 and lack of business sophistication which is placed 107 are the additional negative issues for Russian Federation while the country heads for a better stage of economic development. The weakness of the social safety net, limited social mobility, and increasing inequality are some of the tackling areas the Russian Federation should improve when social sustainability is considered. In addition, Russian Federation still suffers from lack of business sophistication which might have roots from its former communist system, or more likely, from the stakeholders of the enterprises who owned them during the corrupted privatization process; monopolies are difficult to be cracked. It is obvious that these stakeholders do not create value for smaller suppliers, in other words, there is lack of niche creation in Russian Federation. Another indicator for the lack of niche creation is the income inequality in the country. Thus, despite low government debt, Russian Federation does not offer a healthy business ecosystem infrastructure to large global companies due to lack of business sophistication, inefficient technology and inefficient quality of its institutions. Yet, the country is in a transition period moving from efficiency-driven to innovation-driven economy (see Figure 6.2) due to its slowly improving business environment based on large market size, abundant natural resources and low debt.

India: Ranked 60th among 148 countries, India's outlook is in a downward trend as the country has been overtaken by various countries since 2009. Placed 96th for basic requirements, India ranks the worst not only among the BRIC countries but among all the countries analyzed in the thesis (Table 5.1, Figure 6.1.g). 72nd for institutions, 85th for infrastructure, 110th for macroeconomic environment, and 102nd for health and primary education, India for efficiency enhancers, in which higher education and training ranked 91, goods market efficiency 85th, labor market efficiency 99th, financial market development 19th, technological readiness 98th, and market size 3rd, India is placed 42nd. Ranked 42nd for business sophistication and 41st for innovation, India ranks 41st as the overall index of innovation and sophistication factors. India's low productivity mostly roots from poor education and public health (102). Surprisingly, higher education seems to have better standards but the enrollment rate is inefficient, especially when compared to the ones in advanced countries. Despite persistent improvement of the energy infrastructure, ICTs, and transportation, they remain inefficient missing the needs of the economy. The business community in India ignores the corruption in bureaucracy and blames the poor infrastructure for being the only major problem that sets back the economy. In 2012, the public deficit-to-GDP ratio and the dangerous inflation rate were so close to double-digit figures and recent debt-to-GDP is the second highest figure among the BRIC countries which indicates that sovereign debt default risk is increasing dangerously. Another problem exists in technological readiness of the country. Despite the companies' fast adoption of the new technologies, the lowest rate of mobile phones among the public in the entire region damages the outlook of India. India's economy receives more hits when labor market efficiency is concerned. Ranked 99th, India has the lowest ranking when female participation in the workforce is considered; ranked 137th with a female-to-male ratio 0.36 which is the worst ranking outside the Arab world. Lack of access to improved sanitation and health services are the major concerns when social sustainability is considered. According to the GCI Report 2013-2014, 35% of the entire population have the chance to use improved sanitation. Structural issues such as low rate of social safety net covering only a small part of the population. The large informal sector with massive workforce worsens the situation creating a fragile competitiveness. India's environmental sustainability is also fragile due to high usage of water for agriculture and industry, and contamination of water resources including arsenic, fluoride, iron and heavy metals due to lack of sewage system that destroys the environment. In addition to all those negative impacts on the environment, sharp rise in population rapidly increase famine risk in which some areas in India has already had. Moreover, high level of emissions in certain areas worsens the environmental destruction in India. In terms of the new business trend, it could be argued that India, despite its better ranking for business sophistication and innovation and massive market size, does not have a healthy business ecosystem infrastructure as the level of productivity which is directly related to goods market efficiency, labor market efficiency, infrastructure, technological readiness and macroeconomic environment is too poor to beat. In fact, by means of inefficient business ecosystem infrastructure, India looks more like Brazil where innovation and business sophistication largely depend on foreign company contribution. Yet, India has factor-driven ecoomy, it is not like Brazil which is in a transition period from efficiency-driven to innovation-driven economy (see Figure 6.2). From this point of view, unlike China which functions as a global hub, India acts more like a large niche player supplying the required goods for large global companies. Again unlike China, lack of niche creation and birth control regulations, and the government's neglect and underestimation to adopt the required shifts to benefit from the new business trend at the utmost level tarnish India.

China: The country ranks 29 overall for the second year in the GCI Report 2013-2014. China manages to improve some areas whereas weakens some other areas. The country, ranked 31st overall for basic requirements category; placed 47th for institutions, 48th for infrastructure, 10th for macroeconomic environment and 40th for health and primary education. For efficiency enhancers, China, again ranked 31st overall, having been listed as 70th for higher education and training, 61st for goods market, 34th for labor market, 54th for financial market, 85th for technological readiness, and 2nd for market size. China ranks 34th overall for innovation and sophistication category including 45th for business sophistication, and 32nd for innovation (Table 5.1, Figure 6.1.h). It is obvious that China, as the leader of the BRIC economy by a large margin, is getting wealthier. Having the lowest public debt-to-GDP ratio (22.9%) in the world, China's macroeconomic environment, with a gross savings rate almost the half of its GDP, looks healthy. Yet, consumption should be urged more to have a more balanced economy. Pulling the inflation back below 3% in 2012, China has a moderate budget deficit. According to the GCI Report (2013-2014) it is believed that China's innovation power is increasing, though there is still much to be done. Its institutions' framework is also improving but weaknesses including security issues, ethical standards, low levels of accountability, and corruption among enterprises tarnish the positive results. In addition to all these negative points, regulatory issues that create barriers for investment and entry set back the efficiency of its goods market and competition power. Moreover, low adoption of technology by companies and individuals, as well as its unstable banking system threatening the financial market, might create a fragile business environment. China's higher education and training look inefficient with a ranking of 70th when compared to its health and primary education section which ranks 40th. The inconvenient curriculum in higher education which lacks to meet the needs of the business world and the mediocre teaching standards might be the negative factors of the low enrollment rate. Thus, China seems to be elevating itself by means of the new business trend. Even though the elevation largely depends on large foreign companies like other BRIC countries, China makes the required shifts to benefit from the new business trend at the utmost level. Unlike other BRIC countries, China is the only country which operates like a massive hub; the country seems to have established all four principles of the new trend, particularly the last two principles which are adaptability and creation of a new order respectively. It could be argued that China has created a new order shifting from a hard core anti-capitalist system to a relatively capitalist system through customized switches for adaptability. As a result, it could be argued that China, with the aim to benefit the most from the opportunities offered by entrepreneurs, has managed to build up a healthy business ecosystem infrastructure on its massive land to enable large global companies to create and design their own business ecosystems in China. However, the country has still efficiency-driven economy due to lack of education and other reasons mentioned above (Figure 6.2).

Business ecosystem infrastructure in Turkey (emerging country)

Turkey is ranked 56th for basic requirements which displays a better grading when compared to those of Brazil and India's but, China and Russia, particularly China despite its efficiency-driven economy, are far ahead of Turkey in terms of basic requirements. With a deeper look, institutions in Turkey is placed as 56th, with rankings for infrastucture 49th, health and primary education 59th and macroeconomic environment 76th (Table 5.1). Except some improvements in infrastructure, such as roads and airports, with a fragile macroeconomic environment based on massive trade deficit, inefficient institutions and low quality healthcare and primary education, Turkey does not have a healthy business ecosystem infrastructure. Despite the status as an emerging country, Turkey is not one of the BRIC countries; the country is not rich in natural resources like oil or natural gas such as Russian Federation. For efficiency enhancers, the country is ranked 45^{th}. With the worst score among the countries analyzed in the thesis for labor market efficiency which highlights a poor level in terms of both quality and quantity, Turkey's one of the major problems seems to be education. In fact, the ranking of higher education and training (65^{th}) supports the poor grading of labor market efficiency. Goods market efficiency is placed as 43^{rd} because Turkey imports most of the machinery and other electronic equipment. Financial market development (51^{st}) is another problem as most of the banks and financial institutions run by foreign investor groups. Technological readiness is ranked 58^{th} which is again directly related to inefficient education and high unemployment rate particularly among the young, shows that only a certain part of the population have the required skills and income. The stronger market size (16^{th}) due to high population rate is a promising signal both for domestic and foreign markets since consumption is a must-to-have for such high rate population as clothing, heating, and food are the compulsory expenses for humans. For innovation and sophistication factors, Turkey is ranked 47^{th} in which business sophistication receives the ranking of 43 and innovation 50th. Turkey's innovation ranking is lower than those of China and India's even though all three countries have similar rankings for business sophistication. Despite Turkey's better ranking for higher education and training, India and China's innovation power seems to be better. This is probably due to their government policies and adaptive approach to the new business trend which attracts large foreign investment. As a result, Turkey, being far behind the top four countries by means of overall ranking, seems to be between the two groups of countries analyzed in the thesis. In other words, Turkey is not an advanced country; Turkey is an emerging country like the BRIC countries but it is not a BRIC country. Turkey's unstable government policies on economy, large trade deficit due to import-driven industry, lack of education, large informal business activities, high rate of population and unemployment, particularly among youth and limited social protection are burdens not only on social sustainability but also on economy. Besides, high rates of carbon emissions, loss of agricultural areas for urbanization and intensive amounts of water use for agriculture are other negative impacts for the country because health is directly related to clean air, fresh water and good food each of which affect human capital as an investment.

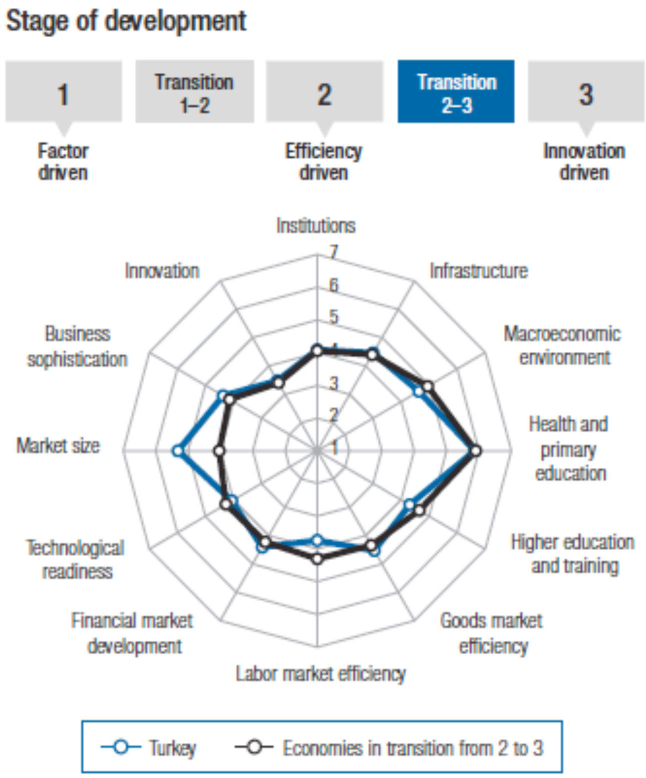


Figure 6.3 Illustrates the economic development in Turkey (GCI Report 2012-2013).

Despite its inefficient business ecosystem infrastructure, Turkey is in a transition period from efficiency-driven to innovation-driven economy like Brazil and the Russian Federation (Figure 6.3) and considered as an emerging country like BRIC countries. There are also other emerging countries like Egypt but as Turkey with its different social and cultural background based on Islamic norms but governed with a secularist approach, it is not like the other emerging countries. Turkey it is a special type of country due to its unique geographic location for global companies to provide them with easy access to new markets in Asia and Africa.

Mutual Benefits of the Business Ecosystem Infrastructure

Parent countries are like human parents. Most human parents raise their own young with absolute care and affection and so do the advanced countries. Like human parents, parent countries try to raise their companies in the best environment with the best standards. To provide the best standards, human parents need money. And so do the advanced countries.

Human parents give affection and spend money while raising their young and the young give happiness to them. Even with humans, there is symbiotic relation between the parent and the child; the child does not have any money but he has feelings and mind. In that sense, BRIC countries are like the children of the parent countries. Parent countries invest in BRIC countries and BRIC countries make improvements. So, the new business trend, even if inspired through nature or parent-child relationship, is based on mutual benefits.

Benefits of the new business trend both for the top four countries and the BRIC countries

All advanced countries, particularly these first four countries -Switzerland, Singapore, Finland and Germany- all benefit from emerging countries through their multi-national companies, but while taking, whether intentionally or unintentionally, they are also giving away some financial and educational support to these poorer regions. As these companies contribute to the entire system of developing countries through the improvement of infrastructure, education, health, and economy, they are encouraged by governmental incentives of the poorer regions because most governments in developing countries have extreme financial difficulty to make the required improvements and adjustments even if they are willing to. These companies, providing the required support from their parent countries' innovation-driven economies, create and design every detail of each new business ecosystem in their homelands. While designing the new ecosystem, the priority, without doubt, is company benefits, but to carve out the utmost benefit for the company in a developing foreign country, the company is to improve some areas where the poorer country lacks to provide; otherwise the multinational company would not be able even to manufacture any goods without the required infrastructure, such as power, roads, and internet connections. So, the benefits are not one-sided; benefits are mutual. How multinational companies of parent countries contribute to the creation of healthy new ecosystems in developing countries are as follows:

- **Construction:** Since governments can hardly afford the infrastructure in poorer regions, some roads, bridges, ports and other required infrastructure are built by multinational companies of the parent countries to provide the required transportation and establish their own online system to maintain the required technological support for the company,

- **Training:** Selected local people with little or no skills are trained by the company and ambitious locals learn from one another to be able to survive in a changing environment,
- **Employment rate:** Jobless rate falls as some locals are hired. When the life-cycle of the environment is improved, first local economy, then the entire economy of the country starts to function through the following steps: Some local people with no or temporary jobs have permanent jobs, locals with permanent jobs have regular pay checks, with regular income, people purchase some of their extra needs, local sellers earn more than they used to and purchase more from small suppliers, small suppliers demand more goods from bigger ones, bigger suppliers demand more from domestic dominators, domestic dominators demand more from their own suppliers to produce more; new jobs are offered, locals with small or efficient capital encouraged by the system establish their own small businesses; new jobs are offered, number of niche players rise, and so does the rate of employment, and the GDP of the developing country rises. The entire system starts to function, and with a healthy environment, species head for a better way of life though some species pass away as they can not adapt themselves to the new order.

Consequently, from the point of business ecosystem concept, these top four countries as the designers of the new business trend named as business ecosystem, seem to fulfil all the required stages and principles of the complexity of the system. These countries, together with other advanced countries in the world, due to their well-established code of law, infrastructure, education, public and private institutions, banking systems, advanced technology created by themselves, healthcare and other required areas for a healthy environment seem to be widening the economic, social and technological gap between the other countries in the world through the new business trend.

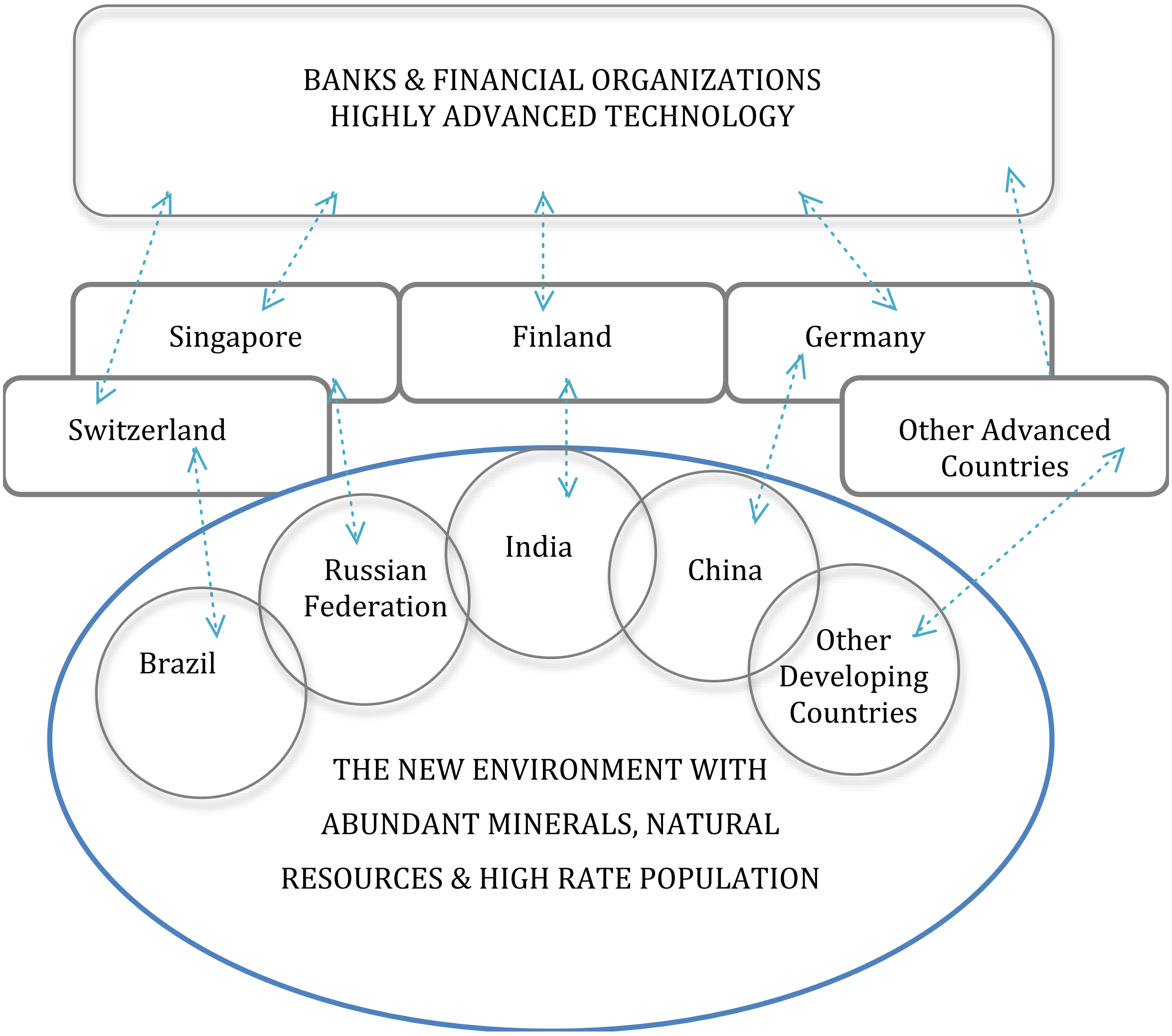


Figure 6.4 An illustration of "Needs to Meet" formation among the countries involved in business ecosystem designs.

This new trend creates the Needs to Meet formation (Figure 6.4) in which the invisible major principle of the new trend lies; it is the win-win policy, but who wins the most is a question hard to answer properly because labour in advanced countries is highly expensive as it includes benefits like health care, bonuses, etc. Besides firing a worker is almost impossible due to the powerful unions and compensation problems in these countries. However, in BRIC countries, most people have no permanent jobs; even the educated in those countries have difficulty getting a descent job. People with little or no skills in those countries have almost no chance to find even a permanent job. Most of them are ready to work for a few dollars without asking for additional benefits. Their countries have abundant natural resources and rich minerals but they have made no good for those millions of people; their states have neither efficient financial resources nor required advanced technology for drilling. Even if they have both, those countries do not have efficient number of skilled people despite the high rate of the population. Governments in those countries are also in trouble as they have difficulty feeding their people. Those countries export some of the natural resources they have but productivity based on inefficient technology and inefficient workforce is low and the contribution of those export products to economy is almost invisible due to large population. Political system in those poor countries is also at risk and governments have nothing to do. Advanced countries have almost no such problems; with strong financial resources, advanced technology, and highly skilled executives, they seem to lead a problem-free way of life. Yet, they are suffering, too because they have little or no natural resources. Besides, they have smaller market size which is rooted from low population rate in their own countries. Their companies' profits are shrinking due to high labor costs, raw material supply from overseas and freight fees. They have to find a permanent solution; they have to reduce the cost and capture growth. Then they discover what to do. BRIC countries are a perfect-fit for them. Instead of having the new plants in their own countries, they decide to establish them overseas. After a series of commerce agreements signed by the governments of both sides, some pioneering companies of advanced countries' start to sign business agreements with the local companies in BRIC countries. Yet, it might be risky to make a start in a new environment. So, like the migrating birds whose environment is getting scarce due to colder weather, they start to fly to warmer lands in groups. Before heading for overseas, the pioneering companies in advanced countries design a highly complex new business system known as the business ecosystem. Within the last fifteen years or so, more companies from advanced countries have established their new plants in BRIC countries. Both parties seem to have reached their goals; companies of advanced countries have captured profitable operations; they captured not only cost reduction but also a large market size based on high population rate in BRIC countries. BRIC countries, particularly China, have captured growth, too. Countries, through mutual benefits have highly benefitted from the business ecosystem inspired by the biological ecosystem. Figure 6.4 illustrates how advanced countries rush for cheap labour and easy access to abundant natural resources and minerals.

So, BRIC Countries, from the point of business ecosystem, are not the trend-setters of the new business system. These countries, except a few large domestic companies, are the vast lands of opportunities that provide global multinational companies with low labor cost and easy access to abundant minerals, other natural resources and an immense market size. What BRIC countries receive in return is some improvement in some areas such as infrastructure and education.

Comparing Turkey's business ecosytem infrastructure to the top four and BRIC countries

As seen in Table 5.1, it seems too difficult to compare Turkey's ranking to the top four countries' rankings in the GCI Report 2013-2014 because Turkey and these top four countries' economic categories are different; they have innovation-driven economies whereas Turkey is in a transition from level 2 which is efficiency-driven to level 3 that is innovation-driven (Figure 6.1). Despite the claim which argues that the highest the ranking of the innovation and sophistication factors the highest the overall ranking of the country for its competitiveness, Table 5.1 clearly illustrates how the first two categories which are for basic requirements and efficiency enhancers respectively play an important role in the overall rankings of the countries' analyzed in the GCI Report (2013-2014) when a quick look is taken at Singapore (Table 5.1). Despite being ranked 13 when innovation and sophistication factors are considered, Singapore is ranked 2nd for overall competitiveness due to its best scores for basic requirements and efficiency enhancers. After observing this factor for Singapore, it could be argued that Turkey might have had a better ranking if it had had a better ranking for basic requirements and efficiency enhancers. Yet, in addition to these two categories, the last category which include innovation and business sophistication have received lower rankings. For basic requirements, Turkey's macroeconomic environment is the major factor to receive such low ranking (76th). Macroeconomic environment in Turkey is so fragile due to import-driven economy, and inflation (125th) and gross national savings' (99th) rankings worsen the situation for macroeconomic environment. When compared to the top four countries' export-driven economies, Turkey with its import-driven economy, seems to have no chance to compete with any of them. In addition, the other significant factor for low ranking is the indicator for health and primary education which belongs to basic requirements. Not all children, particularly girls in Turkey complete even basic education. Moreover, the low quality of education especially in rural areas is another problem in Turkey. Health is probably the worst case especially in rural areas due to poor infrastructure, inefficient number and quality of healthcare centers and harsh climate conditions. Moreover, public institutions, unlike the ones in advanced countries are not transparent. So, Turkey's overall ranking for basic requirements which include institutions, infrastructure, macroeconomic environment and health and primary education respectively is 56 which is worse than even some BRIC countries' rankings, could never compete with advanced countries' rankings.

Among the BRIC countries, China is the only country better ranked than Turkey in all three categories. Consequently, China has higher ranking for the overall index for 2013-2014 (see Chapter 5, Table 5.1). Though Russian Federation has a better ranking than Turkey for basic requirements including institutions, infrastructure, macroeconomic environment and health and primary education, the country is ranked far below Turkey and BRIC countries when efficiency enhancers and innovation and sophistication factors are considered. India, despite the worst ranking for basic requirements among all the BRIC countries, has surprisingly better results than Brazil, Russia and Turkey for efficiency enhancers and innovation and sophistication factors. Brazil, though there is little difference in terms of efficiency enhancers and innovation and sophistication factors when compared to those of the ones in Turkey, is far below Turkey when basic requirements are considered. Three countries -China, India and Brazil- due to high birth rate and population, have the highest ranking for market size. Yet, this high population does not have a positive impact on labor market efficiency in India, Brazil and Russian Federation but, no country in the thesis has received a ranking as bad as Turkey's for labor market efficiency despite its high population rate. In the first category, which is for basic requirements, China is better ranked than Turkey. Though there is not much difference in the infrastructure of the two countries, China ranked 48th and Turkey 49th, the massive gap in macroeconomics, as a driving factor, ranked China 10th whereas Turkey's ranking is 76. However, in the second category which ranks efficiency enhancers, Turkey is ranked higher than China in higher education and training, goods market efficiency, and financial market development. For technological readiness, Turkey is ranked much higher than China. Yet, China, due to its high population rate, is ranked much higher than Turkey when market size and labor market efficiency are considered. With these two driving factors, China's ranking for the second category of the twelve pillars of the GCI Report (2013- 2014) is much higher than that of Turkey's. For the third category, which shows sophistication factors and innovation, again China is ranked much higher than Turkey. In fact, Turkey is placed lower than China, India and Brazil for the overall rating of the last category. Turkey has a higher rating only when compared to Russia; Turkey can not play an active role as there are so many unregistered small companies that operate illegally (see GCI Report 2013-2014). Though Turkey, with a ranking of 43, is placed better than China which is ranked 45th in business factors, China sets apart with a ranking of 32 when innovation is considered; Turkey receives 50th for innovation. In fact, for efficiency enhancers which include higher education and training, goods market efficiency, labor market efficiency, financial market development, technological readiness, and market size, Turkey again has a lower ranking as 45th when compared to Russia's. The other three BRIC countries China, India and Brazil have also received better rankings which indicate that they have benefitted from advanced countries' new business trend (see Table 5.1). With the worst ranking (130th) among all the countries in the GCI Report for labor market efficiency, pillar 7 depicts the factors standing behind this poor ranking; poor healthcare, little or no education especially among females in rural areas, lack of empowerment of females due to religious norms, inefficient vocational schools, poor quality higher education, etc. have all negative impact on labor market efficiency despite the high rate of population.

Companies in Terms of the New Business Trend

Countries and their companies, like the symbiotic relationship between parents and their children, have mutual relations. Companies that are involved in the new trend have similar mutual benefits. In fact, there seems to be mainly two groups of companies in the construction of the business ecosystem environment. The frst group includes the large global companies in advanced countries. In the first group, countries which are the parents of large companies are all wealthy and advanced but they need more financial resources to protect their existing outlook because their large companies are all at risk; rapidly rising production costs, consumers' easy access to smaller companies that offer similar products at discount prices and shrinking demand wipe off profits. These advanced countries do not have cheap labor as their strict code of law for workforce and low population rate do not tolerate poor paychecks. Another problem for advanced countries is the lack of natural resources. However, in the second group, where smaller local companies function, despite the poverty they have, countries have abundant natural resources. High population rate is another driving factor for the creation of the business ecosystem designed by the first group of companies and their parent countries. The local companies in the second group have difficulty in production due to lack of qualified employees. They also suffer from weak technology. Even if those local companies could finance high technology tools for production, they can not make use of them due to inefficient education and poor infrastructure. Despite the natural wealth they have, the companies in the second group can not help their own countries much. This is the point where the needs meet. Soon, large companies in advanced countries with their customized business designs which was inspired by nature and based on advanced technology, headed for physically poor but naturally wealthy far countries. With their headquarters in their home countries, these large companies mostly merging with larger local companies, established their own production units in those poor countries. They have started to benefit from abundant sources in those poor countries, and like concerned parents, they also raise their adopted children; these parent companies provide them with jobs, infrastructure and education. In other words, parent companies provide better conditions for their hosts to benefit more from their generosity. Consequently, the new business trend which is mainly based on mutual benefits has created two major group of companies worldwide in which the first group is the large global companies of parent countries and the second group includes smaller local companies of host countries named as BRIC countries.

Companies of parent countries

The top four countries, due to the wide economic, social and technological gap with most of the other countries, have a wide range of big global companies of various sectors each of which is a driving factor of these countries' leadership skills. These massive multi-national companies and individual entrepreneurs in various sectors not only design their own ecosystems to provide the utmost financial contribution to their parent country but also contribute to the countries' infrastructure and GDP where they operate. These powerful multi-national companies each of which is, in fact, a global dominator use mostly the keystone strategy in foreign lands loaded with high rate of population and abundant minerals and other resources. Through official agreements of commerce signed by both the parent and the host countries' governments, parent country companies, by means of the new business trend, land in resource-rich countries and establish businesses. The Figure 6.5 illustrates how the large companies of advanced countries land in BRIC countries to capture growth to compete globally through cooperation.

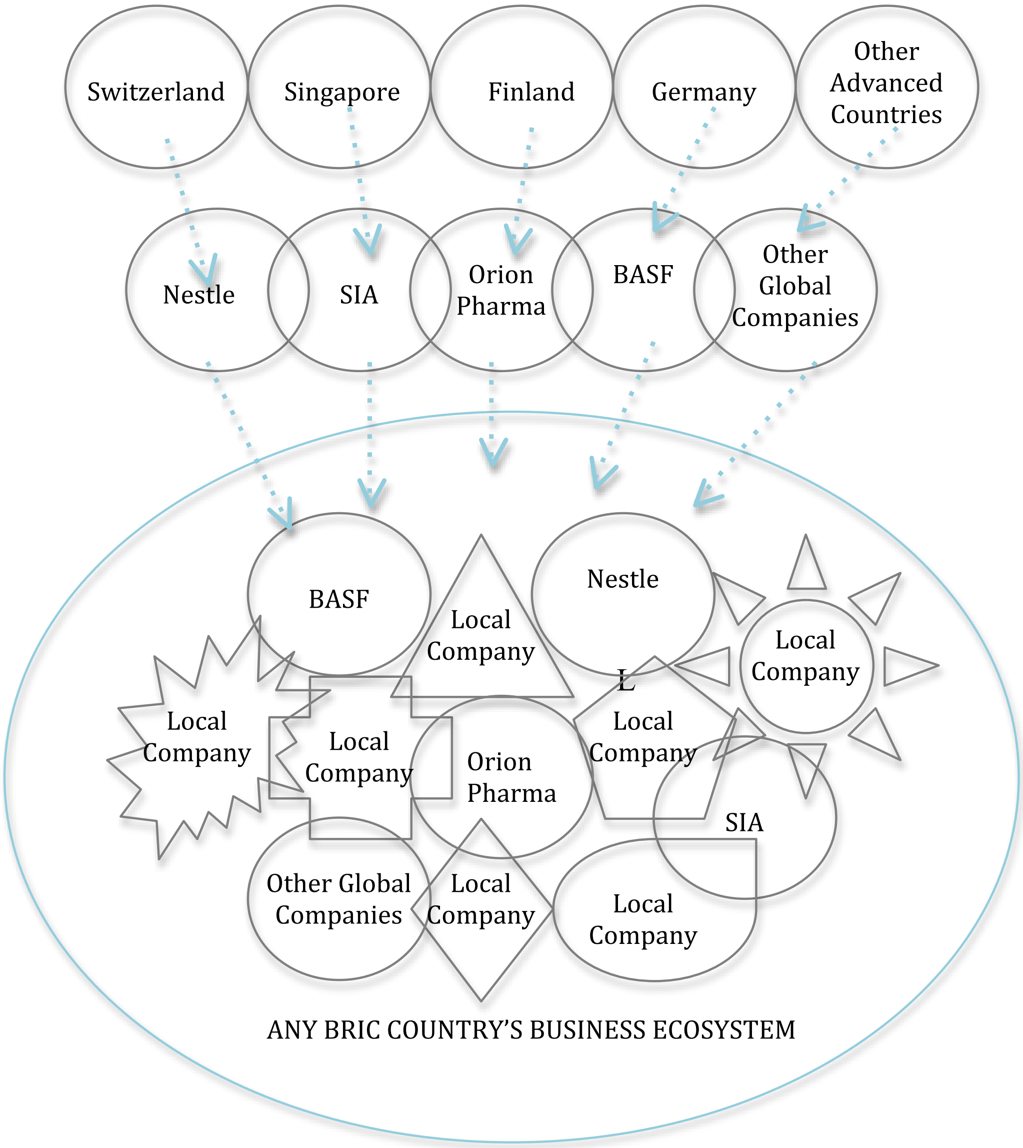


Figure 6.5 An illustration of mergers, acquisitions, and joint-ventures of advanced countries in foreign lands and their keystone companies and niche players of domestic or foreign enterprises.

In Figure 6.5, each circle stand for the companies of advanced countries and the various shapes in the big circle are used to depict the larger domestic companies and the niche players of the host country. The big circle in which all players establish their own business ecosystems symbolizes one of the BRIC countries or the new environment. Companies in groups, for instance from advanced countries as illustrated in Figure 6.5, land in one of the BRIC countries one after another after witnessing the achievements of the pioneering companies. Planned as before, these companies through mergers, joint-ventures, license agreements with other advanced countries' companies and/or as stakeholders enter host countries' ecosystems and sign business agreements with host country companies. For instance, by means of business ecosystem concept "S" symbolizes SIA from Singapore and "O" is for Orion Pharma from Finland and these two global companies have financial agreements with Goldman Sacks. When "N" symbolizing Nestle from Switzerland signs a business agreement with Orion Pharma, Nestle not only becomes the business partner of Orion Pharma but also the partner of SIA and all the other invisible companies each of which has business agreements with. In other words, Orion Pharma becomes the business partner or stakeholder of L'oreal Cosmetics because Nestle S.A. is 30% stakeholder of L'oreal. Then, when "B" and/or L which are for BASF and other large global companies respectively sign a business agreement with any of the three companies mentioned before, the company becomes the shareholder of Pfitzer pharmaceuticals where Nestle is a stakeholder of the same company. Each new species, in other words new-comer is directly surrounded by host country niche players to create new opportunities in new business areas through sharing and creating value for one another. Interaction among companies, large or small, local or global continues to form cycles where each cycle creates more complex cycles of business not only in one specific environment but in other environments as well.

Among these highly advanced countries, 4 big global companies of top 4 countries are selected to analyze the new business trend, and to show how these companies have managed to achieve a sustainable growth and create stakeholder satisfaction cycle. These four companies, Nestlé S.A. for Switzerland, Singapore Airlines for Singapore, Orion Pharma for Finland, and BASF for Germany seem to have no connection with one another and operate in different sectors; Nestlé is for food, particularly chocolate, SIA is for civil aviation, Orion Pharma is for pharmaceuticals, and BASF is for chemicals. Yet, the reality is completely different; like the living and non living organisms of a biological ecosystem, these companies have symbiotic relationships with one another even if each company comes from a different country, a different background, and each operates in a different location of the world. These big global companies are storming over the countries particularly in emerging countries through mergers, acquisitions, joint-ventures and stakeholders (Appendix B). For instance, Swiss-based multinational Nestlé has partnership agreement with Orion Pharma S.A., a manufacturing pharmaceuticals company of which

Germany-based BASF is also another partner and these three global companies are stakeholders of some financial organizations such as Goldman Sacks in some of which Singapore Airlines has also taken part. The top four countries each with lucrative governance systems are the most competitive countries according to the GCI Report 2013-2014.

Nestlé S.A.: For Switzerland, which has been the winner across the globe in the GCI report (2013-2014) Nestlé S.A. is investigated through its official Web site (Appendix B). Nestlé, a giant Swiss-based multi-national company with a wide range of partnerships, mergers and joint-ventures, has planted a highly complicated ecosystem with species of all types in different locations of the world. Benefiting from abundant resources, cheap labor and massive government incentives in emerging countries and other less civilized areas in the world, Nestlé keeps offering financial contributions to its stakeholders in advanced countries. Yet, the company does not only satisfy its stakeholders but the people and governments in the countries it invests and operates. Constructing roads and other infrastructure in developing countries, Nestlé works harder than most of the governments in those countries. Massive R&D expenditures (nestle.com) symbiotic relations with other global companies based on entrepreneurship activities (nestle.com, 2001), innovative production technologies, a large number of patents, business agreements in unrelated areas such as holding 30% stakes of L’Oreal (nytimes.com), massive IT, and competition through cooperation offer the company one of the leadership positions globally. The company, despite being a global dominator, also acts like a hub where hundreds of thousands niche players with massive diversity perform in harmony. Opening its fourth plant in Turkey, Nestlé keeps expanding and contributing to the GDP of Turkey. Nestlé, in terms of business ecosystem stages creates value through innovation and high performance, manages to expand globally with market dominance, maintains a strong authority by contributing to communities through sharing, and displays continuous performance improvement. With its highly diverse and complex business agreement designs, thousands of suppliers in different regions of the world, highly reliable brand name through strong customer trust, a wide range of products and highly satisfied multinational shareholders, the company has constructed a highly stable business environment. The Red Queen Effect could also be observed for Nestlé as the company keeps running twice as fast as the other global companies do within the sector, and as the leader of its sector, the company has the power to reduce the prices of its products to better compete with the newcomers of the market.

SIA: Singapore, which has been the runner across the globe in the GCI Report (2013-2014) is a country with massive foreign investment (Appendix B). Loaded with dominator companies, Singapore is the center of finance. Among the global companies, SIA plays an important role. As an airline company, creating its own ecosystem and flying high on stormy days while other big airline companies are struggling in a squeezed market indicates how well the company is run. With its innovative offerings (singaporeair.com) subsidiaries in relation with aviation, risk management skills, fast and practical solutions to sudden changes, tracking and respecting the habit of its customers, SIA creates state-of-the-art service for its customers (faqs.org) SIA uses not only Changi International Airport as a hub but also uses the company itself as a hub. In fact, SIA as a company, acts like a hub as the company purchases all sorts of items from uniforms to catering, from suppliers. SIA has become the leader in East Asia as it combines competition with cooperation to reach coopetition (loyaltysquare.com). Creating value for its customers and suppliers, building up a strong brand name, establishing customer and shareholder satisfaction through customized offerings and service, and with its subsidiaries, SIA seems to have constructed a well-designed business (brandchannel.com.2004). Yet, the renowned business is not based on a stable ecosystem; its subsidiaries might create risk for the company because its business environment is neither diverse nor complex, it only focuses on aviation-related areas, particularly on travelling. Adaptability seems to be the hardest part during crisis. In addition, expansion is limited despite having some global routes; the company mostly operates in East Asia.

Orion Pharma: Orion Pharma from Finland is the third global company of an advanced country. Finland, third at the top among the advanced countries according to the 12 pillar of the GCI Report (2013-2014) has established a well-functioning business ecosystem. Orion Pharma, though seems to be a domestic company, is again a multi-national pharmaceutical company with various foreign investments across the globe (Appendix B). Digging out for herbs and medical plants in isolated areas of Bangladesh, Orion Pharma, with massive R&D investment (orion.fi/en), advanced technology, laboratories and research centers, focuses on a large variety of health products, particularly on cancer and arthritis (bionity.com / 2012). In addition to such products, the company is also famous for its diagnostic tests. Playing in a large variety of areas, the company also produces private label products of personal care. Moreover, Orion Pharma's large collective work with Swiss-based Novartis S.A. reveals the fact that big global companies have sharing; knowledge and information. Collaboration with universities and other companies contribute to alternative solutions for treatments (gnshealthcare.com). By means of business ecosystem, the company seems to have built the second and the fourth stages successfully; the company has captured growth through the production of private-labelled healthcare products for third parties such as creams, nasal or oral sprays, and other small products which means that the company has created a well-designed blend of expansion through renewal. Yet, the company is still at risk as it functions more like a large supplier of its sector; establishing a stable supply chain of herbs and other pharmaceutical ingredients is the main concern of the company. Since there are various global leaders such as Roche and Pfitzer each of which is hard to beat when reduction in prices are considered, Orion Pharma has established a new plant in Bangladesh to provide easy access to almost free herbs it needs. In addition, the company could also increase the number of suppliers it works with as the inefficient number of suppliers is the other problematic part of the company.

BASF: Among the first four countries according to the GCI Report (2013-2014) the fourth country is Germany with a global leader company, BASF which is the biggest chemicals company in the globe (Appendix B). Through massive direct investments, with tens of R&D centers and laboratories located in different regions of the world, with hundreds of thousands suppliers, risk management units, thousands of patents, massive sales figures, net profit figures, with the number of employees across the globe, BASF Germany is the global dominator (basf.com). Using a perfect blend of 3 ecosystem strategy, the company acts like one of the global niche players of global manufacturing companies while it acts like a hub for smaller niche players but in fact, BASF is a dominator in various sectors from petrochemicals to pharmaceuticals (businessweek.com). 50-50 joint-venture formed between China Petroleum and Chemical Corporation and BASF shows how roads constructed by big companies cross one another and how big players create the trend to play with it (agreement.basf.com). With a wide range of various kinds of products that create high value for thousands of global suppliers and corporate customers, a well-designed ecosystem strategy based on interdependence (agreement.basf.com), the company captures growth through competition and cooperation in a sustainable environment (chemicalprocessing.com).

These companies together with other global companies create value for domestic suppliers through symbiotic relations; the more the value the more the number of suppliers in the system; these companies capture growth, and they expand. While they expand, they help their host countries' living standards boost in many ways. New jobs, new opportunities exist for everyone in the area. Though the help seems to be direct, the indirect contribution can not be underestimated. Host countries could never be 'another Switzerland', but better income triggers better standards in every aspect of life; better education, better homes, better food, and happier individuals. Why BRIC countries have adapted themselves to the new business trend and approved the entrance of the companies from highly advanced states is that happy individuals do not create any risk against the existing political system. Benefits are mutual; both parties, the parent states together with their companies and the host states, ensure their own survival (economywatch.com). Advanced states, in other words parent states ensure the survival of their global leadership position and, the host countries avoid any attack to their established political systems. As mentioned in section 6.3.1, it is the invisible principle of the new business trend; it is the win-win policy.

Companies of BRIC countries

Brazil: For Brazil, two companies are selected which are Petróleo Brasileiro S.A. and Empresa Brasileira de Compressores S.A. (Appendix C).

Petróleo Brasileiro S.A.: Known as Petrobras, Petróleo Brasileiro S.A., is a global state-run oil company with a wide range of partnerships (proactive investments.com, 2010) and mergers of big global companies (refiningandpetrochemicals.energy.com). The companies which Petrobras works with are mostly based in advanced countries each of which is multi-national (Appendix C). R&D expenditures (marinelink.com), symbiotic relations with other global companies based on entrepreneurship activities such as investing in innovative oil drilling technologies (petrobras.com, 2011), and competition through cooperation offer the company one of the leadership positions globally (honeywell.com, 2013). Yet, the company is at risk as it focuses only in oil-drilling; the company does not have efficient business sophistication (riodejaneironews.net) which could be observed in Nestle or in BASF (Appendix C). In addition, heavy financial burden of the advanced technology provided by large foreign companies, poor conditions of the oil platforms, demands of the unions of the workers, strong US dollar which creates foreign-currency debt for the company are some of the negative impacts on Petrobras. As a result, the company seems to have difficulty creating a sustainable growth (energyseenews.com).

Empresa Brasileira de Compressores S.A.: The other company is Empresa Brasileira de Compressores S.A., known as Embraco (embraco.com). The company is one of the world leaders in cooling systems and refrigerator compressors. Symbiotic relationship with Petrobras, massive R&D expenditures, foreign investments in 7 countries as successful entrepreneurship activities, innovative products and patents created value not only for the company and its partners but for Brazil as well (Appendix C). Because once depending on imported compressors for refrigerators, the company has become one of the global leaders in its sector manufacturing its own compressors. The company seems to have achieved renewal some time ago because it has started producing its own branded machinery and equipment. In fact, the company has become one of the global companies and supplies 25% of the global demand of cooling systems (metrocorpcounsel.com, 2004). Acting like advanced country companies, Empresa has established a sustainable business ecosystem through various business agreements in other regions of the world such as the one in Italy and in China. Moore's Red Queen Effect could easily be seen in Empresa as the company has been running faster for a while when compared to its previous years (prnewswire.com).

Russian Federation: For Russian Federation, Yandex and Alrosa are chosen (Appendix C). The reason why these two companies are chosen lies in the fact that residents in Turkey do not know much about them. Through some commercials, some people might have little knowledge about Yandex but, Alrosa, unless DeBeers is mentioned, does not make any sense to anyone. Alrosa is one of the major suppliers of best quality diamonds worldwide. Despite being a state-run company of the Russian Federation, it functions like a global loose diamond hub for the most renowned luxury jewelry brands.

ALROSA: Alrosa has various business agreements and partnerships both as domestic and foreign investments (rough-polished.com, 2010). The company expands also in Africa through some mining agreements with the domestic companies in Angola, Zimbabwe and Botswana. In addition to its existing partnerships, the company focuses on gas-drilling in its homeland and abroad (Appendix C). Through collaborations with craftsmen, universities and laboratories, R&D investments, its own subsidiaries, patents and stable financial ecosystem, the company eyes for various opportunities in other sectors of drilling. The company seems to have successfully integrated the principles of business ecosystem through the establishment of business ecosystem stages. As a global supplier of best quality diamonds, the company is highly interdependent with large market size and goods market efficiency (eng.alrosa.ru). Its recent investments in gas drilling indicates not only business sophistication but also attempts of a new order. The company is highly sustainable with its successful foreign investments in Africa, and with its workforce (including families) supported by various company benefits. It has also created value for its renowned corporate customers such as Tiffany & Co and local craftsmen and academicians in its homeland through continuous innovation. Even though Alrosa is a state-run company, it is highly adaptable to new conditions; the company's recent investments in capturing the new mining opportunities in Africa point to its flexible structure. The last but never the least, the Red Queen Effect (Moore, James F., 1996) could also be spotted for Alrosa; for over half a century, running faster than other diamond companies through stable competition power, Alrosa has never left the leadership to another global company.

Yandex: Yandex, though the company sounds to be a new e-commerce property, it is an online information company creating tailor-made designs for specific data categories (company.yandex.com). The company's machine translating technology is created by Yandex itself and it is so unique that Yandex search engine has been granted to work for the CERN project (extremetech.com). The company has acquired various start-ups and has its own offices both in the USA and Switzerland; the company was established in Russia and expands through different locations in the world with its own schools and innovative products (Appendix C). Yandex creates value building up symbiotic relations with start-ups and individuals, shares information through cooperative work, and creates and uses advanced technology. It is also obvious that the company has captured growth in recent years as it started to open offices and labs in various countries. With its innovative products such as its one-of-a-kind machine translating system, it seems to have destructed the ecosystems of other search engines. Despite its growth, Yandex can not be as stable as it looks. Since the company's focus is on one specific area which is the Web itself, it does not have the efficient business sophistication. Though the company's machine translating system is one of a kind for the present, the company might still be at risk as any technology company, at any time, might develop a much better system. If Yandex, as it has planned, undertakes science projects focusing on genomics and biomedicine which are directly related to computational science, the company seems to be capable of being the leader of its sector. Value creation for suppliers, expansion through sharing information and capturing growth, authority-lead co-evolution and renewal with innovative advanced technology, Yandex successfully seems to be establishing the stages of a healthy business ecosystem.

India: For India, Tata Motors and La Farge Aggregates and Concrete India (French-origin) are chosen (Appendix C).

TATA Motors: TATA Motors started as a defence vehicles manufacturer for Indian Forces and still shares the sector with 2 other domestic companies, has become a leader in automotive in East Asia (tatamotors.com). In addition to the company's joint-ventures and mergers in Brazil, United Kingdom, Ukraine, Bangladesh, South Korea, Indonesia and Africa, the company acquired Jaguar Land Rover in 2008 (articles.economictimes.indiatimes.com, 2013). Despite the similarity with most Turkish companies by means of lack of sharing or cooperative work, TATA Motors owns the best R&D in India loaded with advanced technology tools (Appendix C). Moreover, the company has 2 R&D departments, one of which is in India and the other in UK. Tata Motors, through its various business agreements with global companies in different locations of the world , has created value for its suppliers, and captured growth through expansion. The company is highly competitive due to its innovative approach and R&D activities; the company, through the business agreement with Ford Motors, it reduced the prices of the cars and the SUVs it manufactures in India (indiancarsbikes.in). Focusing on performance and innovation through customer preferences and needs, Tata Motors seems to have captured growth which indicates a relatively well-established business ecosystem design of its own.

Lafarge India (Foreign Direct Investment): Lafarge is selected to highlight how a global company can be a game changer by contributing to the business ecosystem of any country it enters as foreign direct investment (Appendix C). Lafarge, with its international laboratories and research centers, mergers, joint-ventures, massive foreign investments, projects, over 1000 existing patents and R&D expenditures, is one of the global production companies of cement, concrete and aggregates. Industrial know-how, value creation, partnership agreements with local construction developers has established a leading role to La Farge India. Acquiring the business of Tata Steel in 1999, Lafarge, which is a multinational company based in France, entered India. Then, through its expansion strategy, the foreign company purchased Raymond Cement facility in 2001. In 2008, the French enterprise acquired another company, L&T Concrete in India (indiamart.com). As a foreign global company, it has established mutual relationships in India; interdependence seems to be the major focus for Indian people, though the company's benefits from India are at the utmost level. Lafarge India captures growth by operating in an environment with large market size; the company benefits both from sales and cheap labor due to high population rate. With the profit the company makes in India, Lafarge (parent company) has captured growth, invested in other profitable areas of the world to avoid risk and satisfied its shareholders. In return, the company creates value for local suppliers and offers direct and/or indirect jobs for the people in the region. In addition, the company contributes to GDP of India. Today, it is one of the leading players in the ready-mix concrete business with 83 plants across the globe. Lafarge India currently has four cement plant across the country - in Sonadih and Arasmeta in Chhattisgarh, Jojobera and Mejia. The group is a major cement player in Eastern region of India with a market share of about 18% (moneycontrol.com).

China: For China, Alibaba Group and Nepstar are selected. Among the companies in China, Nepstar, due to its structural similarity with the smaller companies in Turkey that function mostly in a triangle of supply-purchase-resell concept, is analyzed through secondary information on the Internet and its own Website (Appendix C).

Nepstar of CHINA: Despite being a large drugstore with a tremendously wide range of suppliers, advanced technology to track procurement and with its subsidiaries, Nepstar China is at risk when business ecosystem stages are considered (Appendix C). By means of products and suppliers, the company does not have variety as wide as Nestle or BASF's. Besides, the location of its chain stores might create risk due to sudden demographic changes; that's why the company has closed down some of its stores while opening new ones in other areas of the country (nepstar.com). Through strategic agreements and partnerships with foreign financial companies such as Goldman Sachs, the company tries to avoid management problems (chinaretailnews.com). Even though the company is on the listing of New York Stock Exchange, it does not have a healthy business ecosystem because its performance is set back by demographic changes; frequent store location changes damage the company's cost-cutting and expansion strategies. Each new moving from one location to another needs new strategies to design which means more capital to invest. Besides, newcomers and insiders are another threat for the company because Nepstar operates only in China.

ALIBABA GROUP: Another Chinese company, Alibaba Group, a global e-commerce company, owns partnership agreement with Yahoo! Inc. to start Yahoo! China. Alibaba's 28 partners with just 13% of the stakes are the only decision-makers (Appendix C). Despite lack of sharing information with e-Bay or Amazon.com, the company knows how and where to create business ecosystems and how to expand (techinasia.com). With its subsidiaries, the company creates and organizes its own ecosystem but, also provides connections among suppliers of different sectors in various categories. In this sense, Alibaba acting like a hub, creates value and captures growth. Alibaba seems to be establishing a healthy business ecosystem using the dominator strategy for the entire region (nytimes.com, 2014). Yet, the general outlook of the company which is based on employer-oriented business creates risk for the company. In other words, unwillingness to delegate authority to subordinates is too strong as all important decisions are taken by senior management. Another problem might be the market size, particularly foreign market size when Western countries are considered. With two powerful competitors in the western part like e-Bay and Amazon, Alibaba seems to have some serious expansion problem in other parts of the world. Lack of expansion stage in the creation of business ecosystem might create another risk for the company. In addition, compliance problems with Yahoo! Inc. and regulations in China are the other risks that occur in some cases. Last but not the least problem for Alibaba is the information of the supplier (Appendix C). In some cases, supplier information may not be true. Fake supplier info can either be created by the so-called supplier or by an employee in the company to cheat on the buyer. Lack of trust which is used by its competitors against Alibaba damages the company name. Yet, focusing on the needs of people from all walks of life and providing easy access to smaller retailers and manufacturers, Alibaba Group provides copetition through competition for a more sustainable business ecosystem. In that sense, the company challenges the mature business ecosystems worldwide; probably that's why the company faces expansion problem in the western part of the world. Despite some fraud or scam, Alibaba Group keeps running faster than its global competitors offering new products to its customers such as alipay which is the company's online payment system.

Companies in Turkey

The domestic companies selected for the thesis are first divided into 2 groups to identify their main sectors as 'Production Companies' and 'Service Companies'. Then, the production companies selected for the thesis are grouped in 2 different categories by means of size, as 'Large company', and 'Medium SME' and/or 'Small SME'.

Large production companies in Turkey

There are 4 large companies each of which has, though limited, some similarities with the global companies analyzed previously. In the first group, two companies among the first 8 companies of ISO 500 (iso.org.tr, 2012-2013) are selected. Privately owned enterprise Arçelik A.Ş. is the 5th company in the ISO 500 list (2012-2013) and the iron and steel company Ereğli Demir ve Çelik Fab. T.A.Ş. which was once state-run is the top 8th in the same list (Appendix D). Then Sütaş Süt Ürünleri A.Ş. and Boytaş Mobilya A.Ş. are chosen as the next two companies due to their similar business ecosystem strategies. After the selection of the four large companies, a large foreign company which is GE Turkey takes its place in the first group of production companies in Turkey. The reaon why GE Turkey is selected lies in the fact that the company has similar ties with Lafarge India which is also analyzed in BRIC countries category in the thesis. Production companies in Turkey is divided into two as large production companies and medium size and/or smaller production companies of SMEs with the aim to identify the differences between the large production companies and the smaller ones. Another aim is to show the existing outlook of the production companies in Turkey.

Table 6.1 Production company (Turkey) results of the interview questions of the 5 large companies grouped by means of business ecosystem stages and principles.

. **Companies**	**Arçelik A.Ş.**	**Ereğli Demir ve Çelik Fab. T.A.Ş.**	**Sütaş Süt Ürünleri A.Ş.**	**Boytaş Mobilya A.Ş.**	**GE (TR)**
Ecosystem Sustainability	+	+	+	+	+
Dominator (D) Keystone (K) Niche Player (NP)	D (TR) K (Global)	D (TR) NP (Global)	K	K	D (Global) K (TR)
Niche Creation	+	+	+	+	+
Employee Training	+	+	+	+	+
Collaboration with Universities	+	+	+	+	+
License Agreements	+				+
R&D Investment	+	+	+	+	+
R&D Center	+	+	+	+	+
External Support					+
Budget	+	+	+	+	+
Patent	+		+	+	+
Customer Relations Management	+	+	+	+	+
Risk Management Plan	+	+	+	+	+
SWOT / Feedback Analysis	Advanced	+	+	+	+
Globalization/ Internationalization (Intl.)	Intl.	+	Intl.	Intl.	Global
Merger/joint-venture/ buyout	+	+	+	+	+
Trademark	+	+	+	+	+
IT	+	+	+	+	+
IC	+	+	+	+	+
Shareholders	+	+		+	+
Social Media	+	Not Clear	+	+	+
Sharing with Competitors	Not Clear	None	+	Not Clear	+

Arçelik A.Ş. (ISO 500: 2013-5th, 2012- 4th): Opening the first R&D center over 2 decades ago (oib.gov), then having 6 more in the following years, Arçelik A.Ş. is the most innovative production company (Appendix D) in Turkey and ranked 95th among the top 500 patent applicant companies worldwide in 2010 (arcelikas.com). Arçelik A.Ş. spends the highest budget for R&D and holds 1/3 of the total international patent applications among the European countries as of December 31,2011. Half of the patents granted to Turkish companies by EPO is owned by Arçelik A.Ş.. The company has approximately 145 patent applications each year.

Providing support both financial and educational, for higher education and for vocational schools, Arçelik A.Ş. contributes not only to its own enterprise but also to the other companies of its parent company and other companies in other sectors (Table 6.1). With its investments in foreign countries (southafrica.info) including Defy Electronic Appliances Ltd in South Africa (defy.co.za) and the highly advanced technology in all its facilities and plants, and with its standing for a sustainable environment, Arçelik A.Ş. which belongs to Koç Holding is ranked 217th in the Fortune Global 500 as the only Turkish company (money.cnn.com). Arçelik A.Ş. is almost the most respected company in Turkey. Establishing the brand awareness and trust among its hundreds of thousands local customers and the pride among its over a thousand suppliers, Arçelik A.Ş. satisfies its stakeholders as the company is among the best companies listed in Istanbul Stock Exchange. With its export goods in other brands of Arçelik A.Ş. such as Beko, (beko.co.uk) the company owns strong reputation in Europe and in other parts of the world. However, such an outstanding company having so many similarities with its global competitors, like Nestle or Empresa Brasileira de Compressores S.A., Arçelik A.Ş.'s annual reports, though outstanding for Turkey, can not be compared to the annual financial reports of multinational companies (Apendix B, Apendix C and Apendix D). In that sense, Arçelik A.Ş., which is the dominator company in Turkey, looks more like one of the larger global niche playlers. In addition, machinery parts and equipments of Arçelik A.Ş. products are imported from other countries; refrigerators' cooling systems are not produced by Arçelik A.Ş. Imported parts required for production might create risk for the company; unexpected turbulences in exchange rates, bank loans and government regulations such as trade tariffs. Moreover, going one step down shows that Arçelik A.Ş. could not run as fast as it did the previous year but the company has a relatively healthy business ecosystem. As implied in the Red Queen Effect by Moore (1996), a company should keep running without slowing down any moment in order to keep its place in the race.

Ereğli Demir ve Çelik Fab. T.A.Ş. (ISO 500: 2013-8th, 2012-8th): The next company is the Erdemir Group, officially known as Ereğli Demir ve Çelik Fab. T.A.Ş. (Appendix D). Being one of the leading hot-rolled steel manufacturers for specialty pipe applications, Erdemir Group established a worldwide reputation. With its group companies, Isdemir, Ermaden, Erenco, Ersem, Erdemir RO. and with its corporate governance, Erdemir has both foreign investments and large foreign investor companies (erdemir.com.tr). After acquired by Oyak Group in 2002, (oyak.com.tr) Isdemir facilities were improved and a state-of-the-art steel plant in the south of Turkey focused on market-oriented products existed. Since then, Isdemir has had massive export goods to various countries. Another group company Erdemir Romania S.R.L. (en.erdemir.com.tr) acquired by Erdemir Group in 2002, is producing and selling flat silicon steel for engine, transformer, and generator sectors (securities.com) Erenco is the engineering and project management service of Erdemir Group. Ermaden located in Divriği, Sivas produces half of the iron ore Turkey needs. Ermaden which was established in 1938 was acquired by Erdemir on April 15, 2004, and the same year, Ermaden's 10% stake was sold to Kardemir in November due to the privatization process. Ersem another company of Erdemir Group produces flat steel for automotive and cold-rolled and galvanized products for white goods. The winning bid in the tender held by the Privatization Administration for the sale of state-owned Ereğli Demir Çelik (Erdemir) was submitted by Oyak Group in 2005. By the acquisition of Erdemir, management and control of companies, which Erdemir participate in, transferred to Ataer Holding which is a 100% subsidiary of Oyak. Ataer Holding has a new participation called Osiat Sigorta Acentelik Hizmetleri A.Ş. founded in 2013 to assist insurance issues and procedures of Oyak subsidiaries. Erdemir's newest subsidiary is a company founded in Singapore with the aim to find new markets because the company faces some tax regulation changes in the USA. By the time the company loses the USA market due to such changes which would wipe out the profitability of the company, Erdemir Asia Pacific Private Limited in Singapore will have head for Asian markets. Erdemir, like other global companies, has a large foreign stakeholder group known as Arcerol Mittal. The giant Indian steelmaker company acquired 51% of the shares of Rozak AŞ., in 2007 which was founded in 1983 as the main Turkish steel stockholding company. Yet, Arcerol Mittal is planning to sell its shares in Erdemir and head for another country. Six years later, Arcerol Mittal sells 6,66% stake in Erdemir for $267mn (bloomberg.com, 2013). Before the sale, Arcelor Mittal had 18.74 % stake in Erdemir. After the completion of the sale, the company is assumed to hold approximately 12.08 % of Erdemir's share capital. However, as mentioned before, Mittal could leave Turkey anytime selling the shares it still holds.

Ereğli Demir ve Çelik Fab. T.A.Ş. fits the new success criteria in the first two stages. Being listed on the Istanbul Stock Exchange, Ereğli Demir ve Çelik Fab. T.A.Ş. often satisfies its stakeholders. Besides, it captures rise in profits and employee satisfaction. Apart from the new success criteria, education has the utmost value for the company. Yet, despite the strong outlook of the design of the ecosystem the company has been trying to establish, it looks more like the conventional style business focusing on traditional vertical integration where a company is its own exclusive supplier with the aim to put the total process of value creation under tight hierarchical control – mining, producing and selling, within the same old framework. The company looks well-managed, but when business ecosystem health is concerned, the company is at risk due to its traditional style business relations. First of all, like most companies in Turkey, Ereğli Demir ve Çelik Fab. T.A.Ş. does not have any collective work with other companies. Since the company does not make any sharing, it does not support any niche creation. The only connection with smaller local companies is either through its Purchasing Department to collect scrub iron or through its Sales Department to sell excess production. Shrinking markets worldwide is a threat for the company as large amount of its production is exported to foreign countries; demand for steel is in a downsize trend. Besides, exogenous variables such as the sudden fall in steel price due to lower demand should not be underestimated. Another risk for Ereğli Demir ve Çelik Fab. T.A.Ş. is the recent tax regulation problems in the USA. Even though Erdemir's new subsidiary in Singapore with the title of Erdemir Asia Pacific Private Limited indicates the company's risk management's successful shift to operate their commercial activities in Asian countries, the shrinking demand for steel could not prevent the company from profit loss. On the other hand, Moore's Red Queen Effect (1996) is visible for Erdemir as the company runs as fast as it did the previous year; the company preserves its existing outlook and, maintains a sustainable growth (ISO 500, 2013-8th - 2012-8th). Yet, with two missing stages such as supplier creation and sharing Ereğli Demir ve Çelik Fab. T.A.Ş. does not have a healthy business ecosystem, and the company seems to be tracking the traditional way of doing business.

Sütaş Süt Ürünleri A.Ş. (ISO: 500, 2013-51st - 2012-56th) / **Boytaş Mobilya A.Ş.** (ISO 500: 2013-98th - 2102-84th): The other two large companies, Sütaş A.Ş. (sutas.com.tr) and Boytaş Mobilya Sanayi ve Ticaret A.Ş. (boytas.com.tr) despite being in different sectors, both in ISO 500 list (iso.org.tr) and have various similarities. Both companies have shifted from the traditional business style; they have been designing their own ecosystems for a while (wire.seenews.com). Both companies use keystone strategy creating shared value with its suppliers to establish a healthy business ecosystem for a sustainable economy (ebrd.com). With domestic and foreign investments and with their own R&D departments using advanced technology, both companies focus on improved productivity and innovation (trademarks.justia.com). On April 02, 2013, Turkish dairy producer Sütaş Süt Ürünleri A.Ş. takes over Tnuva's Romanian plant**,** (business-review.eu). Both companies collaborate with universities to provide academic support by means of scientific research and technology (Appendix D). Boytaş Mobilya A.Ş. works with a group of various universities whereas Sütaş Süt Ürünleri A.Ş. has been working with Uludag University for almost two decades. Yet, despite the ecosystems they create and design, and the sustainable growth they try to establish, both companies seem to have the same problem which is the inefficient complexity in their ecosystem designs to be able to compete with large multinational companies. In fact, the latest ISO 500 listing (iso.org.tr, 2012-2013) shows that particularly Boytaş Mobilya A.Ş. has some risk as the company goes fourteen rankings down in 2013 when compared to its ranking in 2012. There is another major difference between the two companies; Boytaş Furniture is one of the group companies of BOYDAK HOLDİNG (boydak.com) whereas Sütaş Süt Ürünleri A.Ş. is the main company. Boytaş Mobilya A.Ş.'s recent downtrend (ISO 500-2013) indicates the company's various business problems; with regard to Moore's Red Queen Effect (1996), ISO 500 ranking (2012-2013) shows that the company could not run as fast as it did the previous year whereas Sütaş Süt Ürünleri A.Ş. has run faster than it did in 2012 (sutas.com.tr) as the company is ranked 51st for 2013 which was 56th in 2012 (ISO 500/2012-2013). Sütaş Süt Ürünleri A.Ş.'s better ranking in 2013 shows that the company creates and designs (republika.com, 2014) all the stages of a healthy business ecosystem (chapter 4). However, it would not be realistic to claim that Sütaş Süt Ürünleri A.Ş. is a global dominator. In fact, neither Sütaş Süt Ürünleri A.Ş. nor Boytaş Mobilya A.Ş. is a global dominator. Despite the growth and expansion they provide, both companies are relatively large international hubs, but not large enough to compete with global dominators. For instance, Danone of France, which is ranked 2nd among the global dairy companies in the Rabobank report in 2012 (dairybusiness.com) has various production plants in different parts of the world. Danone also grants license agreements to some dairy companies in other countries worldwide. Danone's sales figures, R&D expenditures, number of business agreements with numerous local companies worldwide could not be compared to that of Sütaş Süt Ürünleri A.Ş.'s figures. Boytaş Mobilya A.Ş. is in similar situation with Sütaş Süt Ürünleri A.Ş.. For instance, Boytaş Mobilya A.Ş. seems to be functioning in the U.S, but the building the company has is a warehouse. It is obvious that both companies seem to have left the traditional style business to trace the footsteps of the global companies.

GE TURKEY (Foreign direct investment): With 6 facilities and more than 600 employees, GE Turkey has established long-term partnerships in a variety of emerging sectors of Turkey (Appendix D). GE Turkey operates in different areas, particularly in aviation designing turboprop engines for B&GA operators and jet engines for business aviation aircraft (invest.gov.tr). Other areas GE Turkey is interested are technology, energy, health and transportation. Through mergers, joint-ventures and acquisitions, GE Turkey has been in Turkey since 1948. Entering the Turkish market through the joint-venture with Koç Group to build a light bulb plant, Ge Turkey had started building up its own ecosystem establishing strong ties both with the state – run organizations and private enterprises. Starting with the establishment of TUSAŞ Engine Industry (Türk Havacılık ve Uzay Sanayi A.Ş) with the government which the company captured 46% of the stakes in that high-technology investment, GE Turkey accelerated its investments in profitable areas of Turkey. The establishment of aircraft engineering technology center forconstruction and control technologies at TÜBİTAK campus in Gebze in 2000 was the company's first agreement signed up with the government of those days. Then in 2007, with the target goal of focusing on R&D design and development of new technologies with aerocraft engines, the agreement between Turkey Technology Center, Turkey Tusaş Engine Industries (TEI) and GE MTC was signed. Between 2007 and 2011, GE increased its partnership agreements. In 2011, the agreement between MetCap Energy Investments, which is the Turkish project development company and GE Turkey is one of the most important partnerships as it aims to develop the first integrated renewables combined cycle power plant in the world based on GE's new FlexEfficiency50 technology. GE Turkey's other area of interest is locomotives. In Eskişehir, the company assemblies locomotives with PowerHaul technology. Health is another sector in which GE Turkey is interested. More than 30 products some of which have healthymagination certificates created by GE's over 20,000 health technologies enable doctors help their patients. Though the sectors in which GE Turkey operates do not seem to have much relation to one another, they have a common point which is the technology GE creates (ge.com/tr/en). The company's operations in Turkey points to a well-designed complexity of its own business ecosystem through well-organized symbiotic relationships to benefit the most in return. In that sense, GE Turkey looks more like Lafarge India; both are FDI (Foreign Direct Investment) each of which was established to provide easy access to more profitable locations. Yet, unlike Lafarge, GE Turkey does not focus only on one specific product. GE Turkey functions like a hub as its area of interest includes a large variety of products. Through the advanced technology the company creates, it focuses on various different areas that are directly related to technology. As a keystone company, GE Turkey not only creates value and increases the number of niche players but also helps the GDP of Turkey.

Production companies of the SMEs in Turkey

Small and Medium-sized enterprises in Turkey seem to have various problems due to the limited budgets they have. Exogenous variables and even the endogenous variables due to inefficient risk management which is trigerred by lack of sharing and lack of niche creation, damage smaller companies. Late payments which is another indicator of inefficient risk management is one of the major problems of SMEs in Turkey. All SMEs claim to have their own R&D centers during in-person interviews but, the technology used in their R&D centers is not clear. Lack of investment for R&D centers seems to be another major problem for SMEs in Turkey.Medium-sized enterprises looks in a healthier environment when compared to smaller companies if they have some license agreements with some foreign companies. Yet, production in SMEs whether they are small or large is directly related to demand. They do not have a healthy business environment; when the demand shrinks, most of them face with extinction problem. Five SME production companies are chosen for the second group of production companies (There were 29 SME on the list for the thesis but only five of them approved the interview offer. Others declined the offer claiming that they do not have any extra time for an interview). Hisar Çatal Kaşık ve Paslanmaz Madeni Eşya Sanayi ve Ticaret A.Ş. is selected as a medium-sized SME. Due to its dealers across Turkey the company displays a healthier business environment. Its recent charming designs and high quality of its products indicates a well-functioning R&D center. The other two small companies named as SME 1 and SME 2 due to their own request, have similarities in strategies. Both companies try hard to overcome the difficulties of the markets they are in. Exogenous variables such as the changing regulation of Middle East countries are the major tarnishing problem of both companies. The last SME Çağlar Makina Sanayi ve Ticaret Ağaç İşleme Makinaları Hidrolik Pres İmalatı seems to be the most amazing company. Despite significant license agreement demand of some foreign companies for the company's innovative products designed by the owner and his two sons, the company does not function well because each license agreement demand is declined by the owner. The owner rejects the idea of tagging foreign companies' names on his machines. Based on his explanation, it is understood that he has been offered 'private-labelled products'. The owner tries to sell his own products in the old traditional way, but the high price of the products sets back the company. The high price roots from high production cost which is trigerred by lack of technology. Lack of patent application is another major problem of the company; it is clear that most of his innovative products were stolen in the past. When the interview was over, both the owner and his two sons were informed about patent application and registration in detail. During the interview with the owner, it was clearly identified that lack of technology as well as the inefficient number of production skyrocket the production cost of the items. However, a special bed for hospitals which is very expensive in foreign countries was produced by the company at a reasonable price. Then the owner donated this special bed to Kocaeli State Hospital as he could not sell it to anywhere. Inefficient entrepreneurship activities in Turkey end up with missing opportunities. If the owner had had the chance to reach the required funds, he could have produced those beds through license agreements. It would be a win-win strategy; not only the owner himself but many businesses would benefit from the new production. The owner of the company might have started to produce some more medical items in the future creating value for the market.

Table 6.2 Production company (Turkey) results of the interview questions of the 4 SME production companies grouped by means of business ecosystem stages and principles.

Business Ecosystem Stages &Principles	**HİSAR Çatal Kaşık ve Paslanmaz Madeni Eşya Sanayi ve Ticaret A.Ş.**	**SME1**	**SME2**	**Çağlar Mak. San. ve Tic. Ağaç İşleme Makinaları Hidrolik Pres İmalatı**
Ecosystem Sustainability	+	Not Clear	Not Clear	Not Clear
Dominator (D)/ Keystone (K)/ Niche Player (NP)	D	NP	NP	NP (not enough)
Niche Creation	+	+	+	+
Employee Training	+	Not Clear	Not Clear	None
Collaboration with Universities	Trainee Admission	None	None	None (Donation)
License Agreements	+	+	+	None
R&D Investment	+	+	+	+
R&D Center	+	Unit	Unit	Unit
External Support	+	None	+	+
Budget	Trade Secret	Trade Secret	Trade Secret	Not Clear
Patent	100+	Not Clear	10+	Not Clear
Customer Relations Management	+	+	+	Not Clear
Risk Management Plan	Not Clear	Not Clear	Not Clear	Not Clear
SWOT / Feedback Analysis	+	+	Not Clear	Not Clear
Globalization/ Internationalization (Intl.)	Intl.	None	None	None
Merger / joint-venture / buyout	None	None	None	None
Trademark	+	+	+	Not Clear
IT	Not Clear	+	+	None
IC	Not Clear	Not Clear	Not Clear	Not Clear
Shareholders	Not Clear	None	None	None
Social Media	+	+	Not Clear	+
Sharing with Competitors	None	+	None	None

HİSAR Çatal Kaşık ve Paslanmaz Madeni Eşya Sanayi ve Ticaret A.Ş.: The company manufactures stainless steel cutlery and other household items including steel pans in its own plant. The company has its own R&D and receives additional external foreign support for technology and design (Appendix D). Hisar has a large group of dealers across Turkey. With its trainee programs and contract manufacturing for PLP (private-labelled products) as well as its own authentic high quality products with almost 100 patent registration, Hisar uses dominator strategy. It is obvious that the company has established brand awareness and trust for the consumer. However, like most of the medium-size SMEs in Turkey, the company has some missing parts of the complexity of a business ecosystem such as foreign investment and lack of sharing value and/or information with other SMEs. Shifting to better quality steel and other metals for production and improving the design of its products, the company increases the sales. As a result, the company seems to have established a relatively stable business ecosystem increasing the productivity with innovative home accessories and capturing growth within Turkey. It is obvious that the company runs faster as described in Moore's Red Queen Effect (1996). Yet, the company can not be compared to large foreign companies due to the simplicity in its own business ecosystem.

SME1: It is one of the manufacturing SMEs focusing on last finish product processes (Appendix D). The company purchases half or semi finished products and converts them into finished products in its own plant. SME1, working with a few smaller SMEs, creates and shares little value. The company has its own R&D with 8 patent registration, but the company looks more like a traditional enterprise working with one major supplier for almost 25 years. Like most companies in Turkey, SME1 does not share any information or knowledge with any of the companies either in its sector or in other sectors. In addition, SME1 does not have any foreign investments. Though the company seems to have a kind of ecosystem, the ecosystem the company lives on is fragile. It is obvious that not only the recent buyout of SME1 but also the quota barriers the company faces in Iran have created risk for the company. Lack of sharing information and inefficient niche creation are the major problems for the company; the two first stages of the business ecosystem are too weak. The company seems to be one of the niche players with a limited number of products. Limited market opportunity is the other major problem, probably the most important. For its own survival, the company should increase the number of other environments (foreign markets) healthier than Iran's and the variety of products it offers. If the company could offer a new product derived from its core products that could generate large volume of sales, the company will be able to reduce the costs and establish the first stage of business ecosystem successfully, then it will be able to capture the expansion opportunity because if SME1 sells more in other markets, the productivity will increase and the company as the major supplier will purchase more from smaller suppliers probably creating more niche players for the market. Tracking the sales, the company could find out which product or products sell more than the others and could make the required shifts without damaging the enterprise. Meanwhile, the company should make the required investment in new technology to increase productivity.

SME2: The company is a medium size SME producing cookware of various designs. SME2 looks more like one of the contract manufacturing centers of foreign companies in Turkey (Appendix D). Despite having its own R&D Department and registered patent rights, the department seems to be working like the Purchasing Department of any company; the function of R&D is misinterpreted. The company operates like a niche player but functions in a traditional style in an environment with few players. The company will be at risk when a few players disappear. Lack of value creation and lack of expansion are the major problems like most SMEs in Turkey. With the two missing parts in the construction of a business ecosystem, the company can not compete with larger companies within its sector. Only through discounts, the company could perform for a while through contract manufacturing, but as discounts wipe out profitability, the company will no longer survive as long as it does not enter a renewal period.

Çağlar Makina Sanayi ve Ticaret Ağaç İşleme Makinaları Hidrolik Pres İmalatı: Çağlar Makina is an SME producing hydraulic press machines of various types. In addition to its area of production, the company focuses on some innovative products each of which are designed and created one-of-a-kind (Appendix D). Yet, the cost of each product is high and this high cost is the major problem for marketing. Another problem is the lack of ecosystem; in fact, there are not any stages of a business ecosystem. The company rejects contract manufacturing offers made by some foreign companies. The company has its own small R&D unit with various innovative products of its own, but the products do not have any patent registration. Moreover, seen as threat like some SMEs in Turkey which create innovative items, Çağlar Makina is blocked in many ways by various domestic or foreign companies. The company has almost no chance to survive despite its innovative products some of which are rarely purchased. The company seems to have two ways to track. It should either start contract manufacturing to obtain the required financial support to invest in advanced technology for cost-reduction production or switch its production to low-cost marketable products because it can not compete even with medium-size. Due to lack of ecosystem stages such as sharing and value creation, the company at this state. seem to be unable to survive unless it shifts to more profitable products.

Service companies in Turkey

Service companies in Turkey with a focus on one specific area are mainly divided into three. The first group often includes the service companies founded by large enterprises. They are financed by the main company when required. Yet, there are also some relatively large individual enterprises particularly in catering and transportation. In the second group there are smaller service companies usually run either by individuals or by a small group of partners. They are mostly SME services. Start-ups are observed in the third group. In fact, they are the smallest companies with a deeper interest in technological issues such as online commerce.

Despite the large number and variety of the service companies selected for the thesis, only three of them approved the interview; others all declined due to the lack of extra time they had. Among the three companies, bpet- Balpet Petrol Ürünleri A.Ş. takes its place in the group of large service companies, Isra Vision Vistek is in the group of smaller service companies and Publik is in the group of start-ups. Each group seems to have similar and dissimilar problems. For instance, bpet- Balpet Petrol Ürünleri A.Ş., due to its large number of dealers across Turkey seems to face more risk when exogenous variables such as sharp changes in currency rates are considered. The interview over the phone with one of the executives of the company unveils the fact that even one of the dealers secret individual problems could create risk for the main company. Yet, based on the interview over the phone, it could be clearly understood that the company being ready for any unexpected event has a well-functioning risk management strategy as the executive claimed that doing business is itself risk.

Briefly, it could be claimed that coopetition is the major driving factor for service companies in Turkey; the better the offerings the better the sales. Service innovation, either in service processes or in service products is compulsory for success.

Table 6.3 Service company (Turkey) results of the interview questions.

Business Ecosystem Stages &Principles	bpet- Balpet Petrol Ürünleri A.Ş.	ISRA VISION VISTEK	PUBLIK
Ecosystem Sustainability	Stronger Outlook	Not Clear	Not Clear
Dominator (D) Keystone (K) Niche Player (NP)	Keystone	NP (Small)	Startup
Niche Creation	+	+	None
Employee Training	+	None	*NC
Collaboration with Universities	Not Clear	+	Trainee Admission
License Agreements	Government	None	
R&D Investment	Not Clear	Not Clear	+
R&D Center	Not Required	Not Clear	R&D Unit
External Support		+	+
Budget	Trade Secret	20% -Annual	Not Clear
Patent	Not Required	2	Not Clear
Customer Relations Management	+	+	+
Risk Management Plan	+	Not Clear	+
SWOT / Feedback Analysis	+	+	+
Globalization/ Internationalization	Not Clear	International	None
Merger / joint-venture / buyout	Owner of a private company founded in London	+	None
Trademark	+	+	
IT		Not Clear	+
IC	+	+	+
Shareholders	Not Clear	Not Clear	
Social Media	+	None	+
Sharing with Competitors	None	None	Not Clear

bpet – Balpet Petrol Ürünleri A.Ş.: With over 400 dealers across Turkey, bpet is a large service company (according to Capital 500, ranks 148th in 2012 and 156th in 2011) selling naphtha fuel and various additives of petroleum and fuel oil. The company, though seems to be operating traditionally is shifting from the traditional style business. Balpet, acting like a hub through keystone strategy, focuses on growth, and becomes one of the leaders of its sector as it also provides additives for sea transportation. Yet, with one single foreign investment in U.K to avoid some of the risks created by regulatory issues of the imported items and with Tüpraş as the only major supplier, the company does not seem to have a healthy business ecosystem infrastructure (Appendix D). In addition to these inefficient stages of business ecosystem, lack of sharing and lack of collective work with other companies in sector create risk for the company. Though Balpet is a large profitable service company with a large variety of customers and has created value through its own dealers, it could not be compared to any of the other foreign service companies analyzed in the thesis. For instance, unlike Nepstar of China which has been listed on the New York Stock Exchange since 2007 creating value for its stakeholders, bpet - Balpet Petrol Ürünleri A.Ş. is not listed on the BIST (İstanbul Stock Exchange) even though the company has captured growth as it keeps expanding. The major problem is the company's one and only supplier policy but, with its newly-founded subsidiary in London, the company tries to ensure its own survival. Other critical points are the exogenous variables such as unpredictable moves of foreign exchange rates, oil prices, trade barriers and rapidly changing government regulations as well as carbon emissions problems faced by the EU. Consequently, despite some risky exogeneous variables and inefficient stages of a healthy business ecosystem, the company based on a well-functioning risk management, seems to be in a transition period heading for the new business trend.

ISRA Vision VISTEK: Vistek is a service company located in one of the techno parks in Istanbul. Despite being a small-size SME, the company seems to have created some essential parts of a business ecosystem (Appendix D). For instance, the company's collaboration with Sabanci University, one of the outstanding universities in Turkey, using highly advanced technology some of which is in-house creation, and developing and producing innovative items are the required parts for a sustainable environment. However, having some business agreements with one single company does not fit the description of a healthy business ecosystem. Due to the little information given by the company, Vistek ISRA Vision, despite being a niche player, looks more like a technology startup with some in-house creation innovative items two of which have patent registrations waiting to be sold to a foreign company. It could be observed through the interview questions that the company sometimes faces payment problems which root from its customers. Advanced technology companies need sustainable financial resources for continuous performance improvement, if it is not provided, companies like Visra are often at risk facing extinction. As a result, Vistek ISRA Vision, due to weak business ecosystem infrastructure, such as inefficient R&D, weak value creation and lack of expansion lack of sharing, seems to be pursuing the traditional way of business despite being a technology company (Appendix D). The Red Queen Effect is not applicable for the company due to lack of required data.

PUBLIK: Publik is an advertising startup of social media network. Like most startups, Publik is small, social and agile (publik.com.tr/en). Organizational structure, though small, looks well-arranged. The company as a niche player, has some business agreements with social media networks by means of sharing their ecosystem but, it does not seem to have any mergers or joint-ventures (Appendix D). To develop better solutions, technological tools, some of which might be in-house creation, are used to measure the results of the ads the employees have created. Public which has some entrepreneurship activities such as adphorus, T24, and Cevap.tv, benefits from social media hubs like Facebook, Foursquare and Linkedin. Despite having some missing parts, Publik looks more like one of the foreign multinational companies' newborn grandchild. It will be outstanding if it is well-raised. Yet, the company is at risk when sudden legislative regulations and bans are considered. For instance, some recent bans on social media networks such as Twitter and YouTube have created the death risk over the company as it only focuses on social media advertising and its online measuring. As a result, due to some missing business ecosystem stages, weak health factors, and unexpected bans, Publik could face extinction risk anytime.

Domestic companies compared to the foreign companies selected for the thesis

The companies in Turkey selected for the thesis are compared to the foreign companies selected among the top four and the BRIC countries in the GCI Report (2013-2014). The 12 pillars of the GCI Report do not only rank the countries but also the companies that function in those countries because companies create the driving factors of countries; it is the companies that urge improvement in every aspect of life. In fact, it is the companies that contribute to the economy of their own countries. In general, what comes out through a set of various methods is that companies -large or small- across the world have the common required characteristics with almost common similarities and common differences.

Table 6.4 Differences and similarities among the production & service companies across the world from the business ecosystem point of view.

Production Companies	**Service Companies**
Product-oriented	Service-oriented
Product Innovation	Service Innovation
R&D	Less or No R&D
Patents	Fewer Patents, if any
Large Production Units & Machinery	No Production Units or Machinery
Automated Operation / Standardization	Custom-design Sales / Customization
Mass Production	Customer-oriented Sales
Supply Chain for Raw Material	Supply-chain for Finished Goods
Large Storage Space	Less or No Storage Space
Foreign / Domestic Investment	Domestic Investment
Inventory Control Issues	Little or No Control of Inventory Issues
SWOT before Production & Feedback After Sales	Feedback After Served

As seen in Table 6.4, all production companies in the world have the same needs, only financial figures and sizes vary which is same for service companies worldwide; each group has different needs when compared to one another, but almost the same needs within their own framework. Production companies need R&D departments to make required improvements for their existing products and/or to create new products. These R&D departments' size, equipment and number of people with skills might vary based on the size of the plant and/or the variety of the products. R&D expenditures also vary from one company to another but all production companies need patent registration for their new products; otherwise time and money consuming new item will be produced by other companies with no license agreement payments. Production units, machinery and storage space are in various sizes and in various numbers; they are directly related to the size of the productivity. For instance, a company producing mattresses needs larger areas for storage, larger production units and larger machinery whereas another company producing nails and screws have much smaller storage space. Supply-chain, inventory monitoring data and product standardization process for mass production to eliminate time and money loss are the required steps for automated operations. In addition to the required points mentioned above, using SWOT analysis before the production to sort out the weaknesses of the product that might create risk for the company in the market and storing feedback after the sales through various indicators are probably the most important common steps for the continuity of all products companies offer.

Consequently, all production companies worldwide, large or small, global or domestic, multi-national or local, have almost the same characteristics; size does not matter (Table 6.4). Like production companies, service companies have their own characteristics. First of all, unlike production companies, service companies do not need any plants, production units, machinery or large storage spaces; they are service-oriented. They need supply-chain but what they need is finished goods. They do not use standardization, they use customization because they create custom-design sales through customer orientation. For instance, SIA tracks customer tendencies for food and adjusts its menu for its passengers. Even the seats of SIA have patent registration, service companies do not need to have patents, though. SWOT analysis is not used by service companies; feedback through customer satisfaction is stored, instead. Inventory control issues are not required for service companies in most cases as they do not have to store anything much. Despite their own characteristics, these two different types of companies seem to have one common point which is investment, but service companies mostly need domestic investment whereas production companies need both domestic and foreign investment. In fact, all companies need investment for their own survival. For instance, among the production companies analyzed for this thesis, in addition to their investments in their own countries, Nestle S.A. has various investments in Turkey and Arçelik A.Ş. has an investment in South Africa. Among the service companies interviewed for this thesis, China Nepstar Chain Drugstore has investments only in China, and ISRA Vision Vistek has invested in Turkey. There might be some exceptions among the service companies in this thesis by means of foreign investment. For instance, Balpet Petrol Ürünleri A.Ş. has founded a small company, Victor Energy in London, UK and Yandex LLC has 2 offices in Switzerland and opened Yandex Labs in San Francisco Bay Area in the USA.

Table 6.5 Similar market difficulties of the two types of companies across the world.

Required Characteristics of Manufacturing and Service Companies across the World
Creating Business Ecosystem
Entrepreneurship Activities
Effective Risk Management
Cooperation
IT (Social Media, IC, etc.)
Similar Market Difficulties of Manufacturing and Service Companies across the World
Changing Regulations
High Tariffs
Quota Barriers
Shrinking Markets
License Agreements
Extinction of Suppliers

It is explained that production and service companies all around the world have almost the same differences; size does not matter. Both types of companies, from the point of business ecosystem strategies and principles have the same required characteristics and almost the same market difficulties (Table 6.5). Any change in regulatory system would have an impact particularly on the foreign companies in that particular country and this impact could either be negative or positive based on the direction of the change. It could be concluded that any production company in Turkey has similar characteristics with any production company abroad when some required characteristics such as product innovation and foreign investment are not taken into consideration.

Yet, operational strategies and design create a clear-cut distinction between the foreign companies and the companies in Turkey analyzed in this thesis. Besides, the technology, which is the main driving factor for the creation of a highly complex business ecosystem, created and used by foreign countries can not be compared to those of the ones used by the companies in Turkey. Advanced countries are the creators and designers of advanced technology whereas countries like Turkey are the purchasers (Appendix D). Companies in Turkey, particularly the first four companies do not seem to have a wide range of differences in business strategies and operations with the global companies, but their operations are within international limits (Appendix D). Yet, among the companies analyzed in the thesis, none of them, except GE Turkey, has patent registrations as many as Arçelik A.Ş. does (Apendix D).

The Outlook of Turkey

Turkey, ranked 44th overall in the GCI Report (2013-2014) has various problematic areas especially, when doing business is considered. First of all, inadequately educated workforce due to the low quality of the education in Turkey is one of the major problems. Ranked 91 for the quality of education among 148 countries, low quality of math and science classes (ranked 101) and management schools (ranked 101) worsen the environment. Next, poor work ethic in the national workforce and corruption including bribery, lack of social sustainability due to high unemployment rate among the youth, large informal sector, and low social protection (GCI Report 2013-2014).

Consequently, according to the Table 5.4, Tabla 5.5, Table 5.6 and Table 5.7, Turkey seems to have difficulty establishing a healthy business ecosystem that results from weak business sophistication due to unregistered offices, inefficient labor market due to poor quality of education and health, worsening macroeconomic environment due to import-driven economy, lack of entrepreneurship activities due to constantly changing regulations and unstable macroeconomic outlook. In addition, weak innovation that stems from inefficient public institutions in the country and inefficient infrastructure such as few ports and railroads with low quality equipment, lack of technology and largely underqualified personnel remain major burdens for a competitive economy in Turkey (Table 6.1, Table 6.2 and Table 6.3).

Visible and invisible diffuculties in Turkey

Turkey, despite some improvements in infrastructure, has various problems in various areas when doing business, particularly the new way of doing business is concerned. Even though difficulties spread over the country from one major problem, the problem is so deeply rooted that it has created numerous problems in every aspect of life in Turkey. In that sense, ironically, difficulties in Turkey are as complex as the business ecosystem complexity. Solution is expensive; it is money-consuming. Solution needs time; it is time-consuming. Yet, Turkey does not have any of them much. Instead of making inefficient impovements in certain areas, Turkey should focus on the difficulties to identify the major problem of the economy today. When difficulties are divided into two as visible difficulties and invisible difficulties, the common reason in both cases comes out as the major problem of the unstable business ecosystem infrastructure.

Table 6.6 The major visible problems in Turkey.

Problems	**Reasons**	**Risks**
Weak Domestic and/or Foreign Investment	• Weak business sophistication • Inefficient technology • Inefficient labor market • Unhealthy macroeconomic environment • Inefficient infrastructure • Unregistered businesses • Sudden changes of regulatory issues	• Weak and/or poor production • Fragile economic environment • Indebtedness
High Unemployment Rate	• Inefficient education • Poor niche creation • Female empowerment • High rate of population	• Unhealthy macroeconomic environment • Poor social protection • Unrest • Recession
Vague Public Institutions	• Political assignings • Corrupted work ethic • Unthrust • Weak quality and quantity of scientists	• Inefficient entrepreneurship activities • Weak innovation • Weak patent registration
Import-driven economy	• Poor competitiveness • Loss of agricultural land due to fast urbanization • Lack of industrial production	• High inflation • Default

Table 6.6 illustrates the major visible problems in Turkey. According to the GCI Report (2013-2014), Turkish economy mostly suffers from weak investment which stems from an unhealthy business ecosystem infrastucture. In fact, the problem is not only the environment, it is the sudden changes in the regulatory system which changes the climate within a short period of time. Risks could never be foreseen in such fast changing climates even if the risk management is designed perfectly. It could be argued that if there were not any investment problem due to inefficient business ecosystem infrastructure and regulatory turbulances in Turkey, the unemployment rate would not be so high. However, such an

argument would be waste of time as inefficient labor market which roots from poor education and female empowerment, is another problem for Turkey.

High population rate is probably the heaviest burden on the country because almost two third of the entire population with little or no skills worsens the outlook of the Turkish economy.

Last but never the least is the unthrustworthy public institutions with inefficient number of qualified scientists that diminish not only the innovation power of Turkey but also entrepreneurship activities among companies and individuals. Turkey has long been blamed for having import-driven economy, but with the problems mentioned in Table 6.5 each of which roots from inefficient education, it seems too difficult to create and design a healthy business ecosystem in Turkey. It is obvious that economy in Turkey could only survive through high quality education because, even the labor market efficiency depends on high-quality education, and this high-quality education should be well-organized. More schools with advanced technology, smaller classes through compulsory birth-control, well-paid overqualified instructors, compulsory college degree for all children and all levels of free education for the entire nation should be created and designed because it is a fact that a high quality education based on math and science with overqualified instructors is the major driving factor for a better way of life.

Table 6.7 The major invisible problems in Turkey.

Problems	Reasons	Risks
Code of Law	• Sudden unexpected changes	• Unwillingness to make investments • Lack of entrepreneurship activities
Inefficient Technological Tools	• Additional cost • Required training and skills • Storage problem	• Poor production/ poor service • Lack of information about procurement
Irresponsible Consumption	• Lack of education • Low income • Lack of consumer awareness	• Health problems • Unsustainable environment
Weak Service and Flow Economy	• Lack of education • Lack of consumer awareness	• Exploitation of natural resources • Loss of renewable material

Table 6.7 indicates the unseen problems in Turkey. It is obvious that the problems in the Code of Law in Turkey due to constantly changing regulations including the rate of tariffs on imported goods, other tax rates, and twisting bans on any item at any time discourage individuals to make investment. The aim of the investment is the investment return, but in such a chaotic environment, investment return seems like out of concern.

Technological tools for schools is another invisible problem based mainly on three reasons. Installation of technological tools and their regular technical control in public schools is an additional cost among the other expenses of the annual budget of the country; that's why technological tools are widely used by private schools. The second reason is the required training which means another additional cost for the budget. Besides students who take technological training classes need the required skills and a foreign language. So, technological tools are time and money consuming issues for public schools but focus groups could be arranged to give a start for technology. The third reason is the storage problem. There is often lack of space to store them in schools.

Another problem that pulls down Turkey is lack of attitude for responsible consumption among individuals; it sets back the efforts for a sustainable environment. Consequently, lack of consumer awareness for responsible consumption is due to lack of education or more likely due to low income; most consumers tend to purchase the cheapest product on the shelf.

Service and Flow Economy seems to have no meaning to people in Turkey as the word "service" is misunderstood. In developing countries, service has one clear implication which means "serving someone" whereas in advanced countries, it is a kind of little "pre-paid" amount included in the price of most of the items sold. This tiny amount of money, for instance for the bottle of a soft drink is directly in use with the purchase. If the bottle is broken, this little money could be used for the production of a new bottle to replace it with the broken one and also compensates the broken bottle's harm to the environment. If nothing happens and it is brought back to the seller, this little money helps the recycling company's costs decrease. This little amount is also given back if the consumer demands it. In the late 1960s and early 1970s, though no one in Turkey had heard of "recycling," soft drinks in bottles were all sold with a tiny additional charge and that tiny amount was paid back to the consumer when the empty bottle was taken back to the seller. Families, particularly children would collect the empty bottles to get at least one free at the next purchase. Bottles were of special care; breaking an empty bottle in a group of empty bottles collected patiently meant less possibility to get one free. By this way, there was a continuous flow; soft drink factories did not have to replace the broken bottles, nature was not loaded with broken pieces, and families with a few free soft drinks at the table were happier. It was a win-win situation. Then, it was banned. All advanced countries in the world have service and flow economy and these advanced countries use it for almost all products including computers. This pillar of complex business ecosystem is not only for recycling but also for recreating a clean environment through consumers.

Visible and invisible improvements in Turkey

Though there are so many problematic issues in the constructon of a healthy business ecosystem, some efforts to raise awareness of innovation and entrepreneurship activities could recently be observed in Turkey.

Support programmes by instutions: Recognizing the vital importance of innovation, R&D and entrepreneurship activities for economic growth and development, executive officers of the government in Turkey arrange seminars and conferences and hold reward competitions both for individuals and for companies. In fact, support programs arranged by TÜBİTAK, financial supports granted either by TÜBİTAK (tubitak.gov.tr) or KOSGEB (kosgeb.gov.tr), required support of branding provided by Turquality programme, seminars and conferences held by the collaboration of universities and non-profit institutions and awards given to successful enterprises by the government addresses the importance of innovation and entrepreneurship activities through technology. Turquality differs from TÜBİTAK and KOSGEB as it also functions as a hub for branding whereas the other two non-profit institutions grant only the required financial and technological support for companies.

Resources: Recently, support mechanisms directly related to the areas of innovation, R&D and entrepreneurship activities have been developed and more resources are stored for future adjustments and improvements. In addition to the latest developments in related areas, since technology, particularly advanced technology is highly expensive, government incentives for entrepreneurs have gained momentum; more financial resources to be given to companies and entrepreneurs are funded to help them purchase the required technological tools, machinery and training.

Continuing education: The infrastucture of human resources is gaining strength through the programs developed by higher education institutions that focus on innovation, R&D and entrepreneurship activities. Due to the rising awareness among the businesses, the tendency to collaborate with universities have started to increase; special programs on innovation and entrepreneurship activities are designed and offered to all employees of profit and non-profit companies and institutions. Financial support by the government is also offered to the attendees of all ages and status. Within the last few years, support mechanisms, with the aim to establish offices of technology transfer in higher education, have been developed through significant resources granted by TÜBİTAK to provide information and know-how sharing among the academy and businesses.

Overall problems & required improvements in terms of enterprises in Turkey

Table 6.8 and Table 6.9 identify the problems of the selected domestic production companies large or small whereas Table 6.10 illustrates the problems of the selected domestic service companies. It is assumed that areas of improvement part in the interview

(Appendix D) is the true reflector of the problems, particularly of the smaller companies analyzed in the thesis.

Table 6.8 From the point of the four large production companies in Turkey, the results of the interview questions indicate the problems to beat & areas to improve for the construction of the new business trend.

Problems to Beat & Areas to Improve	**Arçelik A.Ş.**	**Ereğli Demir ve Çelik Fab. T.A.Ş.**	**Sütaş Süt Ürünleri A.Ş.**	**Boytaş Mobilya A.Ş.**	**GE (TR)**
Bureaucratic Pace					
Shipping Fees					
Quota Barriers					
Ports					
Highways					
Airports					
Railroads				+	
Universities	+	+	+	+	+
Vocational Schools	+	+	+	+	+
In-house Training	+	+	+	+	+
Workshops	+	+	+	+	+
Certificate Programs	+	+	+	+	+
Taxes					+
Commercial Loans with Low or 0% Interest Rate					
Free Land					
Inexpensive Machinery					
Fast Patent Registration					

Table 6.9 From the point of the four other production companies in Turkey, the results of the interview questions indicate problems to beat & areas to improve for the construction of the new business trend.

Problems to Beat & Areas to Improve	**HİSAR Çatal Kaşık ve Paslanmaz Madeni Eşya Sanayi ve Ticaret A.Ş.**	**SME1**	**SME2**	**Çağlar Mak. San. ve Tic. Ağaç İşleme Makinaları Hidrolik Pres İmalatı**
Bureaucratic Pace				
Inexpensive Shipping Fees				
Lower Quota Barriers		+		+
Ports				
Highways				
Airports			+	
Railroads			+	
Universities				
Vocational Schools				
In-house Training				
Workshops				
Certificate Programs			+	
Taxes	+	+		+
Commercial Loans with Low or 0% Interest Rate			+	+
Free Land			+	+
Inexpensive Machinery	+		+	+
Fast Patent Registration	+			+

Table 6.10 From the point of the three service companies in Turkey, the results of the interview questions indicate the problems to beat & areas to improve for the construction of the new business trend.

Problems to Beat & Areas to Improve	**bpet-Balpet Petrol**	**ISRA VISION VISTEK**	**PUBLIK**
Bureaucratic Pace			
Shipping Fees			
Quota Barriers			+
Ports			
Highways			
Airports			
Railroads			
Universities	+		
Vocational Schools	+		
In-house Training	+		
Workshops	+		
Certificate Programs	+		
Rate reduction for Taxes	+	+	+
Commercial Loans with Low or 0% Interest Rate			
Free Land			
Inexpensive Machinery		+	
Patent Registration Pace		+	+

Through the interview questions and those three tables above, education seems to be the most common problematic area for almost all companies in Turkey. With a deeper look into Table 6.8, Table 6.9 and Table 6.10, it could be clearly observed that large companies are in search for qualified staff in various areas; the new business trend needs highly skilled people. Due to the low quality of education in Turkey (GCI Report, 2012-2013), large production companies have difficulty finding highly skilled people both for blue collar and white collar positions. Yet, collaboration with universities and in-house training help large companies establish better business strategies through advanced technology.

Shipping, particularly shipping by train, which is the cheapest and the most secure way among other types of shipping is another area to be improved; railroad infrastructure is in poor condition in Turkey (GCI Report 2012-2013).

It is obvious that tax has become problematic not only for smaller companies but even for large companies as well. For smaller companies problems are various. Smaller companies in Turkey seems to have more problems when compared to large enterprises even if they are unwilling to address them. Through the in-person interviews, it has become obvious that expenditures of the production companies large or small, such as the money they have to spend on energy and water supply is a financial burden (Table 6.5). Machinery which is required for production is another burden for almost all smaller companies. Most of the companies plan to renew their production units but the high cost of better production systems and tools is deterrent. The high cost of machinery is also a problem for service companies in Turkey. In fact, the machinery is not the machinery used in production plants; it is the technological equipment used by service companies. High costs of technology is underlined when the companies are asked about software programs. It might be a reasonable excuse when the compulsory expenditures of a small company are considered. Smaller companies that cannot afford expensive software programs to track the procurement ends up with financial loss due to the missing information about the quantity of the stored goods.

Most of the smaller companies claim to have R&D (Table 6.1 and Table 6.2), but these are probably just small units mostly with one or two employees. Despite the difficulties derived from inefficient R&D and limited financial resources, some small companies are able to improve their products but, patent application is another painful period; the long and tiring procedure of patent registration is the common complaint. Innovation is set back by the slow pace of paperwork and inefficient institutions (GCI Report, 2012-2013). Smaller companies claim that their innovative products are stolen by their competitors during long patent registration period.

Another most problematic area is the unexpected changes of the quota barriers due to some political problems among countries; smaller companies could easily face the extinction problem if the export focus is on one specific location such as the countries in Middle East.

Commercial loans' high interest rate is another burden over the companies. The problems get worse when they are not the landowners of their small plants. Some of the commercial lands are granted to smaller companies by the government but some lands are in some troublesome insecure locations.

Family-owned small businesses could be another problem as they are mostly profit-driven; little investment in business is observed which is mostly securing some money in case a technical help is required. Individual efforts sometimes create business opportunities with foreign companies for small enterprises but, this time, unstable economy in Turkey discourages foreign companies.

Table 6.11 which highlights the major diffucties of the local companies establishing a business ecosystem, also depicts the contrast between the business trend in Turkey and the business trend in advanced countries. In Table 6.11, it is obvious that the required stages and principles of a healthy business ecosystem are either missing or inefficient in most of the companies in Turkey. It is a fact that, the new business trend is mainly based on R&D, innovation and entrepreneurship activities each of which needs advanced technology and sharing to establish a healthy business ecosystem. Except a few large companies, technology among other companies is either inefficient or out of concern. Besides, it could be noticed that companies in Turkey, big or small have almost no sharing. Since sharing the knowledge is recognized as sharing the profit, almost no company is willing to share the benefits of the opportunity they capture (Appendix D). Yet, It might not be fair to blame some large companies for not sharing any information as they spend massive amount of money on R&D and innovation. Smaller companies, despite various difficulties they experience, have no intention to share anything. Instead of establishing their own small business communities to gain power, they keep even the basic information as trade secret to make the situation worse. Missed opportunities due to unprofessional approach which is derived from greed and fear harm the market.

Table 6.11 The major difficulties of the companies in Turkey.

Problems	Reasons	Risks
Lack of Business Ecosystem Stages	• Lack of value creation due to lack of coevolution • No or inefficient critical mass • Little or no product innovation • Weak or no continuity in performance improvement	• Extinction of species • Payment problems • Death
Weak Adaptability for New Business Designs	• Decision-maker is often the employer; lack of self-organization • Little or no spontaneous system integration; lack of emergence • Weak endogenous and/or exogenous variables; lack of co-evolution	• Weak new market entrances • Poor performance • Profit loss • Reinvestment problems
Lack of Entrepreneurship Activities	• Creativity-killer education system • Discouragement of people due to unstable economy • Slow pace of bureaucratic processes	• Rise in unregistered businesses • Recession • Payment problems
Lack of Product Innovation	• Weak property intelligence rights • Replicated goods • Poor technology	• Market loss • Shrank profits • Death • Unregistered businesses
Weak Possibility of Creating a New Order	• Aggressive competition; senseless discounts • Lack of cooperation; unwillingness to cooperate • Constantly changing government regulations • Expensive financing • Low quality education	• Extinction of species • Loss of capital • Death

As seen in Table 6.11, supply chain is one of the major problems in Turkey because many companies in Turkey often work with the same suppliers (Appendix D); newcomers have too much difficulty entering the markets. Most of the companies, either production or service, offer similar items to their customers. Most companies, often smaller companies try to sell the same old products with little alterations or as replica products. Such companies do not spend time and money on new ideas; lack of required software programs and/or weak R&D are the negative impacts on product innovation.

Most companies have lack of self-organization as the decision-maker is often the employer. Employees are not allowed to have their voices heard in most of the companies in Turkey. People are scared to express their thoughts as the fear is established in the first years of schooling. The education system does not let students create something new; even the art class in the curriculum has a theme for each session, any drawing apart from the theme is directly rejected by instructors. Killed creativity during childhood creates non-creative adults of the future. In fact, education is one of the worst problems in Turkey as there are not any realistic attempts to adapt the curriculum of the education in Turkey to the changing standards of the globe; lack of classes for entrepreneurship activities even in higher education is the major indicator.

There is also weak or no continuity in performance improvement. Company focus is only on sales and profit as they still have the traditional style business. Most companies do not reinvest when the sales graphics is in increasing trend, and when the trend goes down, instead of making the required adjustments and improvements, they start discount prices to increase sales. Clearance prices used by some companies with the aim to capture the increase in sales destroy themselves as they can not replace the products they sell, wipe off profits and, in the end destroy the market.

In addition, lack of emergence due to little or no spontaneous system integration, ends up with almost no self-organization, and this lack of self-organization is unable to create any spontaneous products or service exists during times of financial crisis. When required switches do not appear automatically, the flow of business is blocked, and the crisis worsens.

Lack of coevolution (Table 6.10) which roots from the decision-maker employer and lack of sharing is again one of the problems for the companies in Turkey. Weak labor market efficiency due to low quality of public and private education and weak technology mostly in smaller companies for endogenous variables and unpredictable foreign exchange rates, sudden up and down moves of raw material prices, sudden changes of **r**egulatory issues as exogenous variables all have negative impacts on businesses in Turkey (GCI Report 2012-2013).

Most people with capital are afraid of establishing businesses with the anxiety to lose their capital as constantly changing regulations and unpredictable moves of foreign exchange rates as well as the slow pace of bureaucratic processes with some unskilled bureaucrats and officials, mismatching acts of code of law, largely unnecessary legal papers, bribery and corruption during the opening processes of any business are some of the unbearable burdens which discourage people to make investments. Last but never the least, expensive financing due to the high interest rates of commercial loans (Table 6.8), replicated goods as an end result of weak property intelligence rights keep investors and entrepreneurs stay sidelines because they do not want to risk their hard-earned money.

Problems in SMEs in Turkey

SMEs in Turkey due to their relatively smaller financial structure, they can not compete with large companies by means of marketable products. Since SMEs do not have complex management systems based on sustainable survival strategies, they can not create entrepreneurship activities through innovation. Hence, many SMEs in Turkey after a period of time either purchased by larger companies or closed down voluntarily by its owners. There are three types of SMEs in Turkey:

Type A SMEs: SMEs established in a short period of time by friends or people from the same hometown or neighborhood with the aim to capture some of the profit other companies make usually collapse within a year as they are only profit-oriented. The type of the company -production or service- does not make sense for the partners of such small companies'. With no business strategies and with almost no previous knowledge or experience of the sector, they try to sell similar items with others. When they are blocked by the existing SMEs, they start using discounts, and those discounts are usually so senseless that they not only damage other companies' profits but also reap out their own capital and go out of business often creating financial chaos for their customers and suppliers. This type SMEs' life span is often too short; they mostly disappear within a year or two, a few could have a life span of maximum five years.

Type B SMEs: These family businesses, if supported by stronger capital, with so many ups and downs usually gain knowledge through time and experience and develop some practical strategies to survive during economic hardships. Even some family businesses which are run by effective strategies capture growth during financial crisis while others experience hardships. Yet, extinction risk remains as a serious threat whether they are run well or badly because eyeing the markets and capturing the opportunities do not always cover other conflicting areas in business (Table 6.2 and Table 6.3). In addition, there is not efficient sharing in these companies; employees working for SMEs do not express their own ideas as these small businesses are employer-driven, profit-oriented enterprises with a focus on the national system of innovation (Appendix D). Today's family businesses, through a blend of the traditional business and the new ecosystem style business strategies, seem to have a much longer life span, and some of them might shift to a better rank in the future.

Type C SMEs: SMEs whose partners are co-workers of a previous company have stronger establishment as the partners have the required skills and experience to run a company. They know risk management strategies and the contacts. They are mostly technology-driven market-oriented companies (Appendix D). Despite all the positive driving factors, these companies are also at risk due to the unstable macroeconomic environment in Turkey. After capturing a significant growth, they often wait for an irresistible buyout offer of a foreign investment group. Their life span varies due to various reasons such as the market strength of the product or the service the company offers, or the buyout price of the company offered by the foreign investment group. Very few of them have captured the opportunity to grow into powerful holdings (slideshare.net).

Almost all SMEs have similar problems, they are divided into three, though. Most of them ***DO;***

- not have regular cash flow due to inefficient number of customers and suppliers in its environment,
- not have advanced technology tools due to lack of required software,
- not have effective research and planning due to poor R&D and Risk Management,
- not offer promotion to their employees due to its small structure,
- not share information due to the traditional style competition,
- not have any data to track.

In addition to the highligted problems (due to the problems listed above, 16 SMEs that are contacted have declined the offer for an interview), there is a major problem apart from all others mentioned on the previous pages or shown in any tables. Most of the employers and employees do not speak any foreign languages in Turkey. Foreign markets need foreign language, particularly English language, and technology needs English as its hometown is USA. Only large companies in Turkey could capture foreign market opportunities. Smaller companies with individual efforts could do the same to some point. For instance, some mid-size SMEs in Turkey have opened stores in some foreign countries to sell the items they produce in Turkey and the owners of these enterprises learn the languages of the countries they do business. Some large construction companies have also established their own smaller units in those foreign lands. It could be assumed as an attempt to be another species in a new ecosystem but the selected ecosystems are often in countries where there is no stable environment-neither political nor social. Since any unrest could exist at any time in those risky areas of the world such as Iraq or Egypt, investments in those locations could create financial problems even for large construction companies of Turkey. For instance Tekfen A.Ş. during the Arab Spring in Libya (emlakkulisi.com) lost almost all its expensive machinery in the construction area during the riot; most of them were stolen and others were so badly ruined that they were left as scrap. All the companies of Turkey working in Libya experienced incredible financial losses in those years that could hardly be replaced.

Strengths of the enterprises in Turkey

Despite the troublesome business ecosystem infrastructure, there are some significant attempts for innovation in Turkey recently. Conferences and workshops are organized to create awareness of the importance of innovation in business ecosystem. Even though it seems difficult to establish innovative approach due to the problems mentioned (Table 6.5 & Table 6.6) the number of companies with R&D centers are increasing and principles of complexity seems to be improving in Turkey; some efforts for self-sustainability pillars for natural environment could be observed. More and more companies in Turkey, adopt source saving behaviour; radical resource productivity: Larger companies are trying to find new ways to use less raw material and energy for the same or more amount of production. Even though these searches are mostly related to cost-cutting efforts, some companies have realized the vital importance of source saving attempts for their own survival as production is directly related to the availability of natural resources. More and more companies in Turkey try to restore not only the nature but also the human capital. They:

Try to restore nature; investment in natural capital: Some companies have their own small forests; they plant trees in some areas and some other companies provide financial support to preserve the nature in some regions. Some other companies whose products are hazardous chemicals make improvements in their own production sites with the aim to cause less environmental pollution. For instance, some cement factories like Nuh Çimento Sanayi A.Ş. (nuhcimento.com.tr) have some new chimneys with advanced technology installed to create less pollution for Izmit Bay Area. Large chemical companies use waste water treatment systems not to contaminate the sea water much. Large companies like Arçelik A.Ş. (arcelikas.com.tr) manufactures new electrical appliances that consume less energy and water.

Use less harmful chemicals; ecological redesign: Some large companies have been replacing environment-friendly chemicals with the former ones for production. This trend is more common among larger companies; some large textile companies use environment-friendly chemicals and waste water treatment units to create less problems for the environment.

Are taking part in social development projects: Some large companies are trying to provide children in poorer regions with education through scholarships. Educational activities like summer camps, training classes for specific purposes, week-end activities, plays and movies for remote areas, visits to Istanbul are also created, designed, and financially supported by some large companies.

Start to feel the need for R&D activities: Despite all academic and/or professional efforts, studies for R&D activities have long been ignored by most of the local companies because they were largely seen as additional financial burden for the company. Yet, recent license agreements offered to local companies by some large foreign companies have unveiled the need for R&D centers, and even though not yet fully adopted by most of the local companies, the inevitable importance of R&D activites for global competition start to gain momentum. In fact, there are some local pioneer companies which were once small production units function as a hub for global brands today because they recognized the importance of innovation through R&D centers long ago. For instance, Üntes Isıtma Klima ve Soğutma San. Ve Tic A.Ş., Friterm Termik Cihazlar San. ve Tic. A.Ş. and many other heating and cooling systems companies (turkishairconditioning.com) each of which is the affiliated member of the Turkish HVAC-R Industry Exporters Union (ISIB) have license agreements with various foreign companies. These local pioneer companies with R&D centers are set as good examples for other companies as they are able to sign license agreements with some large foreign companies. They are these local companies, which capture better technology, better production, better financing, better sustainability and in the end, better growth and better sales figures through symbiotic relationships. Witnessing the benefits these local companies do have, other companies start to feel the urge to integrate themselves to the new system. Supported by government incentives, particularly Ministery of Industry's financial grants, over 150 local companies, within the last five years, have established their own R&D centers as they finally recognized the importance of developing their own products and technology to have the ability not only to compete globally but to establish the required resistance to financial crisis as well.

Start to make investment in human capital: Universities, apart from their regular undergraduate and graduate programs, have started special programs on R&D, innovation and entrepreneurship activities. These programs are usually divided into sessions and classes are either after office hours on weekdays or on weekends. There are even more specific programs and classes for some banks and institutions in some universities. For instance, Human Resource Management Program for İş Bankası in Continuing Education Center in BAUSEM at Bahçeşehir Üniversitesi (bausem.bahcesehir.edu.tr) is claimed to be custom-made. Companies realizing the importance of technology-driven innovation for global competition urge their employees to apply to the programs offered by universities. Attendance is always compulsory as fees are usually paid by employers. In such programs, the major aim of the company is not only the strategies for innovatin but also to set the required collaboration with the university to maintain a stronger human resource center.

Consequently, regardless of the inefficient business ecosystem infrastructure in Turkey, increased awareness in innovation has started to create more local runners who should run faster than their foreign competitors for the global race.

CONCLUSION

Major Global Reasons for the Creation of the New Business Trend

Due to the worst economic crisis since World War II, advanced countries have been in search for improving their economy. When the war was over in 1945, the USA became the new leader of the world and the U.S. dollar became the global currency for international trade. Companies in different countries opened one after another and started a deadly race for mass production. Post war period created not only jobs and new business areas but also new wealth; new toys for all ages were in the markets. Big companies competing violently with one another invaded the markets leaving almost no space for smaller companies to survive. In the USA, demand for consumption had peaked; 1960s baby-boomers had easy access to almost anything through cheap loans because of massive trade surplus. However, as time passed by, massive trade surplus turned into massive debt for all advanced countries, and in fact, most residents of those countries found themselves indebted. Though the indebtedness roots from a series of wrongdoings of advanced countries, there are, in fact, 6 major factors:

Demographic changes: rapid crooked urbanization with semi-skilled and unskilled legal or illegal immigrants from developing countries.

Shrinking labor market: changing technology; automized systems in production plants need smaller workforce. In addition, highly advanced software programs work much better than humans as they eliminate almost all production defects.

Rapidly increasing population: lack of job vacancies; usually poor people with little or no education are often misled either by strict religious norms or customs and traditions.

Loss of trends: changing needs of societies due to technological changes; some household items, such as home phones are disappearing as almost all members of the family have their own cell phones.

The entrance of personal computers and the internet for individual use: dotcom age craze some of which created the newly rich while dried up niche players; more and more people prefer online shopping in the comfort of their homes instead of getting stuck in clogged roads. Even some brand names close down some of their unprofitable stores.

Welfare system/unemployment benefits: drying up the tax-payers' money governments collect.

Back to the Beginning: Hunting and Gathering through Technology

The economic situation was getting worse; governments in advanced countries faced public and private sector debts and bankruptcies, shrinking tax-payer money due to loss of jobs, export-import imbalance and many other financial problems. The situation was not even better for the existing companies. Inadequate resources, high labor costs and massive transportation fees urge them find new ways to survive, and soon they have discovered what they were looking for; emerging countries would be the key to unlock the closed doors of their economy but success in the new business trend would involve extreme complexity and sophistication.

The new business system would involve both the related and unrelated species of the entire world. And this highly integrated business structure would need complicated strategies supported by advanced technology in each step. Activated by the powerful companies of the advanced countries', this new business game has established its own rules; emerging countries with abundant natural resources, minerals and high population have become the new hunting area for advanced countries. Like the early stages of prehistoric times when humans led a nomadic way of life based on hunting and gathering, advanced countries through their large global companies have restarted hunting and gathering in various regions of the world. The two major differences in this new style hunting is the advanced technology they have created and their permanent addresses in their homelands. Unlike the first permanent human settlements in some fertile river valleys after the discovery of farming in prehistoric times, these companies have settled in natural resource-rich countries for an indefinite period of time; they still have their company headquarters in their advanced countries.

Advanced countries know the areas they go hunting very well as a few centuries ago most of them were their own colonies, their own territories. Today, due to advanced technological tools, they have deeper knowledge about the riches of these regions and what they have to do in return to provide easy access to all these natural resources. They know they can not capture the riches of these countries without giving back anything in return like they did in the past. Developing countries, or with the trendy name, emerging countries, despite various difficulties, are not the good old dummies anymore; emerging countries are not like their former obedient colonies anymore. Now they know how to get back at least some of the generous offerings they make because their governments know they can not bear the massive financial burdens for the required improvements of their countries on their own; they need help, and the opportunity is at the door. Arranging the required adjustments on regulatory issues, they have welcomed the foreign company production sites to capture growth.

Among the emerging countries, China is the most amazing as its political system, which is based on communist system, is completely against the capitalist system and its earthly offerings. In a communist system, there are no such offerings; every single item belongs to the state, and people are enforced to lead a simple way of life with almost no property rights. The people in the former USSR had nothing to compete with; with no incentives, the communist system created lazy people who pretended to be working. (sjsu.edu). After the collapse of communist regime in 1991, factories were unable to compete with other countries' plants as they were in terrible condition, all loaded with outdated machinery. After a few years of struggle, most of them were closed down. Recently, Russian government have decided to convert them into museums and art galleries. Today Russia, despite its massive amount of natural resources and minerals is still struggling against economic hardships due to illegal business activities, bribery and corruption. In fact, its overall ranking for Russian Federation competitiveness in the GCI Report 2013-2014 unveils the negative factors by means of the report's 12 pillars (see chapter 3). According to the norms and rules of the communist regime, there can not be any competition in any way in China, but with the required regulatory alterations, the way of life in China is sometimes much better than that of a western country's. The way of life, particularly for the skilled people with high income has nothing to do with the way of life in a communist system; capable of buying large homes, luxury cars, designer name clothes, with higher education degrees earned at prestigious US colleges, overqualified Chinese people are the major indicators how Chinese government have adapted itself to the rules of the new game. Today's almost the top country for production, China knows how to exploit the opportunities offered by the advanced countries. In fact, the most visible indicator for its competitiveness is the overall ranking of China in the GCI Report 2013-2014; the ranking which is 29 for 2013-2014 keeps elevating.

Brazil is either one step ahead or back of Turkey by means of the 12 pillars of the GCI Report 2013-2014. However, the country's massive amount of natural resources and natural capital make a great difference; they attract direct and indirect foreign investment. Business agreements with large global gas and oil companies help the country develop a fairly sophisticated business community and create innovation excellence. Yet, its economy is quite closed to foreign competition, and its macroeconomic indicators due to corruption among politicians are tarnishing its competitiveness.

Among the BRIC countries, only India is the worst case as it keeps lowering its ranking in the GCI report 2013-2014. The country was once ahead of Brazil and South Africa has been in downgrade position since 2009. Due to its disappointing performance for the basic requirements, especially in the areas of transportation, energy infrastructure, and ICTs, India has been overtaken by some other countries recently. Corruption and bribery in bureaucracy, poor public health and education, high inflation rate and public deficit to GDP ratio close to double digits, debt to GDP with the second highest among the BRIC countries, high sovereign debt default risk, low level of technological readiness, low labor market efficiency due to low participation of females in the workforce worsen the environment of India.

South Africa is Included, Why Not Turkey?

At the beginning there were four countries in the BRIC formation; Brazil, Russian Federation, India and China, and the name of the group was BRIC. Then, the name has changed and become BRICS as South Africa has been included. Why South Africa has been placed among the four as the fifth emerging country even though there are many more emerging countries including Turkey as the most promising. The new name could have been BRICT, why it has become BRICS despite its poor ranking in the GCI Report 2013-2014 for basic requirements which is almost as bad as Russia's (see table 6.9). The answer, literally lies under the ground; with its well-known diamond and gold mines (southafrica.info), South Africa offers new riches to investors; according to the IHS Emerging PV (solar electricity) Markets Attractiveness Index, which focuses on four key areas including market size, pipeline maturity, project profitability and macroeconomic climate to rank the emerging countries for PV market attractiveness, South Africa is the most attractive emerging country for solar energy (pv-magazine.com). South Africa, with a large-scale of tendering process, targets to establish 8.4 GW of PV capacity by 2030. The country is said to have cultivated a policy environment stable enough to attract financing from commercial banks.

The country is proved to be the fifth largest mining area in the world, with the largest reserves of gold, diamonds, chromite ore and vanadium as well as the largest reserves of manganese and platinum group metals according to the US Geological Survey (pubs.usgs.gov). The country is also the major producer of chrome, coal and manganese. Due to gold and diamond mining, South Africa earns massive foreign exchange. With its precious metals and minerals, including ferrous minerals, non-ferrous metals and minerals, energy minerals and industrial minerals, mining companies in South Africa are the key players in the global industry. Mining in South Africa is the key driver for the country's economy; it contributes to every aspect of life. With its mining activities which create half a million direct and half a million indirect jobs, accounts for about 18% GDP, 50% volume of railroad and port activities, 94% of electricity generation, 15% of the power demand, 20% of investment of which 12% is direct, 50% of foreign exchange earnings, R-78 billion for wages and salaries, 37% of the liquid fuels for the country, 13.2% corporate tax receipts, and R-billions in many other areas, South Africa, with its world-class processing facilities such as the ground-breaking process that changes low-grade superfine iron ore into high-quality iron units, is also the leader of new technologies in the globe (southafrica.info). Other BRIC countries have almost the same environmental characteristics. However, Turkey does not have natural resources as abundant as BRIC countries do. Each country in BRIC group has massive oil reserves as well as its natural gas reserves. With the largest variety of metal and mineral resources, these countries attract direct and indirect foreign investments not only for mining or drilling but also for production of all kinds of items. South Africa, with similar characteristics by means of abundant natural resources such as its wide range of reserves of precious metals and stones is placed among the member countries of the BRIC group. Though Turkey is argued to have large oil reserves, the oil found in some regions, particularly in Southeast region is not only poor in quality but also inefficient as amount to compensate the cost of drilling (prnewswire.com). In addition, despite being the top third country for PV market, PV pipeline is immature and projects over 1 MW are not allowed, even licenses for 600MW tenders are still waiting. Even though Turkey has the potential to install 1 GW of PV capacity by 2017, permission and grid connection contracts would still be the unsolved problem in 2014. However, South Africa with mature pipeline is ready to establish 8.4 GW of PV capacity by 2030 with a large-scale of tendering process; they have solved the bureaucratic problem.

Table.7.1 The GCI Report (2013-2014) rankings of the three main categories of the BRICS countries and Turkey.

Countries	**Overall Index**	**Basic Requirements**	**Efficiency Enhancers**	**Innovation & Sophistication Factors**
China	29	31	31	34
Turkey	**44**	**56**	**45**	**47**
South Africa	53	95	34	37
Brazil	56	79	44	46
India	60	96	42	41
Russia	64	47	51	99

According to the overall rankings in Table 7.1, Turkey, except China has higher overall ranking when compared to the BRICS. However, when Turkey is compared to the BRICS in the last two category, the rankings are degraded, and Turkey is given a much lower ranking than all the other countries except Russia. Due to lack of competition in its past and lack of business sophistication due to illegal business activities which are usually performed unregistered, among the BRICS, Russia has a long way to go for the new business trend. BRICS, particularly Brazil, despite being far from each other, they have similar characteristics. As mentioned before, they function like production hubs for advanced countries' large multinational companies through abundant natural resources of their own. These countries harbor the major driver for a sustainable global economy which is the easy access for low cost production. The benefit is mutual; for production companies, it is the low cost and for BRICS, it is the contribution to any area in their own countries by means of the twelve pillars in the GCI Report.

As being neither an advanced nor a BRIC country, Turkey seems to be at risk as it is about to be thrown out of the lane in the global race as long as the required alterations are ignored. Within the last 5 years some improvments and adjustments related to innovation and technology have been observed. Unfortunately, Turkey still does not have a stable and a sophisticated business ecosystem to be an advanced or does not have enough resources and labor forces to be a BRIC country. Hence, to establish a healthy and stable environment, both the government and the enterprises in Turkey should leave their constantly changing strategies and policies. Required adjustments, improvements and alterations of the regulatory issues on the strategies of innovation, R&D and entrepreneurship activities should urgently be rearranged and fixed as they are the only path to success. This is the only path to success.

Do-It-Yourself Trend in Turkey

What comes out from all the formulated measurement methods and customized interview questions is that some large companies in Turkey have started to run faster than others depicting Moore's Red Queen effect and begun to have their own ecosystem sites abroad (see section 6.4.3.1). Though their sites are international, not global yet, sooner or later, those companies will be discovered by some multinational companies, and through various forms of business agreements, they will go global one after another (mongabay.com). Once small stores or farms of Turkey are the largest companies of the 21st century. For instance, Sütaş, not long ago, was a small cheese maker in a small town. The business had started by chance, but not taking the chance for granted, the company carried it to a true success story which the company's detailed management strategy lies beneath. Shifting from cheese to yogurt and capturing the opportunity through excellent quality and packaging, has granted the company with consumer trust. The company, like all other companies, must have faced various set backs. The most significant barrier which was witnessed by consumers years ago was the extinction of its products at Migros. Aisles of the food retailer were loaded with all the brands of yogurt but Sütaş. Consumers filled with anger reacted and did not purchase other brands if they were not in urgent need; consumers kept asking Sütaş products while addressing the stores selling them because all other local stores including some giant food retail stores like CarefourSA had Sütaş dairy products. The reaction of the consumer was amazing; it was not something plotted by the company, it was the high quality of the product Sütaş offered to its consumer. Meanwhile the company kept producing and selling as it had managed to create its niche players; local stores and smaller food retailers had its products, and people started doing even some of the grocery shopping at these smaller food stores. Migros Türk A.Ş., the largest food retailer in Turkey had faced a serious customer loss. Then after a few years, the products of Sütaş suddenly appeared on the shelves of Turkey's largest food retailer, Migros Türk A.Ş. because Sütaş had created value both for the niche players and the consumers across Turkey. Since then, customers of Migros Türk A.Ş. have not felt the need to go to other food stores to purchase the products of Sütaş. With its hundreds of farmers as suppliers, its well-organized transportation system and the long-run collaboration with Uludağ University created a company that could compete globally in the future. In other words, the company's sharing strategy which is one of the most important driving factors of a healthy business ecosystem has created Sütaş Süt Ürünleri A.Ş..

All these research methods indicate that companies in Turkey, except the larger ones, have difficulty figuring out the structure of the new business trend due to various reasons but mostly weak financial resources seem to be one of the core reasons. In fact, what Schumpeter have said might be true to some point. Schumpeter claims that only large companies have the financial power to design and redesign the business environment. And smaller companies should integrate themselves into the system through technology. They should adapt themselves to the new environment if they are willing to survive, and those companies could maintain a descent growth rate through time.

Another core reason, probably the most vital for business ecosystem creation is the lack of the spirit of cooperation and sharing among the companies interviewed for the thesis. Triggered by some inflexible cultural norms, sharing is also perceived as a potential risk for intellectual property rights; companies are not willing to credit one another.

According to the table of problems (Table 6.11), in general, there seems to be few problems among the companies in Turkey but when areas of improvement and adjustments are asked during in-person interviews, the recommendations with no hesitation, address to the problems which the companies do not want to mention directly. Most domestic companies complain about inefficient government incentives, high cost of energy and water, heavy load of taxes over companies, high interest rate of commercial loans, the low quality of education and inefficient infrastructure. Such areas of concern among the companies in the thesis indicate that despite the recent improvements, adjustments and developments, Turkey still needs more additional financial support. It is true that these are the major negative impacts over companies. Yet, it might not be fair to put all the blame on these problems for failures as smaller companies might be creating some of the problems themselves, because in the past, today's larger companies must have confronted similar or the same problems. In some cases, such as education and the infrastructure, the situation must have been worse. There were neither computers nor software systems to store and monitor the entire information of the company. Procurement and logistics were probably the most challenging areas for the companies of the past. As Moore claims, "only the stronger species survives in a scarce environment" reflects the strong management systems of today's companies. Starting as a small store in Ankara in 1916 selling a few mixed items including shoe rubber, Koçzade Hacı Mustafa Rahmi store, today's Koç Holding must have had numerous shifts and difficulties to take advantage of the offered market opportunities whereas other small stores of those years did not and got killed through time because that small food store of those years of today's Koç Holding's can not have been the only store in Ankara. There must have been tens, if not hundreds, but only that small retail store survived and has become the most trusted and the strongest holding (Koç Holding) in Turkey and also recognized globally (2012, Global Fortune 500 companies, ranked 222nd). Koç Holding's ranking, as the only company from Turkey among Global Fortune 500 in 2012 depicts Moore's (1996) Red Queen Effect; the holding runs much faster than it did in the past to keep its dominant standing in Turkey.

As mentioned in previous chapters, some entrepreneurship activities, by means of today's niche players, could be observed in Turkey after 1980s. Some of today's larger companies, such as MNG Holding had captured growth in those years. After the financial crisis in 1994 in Turkey, survivor companies headed for other areas of business. Late 1990s witnessed the growth of SMEs in Turkey. Number of niche players were in sharp rise, particularly in textile products, but soon another financial crisis in 2001 in Turkey hit almost all the companies and weaker species died whereas others survived. Some of the survivor companies of the previous financial crisis were wiped off too as they were still in weaker condition. After the general elections in 2003, supported by the promising economic outlook, number of SMEs again witnessed a sharp rise and some larger SMEs captured growth through government incentives.

Foreign investment enterprises had landed on BIST creating a so-called successful economy for Turkey. It was just hot money and might flee away at any time. A few foreign investment companies disguised in so-called "growth tale" merged with larger domestic companies to rob them. Some larger companies started production units in Middle East countries and more and more companies were exporting goods to East Europe and Middle East. They had discovered new ecosystems but the locations were loaded with political and religious problems which cause the companies stumble. During the so-called Arab Spring movement, even the largest companies of Turkey which had their own official sites in those countries experienced considerable financial losses due to the riots of the radicals. For instance, Tekfen İnşaat ve Tesisat A.Ş.'s construction site was destroyed and most of the machinery was stolen. Tekfen İnşaat ve Tesisat A.Ş. had evacuated its employees and for about 3 years, the company did not enter the country. After various negotiations between the Turkish and Egypt governments, Egypt government insured the company to compensate the losses they faced during the riots. Some SMEs in Turkey, even if they had no offices in Egypt, were in worse condition because they were the suppliers of some Egyptian businessmen, and when the riots started, the species disappeared leaving the environment scarce. Some SMEs in Turkey which had businesses in Iraq, did not face any riot problems, but what they confronted was as serious as the problems in Egypt. Due to some political failures, Iraq government put a ban on business for Turkish companies in its country for an unknown period of time. Tekfen İnşaat ve Tesisat A.Ş., though not an SME and had a global partner, found itself again in trouble. Other Turkish companies in Iraq experienced similar problems. Unstable governance, in other words unstable environment harms other species. Yet, sometimes companies create their own failures through misleading strategies. For instance, not all production companies -large or small- of plastic household items could produce the same items. With new designs, companies could give a start to product innovation. Effective research and planning is the key point but when smaller companies hear the words "research and planning" most of them immediately reject this vital point for a sustainable growth thinking its additional cost to the company. In fact, for effective research and planning, companies do not need huge sums of money to spend over innovation.

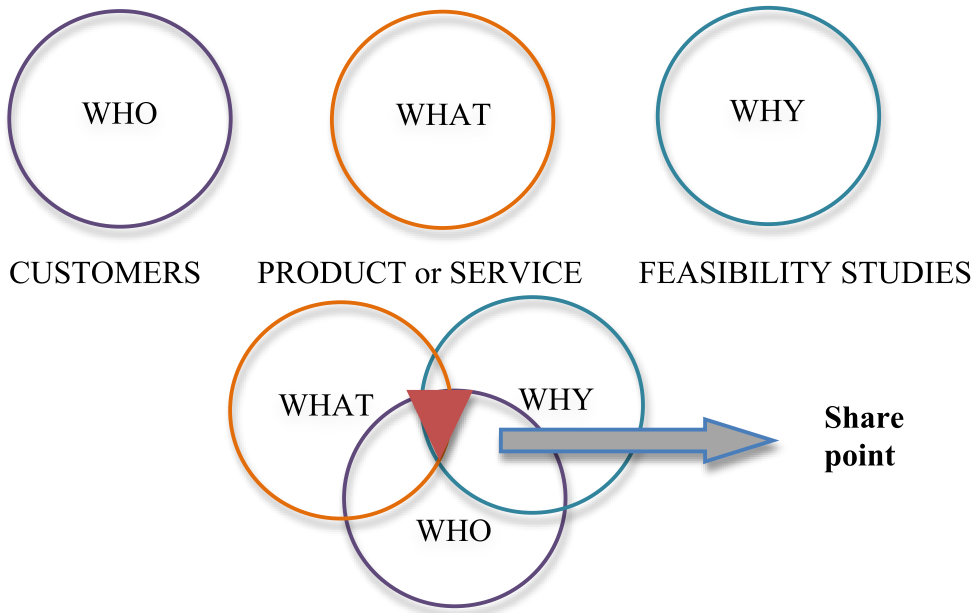


Figure 7.1 The 3W illustration (Kaafarani and Stevenson, 2011).

According to Stevenson, J and Kaafarani, B. (2011), companies tend to deal with marketing, R&D, engineering, and finance separately which are, in fact, to be taken as a whole through coopetition and sharing, and this distinction does not only load more risks over the innovation, in some cases, it might even destruct the entire innovation. That's why businessmen and businesswomen are warned to create an alignment among the three circles that maintains an area of synergy, not separate areas of responsibility (Table 7.1). Not only SMEs but also larger companies could trace the steps of WWW created by Stevenson, J. and Kaafarani, B. First of all, it is assumed that there are 3 circles of the same size. The first circle, or the first W symbolizes the customers who are supposed to purchase the product or the service offered by the company. The second circle, or the second W indicates the product or the service the company is supposed to develop, and all the tools used to get them delivered to customers. The last W, or the last circle illustrates why the company believes the innovation that is planned to be created would succeed by means of business. Hence, this last circle which involves costs, resources, time schedule and other problematic areas would enable the company come to a point whether or not to to create the innovation. The more the company knows about each circle, the less the risk would be.

Observing all three circles supporting one another and knowing that they are in constant flow of interaction with one another, the company would be capable of seeing a clearer picture of the risk it should bear by means of innovation. In other words, the company would not have a misleading snapshot, but a true movie with three dimensions on which all decisions could be based, instead. And when the formation of these three circles are completed by intersecting one another, the area existed within the intersecting points of these circles is the share point where the true success of the innovation is ready to be captured. Finally, despite some promising efforts by some domestic companies, universities and organizations, it seems quite difficult with the existing macroeconomic outlook, inefficient advanced technology, lack of entrepreneurship programs in higher education, and unstable political environment. Yet, either individual or organizational companies should come together to create stronger financial resources and share knowledge, at least, to become one of the larger niche players in Turkey working for both domestic and foreign companies around because the country (the environmen/Turkey) where a big multinational company (key stone/Nestlé) operates is placed in the system (business ecosystem/global integration) and starts to flourish with all its niche players, regional keystone companies and domestic dominators. As a result, while, in an healthy ecosystem, where all species live on one another and on the healthy ecosystem, the healthy ecosystem lives on them through highly complex symbiotic relationships among its member and non-member residents. That's why the extinction of one single species could create big risk against the health of the ecosystem unless it is replaced by new species; when mutation is a must-to-have, species often have mutation in biological ecosystems. Most companies in Turkey should experience a similar mutation period as long as the new business trend is inspired by the biological ecosystem. Starting with the least expensive area within their sectors, companies should get ready to shift to a faster lane as soon as possible; otherwise, they will not be able to drive even in their recent lanes.

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Appendix A

Interview questios

1. Does the company have a major specific supplier or does it work with various small suppliers on a basis of specific agreements?
2. What are some of the mutual benefits between the supplier and/ or suppliers and the company ?
3. Has the company had any private-labelled products? If yes, for which companies has the company provided such products?
4. Does the company have any business agreements with other companies of other sectors by means of sharing their ecosystem?- Merger, a joint-venture or stakeholder?
   - If no, is the company thinking of such business agreements in the near future?
5. To be able to compete more efficiently and effectively with smaller companies in the market, does Nestlé have any collective work by means of projects and/or products with other companies within its sector?
6. Does the company perform SWOT before the production of new items? What is the criteria for measuring the feedback of a new product?
7. Does the company use social media effectively and efficiently for its customer relations? What are the networks the company prefers for social media?
8. Does the company face any management problems with the individual and / or corporate customers? If any, can the risk management department's emergency plans solve the problem, preferably with no negative impact on the operational process?
9. Does the company have its own separate R&D Department?
   - If yes, is the technology used by the company's own R&D efficient enough to arrange every step of manufacturing or the service created?
   - If no, does the company receive any technological support by means of science and technology?
10. In either case above, what is the total annual budget set for R&D including all kinds of external professional support and what is the ratio of this amount to the company's annual sales' figure?
11. Does the company have any kind of cooperation with any of the universities' related departments in the countries' it functions by means of job opportunities, trainee programs, technical and/or technological support, reports, etc?
12. What are the innovation strategies and targets of the company? Are they set on a quarterly or annual basis?
13. Which strategy does the company use the most within the ecosystem it has created?
14. Has the company had any entrepreneurship activities by means of domestic or foreign investment in recent years? –Merger, a partnership, or an acquisition?
15. Since the establishment of the company, which investment seemed to be the riskiest among all the investments the company has had as of today?

16. Among the investments the company has had so far, which investment seems to be the most beneficial both to the company and the employment rate of the location?
17. Prior to company benefits, what type of investment in a foreign country is more advantageous- buying an available company or establishing a brand new one?
18. On what issues does the company face the most difficulties at the customs both inland and/or on ports? And, why?
19. Has the company faced any quota barriers for its export goods? If so, which countries?
20. What kind of technological networks does the company use to share knowledge and information with its suppliers, dealers and / or cooperate customers within its ecosystem?
21. In the name of establishing a sustainable business environment, does the company share any knowledge and info today with any of the rival companies of the past in order to be able to compete more effectively with other companies in the market?
    - If yes, in what ways? –Workshops, training, etc.
22. How many patents does Nestle S.A have for its commercialized products as of today? Is the company planning to have some new patents registered in the coming years?
23. Does the company have any licence agreements with any of the domestic or inter - national companies?
    - If yes, what are the names of the firms the company works with?
    - Is / Was it contract manufacturing?
24. Does the company have a trademark? If yes, when was it registered?
25. Does the company have any long-term pending patents due to bureaucratic processes?
26. Has the company had any patent sales for domestic and / or foreign companies?

27-To sum up the information derived from these interview questions, in this new traffic-pattern on a five lane freeway where the most sophisticated vehicles on the first 3 lanes on the left are going at full speed, in what areas Turkey, though seems to be belated in some sophisticated areas, needs urgent improvements in order not to be thrown out of the lane involuntarily and for these urgent improvements, according to the company, what kind of lane shifting has to be done at least not to miss the latest business trend (question 27 is asked only to the companies in Turkey)?

Infrastructure
- port
- highways
- railroads
- airport

Education
- universities & vocational schools
- employee training
- workshops
- certificate programs

Government Incentives
- taxes
- loans with zero/low interest rates
- free land
- inexpensive equipment, machinery power and water

Appendix B

The replies of the companies of the top four countries

1. Does the company have a major specific supplier or does it work with various small suppliers on a basis of specific agreements?

NESTLE: Suppliers, co-manufacturers, subcontractors in each country are selected according to Nestlé's purchasing principles based on corporate business. Each supplier should comply with Nestlé policies, standards, and guidelines and each selected supplier is responsible for keeping the required criteria at work.

SIA: The company works with various suppliers and purchases both goods and services which includes a wide range of products from food to uniforms.

ORION PHARMA: As a pharmaceutical company, Orion Pharma Ltd. might have some small suppliers for herbal material but, generally the company has some big global suppliers with whom it works on a basis of specific agreements.

BASF: BASF works with a wide range of suppliers from big to small. The company has adiverse supplier list from various countries. The size of the supplier does not have a significant importance; female-owned businesses are preferred.

2. What are some of the mutual benefits between the supplier and/ or suppliers and the company?

NESTLE: In supporting the Company's Creating Shared Value strategy, all the raw ingredients for the production in various countries are all sourced locally, benefiting communities and farmers, creating thousands of direct and/or indirect jobs. Nestlé benefits from local resources but, gives back infrastructure and education all of which improve the life styles of the locals. Nestlé, creating awareness on environmental, cultural, and religious issues, educates local people and teaches them to respect values of others.

SIA: Through its joint ventures with original equipment manufacturers and airlines in Taiwan, Ireland, Indonesia, the Philippines and Singapore, the company not only increase its service offerings but also its combined revenue. Manufacturers and suppliers are offered sometimes free sometimes upgraded seats on their business trips and/or family discounts.

ORION PHARMA: Sharing knowledge and information and using patient data to develop better products,providing and sharing financial support, and creating a sustainable businessecosystem are some of the mutual benefits between the company and its suppliers.

BASF: The company while supporting the communities of the countries in which it functions it benefits from the differences for competitive advantages. The suppliers learn aboutexpressing their own ideas through cooperation and communication while working with such a global leader.

3. Has the company had any private-labelled products? If yes, for which companies has the company provided such products?

NESTLE: Nestle S.A has country-based private-labelled products some of which are owned through acquisitions and / or mergers. Some examples among tens of Nestlé products produced and sold only in the following countries are as follows:

- Water: Erikli / Turkey (The company does also have its own brand “Nestle” produced and sold in Turkey)
- Beverages: Chuckie Chocolate Drink / Philippines.
- Coffee: Loumidis / Greece.
- Ice cream: Frigor / Argentina

SIA: SIA is not a manufacturer but some of its subsidiaries are service providers. For instance, SIAEC provides service for Rolls-Royce Plc as a partner.

ORION PHARMA: Yes, the company has had various kinds of private-labelled products and the growthfor such products is increasing. The company produces hormonal tablets, gels, oraland nasal liquids, ointments, nasal sprays, creams, parenterals of small volume, anticancerproducts, herbal tablets and capsules for third parties. Eli Lilly and Company, the U.S-based pharmaceutical company is the major client of Orion Pharma for private-labelled products.

BASF: Though the products do not fall within the frame of private-label concept, BASF produces various items for various global companies. For instance, compostable snack bag packaging that the company has developed with advanced biopolymer technology is a game-changing breakthrough (September 6, 2012 / greenretaildecisions.com).

4. Does the company have any business agreements with other companies of other sectors by means of sharing their ecosystem?- Merger, a joint-venture or stakeholder?

NESTLE: Nestle, as a global giant company with hundreds of products in different categories has business agreements with some companies in other sectors by means of sharing their ecosystem. For instance, L’Oreal’s shares including the company’s the Body Shop stores and its Lancôme, Garnier, and Maybelline brands. Another is as follows:

Cosmetics and Beauty Shares: 30% belongs to Nestle i.e. Wyeth and Infant nutrition of Pfitzer.

SIA: The company is not interested in other sectors; its focus is on aviation and other related areas of business.

ORION PHARMA: As a group, Orion in Bangladesh focuses on different areas, particularly oninfrastructure of the country whereas in India, Orion Pharma’s main concern is the supply chain and R&D. The company first opened an office in Mumbai in 2008 and then in 2012, the same office turned into a 100% owned subsidiary of Orion Pharmato purchase pharmaceutical ingredients and in-licensed formulated products toproduce new drugs in Finland.

BASF: Yes, the company has a large variety of business agreements with other companies of other sectors. For instance, the asset swap agreement* between Basf and Gasprom (2013/12/23). According to the swap agreement, wholly owned Basf subsidiary Wintershall exits storage business and gas trading but expands its gas and oil production. (agreement.basf.com/group)

- **If no, is the company thinking of such business agreements in the near future?**

NESTLE: No information is provided for the question above but, as a giant global corporate business, business agreements with some companies in other sectors can not be an unexpected attempt for Nestlé in the near future.

SIA: On the company's website, singaporeair.com, it says the company will keep investing in related areas of aviation business, not in any other unrelated areas.

ORION PHARMA: Despite having various agreements with different companies, Orion Pharma is thinking of signing more agreements to establish a more sustainable business environment for the company.

BASF: As the global leader, it is obvious that BASF will keep signing up business agreements as long as they contribute to the growth of the company.

5. To be able to compete more efficiently and effectively with smaller companies in the market, does Nestlé have any collective work by means of projects and/or products with other companies within its sector?

NESTLE: Nestle with its brand NESTEC S.A is among the 30 members of the NU-AGE project on which better nutrition is focused for the healthy ageing of people in Europe. Nu-Age is a multi-disciplinary consortium with 30 members from 17 EU countries. The project's members are large food companies, associations of the European food and drink industry, one biotech SME, traditional food companies and research institutes across Europe coordinated by Professor Claudio Franceschi at University of Bologna in Italy.

SIA: The company has more than 20 subsidiaries in sectors in relation with aviation industry. Tradewinds Tours and Travel, SIA Cargo, SIA Engineering Company and SilkAir are the major subsidiaries of Singapore Airlines. For instance, SIA Engineering Company Ltd, a part of SIA, is the major provider of aircraft maintenance, repair and overhaul services (MRO) with twenty-three approvals from national aviation regulatory authorities to provide MRO for aircraft registered in theAsia-Pacific region as well as major European countries.

ORION PHARMA: Yes, the company has various collective work by means of projects and /or products with other companies within its sector. For instance, the company has signed a long term collaboration agreement with Gedeon Richter to discover and develop new chemical entities in the field of cognitive disorders. In addition, focusing on Alzheimer, Parkinson, Asthma and advanced prostate diseases, Orion Pharma has a wide range of product research agreements with various companies worldwide.

BASF: BASF and GIZ (the Deutsche Gesellshaft für Internationale Zusammenarbeit) established a development partnership called SAFO (Strategic Alliance fort the Fortification of Oil and Other Staple Foods). SAFO functions on behalf of the German Federal Ministry for Economic Cooperation and Development focusing on diminishing Vitamin A deficiency in selected developing and transitional countries because Vitamin A deficiency harms immune system, causes night blindness, higher infant and maternal mortality. SAFO works on the improvement of the access of low income groups to Vitamin A fortified staple foods. As a partner, BASF offers technical training, mobile laboratory equipment, analytic support for local food producers.

6. Does the company perform SWOT before the production of new items? What is the criteria for measuring the feedback of a new product?

NESTLE: For a giant company like Nestlé, SWOT can not be the only criteria for measuring the feedback of a new product. In fact, it is clear that various kinds of tests are conducted long before the production of a new item. For instance, the example "The Role of Five Senses in Packaging" in its web site illustrates how seriously the measurement is performed leaving no space for mistakes. For instance, the test on packaging shows the detailed procedure of measurement and how it contributes to sales figures. Nestle scientists claim that packaging is important both for the producer and the consumer but from different points of view; for the producer preservation, transportation, and safety whereas for the consumer, visual characteristics like color, shape, structure and on-pack communication are the most important issues.

A SPECIFIC EXAMPLE:

Sensory scientists at Nestlé, tested a dehydrated soup made from natural ingredients to understand how the communication with the consumer formed by packaging. The test is conducted on 120 consumers with eight different packaging materials through their sensory attributes like roughness, noise intensity, suppleness. The objective of the test is to measure the effect of the packaging material in relation to its perceived naturalness of the product based on the visual, tactile and auditory assessments. Results showed that the auditory stimulus do not have much connection with product perception whereas the two tactile attributes of suppleness and roughness were related to naturalness and, vision, as the most important sense for product packaging and perception reviewed at the end of the test. Scientists then used these results to create appropriate packaging prototypes.

SIA: SIA has created a "Service Performance Index" which traces the data on a quarterly basis. In-flight surveys, customer focus groups and rapid replies to problems and /or compliments are the input of its customers. Then SIA consolidates this input with other key data to measure customer satisfaction and to make essential adjustments when needed.

ORION PHARMA: The company uses advanced technology tools before producing diagnostic tests whichare easy-to-use. For instance, the company's renowned QuikRead® and its CRP test diagnose bacterial infection by measuring the raised level of C-reactive protein (CRP) in blood taken from the fingertip of the patient. In addition to many easy-to-use and reliable tests for hospital use, the company has had various drugs for the treatment of cancer and other serious diseases all of which are tracked carefully by its R&D. (medicaldevicelicensing.com)

BASF: New active ingredients are tested at every stage and results are monitored. Market conditions, competitors, similar products and other challenging areas are clearly defined. Then the company applies various kinds of advanced technology on the new item during the production process. Market sales of the new product is observed through data collecting and comments are stored. Regularly monitored online data storage showing corporate and / or incorporate customer satisfaction or dissatisfaction is the criteria for measuring the feedback of the new product.

7. Does the company use social media effectively and efficiently for its customer relations? What are the networks the company prefers for social media?

NESTLE: After experiencing a destructive attack on social networking sites for its product Kit Kat, the company established its own department to deal with social and digital media.

Nestlé uses Facebook, Twitter, YouTube, Linkedin and other social networking platforms for its products.
SIA: Since customer satisfaction is the major priority at SIA, the company uses all the popular networks of social media effectively and efficiently for its customer relations.

ORION PHARMA: The company works with Digimind Solution for its competitive intelligence process. Digimind's web-based platform offers strategic decisions benefiting from the digital information explosion. In addition, Orion Pharma uses the most popular social media networks to establish brand-awareness through its open innovation strategy. For instance, the information on twitter about the licence agreement between Orion Diagnostica and Eurofins Medigenomix on Diagnostica's proprietary SIBA® technology points to the company's focus on social media (twitter.com/OrionCorpIR).

BASF: Yes, BASF uses social media effectively and efficiently for its customer relations.Facebook, Google+, Twitter, Linkedin, YouTube,Flickr and SlideShare are the networks the company prefers for social media.

8. Does the company face any management problems with the individual and / or corporate customers? If any, can the risk management department's emergency plans solve the problem, preferably with no negative impact on the operational process?

NESTLE: Like all companies worldwide, Nestlé faces threats particularly from social media. The environmental activist group Greenpeace had found out that Nestlé had been exploiting the palm trees through an Indonesian supplier called Sinar Mas. The video with a parody which was played on YouTube with a slogan, " Have a Break; Have a Kit Kat" tarnished Nestlé's image and the company's claim for a sustainable environment. After some irritating threats from the company and the backfire from social networking, the company realized its mistakes and managed to handle the problem through a set of strategies. First, to fix the short term damages, theysuspended the purchases of palm oil from Sinar Mas and arranged some meetings with Greenpeace informing them about the its supply chains. The company also found a non-profit organization called Forest Trust to monitor the suppliers' actions. Next, the company joined the Roundtable for Sustainable Palm Oil with the aim to purchase only palm oil certified as sustainable by 2015.Then the company realized the vital importance of social networking and digital media So, in order to handle the problems on time, the company hired Pete Blackshaw and established a team to monitor the claims against the company 24 hours a day.

SIA: Major economic turbulences worldwide have changed consumer behavior. In addition, small carriers with low-cost tickets, and stiff competition for major destinations has had another negative impact on air-passenger traffic but the dent in SIA, due to its distinct brand strategy and customer- driven policy, is not as deep as the other airline companies have had for the last five years.

ORION PHARMA: The patent expiry of drugs is the major risk for Orion Pharma and its partners. FDA approval on some specific treatments is another risk for the company.

BASF: BASF might face some general problems like sudden rise in energy prices, resource shortage and / or patent infringement by other companies. The company, due to its complex and diverse business ecosystems across the globe, does not seem to experience any specific problems.

9. Does the company have its own separate R&D Department?

NESTLE: Nestle, with a total of 34 R&D departments of its own three of which are Science and Research centers, has the largest R&D Network. They are called NRC.

SIA: SIA has its own R&D Department.

ORION PHARMA: Yes, Orion Pharmaceuticals has its own R&D Department. The company's R&D and production operations are based in five centers in three different countries; apart from the ones in Kuopio, Turku and Espoo in Finland, the two other centers are in Mumbai, India and Nottingham, UK.

BASF: Yes, BASF has its own separate R&D Department. In fact, the company does not have one single department for research and development. In addition to the existing centers and laboratories in different locations of the world, BASF will have added 8 more research centers, again in various regions in other countries by 2020.

- **If yes, is the technology used by the company's own R&D efficient enough to arrange every step of manufacturing or the service created?**

NESTLE: As the world leader in food production, Nestlé focuses on the production and consumption of healthy food. The best technologies used at Nestlé are also the creations of the R&D departments. One of the best examples for the technology used at Nestlé is the Foam of Nestlé Cappuccino. Scientists at Nestlé formulated the instant foam over the coffee through a set of innovative high-tech science and engineering.

SIA: The massive investment in R&D makes SIA the global leader in its sector. The technology, innovation, unique quality and extraordinary customer service are the factors in the company's leadership that stem from its R&D. Some of the services offered to its customers are as follows:

- Krisworld in-flight entertainment (IFE) system for all classes
- Internet and phone check-in for all classes
- Full-size 'space-bed'
- Free headsets
- Fine wine and gourmet cuisine
- Global inflight e-mail system to all passengers
- Alert Service' SMS to inform customers of flight arrivals and delays
- 'Book the Cook' service offers the selection of foods in advance from a more extensive menu.

ORION PHARMA: IDBS provides software solution. R&D centers use a more flexible ActivityBase 5.3 to better design StructureBase to their needs. Besides, the new software offers better integration of ActivityBase biological data with chemical information (idbs.com)

BASF: Yes, the technology used by the company's own R&D is far more efficient than it is thought to arrange every step of manufacturing and the service created.. In fact, R&D at BASF is categorized according to the area of production. For instance, agricultural R&D and battery materials R&D. In addition to these different categories, the production of next-generation photovoltaic technology, Baxxodur, Kerdyn and Relest epoxy resin systems, and developments of materials to maintain more efficient longerlasting products are some of the other examples created by the technology of the R&D departments.

- **If no, does the company receive any technological support by means of science and technology ?**

NESTLE: Since the company has its own R&D centers and facilities, providing an outside technological support does not sound sensible but, to renew the rapidly changing advanced technology, the company should occasionally be purchasing new software for better supervision and production.

SIA: As all companies worldwide should receive or purchase advanced technology tools by means of technological support, SIA, is one of the most prestigious customers of global software companies. Despite the advanced technology SIA uses, the company is continuously investing in new software.

ORION PHARMA: None.

BASF: None.

10. In either case above, what is the total annual budget set for R&D including all kinds of external professional support and what is the ratio of this amount to the company's annual sales' figure?

NESTLE: In 2011, R&D investment was CHF2,02bn and consolidated sales was CHF 107,6 bn. The investment spent on R&D in 2011 is 1/50 of the consolidated sales in 2011.

SIA: Direct information could not be obtained to this particular question but, in regard to the Newsletter as of 2012 on its official website, the company is planning to invest approximately $12 billion over the next five years in new aircraft orders to renew its fleet and in new in-flight cabin products including the seats. SIA Group's net profit is $379 million, revenue is $14,857 billion, and operating income is $229,2 million as of 31 March 2013.

ORION PHARMA: R&D expenditure for Q3/2013 is EUR 21.2M and net sales is EUR 236,9M for the same period. It seems that R&D expenses of the company for Q3/2013 is one tenth of its net sales of the same period (yahoo.com / Orion Group Interim Report / October 22, 2013)

BASF: The company directly announces to spend €1.7 billion ($2.2 billion) on R&D. In addition, Basf is planning to launch 250 new products in 2014 according to the article on chemical.com. (Ottewell,S., chemicalprocessing.com / June 19, 2013)

11. Does the company have any kind of cooperation with any of the universities' related departments in the countries' it functions by means of job opportunities, trainee programs, technical and / or technological support, reports, etc?

NESTLE: Research collaboration with Epigen Consortium to provide better nutrients for mothers and babies, In 2009, the first Japan-based research unit called Nestle Research Tokyo / Food for Life granted a chair to University of Tokyo, In 2013, due to its continuous contributions to the university's education and researchcenter, Nestle has been given the University of Tokyo Shokumon Award.

SIA: SIAEC has collaboration with National University of Singapore and Nanyang Technological University in Aerospace Engineering. In addition, SIA offers scholarships to college students at NUS, NTU, SMU, SUTD and at other top universities overseas under 4 major categories. The categories are: Open All, SIA Open Scholarship, SIA Mendaki Undergraduate Scholarship and SIA SINDA Undergraduate Scholarship. For Mendaki

Undergraduate Scholarship applicants are supposed to be muslim whereas for SINDA Scholarship, applicants are supposed to belong to Indian sub ethnic group.

ORION PHARMA: University of Turku calls for industry partners to raise fund and enhance knowledge for its graduate program. MBA4Phd is a program offered by a consortium whose academic members are University of Wales Cardiff, University of Turku, Emlyon Business School and University of Gotenburg. The consortium's industry membersare Orion Pharma, DelSiTech Ltd., Biotie Therapies Ltd., Sassu Ltd., and Turku Science Park Ltd. (mba4phd.com)

BASF: Yes, BASF has various collaborations with top universities in different countries. Forinstance, the company has started a new research initiative in the USA called "North American Center for Research on advanced materials" The three universities in the USA are Harvard University, the Massachusetts Institute of Technology (MIT) and the University of Massachusetts (UMass). One of the aims of this collaboration is to jointly create new and functional materials for the sectors where BASF is active. Through this collaboration, 20 new post-doctoral status are offered in these prestigious colleges.

12. What are the innovation strategies and targets of the company? Are they set on a quarterly or annual basis?

NESTLE: "Be global at local" leads the company's innovation strategies. Targeting the world's leadership in health, nutrition, and wellness with an unmatched portfolio of products, Nestle keeps reaching new markets with new products designed in its R&D facilities. Behind each product there is a team of scientists, engineers, nutritionists, designers, regulatory specialists and consumer care representatives dedicated to earning consumers' trust with safe products of the highest quality. In supporting the company's Creating Shared Value strategy, all the raw ingredients for its products are sourced locally, benefiting communities and farmers through direct and / or indirect jobs and this strategy not only contributes to agricultural and rural development in poorer regions but also establishes awareness of environmental sustainability for a better life style. In addition, ensuring the quality and safety of its products, Nestle enhances its consumers' life quality. Moreover, the company, requiring safety and health at work from its suppliers worldwide and respect to human rights in business activities including cultural behavior and religious practices, builds up better supplier and customer relationships which leads to better consumer communication.

SIA: At SIA, there is a "Product Innovation Department" to trace the latest trends of its passengers. For instance, when the department noticed the changing diet habits, SIA made a slight switch to lighter but more nutritious menu. From this point of view, it highlights the fact that coopetition together with cooperation is the latest trend to success in business ecosystems.

ORION PHARMA: The company focuses on 3 key targets: Developing more flexible and efficient operations, improving the market position strength in Europe, and via competitiveproduct portfolio, establishing a sustainable growth of business operations. The company's innovation strategy is not only developing effective and innovative practices and business models for its operations but also covers the corporate values, such as quality, safety, reliability, mutual trust and respect, innovation, customer focus, and achievement.

BASF: 8 new research centers in different locations of the world will be added to the existing centers; establishing a research center for white biotechnology and microbiology in Tarrytown, NY, USA, in Wyandotte, Michigan, a research laboratory for thermoplastic polyurethanes, in Ludwigshafen, a new innovation center for carbon materials, in Shangai, China, an Asian-Pasific innovation campus, in Amagasaki, Japan, a research center for battery materials, in Perth, Australia, an R&D center for mining, in Seoul, South Korea, an R&D center for electronics materials, and moving the science headquarters from Germany to NC, USA. All these will have been completed by 2020. In addition, Basf has 4 major concerns to capture business targets: Renewable power generation, safe power storage, efficient power transport, and efficient use of energy. The company's business target is to pursue its position as the top global chemical manufacturer.

13. Which strategy does the company use the most within the ecosystem it has created?

- Keystone
- Physical dominator
- Value dominator
- Niche player

NESTLE: Nestlé uses mostly the keystone strategy by creating and sharing value to increase the productivity of the ecosystem and provide a healthy business network. Yet, in some areas the company seems to be using both the physical dominator and value dominator strategies secretly. For instance, lack of sharing the innovative technologies for the creation of niche players shows value dominator strategy and the company's application for a patent for the extract of a flower created for every living organism on Earth points to physical dominator strategies.

SIA: SIA, located at Changi International Airport, using the airport as a hub also pursues the keystone strategy by sharing and creating value to provide a sustainable business ecosystem to the Asia-Pacific region. Respecting the trends of its passengers, SIA not only protects its high quality service but also leads its suppliers to create a sustainable business ecosystem.

ORION PHARMA: Orion Pharma Ltd. uses the keystone strategy within the ecosystem it has created. The company continuously develops new drugs, various treatments, and diagnostic tests through organizational sharing and licence agreements with big global healthcare companies to create and share value.

BASF: BASF uses the dominator strategy as the top global chemical company.

14. Has the company had any entrepreneurship activities by means of domestic or foreign investment in recent years? –Merger, a partnership, or an acquisition?

NESTLE: Nestlé has 468 factories in 86 countries around the world and around 330 000 employees. Nestlé is the world's leading nutrition, health and wellness company with an unmatched portfolio of more than 2,000 global and local brands. For instance, Turkey has recently been considered as a regional hub by Nestle S.A. In fact, Nestle had had an office in Istanbul since 1909 when the company opened its first plant in Karacabey, 1989. As of today, Nestle with a total of 4 plants and 3800 employees in Turkey, produces over 800 products. The second plant in Turkey, which was established by Nestlé and its joint-venture General Mills in 2011, belongs to Cereal Partners Worlwide. Using the latest advanced technology planned for 2014, Nestlé's plant Maggi has been scheduled for 1,200 packages a minute and producing 7,300 tons of bullions a year.

SIA: SIA has successful entrepreneurship activities both inland and on foreign lands. The company has established its own companies related with aviation. The company has some foreign investments, too. For instance, SIAEC has a partnership with Rolls Royce Plc.

ORION PHARMA: Orion Pharma Ltd. has had various entrepreneurship activities. For instance, thecompany's membership to university-industry collaboration through the program MBA4Phd at University of Turku and the company's new plant in Dhaka, Bangladesh are the two of the entrepreneurship activities.

BASF: Yes, the company has various entrepreneurship activities by means of domestic and foreign investments. For instance, the newly established BASF MPCC Company Limited is one of the foreign investments of the company in China. BASF and China Petroleum and Chemical Corporation (SINOPEC) enters a 50-50 joint-venture to construct a massive Isononanol plant in Maoming Hi-tech Industrial Development Zone. The plant will produce next-generation plasticizers to meet the increasing demand in markets.

15. Since the establishment of the company, which investment seemed to be the riskiest among all the investments the company has had as of today?

NESTLE: There is not any information related to the question above on the company's website but another information on the Internet shows that the company had experienced hard times in Ethiopia in 2002. Though it is unclear that the investment was the riskiest for Nestlé, it is obvious that the company made not only an operational mistake but also an ethical one. Ethiopians were struggling with a fatal famine at the time and Nestlé demanded that the nation repay the debt to the company which was $6 million. In fact, the company had taken financial incentives from the Ethiopian government to make the investment. The company had to step back from its demand when thousands of people informed the headquarters about its treatment of the Ethiopian government. In the end, the company approved to invest the money which it received from the country back into Ethiopia. Besides, the company has former brands some of which changed names like a former petcare brand Fido Freeze recently known as Frosty Paws or some sold to other companies like the sale of Alcon to Novartis. Why the company sold some of its companies or changed their names seems to be confidential.

SIA: There is not any information on this specific issue on the web but, since the company does not invest in unrelated areas, SIA as one of the leading companies worldwide and functions as a hub, is not interested in risky investments. Moreover, within Risk Management framework, risks are categorized in six different areas none of which seems to have unmanageable tasks.

ORION PHARMA: Orion Pharma has three different types of risks; strategic risks, operational risks, and financial risks. For strategic risks, research and development, for operational risks, production, environment, and safety risks together with sales and business risks, and for financial risks, credit, liquidity, and market risks could be unveiled.

BASF: Being allowed to apply the concept of rescue merger, BASF AG wholly acquired heavily indebted Pantochim S.A. (Pantochim) and Eurodiol S.A. (Eurodiol) which were subject to a pre-bankruptcy regime under Belgian law and if they had not been acquired, both companies would have gone out of business. Though the merger had risks for the market, the approval was signed by the authority in 11/07/2001.

16. Among the investments the company has had so far, which investment seems to be the most beneficial both to the company and the employment rate of the location?

NESTLE: Nestle benefits most from its establishments and/ or acquisitions in developing countries due to low labor costs as well as the low cost of raw material but, the benefits for developing countries can not be underestimated as the company has positive impact on job creation and growth of GDP in such countries.

SIA: The most beneficial investment of the company is no doubt the ones in its own country. With its subsidiaries in its own country, as a global company, SIA provides massive contribution to GDP growth of Singapore.

ORION PHARMA: The company's recent plan to build a massive plant for pharmaceutical finished products in Dhaka, Bangladesh as one of the best facilities in southeast Asia seems to be the most beneficial both to the company and the employment rate of the location.

BASF: As a chemical company, BASF depends on gas-generated power for production and the energy the company consumes is massive and this massive amount of energy creates massive amount of cost on production. That's why the two chemical complexes of BASF's in the USA seem to be the most beneficial, particularly to the company as the complexes take advantage of the shale gas which the company pays less. Falling energy costs help the company reduce the cost on production. (bloomberg.com/September 14,2012)

17. Prior to company benefits, what type of investment in a foreign country is more advantageous- buying an available company or establishing a brand new one?

NESTLE: For Nestlé, it seems that there is not much difference between buying an available company in a foreign country or establishing a brand new one as long as the company captures new markets.

SIA: Due to little information provided on this specific issue, it could be assumed that the company prefers establishing joint ventures related to aviation industry in foreign countries.

ORION PHARMA: In regard to its recent investment in Dhaka, Bangladesh, establishing a brand-newcompany of its own seems to be more appealing to Orion Pharma Ltd.

BASF: Both cases seem to be possible for BASF. It all depends on profitability for the company.

18. On what issues does the company face the most difficulties at the customs both inland and / or on ports? And, why?

- Bureaucratic slowness
- Freight fees
- Cargo insurance

NESTLE: Since the company expands globally through local settlements, acquisitions, and / or stake purchases, it might face only bureaucratic slowness in some countries.

SIA: No information is available for the question above.

ORION PHARMA: The major concern as a pharmaceutical company is the FDA approval of any product it produces because the procedure is both time and money-consuming.

BASF: No information has been gathered. Yet, cargo insurance could probably be the most difficult case as some items the company produces are hazardous.

19. Has the company faced any quota barriers for its export goods? If so, which countries?

NESTLE: The long surf on the Internet shows that as a global company, Nestlé products do not face a challenging quota problems but, its confectionery brands do have such a problem due to quota barriers on sugar.

SIA: Operating as an airline company, the company does not have any export goods, the company might have faced some appropriate authorization problems on airport selections, instead.

ORION PHARMA: Through licence agreements with foreign companies, like most global companies, Orion Pharma has not faced much difficulty for its goods in international markets. For instance, for the levosimendan injection produced by the company, Orion Pharma licensed Phyxius Pharma, Inc. to produce and sell levosimendan which prevents cardiac surgery patients from Low Caardiac Output Syndrome (LCOS) in Canada and the USA.

BASF: Yes, the company experiences some quota barriers for its export products. For instance, Chinese restrictions on exports of rare earth materials or OPEC quotas for oil production could be the major facts of quota problems. (basf.com)

20. What kind of technological networks does the company use to share knowledge and information with its suppliers, dealers and / or cooperate customers within its ecosystem?

NESTLE: Since 2003, Nestlé has linked to SAP systems to let its suppliers have the latest production data. In the Nestlé- SCA link-up (Service Component Architecture is a software created by TIBCO, Oracle and IBM) companies are able to share the stages, from production to supply, in detail. A joint-venture formed by Danone, Henkel, Nestle and SAP called cpgmarket provides software and hosting. CPG is the other name for Fast-Moving Consumer Goods or Consumer-Packaged Goods that represent high volume with low margin businesses.

SIA: The new passenger booking and servicing system introduced in July 2012 and the new departure control system introduced in February 2013 are used by the SIA agents. SIA uses regularly renewed various advanced software technologies to communicate with its suppliers and cooperate customers. For instance, China Cargo Airlines , due to code sharing service agreement with SIA Cargo, taps into SIA Cargo's network to search for a better flexibility for its customers, or vice versa.

ORION PHARMA: Through alliances with other global pharmaceutical companies, Orion Pharma Ltd. shares patient data with healthcare companies. For instance, Orion Bionetworks is an alliance of some global healthcare groups which focuses on drug development process using patient data of the member groups for a large variety of diseases primarily including multiple sclerosis (MS).

BASF: A corporate business network of an online platform called "connect.BASF" was established for the company employers as one connected body around the world. The system is fast, innovative and flexible including active utilization, one network and value creation.

21. In the name of establishing a sustainable business environment, does the company share any knowledge and info today with any of the rival companies of the past in order to be able to compete more effectively with other companies in the market? If yes, in what ways? –Workshops, training, etc.

NESTLE: Nestlé's competitors in the international area are PepsiCo, Krafts Foods, Unilever and Mars Incorporated. In local markets, among the competitors are Sarah Lee, Cadbury and Danone. However, with Danone, Nestle has a joint-venture. Despite technical training provided to its local suppliers by the company and contributions to education, infrastructure and GDP growth in developing regions, sharing with some local rival companies seems to be focusing on some illegal issues like the one in price fixing of chocolates in Canada. The company was accused of meeting with some rival competitors' CEOs in Canada in public places like restaurants and cafes to rise the price of chocolate.

SIA: SIA is one of the members of STAR Alliance. The company seems to share info on a basis of agreements with some other airline companies to provide seats for its passengers on domestic flights. Besides, the company provides various types of regular training for its employees from all positions.

ORION PHARMA: Selvita collaborated with Orion Pharma to discover various symptomatic treatments for Alzheimer's disease in 2010. In 2012, Selvita S.A. announced that the research program known as SEL 103, succeeded in discovering the molecules coming from two different chemical families both of which would be used in further pre-clinical programs. In this agreement, Orion Pharma was in charge with the development of the product and its global commercialization whereas the discovery belonged to Selvita S.A.

BASF: BASF is a dominant company and shares knowledge only with its employees, not with any of its competitors.

22. How many patents does Nestle S.A have for its commercialized products as of today? Is the company planning to have some new patents registered in the coming years?

NESTLE: Like the company's unmatched portfolio of products, the patents Nestlé has had until the present moment covers a wide range of unrelated areas. The exact number of patent information is unreachable.

SIA: It is obvious that the company has a great number of patent applications and patents even for the portable tables each with a different type of passenger seat but, the exact number of patents and patent applications are not reachable.

ORION PHARMA: The number of patents for the company's products seems to be very complex as the company provides scientific support to its partners through licence agreements. For instance, the patent granted for Novartis could be developed by Orion Pharma Ltd., but finished by Novartis S.A. In addition, continuous flow of expiration dates for its patents and new patent applications make the patent tracking more complicated. The company continuously develops new treatments for better solutions. It is obvious that Orion Pharma is planning to have some new patent applications for the coming years.

BASF: No specific information has been gathered. Yet, on its official Web site, it says the company registers over 1,000 patents each year at the European Patent Office settled in

Munich. Moreover, the company claims that over a five-year period, BASF is the only company that has registered more patents than any of its competitors.

23. Does the company have any licence agreements with any of the domestic or international companies?

NESTLE: Nestlé has various kinds of licence agreements both with domestic and international companies in different countries. Below are the two examples showing licence agreements Nestlé granted.

SIA: The company holds some agreements with some other international airline companies and with some others in related areas of aviation. For instance, the company agrees with six travel organizations in Australia to support tourism to the country.

ORION PHARMA: Yes, the company has various licence agreements, particularly with foreign companies such as Novartis S.A. and Hospira.

BASF: BASF has entered various licensing agreements and strategic alliances with global companies through its Ovonic battery materials affiliate.

- **If yes, what are the names of the firms the company works with?**

NESTLE: The two following examples shows the licence agreements Nestlé granted. Aspen, the global supplier of pharmaceuticals, acquired licences from Nestlé to sell Pfizer's Infant nutrition brand portfolio which was recently bought by Nestlé itself. BioGaia, Swedish world leader in probiotics, signed an agreement with Nestlé for a new category of products with a special focus on emerging countries.

SIA: Virgin Australia, Virgin USA, Panasonic Avionics, Aegean Airlines (codeshare agreement) As a prestigious member of STAR Alliance, SIA also works with other members of the alliance.

ORION PHARMA: Alzheimer's licence agreement with US based Jannsen Pharmaceuticals, extended the existing licence agreement since 1994 with Hospira on the sedative agent Precedex® (orion.fi), licence agreement between Orion Diagnostica and Eurofins Medigenomix on Diagnostica's proprietary SIBA® technology.

BASF: Among nickel metal-hydride licenses of the BASF Group, the companies are as follows: Panasonic-PEVE, Samsung, Sanyo Electric Co., Toshiba Battery, Furukawa, Energizer, etc. Another example for licence agreements of BASF Group is the company's plan to cooperate with Dyatic International Inc. Through enzyme-platform licensing accord with Florida-based Dyadic International Inc., BASF is thinking of clearing the way for an easy-access to the US company's enzyme-technology for markets of animal and human nutrition. BASF Reaches Enzyme-Platform Licensing Accord with Dyatic. (Andrew,N., bloomberg.com/ May 15,2013)

- **Is / Was it contract manufacturing?**

NESTLE: No information on contract manufacturing has been gathered.

SIA: As SIA is not a manufacturing company, this question can not be replied.

ORION PHARMA: Yes, some of them are contract manufacturing. The company not only manufactures its own products but also creates tailor-made drugs. For instance, Orion Pharma's partner Eli Lily and Company has global marketing rights to Axiron™ which is a testosterone drug manufactured at Orion's Turku plant.

BASF: BASF is also interested in contract manufacturing. When Vascepa of Amarin, omega-3 fatty acid heart pill, was approved by FDA, BASF captured a big contract from Amarin as one of the API manufacturers. After acquiring a fish oil plant in May, 2012 in Scotland and invested $29,2 million to expand its capacity from 20 metric tones to 250 metric tones, BASF focused on a buyout for Pronova Biopharma in Norway which was capable of producing the active ingredient of GlaxoSmithKline's omega-3 drug, Lovaza and offered $879 million. BASF gets Vascepa contract ahead of Pronova buyout. (www.fiercepharmamanufacturing.com / Jan 3,2013)

24. Does the company have a trademark? If yes, when was it registered?

NESTLE: A multinational Swiss company which was founded by Henri Nestlé in 1866 and formed by the merger of Anglo-Swiss Milk Company in 1905, Nestle has had hundreds of brands in different categories. Even though some of its former brands are no longer in use, the company has a massive number of brand names and 17 categories for these brands. The trademarks, logos, characters and service marks (collectively "Trademarks") display belong to Société des Produits Nestlé S.A. which is also a part of the Nestlé Group.The categories are as follows: Water (74 brands, i.e. Deer Park), beverages (20 brands, i.e. Juicy Juice), coffee (22 brands, i.e. Ristretto), ice cream (37 brands, i.e.Edy's), yogurt (11 brands, i.e. Munch Bunch), chilled (21 brands, i.e. Yoko), chocolate, confectionery and baked goods (117 brands, i.e. After Eight) , cereals (21 brands, i.e. Gold Flakes), frozen foods (11 brands, i.e. Lean Cuisine), refrigerated products (5 brands, i.e. Herta Foods), shelf stable (25 brands, i.e. Milo) , infant foods (21 brands, i.e. Guigoz) performance nutrition (6 brands, i.e. Supligen), healthcare nutrition (13 brands, i.e. Peptamen) seasonings (8 brands, i.e. Buitoni), pet care (18 brands, i.e. Friskies) foodservice products (4 brands, i.e. Chef-Mate).

SIA: Not only the parent company but its subsidiaries do have trademarks. For instance, SilkAir, once Tradewinds, has a trademark as well.

ORION PHARMA: Yes, the company has a trademark. Filing date of the trademark is April 6,2001 and registration date is December 17,2002. Word Mark is IWOP ORION PHARMA Interaktiver Workshop ORİON PHARMA.

BASF: ARES™ is a trade-mark and ABSOLUTE®, ADRENALIN®, CARAMBA®, Clearfield®, Clearfield-Confirm®, Clearfield Commitment, the unique Clearfield symbol, ODYSSEY®, PURSUIT®, TENSILE® and VIPER® are registered trademarks of BASF Agrochemical Products B.V. ACROBAT®, AgSolutions®, BANVEL®, CONQUEST®, DISTINCT®, DYVEL®, FRONTIER®, HEADLINE®, MARKSMAN®, and SOVRAN® are some of the registered trademarks of BASF Corporation.

25. Does the company have any long-term pending patents due to bureaucratic processes?

NESTLE: The company faces some pending patents and sometimes legal setbacks like losing a patent on one of its Nespresso single-serve coffee machines. The recent patent application is for a flower which is generally found in some developing countries. Nestle is blamed for trying to establish a nigella sativa monopoly and capturing the legal right to sue anyone who uses it. Nigella Sativa or with its common name the fennel flower is one of their pending patents but this pending does not have any relation with bureaucratic processes; it is directly related to the curative powers the plant has. It is a natural species and the seed's extract contains thymoquinone that forms interaction in human body with opioid receptors and reduces allergic reactions to food. Nestle files patent applications despite the global reactions and claims that the company is only interested in its seed extract, not the fennel flower itself.

SIA: No information has been gathered.

ORION PHARMA: Yes, the company has some long-term pending patents waiting for FDA approval. Besides, Orion Pharma experiences the expiry of some of its patents like all other pharmaceutical companies in the world.

BASF: No specific information has been gathered.

26. Has the company had any patent sales for domestic and / or foreign companies?

NESTLE: No information on patent sales of Nestlé to other companies has been reached.

SIA: Even though there is not any information on this specific issue, the company might have some patent sales only for its own subsidiaries.

ORION PHARMA: Patent protection for pharmaceuticals does not have unlimited duration. The expiry ofany drug is a risk for Orion Pharma as it ends up with the sale of the patent to other companies in the market. Yet, it is not the company itself that sells the patent, in fact, it is the competition authorities who sell the expired patent. Yet, pharmaceutical companies as soon as the patent is granted sign up licensing agreements with other companies to be able to sell the product globally. For instance, Orion Corporation and Phyxius Pharma, Inc. have entered into a licensing agreement for levosimendan injection. According to the agreement, Phyxius Pharma will develop and commercialize levosimendan in the USA and Canada for a new cardiovascular indication, prevention of Low Cardiac Output Syndrome (LCOS) in cardiac surgery patients.

BASF: No, BASF has not had any patent sales for domestic or foreign companies; the company uses its own patents for its own products.

Appendix C

The replies of the companies of the four BRIC countries

1. Does the company have a major specific supplier or does it work with various small suppliers on a basis of specific agreements?

Petróleo Brasileiro S.A: Petróleo Brasileiro S.A., known as Petrobras has 3 major foreign suppliers each of which has complex relations with various from big to small global companies. The names of these major companies are “wet Christmas tree” (WCT), Aker Solution (Norway) and FMC Technologies (USA). In addition to these major suppliers, Petrobras has a wide range of various suppliers and the company works with them on a basis of specific agreements via an online system called “Petronect” established by the company itself.

Embraco: The company works with various suppliers from big to small on basis of specific agreements. Supplier selection is demanding and time-consuming.

ALROSA: ALROSA does not have any suppliers. In fact, The company itself is the major supplier of diamonds worldwide under the contract with the transnational corporation De Beers. The company selects long-term partners with exclusive background in their business of diamond goods and granted them the right to use the logo of ALROSA ALLIANCE in their sales.

Yandex: The company’s suppliers are advertising companies and startup teams with interesting ideas.

TATA MOTORS: Tata Motors have various small suppliers on a basis of specific agreements. For instance, Walia Auto Ancillaries PVT. Ltd.in Pune, India is one of the small companies which supply all kinds of Steering Nuts for Tata Motors.

LAFARGE INDIA: Lafarge only needs machinery to extract the raw material the company needs, so its suppliers are various manufacturers of machinery.

Alibaba Group: Alibaba Group functions like a big global ecosystem offering different forms of various specific online platforms to help meet the needs of different groups. Alibaba has big suppliers as well as small groups and individuals of different profiles of millions of suppliers.

China Nepstar Chain Drugstore Ltd.: The company’s major suppliers are wholesale companies of pharmaceutical and other healthcare items or manufacturers of prescription and over the counter drugs (OTC), nutritional supplements, dietary products, herbs, personal care products, cosmetics, cleaning agents, soda, pregnancy tests, stationery, packaged snacks, and portable medical products. As of 2012, Nepstar worked with 1,495 suppliers; the number of wholesale companies was 880 and manufacturers were 615.

2. What are some of the mutual benefits between the supplier and/ or suppliers and the company?

Petróleo Brasileiro S.A: Petrobras enhances its offshore deep water activities through its major suppliers and these 3 major suppliers create innovative solutions, both technical and financial, to Petrobras. The company provides a sustainable financial environment for its small suppliers and sometimes demand additional discount prices from such companies.

Embraco: For the suppliers, the company provides a financially stable environment, grants the opportunity to work with a prestigious global name, and for the company, the suppliers create a sustainable flow of material and reasonable discounts.

ALROSA: The long-term partners of Alrosa not only provides a stable access to high-quality diamonds that are mined in different locations of the world but also approves the reputation of the company's customers as trustworthy partners who meet their liabilities. In addition, countries which have agreements with Alrosa benefit from the company's diamond-mining technology.

Yandex: Selected startup teams are granted financing and expertise by Yandex.Factory while the company benefits from interesting ideas of startup teams'.

TATA MOTORS: Both parties provide a sustainable ecosystem to each other as in traditional style businesses.

LAFARGE INDIA: The only suppliers Lafarge needs are the manufacturers of machinery because while extracting the raw material, Lafarge needs machinery. There seems to be little mutual benefit; the manufacturer that sells machinery to Lafarge could only benefit from the name of the global leader as its client. Lafarge, using the advanced machinery could extract the raw material faster.

Alibaba Group: Alibaba Group with its subsidiaries and partners like AliExpress, Alipay and others, creates massive revenue and profit and its suppliers without being set back by dominators of their sectors could easily meet other suppliers and sellers. Alibaba Group provides easy access to global commerce and a smooth flow for businesses.

China Nepstar Chain Drugstore Ltd.: Nepstar manages to provide power of pricing and gain ability to replace the older products that are almost expiring with new stocks of products from the supplier. Suppliers have the power to sell more products in more than 2000 stores owned by Nepstar in China.

3. **Has the company had any private-labelled products? If yes, for which companies has the company provided such products?**

Petróleo Brasileiro S.A: No information has been gathered.

Embraco: No information has been gathered. Yet, the company agreements with some global brands like Whirlpool and Bosch feels like the company might be providing such products.

ALROSA: No, ALROSA does not have any private-labelled diamonds.

Yandex: No, the company has not had any private- labelled products.

TATA MOTORS: No, the company has not had any private-labelled cars.

LAFARGE INDIA: No information has been gathered.

Alibaba Group: Alibaba Group is not a manufacturing company so the company does not have any private-labelled products.

China Nepstar Chain Drugstore Ltd.: Yes, the company has various private labelled products. In fact, Nepstar started selling PLPs in 2005 due to some advantages such products offer; low-cost line makes Nepstar unique among other drug retailers. Nepstar sells 2019 products under 160 private label both in store and online.

4. Does the company have any business agreements with other companies of other sectors by means of sharing their ecosystem?- Merger, a joint-venture or stakeholder?

Petróleo Brasileiro S.A: Yes, the company has had various business agreements with other companies of other sectors by means of sharing their ecosystem. For instance, In 2004, a cooperation agreement was signed with Sinopec (China Petroleum and Chemical Company) to work together in the oil sector's integrated activities including downstream, pipelines, exploration and oil resource production onshore and offshore in various regions of the world as well as in China and Brazil and expand in new markets, particularly in Asia. On April 25, 2011, Petrobras signed a technological agreement with Jogmec (Japan Oil, Gas and Metals National Corporation) to work on the technical feasibility of the development of a pipeline project for pre-salt oil production in ultra-deep waters. Another agreement is signed between Petrobras and Sinopec (China Petroleum and Chemical Company) to conduct a feasibility study of Premium I refinery project in the state of Maranhão (energy-business-review.com / June, 2013) Both parties are thinking of entering into a joint venture.

Embraco: Yes, the company has various business agreements with other companies of other sectors by means of sharing their ecosystem. For instance, the company agreement with Petrobras indicates that Embraco shares the state-run company, Petrobras's ecosystem or vice versa.

ALROSA: Yes, the company has various business agreements with other companies of othersectors, particularly mining and finance sector. For instance, In 2006, Alrosa had acquired Geotransgaz including Urengoy Gas company. The company keeps investing in the licensed areas in drilling gas wells and the infrastructure of the system. Another example is the company's foreign-based financial connections. The company owns a Luxembourg-registered subsidiary called Alrosa Finance which is partially owned by Shapburg Limited and Quenon Investments Limited. These two companies seem to have business connections with other Icelandic companies.

Yandex: The formation of joint venture with Yandex.Money and Sberbank was completed in July 2013. Sberbank captured Yandex.Money after purchasing a controlling stake from Yandex. Cooperation agreement with Mail.ru which allows Yandex's advertisers to access to its own users.

TATA MOTORS: As of March 31, 2013, the company had 64 subsidiaries, 8 associate companies and 4 joint-ventures. However, subsidiary companies at Tata Motors keep changing. Some subsidiary companies change their names, such as "Jaguar Cars Limited" to "Jaguar Land Rover Limited". Some other subsidiary companies, such as Miljobil Greenland AS, cease to be a subsidiary company of Tata Motors. Some new ones, such as Jaguar Land Rover India Limited which is an indirect subsidiary of Jaguar Land Rover Automotive PLC, are recently acquired.

LAFARGE INDIA: Baring Private Equity Asia purchased 14% of Lafarge India's stakes for 200 million euros. In 2011, Lafarge agreed to sell Boral its 50% stake in their Asian Gypsum joint venture of LBGA (Lafarge Boral Gypsum Asia) in which each party had a share of 50 %. The company has also a recently formed joint venture with Anglo American's Tarmac business. It is a 50-50 joint venture (Lafarge Tarmac) established to createconstruction materials of the UK.

Alibaba Group: Yes, the company has 2 major business agreements with other companies. Yahoo! Inc. and Softbank have become shareholders of Alibaba Group. The staged agreement betweenYahoo! Inc and Alibaba creates easy access to both parties to align incentives and maximize value for shareholders and provides Alibaba Group to establish Yahoo! China. Then the 3 companies, Alibaba, Yahoo! Inc, and Softbank has another agreement related to Alipay which provides payment transaction services to Alibaba Group.

China Nepstar Chain Drugstore Ltd.: Nepstar has some subsidiaries some of which are wholly-owned and properly incorporated in the PRC. Some of the companies are as follows:

Shenzhen Wisconsin Trading Development Co., Ltd., Shenzhen Jinfu Logistics Service Co., Ltd., and Shenzhen Nepstar Pharmaceutical Electronic Technologies Ltd.

- **If no, is the company thinking of such business agreements in the near future?**

Petróleo Brasileiro S.A: In addition to various agreements with other companies, particularly with foreign companies, Petrobras is planning to conduct another feasibility study with GSS Holdings from South Korea. The aim of the company is to develop Premium 2 refinery with the highest processing capacity.

Embraco: As a global company, despite having no specific information on this subject, the company might be thinking of some more business agreements with other companies of other sectors due to the complexity of business ecosystems.

ALROSA: Despite having existing agreements, the company seems to be thinking of further business agreements in the near future as long as such agreements are profitable.

Yandex: As one of the leading search engines in Europe, the company will keep on investing in new technological areas through business agreements with other convenient companies of other sectors by means of sharing their ecosystems.

TATA MOTORS: None.

LAFARGE INDIA: No information has been gathered.

Alibaba Group: As one of the leading companies, it would not be surprising to expect that Alibaba Group will reach some further agreements with other renowned companies in the future.

China Nepstar Chain Drugstore Ltd.: As the largest chain drugstore in China, it is not surprising to read about further business agreements of the company with other national or multinational companies of other sectors.

5. **To be able to compete more efficiently and effectively with smaller companies in the market, does the company have any collective work by means of projects and/or products with other companies within its sector?**

Petróleo Brasileiro S.A: Yes, the company has a wide range of collective work with other companies within its sector to be able to compete more efficiently and effectively with smaller companies in the market. For instance, SBM Offshore awarded Letters of Intent for two FPSO (Floating Production, Storage and Offloading) lease contract by Petrobras (sbmoffshore.com / 26 March, 2013) According to the news on SBM Offshore's website, the FPSOs are owned and operated by a Joint Venture company by SBM Offshore and other partners including Queiroz Galvão Óleo e Gás S.A.(QGOG) which is a gas and oil drilling Brazilian company founded during the second world oil crisis (1980).

Embraco: Yes, the company has various collective work by means of both projects and products.

ALROSA: The company has projects in Africa. These diamond mining areas are in Botswana, Zimbabwe and in Angola. With 32,8% share, Alrosa founded Catoca Ltd. Mining Co. in Angola which has the first priority. The company signed another agreement with ENDIAMA E.P. to form a joint enterprise to prospect assessment, exploration, mining and sale of rough diamonds in Angola. In Botswana and Zimbabwe, Alrosa has signed similar, particularly technical agreements with various companies.

Yandex: The collaboration with CERN is the most groundbreaking project for Yandex. The technology used by Yandex shorten the long distance path from idea to realization. Yandex helps the scientists working on CERN for free. In the fields like biomedicine and genomics, computational science is gaining momentum and Yandex is thinking of undertaking such science projects in the future.

TATA MOTORS: Tata Motors does not have any collective works with other companies by means ofprojects. Since 1958 the company has been manufacturing customized vehicles for theIndian defence forces sharing the sector with Mahindra Defense and Ashok Leyland

Ltd. Recently, the company's major interest is the $10billion Army Project. The company, instead of signing agreements with the other two companies, prefers partnering with its other companies such as tata Power to curb the stiff competition created by overseas players.

LAFARGE INDIA: No, the company does not have any collective work by means of projects or products with other companies within its sector.

Alibaba Group: Alibaba Group does not seem to have any collective work with other companies in its sector. The company activates like a dominator in its sector in China.

China Nepstar Chain Drugstore Ltd.: Nepstar had 40% equity ownership in Yunnan Jianzhijia Chain Drugstore Ltd. (JZJ) The company sold it to Yunnan Jianzhijia Holding Co.,Ltd. (JZJ Holding) Then, JzJ Holding acquired Nepstar's 40% equity ownership in JZJ.

6. Does the company perform SWOT before the production of new items? What is the criteria for measuring the feedback of a new product?

Petróleo Brasileiro S.A: Each new product, before taking its place in gas stations, goes through a set of assessments and testing which involve environmental legislation, compliance, public safety, quality and efficiency.

Embraco: Before the production, stress tests as well as all other required tests are performed. As a highly demanding global company, Embraco uses the latest advanced technology for its production lines. In addition, the company has manufacturer representatives for aftermarket customers to collect feedback about the products sold.

ALROSA: No specific information has been gathered but, since the company's cooperate customers are high-profile global companies, Alrosa uses advanced technology tools for each stage of mining and manufacturing diamonds. The high-quality standard of the famous Russian-cut diamonds is also ensured by close collaboration with other Russian cutters as a method for consolidation of the traditional Russian cutting expertise and craftsmanship.

Yandex: Since the company's focus is to develop better solutions for specific needs on the Internet, the tailor-made design of the categorization of the data for different purposes is tested through users' performance.

TATA MOTORS: The company uses call centers, financial reports and other available data for measuring the feedback of a new product. The company also performs SWOT analysis. Since Tata Motors is a customer-oriented, market driven company with a deep focus on customer need and preference. The major problems of Tata Motors are the lack of safety, limited consumer and weak return on investment.

LAFARGE INDIA: Yes, the company performs SWOT before the production of a new item. The criteria for measuring the feedback is the replies of the architects, builders and construction companies that purchase Lafarge's innovative products.

Alibaba Group: The company focuses on protection of money transaction issues and supplier trust. Alibaba Group uses the latest advanced technologies and by establishing AliExpress and Alipay, the company try to provide the best control over the purchases. The employees monitors the processes, transactions and complaints about the suppliers and rank them. However, in some cases, supplier information may not be true. Fake supplier info can either be created by the so-called supplier or by an employee in the company to cheat on the buyer. So, supplier information is the major concern of the company.

China Nepstar Chain Drugstore Ltd.: The company does not perform SWOT but, tracking customer compliments as well as complaints and monitoring sales trends which is the best reflector of consumer behaviour lead the management to better results for further purchases.

7. **Does the company use social media effectively and efficiently for its customer relations? What are the networks the company prefers for social media?**

Petróleo Brasileiro S.A: Petróleo Brasileiro S.A. sets up its own blog to prevent misinterpretations, transcription misunderstandings and omissions made, intentionally or unintentionally, by journalists. In addition to its blog, the company uses five different social media networks for different categories. Petróleo Brasileiro S.A. uses YouTube for broadcasting the Petrobras Channel videos, the RSS technology for subscription, twitter for offering information to investors, Flickr for displaying the photos of production sites of the company, and facebook for its fan page.

Embraco: Embraco uses the most popular social media tools such as twitter, foursquare and facebook. For its own brand awareness campaign, since August, 2012, the company, particularly Embraco North America has been working with Gollin Harris, one of the best communication agencies in the US.

ALROSA: No, the company does not use social media because the company is a state-run monopoly and works with big cooperate companies.

Yandex: Yandex uses all the popular social media tools effectively and efficiently for its customer relations. Linkedin, Twitter, Foursquare and Instagram some of the networks Yandex uses. Yet, Yandex created its own voice-powered social search application called Wonder which irritated Facebook and on January 24, 2013 Facebook blocked IOS application Wonder.

TATA MOTORS: Yes, Tata Motors uses social media space effectively and efficiently. On Facebook, particularly Jaguar seems to be the third most engaged-with brand in the UK. We Are Social is hired to manage the company's Twitter and Facebook accounts and is responsible for launching products and events of the company as well as providing brand activity support.

LAFARGE INDIA: Yes, the company uses social media effectively and efficiently for its customer relations. Lafarge uses all popular social media networks such as Facebook, twitter, Instagram and YouTube.

Alibaba Group: Yes, the company uses the social media effectively and efficiently. All the popular networks as well as some new ones are used to enhance the list of its suppliers.

China Nepstar Chain Drugstore Ltd.: Nepstar actively uses Twitter and Foursquare.

8. **Does the company face any management problems with the individual and / or corporate customers? If any, can the risk management department's emergency plans solve the problem, preferably with no negative impact on the operational process?**

Petróleo Brasileiro S.A: The company occasionally faces management problems concerning drilling and / or platform safety. For instance, in 2010, the company's P-33 platform in the Campos Basin which was located off the southeastern coast of Brazil. was shut down due to some signs of rust which was pictured by the local daily O Globo and a complaint about the poor condition of the same platform issued by the Union of Platform Workers. Unfortunately, the company is not so good at handling such management problems. The company faces financial problems, too, such as stronger U.S dollar and its foreign-currency debt. Besides, R&D expenditure is rising rapidly. Through specific agreements, mergers and acquisitions, the company benefits from foreign based technology, in other words, advanced technology provided by foreign companies help Petrobras develop new products and new ways of drilling but, this continuous development of new ideas is another heavy financial load for the company.

Embraco: The company does not seem to have faced any management problems with its customers. Yet, the problem the company has faced twice is too difficult to handle. The first case happened in 2010; the company together with Panasonic Corp. paid $140,9 million in criminal fines. In 2013, Whirlpool Corp and two European suppliers were sued by GE and was Embraco as the company is the partner of Embraco North America Inc in which Whirlpool Corp. is the controller stakeholder. By GE, the joint venture is claimed to have taken part in price-fixing and also sues two big suppliers which are Danfoss A/S of Denmark and Household Compressors Holding SpA of Italy. GE sues Whirlpool on Cartel. (Linebaugh,K. 2013, February 20 / wsj.com)

ALROSA: The financial crisis in 2009 dented both the sales and the profit of the company. Despite keeping the prices of rough diamonds at 2008's levels, the company had faced severe cuts and reset its sales target for 2009-2010 according to the market facts.

Yandex: Since the risk factors are clearly identified and more people are hired for product development, most problems could be handled in a more practical way. Risk factors are as follows:

Competitive pressures, alterations in advertising patterns, switches in user preferences, alterations in legal and regulatory circumstances, developments in technology, and the company's need to increase capital to comply with the growth of the business and other unpredictable risks and uncertainities.

TATA MOTORS: Global wholesales including commercial vehicles and Tata Daewoo dipped 20% as of December 31, 2013 due to recent global turbulences in economy. However, the company's subsidiary JLR (Jaguar-Land Rover) in UK increased 3% in the fourth quarter of 2013.

LAFARGE INDIA: Yes, the company occasionally face some management problems such as sales of cement by volume in advanced countries, particularly in the USA due to global financial crises or the company's aggregates quarries in the USA. Heading for the emerging countries such as Egypt, India and Bangladesh, where rapid urbanization creates demand for cement and concrete, Lafarge is able to curb its losses. Selling the aggregates quarries to another company in USA, the company avoids the approaching financial problem successfully.

Alibaba Group: Hundreds of people got fired after a fraud that cheated on hundreds of small merchants. Some employees at Alibaba deliberately, registered some fraudulent sellers and ranked them as Gold Class suppliers. Those fake sellers who received the payments online never delivered the products to the buyers. More than 2300 fake storefront were involved in this fraud. It was a scandal and the company was at risk; it was about to lose customer trust. Thanks to the senior management that took the responsibility as soon as the scandal burst out.

China Nepstar Chain Drugstore Ltd.: The company due to the technology (ERP) it uses does not seem to face any procurement problems. In addition, due to abundant number of drug manufacturers in China, badly performing suppliers could easily be replaced without any interruption to the business. Yet, for Nepstar, there are still some serious risk factors that could create management problems. These are sudden increases in the minimum wage, sudden changes in regulations and permits and demographic changes in cities where Nepstar is functioning.

9. Does the company have its own separate R&D Department?

Petróleo Brasileiro S.A: Yes, Petróleo Brasileiro S.A. has its own R&D house called Cenpes which is the largest R&D in the Southern hemisphere. Cenpes is administered by the Federal University of Rio de Janeiro (UFRJ). There are also laboratories two of which are very important for the company. One of them is Geophysics laboratory called Rock Physics Laboratory which measures seismic velocity in rocks to calculate reservoir potential and the other is the Fluids Laboratory which conducts tests to develop innovations such as creating new fluid formulations in drilling.

Embraco: The company does not only have its own separate R&D but also a New Business Department established with the idea of tapping the new markets with inventive products. In addition, Embraco owns 50 state-of-the-art laboratories with 400 scientists. Embraco, a global leader in hermetic compressors, partners with hydrocarbons21.com. (2013, October 28 / hydrocarbons21.com)

ALROSA: Yes, the company has its own R&D Department.

Yandex: Yes, the company has its own R&D Department.

TATA MOTORS: Yes, Tata Motors has its own R&D. In fact, the company has two different types of R&D Departments each established in different locations in India and in UK.

LAFARGE INDIA: Yes, the company has its own R&D with over 1000 researchers from different countries. The company is the global leader of R&D in its sector with its laboratories and research centers.

Alibaba Group: Yes, Alibaba Group has its own R&D Department which was officially established in 2008.

China Nepstar Chain Drugstore Ltd.: No specific information has been gathered. Yet, the company seems to focus on management and service innovation rather than product innovation because Nepstar is not a manufacturing company. The company encourages store managers and staff to put forward their own ideas on promotional activities and advertising.

- **If yes, is the technology used by the company's own R&D efficient enough to arrange every step of manufacturing or the service created?**

Petróleo Brasileiro S.A: Yes. Each new product, before taking its place in gas stations goes through a set of assessments and testing which involve environmental legislation and compliance. In addition, the company continuously invest in creation of new products such as transforming petrochemicals into polymers and using chemical reactions of bacteria on residues of sugar canes to produce ethanol.

Embraco: The company researches, develops, invests, and produces its own products; in otherwords, the company creates its own technology. In addition, the company not only manufactures the best refrigerators and compressors but also provides the best service for its customers.

ALROSA: The company has special investment plans for innovation. There are 5 categories for the innovation of different segments. The first category is the expenditure on R&D and technological innovation. The next category is the funding of R&D. The third one is capital investments and the purchase of materials, software and other services for the implementations of technological innovations.

Yandex: The company, as one of the leading search engines in Europe not only uses advanced technology tools but improves them to provide its users with the best service. The service offered by Yandex is a kind of tailor-made design created to provide shortcuts for its users.

TATA MOTORS: Tata Motors has various research centers. The research center at Jamshetpur and theEngineering Research Center at Pune regularly upgrades components. Facilities at ERC in Pune has 24 testing beds for engine development, a Chassis DynamometerEmission Lab for checking the levels of emission, an Electrodynamic Vibration Shaker Platform for checking engine components and assemblies against vibrations,and an Instrumentation Lab for assisting engine development. In addition, Tata Motors not only reduces the emission levels of the vehicles running on different types of fuel but also manages to build up fuel consumption efficiencies. Moreover, there is durability testing which uses stress tests to measure the endurance of the vehicles the company manufactures. In the ANECHOIC CHAMBER, the company minimizes the noise and vibration created by the vehicles. In the CAD center, with 53 CAD centers and the latest advanced software, virtual prototypes of new vehicles are created.

LAFARGE INDIA: Yes, the technology used by the company's own R&D is state-of-the - art quality. An international network of over 1000 employees at the Research Center and 240 experts with skills in cutting-edge fields such as hydration chemistry, physics, organic chemistry, rheology and micro-mechanics using advanced analytical tools like electron microscopy, micro-indentation and nuclear magnetic resonance arranges every step of production.

Alibaba Group: Since the company is continuously investing in faster and better protected licensed technology, the service offered to the customer is always the utmost quality and their data is protected by cloud computing.

China Nepstar Chain Drugstore Ltd.: The company's well-established technological system and its employees could arrange every step of the service created. The company's Quality Assurance System and Quality Assurance Teams traces every step of safety and quality directly related to product.

- **If no, does the company receive any technological support by means of science and technology ?**

Petróleo Brasileiro S.A: The company's continuously renewed advanced technology provides the required support for innovative products but, the company receives additional technological support from global technology companies through specific contracts. For instance, Honeywell's UOP Separex technology which upgrades natural gas streams by removing carbon dioxide and water vapour without using solvents is selected by the company to provide offshore technical support and staff training.

Embraco: Through external partnerships, the company receives additional technological support by means of science and technology.

ALROSA: Yes, the company receives external technological support from SMEs, universities and other companies by means of science and technology.

Yandex: Yandex itself is a technology company and the company itself gives away technological support like the one for CERN. Most team members at Yandex have backgrounds either in mathematics or physics; they can maintain the infrastructure.

TATA MOTORS: Tata Motors owns probably the best R&D Departments in India.

LAFARGE INDIA: None.

Alibaba Group: Like most big global companies, Alibaba Group not only creates innovative products but also purchases advanced technology tools to provide better service to its domestic and foreign suppliers and customers.

China Nepstar Chain Drugstore Ltd.: The company receives technological support by means of the ERP system installed.

10. In either case above, what is the total annual budget set for R&D including all kinds of external professional support and what is the ratio of this amount to the company's annual sales' figure?

Petróleo Brasileiro S.A: Second Quarter Financial Report (Aug 9,2013 / reuters.com) of the company shows that Petrobras had net sales of \$32 billion, 8.20 % more than a year earlier. Even though it is a known fact that R&D expenditure is massive, total annual R&D budget is not mentioned separately in the annual report of the company, so it is impossible to calculate the proportion of the unknown amount to the company's sales figure.

Embraco: The company spends 3- 4% of its revenues on R&D every year but, as no specificinformation has been gathered through its website, it is difficult to know whether it is the total revenue including all of its plants and offices worldwide or the revenue of its North America establishment.

ALROSA: Yakutniproalmaz Institute spent RUB 352 million as of 2012, the volume of research carried out at the expense of Ministry of Education and

Science was RUB 91,5 million and the volume of design works amounts to RUB 1,546.2 million together with the works performed by Yakutniproalmaz Institute without subcontracting.

Yandex: Expenses for product development is RUR 2,709 million and net income is RUR 5,161 million as of June 30, 2013.

TATA MOTORS: No specific information has been gathered but, according to the article on Forbes website, Tata Motors Ltd. is not among the top 20 R&D spenders though the company regularly invests in research and development to design new products.

LAFARGE INDIA: The company claims to spend over 115 million euros on research and development but, it is not clear whether it is the overall spending of La Farge Group or La Farge India.

Alibaba Group: No financial information has been gathered on R&D expenditure at Alibaba Group even though the company seems to spend massive amounts of money on R&D. The only financial information is about the company's profits that hit $680 Million and revenue $1.38 Billion as of July 17, 2013 (techinasia.com)

China Nepstar Chain Drugstore Ltd.: No definite information has been gathered particularly due to lack of R&D. Yet, as of 31 December, 2012 total revenue was RMB 2,549.9 million (US$409,3 million) and net income was RMB 90,1million (US$14,5 million).

11. Does the company have any kind of cooperation with any of the universities' related departments in the countries' it functions by means of job opportunities, trainee programs, technical and / or technological support, reports, etc?

Petróleo Brasileiro S.A: The company relies on a new technological partnership with universities and institutions. From the point of this collaboration the company has established thematic networks in about 28 different locations within the country under the name "Thematic Network Project". Petrobras has various kinds of cooperation with universities' related departments. Each thematic network connects university laboratories of diverse areas to one another; over one hundred R&D institutions on 50 networks share knowledge and information with foreign and domestic companies in Brazil.

Embraco: Yes, the company collaborates with universities and research institutes in variouscountries. For instance, the federal university of Santa Catarina, particularly the Mechanical Engineering Department's Thermal Sciences of the university founded the POLO Research Laboratories for emerging technologies in cooling and Thermophysics in 1986. As a result of this collaboration, several partnerships with global companies such as

Bosch, Electrolux, Petrobrás, Metalfrio have been signed. The company also offers internship and trainee programs, job rotation, expatriation and career development plan. (polo.ufsc.br/institucional)

ALROSA: There are personnel training programs and advanced training methods. Besides, there are also production trainee lines where the company provides raw material supplies. For traditional Russian diamond cutting expertise and craftsmanship, there is collaboration with other individual Russian cutters. All these programs, particularly traditional cutting style, are for the company's existing employees and trainees. Yakutniproalmaz Research and Design Institute and the Geological Research and Exploration Enterprise perform research in mining, mineral processing and exploration technology areas. The collaboration of Alrosa with RAS (Institutes of the Russian Academy of Sciences) and higher education establishments are listed below:

Permafrost Institute (Yakutsk)
Institute of Comprehensive Exploitation of Mineral Resources (Moscow)
St. Petersburg Faculty of the Geo-Ecological Institute (St. Petersburg)
Yakutsk Scientific Center of the Siberian Branch of the RAS (Yakutsk)
Irkutsk Scientific Center of the Siberian Branch of the RAS (Irkutsk)
Mining Institute of the North (Yakutsk)
Institute of Mining of the Siberian Branch of the RAS (Novosibirsk)
Moscow State University (Moscow)
Moscow State Mining University (Moscow)
St. Petersburg State Mining University (National Mineral Resources University)
Mirny Politechnical Institute of the Yakutsk State University (Mirny)
Irkutsk State University (Irkutsk State Technical University and the ISU, Irkutsk)
The company also has collaborations with some independent institutes and organizations such as Novotek in Belgorod and Irgiredmet in Irkutsk.

Yandex: The company has founded its own schools to train specialists. Minsk, Saint Petersburg, Ekaterinburg and Moscow are the cities where The School of Data Analysis is located. The company supports education including Olympics in mathematics, science, and linguistics. In addition, Yandex Labs, established in San Francisco Bay area, collaborated with Carnegie Melon University in US.

TATA MOTORS: Yes, Tata Motors has cooperation, particularly for R&D consolidation, with someuniversities. For instance, Tata Motors has signed an agreement with Amity Business School to train the Works Managers of the school. The major point in here is to provide strong exposure of managerial skills to the works managers. In addition, researchers at Tata Motors R&D on the campus of Warwick which was established in 2005 work with the WMG researchers at the university of Warwick on low carbon technology planning to produce the electrical vehicle for Tata Motor's Vista.

LAFARGE INDIA: As a global company, Lafarge collaborates with universities in the US such as MIT ,such as the University of Toronto in Canada, the Ecole Polytechnique in France, the Ecole Polytechnique Fédérale in Lausanne in Switzerland and IIT Madras, IIT Delhi and the Indian Institute of Science in Bangalore in India. The company also offers a large variety of educational programs including seminars and research contracts.

Alibaba Group: The company has been arranging online training classes for small businesses and individuals in e-commerce and enterprise management. Ali Institute, established in 2009, provides educational services more systematically under a commercialized model. In addition, collaboration with Hangzhou Normal University to operate Alibaba Business School which supports young scholars to conduct researches in ecommerce, offers employment training for the disabled, and grants the Netrepreneur of the year award for honouring excellence in e-commerce. Moreover, another collaboration with Zhejiang University in November, 2013 provides more alternatives for academicians.

China Nepstar Chain Drugstore Ltd.: Employees, according to their positions in the company, are registered for training programs sponsored by Nepstar once a year.

12. What are the innovation strategies and targets of the company? Are they set on a quarterly or annual basis?

Petróleo Brasileiro S.A: Petrobras seems to function on a 4-year- business plan for its investments. According to the article on “Cenpes Leading Petrobras’ R&D Effort” (April 17, 2013 / marinelink.com), the company will invest $147.5b for the 2013-2017 business plan but, how much of this massive amount will be spent for R&D is unclear. The company’s 2013- 2017 business plan will pursue the company’s 2012-2016 business plan’s production targets for oil and gas which means no additional increase is planned. There will be no additional projects except the projects directly related to natural gas and oil exploration and production in Brazil. In addition, the results of the structural support programs PROCOP, PROEF, PRC-Poço which is a well cost reduction program and INFRALOG will be incorporated. Moreover, the scope of PRODESIN (the divestment program) will be expanded.

Embraco: Efficiency optimization, simplicity and customer needs are the major innovation strategies of the company; from 2003 to 2011, Embraco succeeded in providing 23 % improvement in this area. Technology driven product miniaturization and oil-free compressors with less noise are some of the other steps in innovation. The company has five pillars for its targets. Revenue growth and value creation, sustainability, technology and innovation, operational excellence, and people. Through the blend of these five pillars, Embraco targets to keep its global leadership position in producing hermetic compressors for refrigeration and to guide the sector for excellence in energy efficiency.

ALROSA: Alrosa uses a wide range of sources for the growth of innovation. Among these sources, there are universities and academic science, foreign partners and SMEs. In2012, the company experienced a significant increase in implementation of innovative technologies and equipment. For innovative growth the company has strategic vectors. To develop better efficiency at existing facilities for diamond mining, to enlarge the use of diamonds in other sectors through technology participation platforms, to implement the systems of comprehensive information, to introduce new technology of high-performance drilling for providing better efficiency of diamond-exploration activities, to create new diamond-mining technologies for the formation and application of new cost-effective ore-concentration forlow-grade ores at technological fields, the creation of technologies and modular units for development of deposits far from the production infrastructure.

Yandex: Offering better functioning technology tools focusing on modifying current technologies to create new ones. For instance, the company’s machine translating technology provided by PROMPT is different than the available machine translation systems. This new system recognizes the rules of a natural language because it is based on statistical regularities.

TATA MOTORS: The company uses disruptive innovation (Clayton Christensen) a type of innovation which reduces the cost and the selling price of the car sharply while ignoring some performance during the production. “People’s car” (Volkswagen) or “One-Lakh-Car” indicates a very affordable car as one lakh is approximately equals to 100,000 Indian Rupees. The target of this type of innovation is the potential buyers of a low-price car in a country with over one billion people most of who can own either a motor bike or a motor scooter. With its Jaguar brand, Tata Motors target high-profile customers around the world with social media strategy to expand innovation.

LAFARGE INDIA: The company’s innovation strategy is to meet the needs of a more sustainable construction and to better offer architectural creativity. The company has a local strategy; its innovation center in Mumbai focuses on product innovation. Creating new affordable housing solutions in India with fast, simple, and safe products is the major concern of the company. In fact, building more compact and more durable urban areas using environment-friendly products that contribute to well-being through energy-efficient housing is the target of La Farge India.

Alibaba Group: Since Alibaba Group is the leading e-commerce enterprise, its major drivers areinnovation and entrepreneurship. The company while trying to meet the needs of itscustomers from all walks of life and from all regions, Alibaba focuses on internationalization process and to achieve this goal, the company’s area of interestwill be emerging countries in the next step; Africa, Latin America and the entire Asia are the target markets. The company knows that it does not have a big chance in Europe and in North America as there are two competitors which are eBay and Amazon respectively. Even though these two companies when combined, is not as big as Alibaba, both are more powerful in those two geographical areas. Generally, the company’s innovation strategies and targets were set on annual basis. Yet, the company has the ability to make quick turns like the one in Alipay. If the company had not shifted so quickly, the payment regulation changed by the government would create a big risk for the company.

China Nepstar Chain Drugstore Ltd.: Quality assurance is the major commitment of the company to its costumers. The company’s target is to provide high-quality, professional and convenient pharmacy services to the Chinese market. The companies strategies and targets are set on a quarterly basis.

13. Which strategy does the company use the most within the ecosystem it has created?

Keystone
Physical dominator
Value dominator
Niche player

Petróleo Brasileiro S.A: Petrobras is a state-run dominator oil company. Yet, through its online system for suppliers, the company acts like a hub for its own suppliers.

Embraco: With its plants and offices in 7 countries supplying the 25% of the global sales, Embraco uses both the physical dominator and value dominator strategy within the ecosystem the company has created.

ALROSA: Alrosa is a physical dominator because the company operates in a mature industry.

Yandex: Yandex uses the international digital hub strategy.

TATA MOTORS: Tata Motors uses strong domestic player in Indian market. The company is the key manufacturer, particularly of commercial vehicles and among the top three players for passenger cars. In international markets, the company functions as a niche player like other markets in automobile industry.

LAFARGE INDIA: As the global leader of building materials, Lafarge operates as a physical dominator within the ecosystem it has created.

Alibaba Group: The company activates as a physical dominator in its homeland, China but, uses the keystone strategy within the global ecosystem the company has created.

China Nepstar Chain Drugstore Ltd.: The company's strategy of centralized obtainment, customer loyalty programs, competitive pricing, and private labelled products help the company exploit the continuing economic growth in China and benefit from the demographic trend in China to establish a strong brand and leading market position.

14. Has the company had any entrepreneurship activities by means of domestic or foreign investment in recent years? –Merger, a partnership, or an acquisition?

Petróleo Brasileiro S.A: Yes, the state-run oil company has had tens of domestic and foreign investments. For instance, the recent discovery of good-quality oil in the sub-salt Carioca offshore field was found by a consortium formed by the leadership of Petróleo Brasileiro SA, shortly known as Petrobras. Other companies in the consortium were BG Group Plc and a joint venture Sinopec in which Repsol SA from Spain and China Petroleum and Chemical Corp take part.

Embraco: Yes, the company has had various entreprneurship activities by means of, particularly foreign investments. With its production facilities in 7 countries, the company owns a large number of partnerships. As early as 1995, Embraco entered a joint venture with Beijing Snowflake and formed Beijing Embraco Snowflake Compressor Company (BESCO). Embraco opened a plant in China and started to produce hermetic refrigerator compressors. Empresa Brasileira de Compressores - Embraco still owns 70% equity stake in that joint venture in which Whirlpool Overseas Holding Coperation is the third partner.(Beijing Embraco Snowflake Compressor Company Ltd. (chinecsrmap.com)

ALROSA: The company's area of interest seems to be mining because the company has somegold mining activities as well as its rough diamond mining. In addition, mining activities like the production of natural gas and oil mining in the Russian federation and Kazakhstan through Celtic Resources Holdings of Dublin, Ireland point to the company's entrepreneurship activities.

Yandex: The company has acquired many various startups such as moikrug.ru in 2007 which is a social network for professionals and personal contacts. The next acquisition was SMI Link owned by a traffic monitoring agency and merged it with Yandex.Maps. In 2008, Punto Switcher software program was acquired by the company. In 2010, Yandex owned the webVisor's Behavior Analysis technology and then the company acquired Loginza, the same year. Yandex also acquired the mobile software business of SPB Software in November 2011. Another acquisition of the company is KinoPoisk in October, 2013 which is ranked the 16th largest web property in Russia, offers information and recommendation on movies, TV shows and celebrities, sells online tickets and most important of all, KinoPoisk is a Russian-language website. Recently, in the town of Mäntsälä in Southern Finland, Yandex has been establishing a Data Center of its own.

TATA MOTORS: Tata Motors has operations in Indonesia, Thailand, South Korea, South Africa and in the United Kingdom through its subsidiaries and associate companies. In 2004, Tata Motors acquired second largest truck manufacturer in South Korea called Daewoo Commercial Vehicles Company. In 2006, the company owned a joint-venture with Marcopolo, a Brazil-based coach and bus body-building global company. The same year, the company established another joint-venture with Thonburi Automotive Industry Assembly Plant Company of Thailand. Then, the company acquired Jaguar Land Rover in 2008. In the year 2011, Tata Motors entered into joint-venture with Tata Africa Holding (Ply) Ltd. and owned an assembly plant in Rosslyn, Pretoria. The company has some other joint-ventures and / or franchisee operations in Senegal, Ukraine and in Bangladesh.

LAFARGE INDIA: Yes, the company has had various entrepreneurship activities in India since 1999. First, the company entered India by acquiring Tata Steel's cement business. Then in 2001, Lafarge acquired another company in India which was Raymond's cement plant. In 2008, the company found another business; Larsen and Toubro's concrete business was acquired.

Alibaba Group: Alibaba has twenty-eight partners two of which are Yahoo and Softbank as major shareholders. Some other subsidiaries are AliExpress, Alipay, Taobao, Tmall.

China Nepstar Chain Drugstore Ltd.: The company had acquired 8 stores from Wenzhou Ren Ren Hao Chain Drugstore Co.,Ltd. Then Nepstar disposed the stores in 2012.Neptunus Group, Shenzhen – based healthcare conglomerate specializing in the medical and bioengineering industries controls more than 50% of Nepstar. The second largest shareholder is Goldman Sachs has almost 25%shares and a seat on the board.

15. Since the establishment of the company, which investment seemed to be the riskiest among all the investments the company has had as of today?

Petróleo Brasileiro S.A: Wrong governmental policies rather than investments create the biggest risk. Building refineries in poorer areas to boost employment rate, importing the required material for the production of oil at a higher price then selling the oil at low prices to cap inflation, massive funding of R&D investments and last but never the least, using oil drilling and production as a political tool seem to be the major risks for the company.

Embraco: No information has been gathered.

ALROSA: The company has had some investments two of which seem to be the riskiest. The investigation by some journalist in 2005 seemed to unveil the fact that the company's subsidiary called Alrosa Finance had business agreements with Shapburg Limited and Quenon Investments and these two companies had some conspicuous activities with some other shareholder companies all of which shared the same P.O. Box on British Virgin Islands, a hub famous for offshore banking activities.

Yandex: As a foreign company, the listing in NewYork stock exchange seems to be the riskiestfor the valuation of Yandex as the investors are scared of The Russia's current economic problems and unstable environment created by corruptions.

TATA MOTORS: The company seems to be ignoring safety instructions during manufacturing. For instance, on April 9, 2010, Tata Nano caught fire pointing to the fact that Tata Motors creates risk when new products are concerned.

LAFARGE INDIA: No specific information has been gathered but, the company's business facilities inNorth America might be the riskiest as cement

volume sales in North America has been down for a while. (13 November, 2013 / www.globalcement.com)

Alibaba Group: Alibaba Group holding has a serious listing problem in Hong Kong. Due to its special corporate governance structure, the company's initial public offering(IPO) plan in Hong Kong was derailed. Alibaba's partnership structure is the major problem. The company's twenty-eight partners, though they have only 13 % shares in the holding, they are the only decision-makers and each partner company has its own founder and/or senior executive. Since the Hong Kong bourse is against dual-class share structure, the listing can not take place on Hong Kong stock exchange. Both the New York stock exchange and the Nasdaq accepted the company on their listing but it is believed that the regulations the company has to deal with in the US will be more complicated than the regulations in Hong Kong. Alipay which provides the payment system to Alibaba Group was another risk for the company. After the restructuring of Alipay, despite serious controversy from Yahoo! Inc, to comply with the new regulations in China, the company waived off the risk.

China Nepstar Chain Drugstore Ltd.: The company closed 319 stores and opened 56 new ones. 156 new stores in Q4 of 2009 and in the first half of 2010, 173 new stores are opened. Changing demographics is the major reason for store closings. Next comes the changing standards and regulations for food and drugs in PRC.

16. Among the investments the company has had so far, which investment seems to be the most beneficial both to the company and the employment rate of the location?

Petróleo Brasileiro S.A: The pre-salt discovery led the company to establish a highly collaborative environment. The technopark created on the Federal University of Rio de Janeiro campus by the company is probably the most beneficial both to the company and the entire country because the technopark loaded with foreign-based technology companies has reversed the brain drain abroad. Not only the Brazilian scientists who had left the country to work abroad have come back but also multinational specialists and scientists entered Brazil to work. With 11 R&D Centers and Coppe Labs of the Federal University of Rio de Janeiro, Petrobras's research center, CENPES has the ability to innovate.

Embraco: The first factory in its own country seems to be the most beneficial to all parties; the country, the company, and the employment rate. Since Brazil is still among the countries with the highest rate of unemployment, the first production plant of Embraco must have contributed to the employment rate. Next, until the opening of the first production plant, the company would purchase the compressors from other countries paying the amount in US dollars; the domestic plant must have contributed to the GDP in Brazil. Last but never the least, the company would remain a supplier selling compressors of foreign brands and might have faced tariff problems.

ALROSA: The company's projects in Africa seems to be the most beneficial both to the company and the employment rate of the location it activates.

Yandex: The acquisition of KinoPoisk seems to be the most beneficial to the company with its massive collection of movie recommendations all in Russian language. Yandex will expand the database through machine-learning technology and algorithms of search personalization while KinoPoisk will benefit from Yandex's technological expertise and massive resources. In addition, none of the members of the team at KinoPoisk will lose his/her job, they will be integrated into the Yandex team. From the point of symbiotic relations, the users will benefit the most because they will be able to reach information on a wide variety of platforms and devices.

TATA MOTORS: No specific information has been gathered but the company's JLR in UK seems to be the most beneficial both for the company and the employment rate of the location.

LAFARGE INDIA: No specific information has been gathered. Yet, investments of Lafarge in mineralrichbut poverty-hit regions such as Bangladesh, seem to be the most beneficial both to the company and the employment rate of the locations. While the company benefits from cheap labor cost and easy access to rich resources, the unemployed with little skill have the chance to get a job.

Alibaba Group: Like most global companies, the investments in his homeland seem to be the most beneficial both to the company and the employment rate of the location. Yet, the staged agreement, including Yahoo! Inc, Softbank, and Alibaba Group is the most beneficial to all parties.

China Nepstar Chain Drugstore Ltd.: No definite information has been gathered. Yet, private-labelled products Nepstar purchases from various companies helps Nepstar increase its profitability through discount prices.

17. Prior to company benefits, what type of investment in a foreign country is more advantageous- buying an available company or establishing a brand new one?

Petróleo Brasileiro S.A: Even though the company seems to invest in foreign countries like China, it is, in fact, foreign companies that invest in Petrobras and this direct foreign investment is due to the massive oil reserves in Brazil.

Embraco: Entering into joint ventures with available companies in foreign countries seems to be more advantageous for the company. For instance, compressor factories in Italy and China are built through agreements with domestic companies.

ALROSA: As a physical dominator, to absorb the complex network of interdependencies, the company signs agreements with available companies in foreign countries where thesources are relatively stable.

Yandex: No specific information has been gathered but, the two offices opened in Switzerland and the establishment of Yandex Labs in San Francisco Bay area 100% owned by Yandex, may indicate that Yandex finds establishing brand new offices of its own in foreign countries more advantageous.

TATA MOTORS: Buying a controlling stake of a company in a foreign country such as JLR (Jaguar Land Rover) in UK, seems to be more advantageous for Tata Motors.

LAFARGE INDIA: Buying an available company in a foreign country seems to be more advantageous to the company as the company entered the Indian market acquiring the business of a domestic company in India and then expands through acquisitions of other businesses in related areas.

Alibaba Group: For Alibaba Group Holding, due to its special structure, establishing partnerships with big global companies, like the one with Yahoo, seems to provide the company with outstanding benefits.

China Nepstar Chain Drugstore Ltd.: The company does not own any stores abroad. Yet, Nepstar has some financial agreements with some foreign companies; the agreement with Goldman Sachs ondirect investment carried the company to the listing of NewYork Stock Exchange.

18. On what issues does the company face the most difficulties at the customs both inland and / or on ports? And, why?

Bureaucratic slowness
Freight fees
Cargo insurance

Petróleo Brasileiro S.A: Cargo insurance and freight fees are the major difficulties that the company face both inland and on ports because the products are hazardous and need special instructions and restrictions during their transportation.

Embraco: Cargo, not the cargo insurance, particularly, loading and unloading seem to be the most difficult task for the company as the cargo company could easily damage the compressors during delivery. So, a detailed explanation how to do the loading and unloading is available online. The detailed information including some sketches clearly defines the process.

ALROSA: No information has been gathered, but as the company is a state-run monopoly in Russia with high-profile global business relations, it is assumed that Alrosa might not face much difficulty.

Yandex: As a web property, Yandex might face major difficulties in bureaucratic procedures. In addition, sales of some of its web technology tools like Metrica which is a free mobile application, has been recently blocked on international markets, particularly by Facebook.

TATA MOTORS: No specific information has been gathered but, it is assumed that the company does not face bureaucratic slowness much but, transportation cost which includes freight and insurance fees is the major difficulty the company faces particularly when export cars to Africa is concerned.

LAFARGE INDIA: The company might face political conflicts and public unrest in developing (emerging) countries such as the one in Egypt.

Alibaba Group: Since Alibaba Group Holding is not a production company, it does not face the common problems that other companies do. Yet, the company probably has a more serious problem than the other companies do have due to its special structure. This special corporate governance, though carries the company to global leadership, creates various problems both inland and out of China.

China Nepstar Chain Drugstore Ltd.: Nepstar is not a manufacturing company, it does not have any export goods of its own. Yet, the company might still have difficulties at the customs as Nepstar has some agreements of strategic cooperation with some multinational companies such as Bayer Healthcare Company Ltd and Boehringer Ingelheim Shanghai Pharmaceuticals Co. Ltd. but no definite information is gathered.

19. Has the company faced any quota barriers for its export goods? If so, which countries?

Petróleo Brasileiro S.A: Due to the vital global importance of the energy the company produces, the company does not seem to experience much difficulty exporting its products. In fact, throughforeign-owned affiliates, organizations of custom unions such as MERCOSUR CET in which Brazil is also a member, and with some specific agreements andinternational governmental incentives such as lower tariffs, Petrobras collects largerquotas for its exports.

Embraco: Though no information has been gathered, functioning in seven different locations globally, it could be assumed that the company can not have serious quota barriers for its export goods.

ALROSA: Alrosa, as a state-run diamond company produces almost 20 % of the world's total. As a result, it is, in fact, Russia who sets up export quotas for diamonds. Even in 2005, during the celebration of the anniversary of Alrosa's, the chairman announced that the company would abolish gradually its current export quotas for diamonds in 6 months.

Yandex: Since Yandex is not a manufacturing company, it has nothing to do with export goods. Yet, the company might experience some restrictions from other search engines and /or governmental regulations. Moreover, there might be some quota barriers for online advertising (No definite information has been gathered).

TATA MOTORS: No specific information has been gathered but, according to the news in Bloomberg July 11, 2013, it seems that Tata Motors and Indonesia share the same target for different purposes. Indonesia wants to capture Southeast Asia's car market leadership overtaking Thailand, and Tata Motors wants to sell as many vehicles as possible to Indonesia to be able to build up a local assembly factory in Indonesia. From this point of view, it could be claimed that Tata Motors, at least for Indonesia, experiences no quota problems.

LAFARGE INDIA: No specific information has been gathered. Yet, being active in 79 countries, Lafarge might have waived off quota barriers and high tariffs on its products in most countries.

Alibaba Group: As Alibaba Group Holding is not a production company, it does not have any export goods. Yet, the company faces listing problems on stock exchanges which stem from its special corporate structure. In addition, the company is occasionally blamed for ignoring its foreign partners' voices.

China Nepstar Chain Drugstore Ltd.: Nepstar has its chain stores only in China, so the company has not faced any quota problems.

20. What kind of technological networks does the company use to share knowledge and information with its suppliers, dealers and / or cooperate customers within its ecosystem?

Petróleo Brasileiro S.A: Petrobras has mainly 4 channels to do business with suppliers, partners and / or vendors. The customer channel has a restricted area. A candidate customer company should wait for both the commercial and financial approval of the file filled in over the Net by the customer company. The supplier channel offers all the information on goods, services, hiring, and the support services provided to the suppliers by Petrobras for their existing suppliers. In addition, the supplier channel functions like a hub as it offers its suppliers third parties through its Vendor List. Petronect is the third channel to provide safe, simple and fast solutions for goods and service procurement processes to its system's companies and their suppliers. The last channel is Exploration and Production (E&P) Consortium. Massive amounts of investments in pre-salt projects are made by partnerships of the company (Petrobras.com / Business Center). For inner communication, the company has substation Automation infrastructure. For better performance, reliability and system information, the infrastructure needed integrating new substations with legacy Power Management Systems (PMS). The company implemented IEC 61850 technology which is an Ethernet-based global standard for system architecture and communications in Substation Automation and Power Distribution Systems. The company adopted ABB's System 800xA which is an open concept with one IED technology including one library, one control system, and one common IEC 61850 engineering toolset which is regularly updated (controlglobal.com).

Embraco: Embraco uses information system SAP but for Embraco Slovakia, the company uses Microsoft cluster technology implemented by VARIAS. This new technology dramatically reduces the operating time and provides easy access to the entire system.

ALROSA: No specific information has been gathered, but the company has established companies and subsidiaries in strategic locations all around the world. Alrosa has 3 United Selling Organization in Moscow, Mirny and Yakutsk, and 6 foreign-based diamond trading companies in Israel, United Arab Emirates, Hong Kong, Belgium, United States and Great Britain. These diamond-trading companies are all Alrosa's subsidiaries. Through its subsidiaries, centers and on-line contacts, Alrosa might share some information and knowledge with its corporate customers.

Yandex: The company as one of the leading search engines in Europe, has three major categories for the technology it uses. In the first category, the company uses web crawling technologies such as MatrixNet, Rich content API and FML. In the second category, Yandex uses Data Algorithms such as Machine Translation, Music Recognition, and Traffic. In the last category, the company uses cloud technologies and services for Cocaine, Disk API, and Elliptics. Unfortunately, the company admitted that they shared information with Russia's state security service (FSB) on personal data about the people who donate money to an anti-corruption website.

TATA MOTORS: For Tata Motors, technological initiatives are mainly divided into two: InformationTechnology Initiatives and Technology and Environment Friendly Initiatives. Tata Motors keeps increasing IT as a key provider of its strategy, competitiveness, innovation and business growth. The company has a unique CRM solution which provides partner locations and users to interact with customers. The number of call centers are over 1000. Most subsidiaries of Tata Motors' have started to implement CRM, SAP, and / or TML to leverage base capabilities. In addition, the company uses digital product validation processes which helps enrich digital manufacturing planning capabilities and in-house "Knowledge Based Engineering" (KNEXT) applications. For technology and environment friendly initiatives, the company regularly improves fuel efficiency levels complying with the Euro V emission requirement. During these high-quality adjustments and improvements, Tata Motors provides better driving with higher technology features to satisfy the changing needs of its global customers.

LAFARGE INDIA: The company only uses its Website to communicate.

Alibaba Group: Alibaba Group Holding has three major services; English portal, Chinese portal, andAliExpress.com. The English language portal arranges sales between exporters andimporters from over 240 countries in different regions. The Chinese portal handles domestic sales between businesses under the web name 1688.com. The third major service AliExpress.com is a transaction-based retail website of the company that helps small businesses purchase small quantities of products at wholesale prices. In addition to these 3 major services, there are many other websites of the company each of which offers services to different profiles of customers. For instance, Taobao is the online shopping platform in China connecting consumers to one another. Another example is Tmall.com. It was first launched with Taobao, then it became a separate business which offers quality products for the wealthy Chinese.

China Nepstar Chain Drugstore Ltd.: Nepstar, as a retail chain, seems to place orders for new purchases for its selected suppliers. Nepstar stores are connected to the central enterprise resource planning (ERP) system because this system monitors inventory levels, the new trends in sales, and product mix on shelves. As soon as the merchandise is sold, the scanner send the code to the information management system which generates the daily sales report. This system plays an important role in decisions of category management, pricing, selection of products, shelf-space availability and purchasing.

21. In the name of establishing a sustainable business environment, does the company share any knowledge and info today with any of the rival companies of the past in order to be able to compete more effectively withother companies in the market? If yes, in what ways? –Workshop, training.

Petróleo Brasileiro S.A: Yes, the company shares knowledge and info with some of the rival companies of the past in order to be able to compete more effectively with other companies in the market. For instance, participating in conference workshops abroad to discuss offshore oil and gas explorations (paneuropean.com), attending cooperation on R&D and Innovation meetings between Brazil-UK Oil & Gas (brazil.org.uk) are two of the activities that indicate sharing info by the company.

Embraco: Workshops and training are organized by Embraco with supplier partners, not with competitors. In 2012, eleven workshops were organized in different regions; five workshops in Brazil, two in Asia, and five in Europe. A multidisciplinary team from Embraco joins the supplier's team to develop ideas and actions for improvement. Each workshop lasts about 3-5 weeks.

ALROSA: Not long ago, Alrosa was a kind of invisible company. Instead of Alrosa, the company's major cooperate customer De Beers was on the global spotlight. After the cancellation of the agreement with De Beers, Alrosa came into sight. Today, De Beers has become Alrosa's competitor. However, due to some mining mistakes and inefficient management, De Beers seems to be no longer a rival for Alrosa. In addition, as a global physical dominator, Alrosa has established a sustainable business environment of its own.

Yandex: Yandex shares knowledge and information with its competitor Mail.ru to a certain extent. The company seems to be activating more like the Graduate School of a US university rather than a company. The company does not seem to be competing with any of the rival companies. To establish a sustainable business environment, the company trains and provides support to talented people, instead. Young people with a B.S degree in Mathematics, Computer Science, Engineering, and in other related areas, are trained in its own schools called School of Data Analysis and acquire the knowledge and information developed and /or enhanced by Yandex. These people could work at any IT company as well as at Yandex. In addition, in the company's summer camp called Tolstoy Summer Camp, talented people are guided how to design an online business model. The two-month camp offers young talents to achieve their goals in startup projects. In addition, to discuss the company's innovations, technologies, practises, solutions, and API's, the company organizes bi-monthly workshops called Ya.Subbotnik for computer engineers and software developers who work at Yandex.

TATA MOTORS: The company does not share any knowledge and/or info with any of the rival companies. Tata Motors Ltd. offers only on-the-job training for ITI passouts and students from vocational schools.

LAFARGE INDIA: The company does not share any knowledge with competitors but, it provides technical and technological help to people who are in direct interaction with the company. Retailer-dealer workshop on expanding local businesses, internal training programs for its employees, Lafarge University in coordination with the best colleges and other educational programs.

Alibaba Group: The company does not share any knowledge or info with any of its competitors like eBay, Amazon.com, or any other. The company claims that between the years 2005 to 2007, the total foreign patent applications was about of their own applications, but then between the years 2008-2010 foreign applications jumped and reached to more than half of the applications worldwide. The company implies that their innovative products are somehow stolen. The charts in the study conducted by Universitat Munchen and the Munich Innovation Group illustrates this fact.

China Nepstar Chain Drugstore Ltd.: No adequate information has been gathered.

22. How many patents does the company have for its commercialized products as of today? Is the company planning to have some new patents registered in the coming years?

Petróleo Brasileiro S.A: Although the company seems to provide most of the technological support for ultra deep water drilling and establishing refineries through Brazil-based foreign companies, the company has had 82 applications since 2005 (faqs.org).

Embraco: Embraco has 1,277 letter patents and is one of the companies that the National Institute of Industrial Property (INPI) in Brazil granted more patents in recent years.

ALROSA: As of December 31, 2012, the company displayed 47 scientific and technical developments and secured 17 patent protection 15 of which are for utility models and inventions. It is obvious that the company is planning to have some more protection rights because the expenditure for innovative growth is rapidly increasing.

Yandex: Yandex Search and Yandex Direct are the two major products of the company and both do have patents. In addition, all the services and technological products of Yandex for instance, Cocaine as a service platform, Yandex.Shell as a program, Yandex.Money as an online payment system, Yandex.Jams as a specific online map showing the traffic congestions on road have patents.

TATA MOTORS: Tata Nano which is an innovative city car led the company to file about 68 patents as massive number of new concepts and designs are used for its manufacturing. The overall number of patents Tata Motors owns only for Nano are over 80.

LAFARGE INDIA: The company owns over 1000 patents. As an innovation-centered company, Lafarge is planning to have some new patents.

Alibaba Group: In 2009, the number of patents and utility models filed by Alibaba Group had reached approximately to 350. With the official foundation of the company's R&D Institute in 2008, the number of patents and utility model registrations skyrocketed. Patents are mostly focused on IT with a total amount of 75%. Other patents are related to telecommunications which is 26% and analysis, measurement, and control technology with 2%. As the leading company, Alibaba Group is planning to have new and better protected patents in the coming years.

China Nepstar Chain Drugstore Ltd.: Nepstar is not a manufacturing company so, Nepstar does not have any products of its own and any patents. Yet, since the law of the PRC on the Administration of Pharmaceutical Products includes manufacturing, distributing, packaging, pricing and advertising, Nepstar is subject to regulations and oversight by different stages of the food and drug administration in China, particularly SFDA as a retailer of pharmaceutical products. The company is also subject to other laws of PRC related to business operators, foreign-invested companies, and retailers. In addition, as a distributor of pharmaceutical products the company must have a valid distribution permit and a business license from the stores' regions. Each permit should be renewed every five years. Moreover, as a pharmaceutical Product Distributor, by law, the company is responsible for its suppliers, sales activities and the actions of its agents and / or employees in connection with their conduct of distribution on behalf of the distributor.

23. Does the company have any license agreements with any of the domestic or international companies?

Petróleo Brasileiro S.A: Yes, the company has some licence agreements particularly with some foreign companies.

Embraco: Yes, the company has various licence agreements with some international companies. For instance, the company's agreement with Emerson Climate Technologies allows Emerson to utilize the company products under Copeland brand.

ALROSA: The company has licence agreements with its renowned customers. These companies are also the participants of Alrosa's international auctions.

Yandex: The company has some licence agreements with two major companies as well as with advertising companies and its individual users.

TATA MOTORS: Yes, the company has had some licence agreements with some international companies because as a group, Tata has so many various companies in different countries.

LAFARGE INDIA: Yes, the company has some license agreements with other companies but not with any of the companies in India. Lafarge India is a direct foreign investment.

Alibaba Group: Yes, The company has license agreement with Yahoo Group. In addition, Alibaba Group possesses some license agreements with its own subsidiaries.

China Nepstar Chain Drugstore Ltd.: As Nepstar is not a manufacturing company, it does not have any license agreements.

- **If yes, what are the names of the firms the company works with?**

Petróleo Brasileiro S.A: Prysmian Group (worldoil.com/10-01-2013), Exxon Mobil Corporation (proactive investments.com/12 Jan, 2010/Exxon Mobil signs farm-in agreement with Petrobas and Turkish National Oil Company (TPAO) for Black Sea licences), Shell (investidopetrobras.com.br).

Embraco: Whirlpool Corporation, Snowflake Compressor Ltd., China, Aspera, Italy, Emerson Climate Technologies, USA etc.

ALROSA: Rosy Blue which specializes in the trading of rough and polished diamonds, diamond cutting and jewellery manufacturing, is one of Alrosa's major customers. In addition, a diamond supply long-term agreement was signed with Laurelton Diamonds based in Belgium. Laurelton Diamonds is a subsidiary of Tiffany & Co.

Yandex: Mail.ru and Sberbank are the major companies Yandex works with.

TATA MOTORS: In 2004, Tata Motors signed an agreement with a bus manufacturing company in Ukraine. In January 2007, Tata Motors and Motor Development International (Luxemberg) signed another licence agreement that enables Tata Motors to manufacture and sell compressed air cars using MDI technology in India. In another agreement in 2012, Tata Motors accepted to manufacture the engine of the commercial vehicles for a company in the U.S.

LAFARGE INDIA: None.

Alibaba Group: The group works with mostly its own subsidiaries and with Yahoo! Inc and Softbank. For instance, the company licenses specific intellectual property and technology and some specific software technology services to Alipay and its subsidiaries and in return, Alipay pays a royalty and technology services fee to Alibaba group, prior to a liquidity process. According to the licence provided to Alipay by people's Bank of China after the restructuring, Alipay keeps operating in China serving Taobao and its customers.

China Nepstar Chain Drugstore Ltd.: None.

- **Is / Was it contract manufacturing?**

Petróleo Brasileiro S.A: None.

Embrosa: No information has been gathered.

ALROSA: None. Alrosa manufactures and sells its own diamonds.

Yandex: None. Yandex is not a manufacturing company.

TATA MOTORS: Yes, manufacturing the engine of the commercial vehicles for a company in the USA was a kind of contract manufacturing.

LAFARGE INDIA: None.

Alibaba Group: No, it is not a contract servicing, it is a license agreement between the parent company and one of its subsidiaries.

China Nepstar Chain Drugstore Ltd.: None.

24. Does the company have a trademark? If yes, when was it registered?

Petróleo Brasileiro S.A: Yes, the company has a trademark as “BR PETROBRAS”. Filing date is 2006-12-21 and registration date is 2010-09-21.

Embraco: US Trademark registration is September, 1983 and Brazil Trademark registration is March, 1971. (wipo.int)

ALROSA: Yes, the company has a trademark. The name “Alrosa” was filed on 7/20/2005 and registered as a trademark on 11/6/2007.

Yandex: YANDEX and all its services have trademarks of their own. YANDEX was registeredfor the territory of the Russian Federation on October 17, 2002 for goods and servicesin International classes, the word trademark YANDEX was registered on November 29, 2005 for services in International Classes, the word trademark YANDEX on November 10, 2003 was registered for the territory of 24 countries for goods and services in International Classes, the word trademark ЯNDEX registered for the territory of the Russian Federation as a well-known trademark on December 19, 2007 for services in International Classes, the word trademark YANDEX registered for the territory of the United States of America on September 12, 2006 for services in International Classes (World Intellectual Property Organization/Arbitration and Mediation Center).

TATA MOTORS: Yes, the company has a trademark which was registered in 2003, it was founded in 1945, though.

LAFARGE INDIA: Yes, the company has a trademark. It was filed October 30, 1995.

Alibaba Group: Not only the parent company but all its group companies have their own trademarks as well. The parent company’s trademark was registered in 1999.

China Nepstar Chain Drugstore Ltd.: Yes, the company has a trademark. In June 1995, Shenzhen Nepstar Medical Co. Ltd. was established (The information about the date of trademark registration Nepstar is unreachable).

25. Does the company have any long-term pending patents due to bureaucratic processes?

Petróleo Brasileiro S.A: No information has been gathered but, it is assumed that as a state-run company and the only company in Brazil that attracts massive foreign investment, the company might not have long-term pending patents due to bureaucratic processes.

Embraco: No information has been gathered. Yet, some former patent registrations were spotted; they are all granted. (patentfish.com).

ALROSA: No information has been gathered.

Yandex: Even though there is no information gathered for long-term pending patents, two official patent applications for Yandex have been noticed (fags.com/patentdocs). These applications are as follows:

Yandex Europe AG Method and System for Control of the Collection of Email messages 09/26/2013. Method of and System for Providing an Image Associated with a Sender of an Email Message or with Contact Information (IPC H04L12/701)

TATA MOTORS: The company has various patent applications pending for grant both inland and outside India but, there is no information available about the length of the pending period on the Net.

LAFARGE INDIA: No information has been gathered.

Alibaba Group: No information has been gathered but the company seems to have registered another patent for Alimama.

China Nepstar Chain Drugstore Ltd.: The company does not need any patents, it needs only the regional required permits to open stores in various regions of PRC.

26. Has the company had any patent sales for domestic and / or foreign companies?

Petróleo Brasileiro S.A: The company has not sold any patents as Petroleo Brazileiro S.A. is a state-run dominator and uses the patents itself.

Embraco: No, Embraco has not had any patent sales for domestic or foreign companies. The company develops new products and uses them for its own production.

ALROSA: No, it has not had any patent sales but, the company implements its own mining technology in the countries it functions.

Yandex: The company's registered users might be selling patents but Yandex, as one of the leading search engines in Europe do not sell any of its own patents designed and developed by the company.

TATA MOTORS: No, the company has not had any patent sales to any domestic and / or foreign companies because Tata Motors as a dominator company uses its own patents.

LAFARGE INDIA: No, Lafarge has not had ant patents sales for domestic or foreign companies.

Alibaba Group: The company does not have any patent sales of its own but, on its platforms, there are some patent sales of other companies'.

China Nepstar Chain Drugstore Ltd.: Nepstar is a drugstore chain, not a manufacturing company; the company do not have any patents.

Appendix D

The replies of the twelve companies of various sizes in Turkey

1. Does the company have a major specific supplier or does it work with various small suppliers on a basis of specific agreements?

Arçelik A.Ş. The company has approximately 1,400 direct-material suppliers. As of December 31st , 2011, 44% was metal sheets and 43% was plastic raw materials. According to the report, Arçelik, like most global manufacturing companies, purchases the supplies from low cost countries but, supplies from Turkey is about 46% of the total supply. Even though the company has its International Purchase Organization headquarters in Istanbul, due to its sustainable growth policy, it opened offices one in Taiwan in 2011 and the other in South Africa again in 2011 to provide easy access to low cost raw materials.

Ereğli Demir ve Çelik Fb. T.A.Ş. Since Erdemir also functions as a massive mining company with various mining sites, it does not need additional suppliers much. Yet, traders of scrap metal are the major suppliers of Ereğli Demir ve Çelik Fabrikaları T.A.Ş.

SÜTAŞ A.Ş. The company's major suppliers are various small farmers who work with the company on a basis of specific agreements.

BOYTAŞ A.Ş. The company works with various suppliers each of which is selected and directed using IDEFO model. It has four major stages of period. Selecting the supplier and making the contract, placing the order the product or the service, storing the delivered goods and evaluating the suppliers.

GE Turkey: The company works with various suppliers, both domestic and foreign.

HİSAR A.Ş. The company has various small suppliers as well as one major specific supplier.

*SME 1: The company has one major specific supplier and some other small suppliers. B1 has been doing business with its major supplier for over 25 years.

*SME 2: The company works with various small suppliers.

Balpet Petrol Ürünleri A.Ş. (bpet): The company's major supplier is TÜPRAŞ.

ISRA VISION VISTEK: The company works with various suppliers, big or small.

Çağlar Makina Sanayi ve Ticaret Ağaç İşleme Makinaları Hidrolik Pres İmalatı: No, the company does not have a major specific supplier; there is only the purchase of some materials and hydraulic power units.

Publik: Facebook, Linkedin and Foursquare seem to be the inborn suppliers of the company.

2. What are some of the mutual benefits between the supplier and/ or suppliers and the company?

Arçelik A.Ş. Both parties provide a stable financial platform and offer a sustainable growth to each other. The company encouraging the suppliers for innovative ideas, reduces the

*Having promised to keep the company names hidden from public view, "SME 1" and "SME 2" are used for the two companies.

cost and amount of waste and so do the suppliers. Moreover, the suppliers learn about precise measuring at every step of production and develop measurable quality targets adopted by the company itself. As a result, while the company enriches its supplier portfolio with skilled members, the suppliers educate themselves through high-tech instruments.

Ereğli Demir ve Çelik Fb. T.A.Ş. There seems to have no mutual benefits; Erdemir benefits the most as it reduces the cost through recycling.

SÜTAŞ A.Ş. Through continuous education in breeding dairy cattle, feed plants, milk processing plants, producing high quality dairy products, practice farms, reclamation facilities and animal waste power plants in Eastern and Western parts of Turkey and in other related sectors, Sütaş A.Ş creates a sustainable ecosystem not only for the company itself but also for the farmers and other suppliers of the company.

BOYTAŞ A.Ş. The company directly works with its suppliers on innovation. To create a win-win strategy, Boytaş Furniture establishes shared information platforms on which all its suppliers have individual voice; product improvement is the result of sharing experience and information.

GE Turkey: A legal agreement which has various names, but generally known as non-disclosure agreement is signed between the company and the suppliers.

HİSAR A.Ş. Mutual benefits depend on the type of the annual small business agreements.

SME 1: Payment flexibility and sharing knowledge are the mutual benefits between the company and the major supplier. Big discounts are offered by the suppliers when bulk purchases are considered. Sharing the experiences of product development process (from the unfinished to the finished) contributes to the supplier's knowledge about the product he sells.

SME 2: Small business operating agreements with limited or unlimited liability are signed with the suppliers.

Balpet Petrol Ürünleri A.Ş. (bpet): The question is declined as it is one of the trade secrets of the company.

ISRA VISION VISTEK: The question is declined as it is a trade secret.

Çağlar Makina Sanayi ve Ticaret Ağaç İşleme Makinaları Hidrolik Pres İmalatı: None.

Publik: Recognition through creation of brand awareness and value is the major mutual benefit between the suppliers and the company.

3. Has the company had any private-labelled products? If yes, for which companies has the company provided such products?

Arçelik A.Ş. According to its sustainability report, the company does not seem to have any private labelled products.

Ereğli Demir ve Çelik Fb. T.A.Ş. No specific information has been gathered.

SÜTAŞ A.Ş. No information has been reached.

BOYTAŞ A.Ş. It is not clear whether the company has had any private-labelled products. Yet, as of 2009, Italy seems to be the major customer of the company's products; there might have been such products for Italian companies.

GE Turkey: None.

HİSAR A.Ş. Yes, the company has had private-labelled products. Company names are trade secret.

SME 1: Yes, the company has had private-labelled products for 5 major manufacturing company within their sector.

SME 2: Yes, the company has had private-labelled products. Company names are trade secret.

Balpet Petrol Ürünleri A.Ş. (bpet): The company has not had any private-labelled products.

ISRA VISION VISTEK: Yes, the company has had private-labelled products. Company names are trade secret.

Çağlar Makina Sanayi ve Ticaret Ağaç İşleme Makinaları Hidrolik Pres İmalatı: No, the company has not had any private-labelled products.

Publik: Since Publik is not a manufacturing company, it does not have any private-labelled products.

4. Does the company have any business agreements with other companies of other sectors by means of sharing their ecosystem?- Merger, a joint-venture or stakeholder?

Arçelik A.Ş. Like most global companies, Arçelik A.Ş. does have some business agreements with other companies of other sectors to benefit from their ecosystem. For instance, the company, by merging Elektrabregenz of Austria which provides pre-sales and after sales service operations, obtain a broader Call Center service network under Turkey operations for Beko and Altus in 2008, German Grundig in 2009, and German Beko in 2010.

Ereğli Demir ve Çelik Fb. T.A.Ş. Laminorul De Benzi Electrotehnice (LBE) in Romania was acquired by Erdemir Group in 2002 to meet the demand of various countries' including Turkey.

SÜTAŞ A.Ş. The company seems to have one single business agreement with yemeksepeti.com to avoid any delays on delivery of its own products.

BOYTAŞ A.Ş. Alfa Möbel Vertrieg GmBH: The European base of Boydak Holding established in Dortmund, Germany to provide logistics and sales to over 400 locations in Europe including Germany, Luxemburg, Austria and Holland as well as direct delivery for the company products from Turkey, Sunset International Trade L.L.C: Established in US as a warehouse in New Jersey to conduct sales of Istikbal and Bellona brands as well as the rug collection of the company in stores like Wall-Mart, Target, JC Penney in the US market. Some other companies BOYTAŞ A.Ş. has are as follows:

- OOO BETA MEBEL: Established to provide production for its brand, Bellona through the plant the company purchased and increase its sales in the eastern European country of Belarus, Russia and Azerbaijan. Major focus is on panel furniture, furniture with upholstered furniture and bed frames with storage.

- Global Furniture: Established in Ukraine to produce the company's brand Bellona, open stores in the region and support the opportunities to create brand awareness of its other brands, Istikbal and Mondi. Major focus on production is mattress, mattress with storage and soft furniture.

GE Turkey: Yes, the company has some business agreements with other companies in other sectors by means of sharing their ecosystem. Some of the companies which the company has business agreements are state-run and some are privately-owned.

HİSAR A.Ş. None.

SME 1: No, they do not have such business agreements with other companies of other sectors by means of sharing their ecosystem.

SME 2: None.

Balpet Petrol Ürünleri A.Ş. (bpet): Victor Energy, a sister company, was founded in London to provide easy access to imported products required for the parent company.

ISRA VISION VISTEK: Yes, the company has business agreements with a German company.

Çağlar Makina Sanayi ve Ticaret Ağaç İşleme Makinaları Hidrolik Pres İmalatı: No, the company does not have any business agreements with other companies.

Publik: The company has some business agreements with social media networks by means of sharing their ecosystem but, they do not seem to have been formed by mergers or joint-ventures.

- **If no, is the company thinking of such business agreements in the near future?**

Arçelik A.Ş. Though there are not any concrete findings to this question in the report, like all global companies in the world, Arçelik might have some additional business agreements with companies of other sectors by means of sharing their business ecosystem as long as mutual benefits such as advanced technology and better innovative products are concerned.

Ereğli Demir ve Çelik Fb. T.A.Ş. No specific information has been gathered.

SÜTAŞ A.Ş. The company might have some business agreements with some stock farms, dairy production factories and fodder factories in the future because Sütaş A.Ş focuses only on milk and dairy products and the opportunities to capture the market with the best quality products.

BOYTAŞ A.Ş. Even though Boytaş Furniture has foreign investments in related areas of its own sector, it could be assumed that the company might have some further acquisitions and buyouts in the near future as one of the leader companies in the domestic market.

GE Turkey: New business agreements depend on the environment and the product type.

HİSAR A.Ş. It depends on the conditions and the product.

SME 1: Yes, as a company, they are planning to have some business agreements in the near future.

SME 2: It depends on the environment.

Balpet Petrol Ürünleri A.Ş (bpet): None.

ISRA VISION VISTEK: The company might be interested in some business agreements in the healthcare system in the coming years.

Çağlar Makina Sanayi ve Ticaret Ağaç İşleme Makinaları Hidrolik Pres İmalatı: It depends on the environment and the type of the product.

Publik: None.

5. To be able to compete more efficiently and effectively with smaller companies in the market, does the company have any collective work by means of projects and/or products with other companies within its sector?

Arçelik A.Ş. Some projects with TÜBİTAK. are mentioned in the report.

Ereğli Demir ve Çelik Fb. T.A.Ş. No, the company does not have any collective work by means of projects and/or products with other companies within the sector.

SÜTAŞ A.Ş. The company has 4 ongoing projects with TÜBİTAK.

BOYTAŞ A.Ş. Except some projects in direct relation with social responsibility, the company seems to have collective work only with its selected suppliers and with its parent company.

GE Turkey: Only some startups are supported by the company.

HİSAR A.Ş. None.

SME 1: Yes, occasionally we do have some collective work with some SMEs to meet the specific needs of our corporate and individual customers but it is against our company's work ethics to mention the names of the SMEs we work with without getting their permission.

SME 2: None.

Balpet Petrol Ürünleri A.Ş. (bpet): No, the company does not have any collective work with smaller companies within the sector by means of projects or products.

ISRA VISION VISTEK: No, the company does not have any collective work with other companies within its sector by means of projects or products.

Çağlar Makina Sanayi ve Ticaret Ağaç İşleme Makinaları Hidrolik Pres İmalatı: No, the company does not have any collective work with other companies within its sector.

Publik: Through some specific agreements with some popular social media networks, the company competes more effectively and efficiently with its smaller competitors.

6. Does the company perform SWOT before the production of new items? What is the criteria for measuring the feedback of a new product?

Arçelik A.Ş. There is no one single analysis. As a global company, some standards have been adopted in all the facilities of the company. ISO 9001 Quality Management System, ISO 14001 Environmental Management System, OHSAS 18001 Occupational Health and Safety Management System, ISO 17025 Laboratory Management System and some methodologies like Product Lifecycle Management (PLM), Total Productive Maintenance, and Six Sigma are integrated under the EFQM Excellence Model's umbrella. The company evaluates the realizations they get as a result of the target based studies with a performance measuring system formed with objective criteria. According to the obtained feedbacks, the company makes the required switches.

Ereğli Demir ve Çelik Fb. T.A.Ş. No specific information has been gathered but, as the group operates on market demand, it may not perform SWOT.

SÜTAŞ A.Ş. Little specific information has been reached but, the network the company created through shared value strategy shows that some other measurements are used as well as SWOT. In fact, it is clear that tests starts with pregnant cows given to farmers rained by Sütaş A.Ş to be raised in hygienic conditions to improve breeding and the quality of milk supplied. Moreover, farms and farmers are regularly supervised by vets.

BOYTAŞ A.Ş. The company performs SWOT at every stage of the product within the frame of its strategy management.

GE Turkey: Not only SWOT but also Six Sigma and stakeholder analysis are also performed.

HİSAR A.Ş. Yes, the company performs not only SWOT but also market analysis for future designs. In addition, taking part both in international and domestic shows is an opportunity for the company to observe diverse tastes.

SME 1: Yes, we do perform SWOT to clear out, particularly the negative sides of the new product in the market. We collect data from our customers about the comments on the product we sell from and sort it out as required adjustments and improvements and personal approaches.

SME 2: The company does not use a technological measurement. The production is based on the satisfaction rank of the consumer.

Balpet Petrol Ürünleri A.Ş. (bpet): No, they do not perform SWOT. The criteria for measuring the feedback is the tracking of the quarterly sales performance of the dealers.

ISRA VISION VISTEK: Yes, the company performs SWOT before the production. The criteria for measuring the feedback, Vistek uses its own surveys.

Çağlar Makina Sanayi ve Ticaret Ağaç İşleme Makinaları Hidrolik Pres İmalatı: The company conducts various tests on its products because the products are innovative and one-of-a-kind.

Publik: Since Publik is not a manufacturing company, it has nothing to do with SWOT but, to develop better solutions, the company has some technological tools to measure the results of the ads the employees create.

7. **Does the company use social media effectively and efficiently for its customer relations? What are the networks the company prefers for social media?**

Arçelik A.Ş. The company prefers to use the most common networks like Facebook and Twitter.

Ereğli Demir ve Çelik Fb. T.A.Ş. ERDEMIR Group does not use social media networks.

SÜTAŞ A.Ş. The company seems to prefer Facebook, Twitter, Linkedin, YouTube and Google. Sütaş A.Ş uses social media effectively and efficiently; people with questions are guided instantly.

BOYTAŞ A.Ş. With all its brands, Boytaş furniture uses social media efficiently and effectively for its customer relations. The networks selected by the company are the most popular ones like Facebook, Twitter and Linkedin.

GE Turkey: The company has its own communication team. GE Turkey uses Twitter, blog, FB, and shares press news.

HİSAR A.Ş. Yes, the company uses Twitter, FB and its e-commerce, online shopping site effectively and efficiently.

SME 1: The company's Website, e-news and FB are the networks our company prefers. They believe the company uses social media effectively and efficiently for their customer relations.

SME 2: No, not much. The company mostly uses the traditional media, like TV commercials.

Balpet Petrol Ürünleri A.Ş. (bpet): Yes, the company uses some popular social networks such as facebook, twitter, linkedin, vimeo and google+ effectively and efficiently for its customer relations.

ISRA VISION VISTEK: No, the company does not use social media as the products do not need such connections, and, in fact, the company does not have time to spend on social media.

Çağlar Makina Sanayi ve Ticaret Ağaç İşleme Makinaları Hidrolik Pres İmalatı: Çağlar Makina uses its official Web site and FB.

Publik: Since social media is the sector the company activates, Publik uses it with utmost efficiency and effectiveness.

8. Does the company face any management problems with the individual and / or corporate customers? If any, can the risk management department's emergency plans solve the problem, preferably with no negative impact on the operational process?

Arçelik A.Ş. Problems seem to occur rarely as the Risk Management Department solve every potential irregularity.

Ereğli Demir ve Çelik Fb. T.A.Ş. All of its receivables are guaranteed with the Direct plans to Debit System and the Credited Direct Collection System. A margin call is issued when customers exceed their limits of purchase. Corporate Finance Management observe the reports and technical analysis in detail, and if not approved, investment advice is not offered to the Board of Directors.

SÜTAŞ A.Ş. Little information is available in the report but it is obvious that the company does not face any important management problems. Punctual and fair payments of Sütaş A.Ş for the milk is famous among milk producer farmers.

BOYTAŞ A.Ş. The company does not seem to have any significant management problems with its individual and / or corporate customers. Boytaş uses lean Six Sigma and KAIZEN methodologies in its plants. Kaizen methodology provides lean manufacturing inoperations creating continuity and improvement with no regard to any rank in businesses; from the CEO to the supply chain, every individual is involved in processes. In addition to the methodologies, Boytaş uses EFQM Excellent Model as a management model. TS EN ISO 9001, TS ISO 10002, TS EN ISO 14001 are some of the management systems used in its plants.

GE Turkey: The company has a team working with corporate customers. This team creates and designs solutions to problems.

HİSAR A.Ş. None.

SME 1: Yes, they rarely have some management problems, but as a company, they provide fast response.

SME 2: The company does not have a risk management emergency plan as it does not face management problems much.

Balpet Petrol Ürünleri A.Ş. (bpet): The question is declined as it is another trade secret of the company.

ISRA VISION VISTEK: No, the company does not face any management problems but, though rarely, Vistek experiences some delayed payment problems by clients.

Çağlar Makina Sanayi ve Ticaret Ağaç İşleme Makinaları Hidrolik Pres İmalatı: No, the company does not face any management problems.

Publik: No information has been gathered.

9. Does the company have its own separate R&D Department?

Arçelik A.Ş. Yes, it does. Arçelik A.Ş., has 7 R&D Departments in different parts of Turkey.

Ereğli Demir ve Çelik Fb. T.A.Ş. Yes, the company has its own R&D Department established in 2012. The company had a small R&D unit before 2012.

SÜTAŞ A.Ş. The following figures are as of December 31, 2012; The company invested 1,771,518 TL in R&D. 8 almost 7 fold of the previous year.

BOYTAŞ A.Ş: Yes, the company has its own R&D Department.

GE Turkey: Yes, but the R&D Department is only for airplane engines.

HİSAR A.Ş. Yes, the company has its own R&D Department.

SME 1: Yes, they do have their own R&D department.

SME 2: The company has a small team for R&D and all required machinery and equipment are purchased.

Balpet Petrol Ürünleri A.Ş. (bpet): No, bpet does not have its own separate R&D department because the item purchased by their company is a finished - product.

ISRA VISION ISTEK: Yes, the company has its own R&D.

Çağlar Makina Sanayi ve Ticaret Ağaç İşleme Makinaları Hidrolik Pres İmalatı: The company does not have its own separate R&D Department but it has its own small R&D Unit.

Publik: The company does not seem to have any R&D departments but, the small teams that are instantly formed according to the type of the problem could create specific solutions to the problem.

- **If yes, is the technology used by the company's own R&D efficient enough to arrange every step of manufacturing or the service created?**

Arçelik A.Ş. For over 2 decades, Arçelik A.Ş., has had its own R&D Department. The department celebrated its 22nd birthday this year. The technology used by the department is the latest advanced technology which helps Arçelik A.Ş., be the most innovative company in Turkey. In fact, Arçelik A.Ş., is the only Turkish company ranked 95th among top 500 patent applicant companies in the world in 2010. In 2009, the company was given 3 awards.

Ereğli Demir ve Çelik Fb. T.A.Ş: Though there are some complaints about the measurements of the products among the domestic customers, the technology used by the company's own R&D is efficient enough to arrange every step of manufacturing.

SÜTAŞ A.Ş. Despite little information on its R&D technology in the report, it is obvious that the technology used in its R&D Department is regularly renewed via academic collaboration; otherwise the company would not be the leader of the domestic market and would not reach any of its targets abroad.

BOYTAŞ A.Ş. The technology used by its own R&D seems to be efficient enough because the technologies used by the R&D are renewed regularly as the company's major focus is on product improvement and new product design. In fact, Boytaş has become the winner in new product design and has been awarded by Turkish Patent Institute for the last 2 years.

GE Turkey: No, the technology used in the R&D Department is not enough for GE Turkey's other areas of production which are health and energy.

HİSAR A.Ş. No, the technology used the the R&D Department is not efficient to arrange every step of manufacturing.

SME 1: Yes, the technology used by our R&D is efficient enough to arrange every step of manufacturing and the service created.

SME 2: Yes, the technology used by the team is efficient enough to arrange every step of manufacturing.

Balpet Petrol Ürünleri A.Ş. (bpet): Though the company does not own an R&D department of its own, the technology used by bpet is efficient enough to arrange every step of service created.

ISRA VISION VISTEK: The technology used by the company is highly advanced and some of it is in-house creation. Yet, the products are so technology-driven that the existing technological support sometimes fall short.

Çağlar Makina Sanayi ve Ticaret Ağaç İşleme Makinaları Hidrolik Pres İmalatı: Yes, the technology used by the company is efficient enough to arrange every step of manufacturing.

Publik: Yes, the technology used by Publik is efficient enough to arrange every step of the service created. In fact, the company's scientists and specialists seem to create the efficiency-driven technology and the service.

- **If no, does the company receive any technological support by means of science and technology?**

Arçelik A.Ş. Unlike high tech companies which create advanced technology, all companies in the world, big or small, need the support of advanced technology. The company uses various central systems and software. ARPORT is the intranet used in all its facilities to communicate. Document and Process Management Software is a software which is used only by Arçelik.

Ereğli Demir ve Çelik Fb. T.A.Ş. None.

SÜTAŞ A.Ş. No information to this question has been reached but, all companies worldwide should receive or purchase advanced technology tools by means of technological support. As the leader of the dairy products market, Sütaş A.Ş should be purchasing the latest technology though the investment type for its R&D is not defined in the annual report.

BOYTAŞ A.Ş. Despite its own well-established R&D department, it is clear that like most leaders in various sectors, the company receives technological support through consulting companies.

GE Turkey: Yes, the company receives external foreign support by means of science and technology.

HİSAR A.Ş. Yes, the company receives support by means of design from globally renowned designers.

SME 1: None.

SME 2: None.

Balpet Petrol Ürünleri A.Ş. (bpet): None.

ISRA VISION VISTEK: Yes, the company receives mechanical support by means of science and technology.

Çağlar Makina Sanayi ve Ticaret Ağaç İşleme Makinaları Hidrolik Pres İmalatı: None.

Publik: None.

10. In either case above, what is the total annual budget set for R&D including all kinds of external professional support and what is the ratio of this amount to the company's annual sales' figure?

Arçelik A.Ş. According to the Sustainability Report for 2011, Arçelik AŞ., allocated TL 18,125,230 to R&D. As the company's annual net sales figure is 3,633 (including Europe and other foreign countries as well as Turkey / Million EURO). As of today, due to the exchange rates, calculation of the proportion would never be accurate so it will be better to skip the last part of the question.

Ereğli Demir ve Çelik Fb. T.A.Ş. According to the company's Annual Report (2012), the total amount spent on R&D is 1,517,122 TL.

SÜTAŞ A.Ş: R&D investment in 2012 seems to be approximately 1/650 of the net sales figures. Yet, the investment in R&D in 2012 is more than 7 fold of the previous year which means that R&D in Sütaş A.Ş is gaining momentum.

BOYTAŞ A.Ş. No information has been reached but, it is a known fact that Boytaş Furniture's main focus is on its R&D Department to improve productivity, create new product designs and provide a sustainable environment.

GE Turkey: The annual budget for R&D is financially supported by TÜBİTAK as 10% of the cost of the entire project.

HİSAR A.Ş. The question is declined as it is trade secret.

SME 1: The question was declined because for the company, it is trade secret.

SME 2: 10% of the entire annual budget.

Balpet Petrol Ürünleri A.Ş. (bpet): The question is declined as it is a trade secret for the company.

ISRA VISION VISTEK: The annual budget for R&D activities covers 20% of the annual sales' figure.

Çağlar Makina Sanayi ve Ticaret Ağaç İşleme Makinaları Hidrolik Pres İmalatı: Trade Secret.

Publik: Though the company does not seem to have a separate R&D department, it is obvious that there is continuous flow of research and development for all the stages of operations. Yet, there is no information about the annual expenditure of research and development.

11. Does the company have any kind of cooperation with any of the universities' related departments in the countries' it functions by means of job opportunities, trainee programs, technical and / or technological support, reports, etc?

Arçelik A.Ş. Arçelik A.Ş. as the leader of the domestic market in terms of innovative products and value dominator in Turkey, has adopted "From Campus to Career" concept. The establishment of new laboratories both at Istanbul Technical University and at Yıldız Technical University were given financial support by the company itself. In 2011, Arçelik A.Ş., also launched a unit in Middle East Technical University's Teknokent. With its own high school and its own university, the company provides them with internship programs and generates career opportunities not only at Arçelik A.Ş., but also in its other companies as Koç Group for its own promising students as well as benefited from their higher qualifications. For vocational schools, Arçelik A.Ş., has started " Arçelik Electrical Household Appliances Technical Training Program" with the Ministry of National Directorate General of Technical Education for Boys to provide labor force informed with the developments in household appliances and the new technologies. Students are trained in labs loaded with the latest technology.

Another project which was launched in 2009 is "İŞKUR Occupational Training Project" This vocational training program includes household appliances, installation of air-conditioning, cooling systems, and audio and video systems. After the training program, most of the students have the advantage of working in company factories for four months.

There are also training programs for employees. As of 2011, white-collar employees' total training hours is 220,402 and blue-collars' is 86,341 total hours of training. Some of the training programs for employees are as follows:

- Leadership and Business Trainings

- Leaders and Strategy/People Trainings

- Management Continuous Development Programs

- Functional Leadership Development Programs

- International Manager Development Program

- Arçelik Leadership Program

- Mentoring Program

- CEMS

Arçelik A.Ş., in cooperation with Koç University Graduate School of Business is the first company in Turkey to participate in CEMS. It is an international program with aworldwide strategic web which is established to contribute to the upbringing of future global leaders.

Ereğli Demir ve Çelik Fb. T.A.Ş: Yes, Erdemir has strong ties with education. The company has various programs for everyone. Erdemir Akademi is an on-line education platform for its employees. Erdemir Executive Development Program which is a mentorship program designed to enhance leadership skills among executives of the company. The third program is for all ages of elementary and junior high school students in Ereğli to enhance their awareness of science and reinforce learning through experiments. The program partners are Middle East Technical University and Science Application and Research Center. A competition among young sculptors with the theme "Life and Steel" not only contribute to their training but also draws attention to the vital need of steel in human life through art. The competition partner in this project is Mimar Sinan Fine Arts University.

SÜTAŞ A.Ş. Collaboration with Uludağ University by means of technical and academic support, trainee programs and job opportunities for 16 years and on 05/23/2012 Kold College in Denmark famous for its academic program on dairy products technology accepted the chair in this collaboration. Collaboration with Aksaray University is another job opportunity for undergraduate students. The company grants scholarship for promising students at vocational schools.

BOYTAŞ A.Ş. Boytaş has cooperation with Kocaeli University in İzmit, Erciyes University and Melikşah University both in Kayseri and Muğla University in Muğla. The company accepts students from universities and vocational schools for its trainee programs, grants scholarships and offers jobs to prospective students. In return, the company receives academic and scientific support from the universities it works with.

GE Turkey: Yes, the company has such a cooperation agreement within a framework including R&D, entrepreneurship and education.

HİSAR A.Ş. The company has openings for trainees.

SME 1: No, they do not have any collaboration with the universities in Turkey.

SME 2: None.

Balpet Petrol Ürünleri A.Ş. (bpet): As a company, bpet offers trainee programs.

ISRA VISION VISTEK: Yes, the company has strong cooperation with Sabancı University where the only vision laboratory in Turkey, VPALAB has been founded.

Çağlar Makina Sanayi ve Ticaret Ağaç İşleme Makinaları Hidrolik Pres İmalatı: The company designed an innovative patient bed with a scopy arm for hospitals and donated it to Kocaeli University Hospital.

Publik: The three interns on its Web site shows that the company has a kind of cooperation with universities' related departments at least, by means of trainee programs but, no other information on this specific subject has been gathered.

12. What are the innovation strategies and targets of the company? Are they set on a quarterly or annual basis?

Arçelik A.Ş. Sustainable strategy and energy-efficient environmentally friendly production are the major concerns of the company and these strategies focuses on 5 dimensions each of which in fact, is the company's objective. These dimensions are system, people, supply, product, and social development.

Ereğli Demir ve Çelik Fb. T.A.Ş. Innovation strategies and targets of the company are set on annual basis but closely monitored in case there is a sudden change in business climate. Preserving its leading position in terms of industry and its segment through cost-effective, export-driven, and market-oriented products is the major target goal of Erdemir's. Implementing advanced technology to improve the company's competitive edge and innovation capacity in a sustainable environment is one of the innovation strategies of the company.

SÜTAŞ A.Ş. Creating a sustainable ecosystem with the best quality products produced with the best quality of milk within the best environment leads the company's innovation strategies. Increasing the sales in Europe via the two plants the company recently bought in Macedonia and Romania and opening another plant in Eastern Anatolia to contribute to the GDP growth of the region are one of the major targets of the company. Innovation strategies and targets of the company are set on annual basis.

BOYTAŞ A.Ş. Creation of new product designs, improvement of recent products, using safer raw material, have better advanced technology and provide sustainable environment are the innovation strategies and targets of the company.

GE Turkey: The first target goal of the company is the activation of the innovation center in health and energy. The next goal is being able to keep supporting higher education and entrepreneurship activities in Turkey.

HİSAR A.Ş. The question is declined as it is trade secret.

SME 1: This question was declined because it is trade secret for the company.

SME 2: The question is declined as it is a trade secret for the company.

Balpet Petrol Ürünleri A.Ş. (bpet): The question is declined as it is a trade secret for bpet.

ISRA VISION ISTEK: Innovation strategies of the company changes every year but, building or using new technologies to develop computer vision solutions for multimedia user interaction and marketing and separating the scientist team and the R&D department to design two independent departments for each are the new targets of the company.

Çağlar Makina Sanayi ve Ticaret Ağaç İşleme Makinaları Hidrolik Pres İmalatı: Trade Secret.

Publik: Start-ups are often small, social, and agile. These three characteristic features seem to fit Publik's outlook. With its well-organized structure, Publik might be using start-up strategy as the company's innovation strategies.

13. Which strategy does the company use the most within the ecosystem it has created?

- Keystone
- Physical dominator
- Value dominator
- Niche player

Arçelik A.Ş. Since Arçelik A.Ş., is the leading company in Turkey, the company seems to be using a perfect blend of the first 3 strategies. Without doubt, the company is a physical dominator and with its everlasting innovative products, it is a value dominator as well. In addition to the first two strategies, the company acts like a keystone, too.

Ereğli Demir ve Çelik Fb. T.A.Ş. Erdemir uses the dominator strategy within the ecosystem it has created.

SÜTAŞ A.Ş. The company uses the keystone strategy by creating and sharing value to increase the productivity of the ecosystem of high-quality milk and dairy products and its related sectors and provide a healthy business network.

BOYTAŞ A.Ş. The company uses the keystone strategy creating shared value with its suppliers to establish a healthy business ecosystem for a sustainable economy.

GE Turkey: The company uses niche player strategy within the ecosystem it has created.

HİSAR A.Ş. The company uses dominator strategy within the ecosystem it has created.

SME 1: As a company, they use the niche player strategy that creates fast alternative solutions on the products and/or services in which they expertise.

SME 2: The company uses niche player strategy within the ecosystem.

Balpet Petrol Ürünleri A.Ş. (bpet): bpet uses keystone strategy as the company operates like a hub.

ISRA VISION ISTEK: The company uses the niche player strategy that develops fast and innovative solutions on the specific product the company produces.

Çağlar Makina Sanayi ve Ticaret Ağaç İşleme Makinaları Hidrolik Pres İmalatı: The company uses niche player strategy within the sector, but not enough.

Publik: The company benefits from social media hubs like Facebook, Linkedin and Foursquare as one of the niche players of the ecosystem it has created.

14. Has the company had any entrepreneurship activities by means of domestic or foreign investment in recent years? –Merger, a partnership, or an acquisition?

Arçelik A.Ş. Arçelik A.Ş., has many foreign investments abroad. As the company holds various trademarks, productions in different countries have other names than that of the company's. For instance, in Romania, SC Arctic SA, in Russia Beko LLC, in China Changzhou Beko Electrical Appliances Co. Ltd., and 3 different locations in South Africa. Jacobs Cooking Appliances and Tumble Dryer Plant, Ladysmith Cooking Appliances Plant, and Refrigerator Plant. Some of the plants abroad are merger and some are joint-ventures but, the latest Defy Appliances (PTY) Ltd., in South Africa is a buy-out. In Turkey, the company has 8 production plants in different regions each of which has had investments mostly in technology and innovation so that the company can keep up with the pace of the globally changing business world. In addition to all these, Arçelik A.Ş., has 19 international Sales and Marketing offices in different countries. The company ranked 1st among the most successful companies in terms of number of partnerships in TÜBİTAK.

Ereğli Demir ve Çelik Fb. T.A.Ş. In 2002, ATAER Holding, which is a 100% subsidiary of OYAK (see ….)establishment, acquired 49,29% of the stake and 47,63% of the stake are quoted in BIST 100. Erdemir Group's own share is 3,08 % of the entire stake. Though no specific information has been gathered, Arcerol Mittal, which is the world's largest steel maker, also owns a considerable amount of stake registered either in ATAER Holding or in BIST 100. Though sold 6,66% of the stake it had on October 8,2013 for USD 267 million, the company still holds 12,08% of Erdemir's share capital. With its parent company, Ereğli Demir ve Çelik Fabrikaları T.A.Ş., Erdemir has variousgroup companies which are as follows:

- İSDEMİR: İskenderun Demir ve Çelik A.Ş.
- ERMADEN: Erdemir Madencilik San. ve Ticaret A.Ş.
- ERSEM: Erdemir Celik Servis Merkezi San. Ve Ticaret A.Ş.
- ERENCO : Erdemir Mühendislik Yönetim ve Danışmanlık Hizmetleri A.Ş.
- ERDEMIR-RO: Erdemir Romania S.R.L.Erdemir Logistics A.Ş.

SÜTAŞ A.Ş. Sütaş A.Ş was established as a small business to produce cheese in 1975. As of today, as a household name, the company is the leader of the domestic market despite its products' higher prices among other brands in the market. The company has some foreign investments abroad. These are as follows:

April, 2012: The first step in the Balkans: acquired a Swedish dairy plant established by Swedmilk in Skopje, Macedonia at a price of EUR 9,5 million.

April 2013: The next step in the Balkans: Tnuva's factory take-over in Popesti- Leordeni near Bucharest, Romania.

BOYTAŞ A.Ş. With many stores in different regions of the world, particularly in Middle East, the company regularly invests in foreign countries to increase brand awareness and sales. Besides, Boytaş bought two plants in Russia and Ukraine one of which was previously owned by Forte SA, a company from Poland.

GE Turkey: In 2011, to develop the first integrated renewables combined cycle power plant in the world based on GE's new FlexEfficiency*50 technology an agreement was signed between GE Turkey and MetCap Energy Investments, which is the Turkish project development company.

HİSAR A.Ş. None.

SME 1: Yes, the company has had an entrepreneurship activity by means of foreign investment.

SME 2: None.

Balpet Petrol Ürünleri A.Ş. (bpet): The company has had some entrepreneurship activities by means of both domestic and foreign investment. Victor Energy in London is their foreign investment as mentioned before. They also have 2 subsidiaries: eragaz and Trigon.

ISRA VISION VISTEK: Yes, the company has had a kind of partnership with a German company for a while.

Çağlar Makina Sanayi ve Ticaret Ağaç İşleme Makinaları Hidrolik Pres İmalatı: No, the company has not had any entrepreneurship activities by means of domestic or foreign investment in recent years.

Publik: No information is available whether Publik has any mergers or acquisitions for its investments but, the company has had a few entrepreneurship activities such as adphorus, T24, and Cevap.tv in recent years.

15. Since the establishment of the company, which investment seemed to be the riskiest among all the investments the company has had as of today?

Arçelik A.Ş. Though there is not any information about this question in the report, as one general director of one of the interviewed companies said, trade itself is risky because anything wrong can happen at any time. The risk could be anything; the weather conditions, sudden political changes or individual mistakes. If the Risk Management is well-established, the risk could be minimized.

Ereğli Demir ve Çelik Fb. T.A.Ş. No specific information has been gathered.

SÜTAŞ A.Ş. Since the company takes control of every detail carefully and focuses only on dairy products, Sütaş A.Ş does not seem to have any risky investment. From the feed factory to the fleet of trucks that collect milk from the selected producers, Sütaş A.Ş takes each step seriously.

BOYTAŞ A.Ş. No information to answer the question above has been reached.

GE Turkey: The question is declined as it is a trade secret for the company.

HİSAR A.Ş. None.

SME 1: Buying out a same sector manufacturing company without having efficient information about its low production capacity was the riskiest investment they have had since the establishment of their company.

SME 2: The question is declined as it is a trade secret for the company.

Balpet Petrol Ürünleri A.Ş. (bpet): bpet with over 400 dealers across Turkey is one of the major companies in its sector and the massive investment we make for our dealers is the riskiest among all the investments the company has had as of today because profitability is the major driving factor for bpet and, any individual financial problem of one of our dealers'could create risk for the parent company.

ISRA VISION ISTEK: The question is declined as it is a trade secret for the company.

Çağlar Makina Sanayi ve Ticaret Ağaç İşleme Makinaları Hidrolik Pres İmalatı: None.

Publik: No information is available but, some other social media advertising companies might create serious risks for the company as they may offer discount prices or more innovative presentations.

16. Among the investments the company has had so far, which investment seems to be the most beneficial both to the company and the employment rate of the location?

Arçelik A.Ş. It is a known fact that Arçelik is still the leader of the sector but, it is assumed that smaller companies with everlasting discounts are a potential threat for the market and for their own companies; they could dry up the business ecosystem. From that point of view, cost reduction seems to be the best solution; that's why Arçelik's shift to low cost countries to provide better supply at a cheaper price is believed to be the best exit for better sales figures.

Ereğli Demir ve Çelik Fb. T.A.Ş. The establishment of the parent company, Ereğli Demir ve Çelik Fabrikaları T.A.Ş in Kdz Ereğli seems to be the most beneficial both to the employment rate of the location, and the establishment of the group companies all of which were established long after the parent company.

SÜTAŞ A.Ş. The Aksaray plant has made an incredible contribution to the GDP growth of the region. Yet, the new investment in the eastern region seems to the most beneficial to both parties. In fact, the local people in the region will benefit the most because the company will have a positive impact on the region's high rate of unemployment. Farmers and small businesses as the suppliers of the new plant will have better access to technical training and to the market with better products and will gain better skills of business management. Moreover the GDP of the region will increase rapidly. People with jobs and money will offer a better way of life to their families.

BOYTAŞ A.Ş. As a contributor to the employment rate, domestic investment seems to be the most beneficial. However, from the point of the company's benefits, it all depends on the incentives granted by the governments of the countries in which the investment is made. The type of the investment is another concern when company benefits are considered.

GE Turkey: The question is declined as it is a trade secret for the company.

HİSAR A.Ş. All the target goals have been accomplished.

SME 1: Moving a company we bought some time ago to a different location contributed to the employment rate of that location; people with skills got jobs.

SME 2: The question is declined as it is a trade secret for the company.

Balpet Petrol Ürünleri A.Ş. (bpet): All their investments have reached the target goals of bpet's.

ISRA VISION VISTEK: It is agreed that the goals in the investments the company has had so far has been accomplished.

Çağlar Makina Sanayi ve Ticaret Ağaç İşleme Makinaları Hidrolik Pres İmalatı: None.

Publik: The company's licensed access to Facebook Ads API seems to be the most beneficial to the company as it enables Publik to focus on establishing a global advertising platform to offer to Facebook ads better solutions in management, optimization, reporting and resulting. However, it might not be a driving factor for the employment rate of the location the company activates.

17. Prior to company benefits, what type of investment in a foreign country is more advantageous- buying an available company or establishing a brand new one?

Arçelik A.Ş. An answer to this question is not available in the report. The following answer is a general assumption. By the professionals of the sector, buying a struggling company in a foreign country is said to be much more convenient than establishing a new one. For example, Defy Electrical Appliances in South-Africa was for sale and Arçelik bought the manufacturing company instead of establishing a new one.

Ereğli Demir ve Çelik Fb. T.A.Ş. In regard with the company's Romania plant, it seems that buying an available company is more advantageous for Erdemir.

SÜTAŞ A.Ş. After a close look at the company's investments within a year in the Balkan Peninsula, buying an available company as a foreign investment type seems to be more advantageous for Sütaş A.Ş when company benefits are considered.

BOYTAŞ A.Ş. The company seems to prefer purchasing an available company rather than establishing a brand new one in a foreign country.

GE Turkey: In fact, such an important business decision depends on the environment, but entering into a joint-venture with a company in a foreign land seems to be more advantageous for GE when its entry in Turkey is considered.

HİSAR A.Ş. It depends on the environment and the product.

SME 1: Buying an available company in a foreign country is more advantageous when company benefits are considered.

SME 2: It all depends on the conditions and the type of the product.

Balpet Petrol Ürünleri A.Ş. (bpet): It depends on various factors.

ISRA VISION VISTEK: It depends on the product.

Çağlar Makina Sanayi ve Ticaret Ağaç İşleme Makinaları Hidrolik Pres İmalatı: It all depends on the type of the product and market conditions.

Publik: No information has been gathered about this specific question.

18. On what issues does the company face the most difficulties at the customs both inland and / or on ports? And, why?

- Bureaucratic slowness
- Freight fees
- Cargo insurance

Arçelik A.Ş. An answer to this question is not available in the report. Bureaucratic pace depends on various reasons but, when exports are considered, high cost of freight fees and cargo insurance are generally unpredictable additional costs of the product for any company.Aging fleets, harsh weather conditions could be the major reasons for higher costs.

Ereğli Demir ve Çelik Fb. T.A.Ş. No specific information has been gathered. Yet, for its domestic sales, particularly for its excess products which are offered through auction, the company guarantees free shipment, but not free shipping; transportation cost belongs to the purchaser.

SÜTAŞ A.Ş. No information is available for the question above.

BOYTAŞ A.Ş. No information to answer the question above has been reached. Bureaucratic slowness might be the most difficult part for the company in some countries.

GE Turkey: Airplane engines are manufactured in free-trade zone so the company does not face any of the problems mentioned above.

HİSAR A.Ş. The company does not face any difficulties in any of the areas mentioned above.

SME 1: Additional demurrage fee is the most difficult part. Due to bureaucratic procedure, delays are unfortunately regular issues within the sector and any delay means additional charge for the manufacturing company .

SME 2: Bureaucratic slowness is the most difficult issue for the company to handle. High cost of transportation and high tariffs are the other problems the company complains about.

Balpet Petrol Ürünleri A.Ş. (bpet): The company does not face any problems at the customs.

ISRA VISION VISTEK: None.

Çağlar Makina Sanayi ve Ticaret Ağaç İşleme Makinaları Hidrolik Pres İmalatı: The company does not face any of the problems mentioned above because customers arrange the shipping.

Publik: The company might experience some legal limitations and bans on some items' advertising.

19. Has the company faced any quota barriers for its export goods? If so, which countries?

Arçelik A.Ş. There is not any explanation about quota barriers for export goods in the report but one can assume that global companies with powerful financial background like Arçelik A.Ş.,buy and /or establish offices or production plants abroad to overcome the quota barriers of foreign countries'.

Ereğli Demir ve Çelik Fb. T.A.Ş. The company does not seem to have any quota barriers for its export goods as it produces through corporate customer demands.

SÜTAŞ A.Ş. No information has been reached although the company exports some dairy products to foreign countries but, since the company has two production facilities in the Balkan peninsula and has become one of the producers in that area, it does not seem to be facing any quota barriers within the Balkans.

BOYTAŞ A.Ş. No information to answer the question above has been reached but, the company's purchases of plants in foreign countries could be seen as a move to eliminate some specific quota barriers and capture global expansion.

GE Turkey: None.

HİSAR A.Ş. None.

SME 1: Yes, they have faced quota barrier problems for their export goods with some countries, particularly with Iran.

SME 2: None.

Balpet Petrol Ürünleri A.Ş. (bpet): Since bpet does not have any export goods, it has not faced any quota barriers.

ISRA VISION VISTEK: Since Vistek is not a manufacturing company, it does not have any export goods.

Çağlar Makina Sanayi ve Ticaret Ağaç İşleme Makinaları Hidrolik Pres İmalatı: None.

Publik: Since Publik is not a manufacturing company, it does not have any export goods.

20. What kind of technological networks does the company use to share knowledge and information with its suppliers, dealers and / or cooperate customers within its ecosystem?

Arçelik A.Ş. A special software is used for the communication in its facilities. Another software customized for the company is used for strategies and production. Though there is supplier portal for the company, the name of the software system is not shared. Dealers and / or corporate customers should be using another software system but, it is not mentioned, either.

Ereğli Demir ve Çelik Fb. T.A.Ş. ERDEMİR uses Microsoft System Center Configuration Manager (SCCM) software in which Active Directory with all the e-mail users of ERDEMİR is integrated. This system is used with the aim of change and configuration management. Production Management System and the Raw Material Optimization System (SCOOP) through the Material Analysis Management software receives the data automatically. With the aim to store emails and files, the company procured the Symantec Enterprise Vault in 2012. Various applications that calculate the casting speed in terms of the setting "Grade-Plant-Size" required for APASS were also implemented in the same year. In addition to all these, "ERDEMIROnline" the official e-commerce site which displays long products on sale has been active since 2012.

SÜTAŞ A.Ş. Little information is available. Even though no information is found about the name of the software, the company employs people as communications and digital system executive and / or specialist. In addition, SAP system has been used to minimize the available risks. Corporate customers could make purchases within their limits; the system automatically closes down the excess purchase.

BOYTAŞ A.Ş. The company uses the latest advanced technologies to share information with the selected companies within its system.

GE Turkey: The Purchasing Department's network system, blog, and in-person meetings are preferred by the company.

HİSAR A.Ş. The company does not use a technological network. The communication is either in-person or through dealer meetings.

SME 1: Through their Web site, some popular networks when required and online business sites are the technological networks they use to share information with their suppliers and corporate customers.

SME 2: None. The company uses traditional style communication.

Balpet Petrol Ürünleri A.Ş. (bpet): Within its ecosystem, bpet uses the dealer portal to share information with itscorporate customers.

ISRA VISION VISTEK: The company uses Halkon to share information with its suppliers and corporate customers within its ecosystem.

Çağlar Makina Sanayi ve Ticaret Ağaç İşleme Makinaları Hidrolik Pres İmalatı: None.

Publik: Publik seems to be using some social media networks each of which in fact, the company's own playground. The other available area of communication is the company's own Web site.

21. In the name of establishing a sustainable business environment, does the company share any knowledge and info today with any of the rival companies of the past in order to be able to compete more effectively with other companies in the market? If yes, in what ways? –Workshops, training.

Arçelik A.Ş. The information about sharing knowledge with rival companies is not so clear. The company might be sharing some known facts but, as most of the knowledge is regarded as trade secret, a dominator company is not expected to share the knowledge it has gained through various difficulties over a long period of time.

Ereğli Demir ve Çelik Fb. T.A.Ş. No, the company does not seem to share any information or knowledge with any of its compeitors. Yet, Erdemir might be sharing some information with the stakeholder Arcerol Mittal, the world's largest steel maker.

SÜTAŞ A.Ş. No information is available on the Internet to answer the question above.

BOYTAŞ A.Ş. The company does not seem to share any knowledge and info with any of the rival companies. As mentioned on previous pages, the company shares knowledge and info only with the companies within its own system. This kind of sharing occasionally takes place in regular meetings with the suppliers but mostly through the technological tools the company has purchased.

GE Turkey: Attending the meetings of the sector and the Portal are the only sharings of the company.

HİSAR A.Ş. None.

SME 1: No, they do not arrange any workshops or training with any of their competitors to share knowledge and / or information.

SME 2: None.

Balpet Petrol Ürünleri A.Ş. (bpet): No, bpet does not share any knowledge or info with any of its competitors.

ISRA VISION VISTEK: No, the company does not share any knowledge with its competitors.

Çağlar Makina Sanayi ve Ticaret Ağaç İşleme Makinaları Hidrolik Pres İmalatı: None.

Publik: No information has been gathered.

22. How many patents does the company have for its commercialized products as of today? Is the company planning to have some new patents registered in the coming years?

Arçelik A.Ş. According to the European Patent Office (EPO) 2011 report, half of the patents granted to Turkish companies by the European Patent Office belongs to Arçelik A.Ş. With 145 registration for patent application every year, Arçelik A.Ş., holds 1/3 of the total international patent applications from Turkey and Europe.

Ereğli Demir ve Çelik Fb. T.A.Ş. Despite a long list of products, no specific information has been gathered on its patents. The company might not have any patents because its R&D Center established in 2012 having been converted from an R&D unit. Besides, the company produces different types of iron and steel items based on international standards of finishedproducts by industry.

SÜTAŞ A.Ş. The company has eight categories for patents and brand names.

- Fresh dairy desserts have two brand names:

  - Tatlımmm has four different flavours: banana, chocolate, strawberry and hazelnut chocolate.

  -Tatlımmm Tatlım is in two different flavours: chocolate and strawberry.

- Form-Health Products has two brands with three products:

  Yovita plain, Prune-cereal, Yovita dried apricot-linseed,

- Light Products has three major types: light white cheese, kashkaval cheese, light milk.

  - Cheese has five major types:

  White Cheese: White Cheese, Classic White Cheese, white Cheese with goat's milk, white cheese with sheep's milk.

  They are as follows:

  Kashkaval Cheese: Fresh Kashkaval Cheese, 8 sliced Kashkaval Cheese, Aged Kashkaval Cheese,

  Processed Cheese-:Crème Cheese, Portion Cheese

  Special Cheeses: additional 5 products

  String Cheese: Halloumi Cheese, Plaited Cheese, Mihalich Cheese, Circassian Cheese, Ultrafiltrated White Cheese

  Labne

  - Butter (one single type)

- Baby and Child products has four brands: Büyümix , Babymix ,Hüptirik and Minimix.

  - Büyümix has five different flavours: strawberry, forest fruits, banana, tangerine and biscuit, peach and apricot

  - Babymix has two products: Babymix plain, babymix with Apple Puree

  - Hüptirik has three products: Crazy Strawberries, Funny Bananas, Hüptirik with Forest Berries

  - Minimix has three different flavours: Strawberry flavoured Minimix, Tropical fruit flavoured Minimix Bubblegum flavoured Minimix

- Beverages:

  - Orange juice (one single type), Ayran (2 types)

- Yogurt has three major types: Set Yogurt with Cream, Homogenized Set Yogurt and Flavored Strained Yogurt

  - Flavored Strained yogurt has six products: Strained Yogurt, Fruit Yogurt, Sheep Yogurt, Garlic Yogurt, Haydari (local taste), Cacık (traditional form of salad oriental)

- Milk has three major types: Daily Fresh Milk, Long-Life Milk, Flavored Milk

  - Flavored milk has 3 products: Strawberry, Cocoa , Banana Flavored Milk

BOYTAŞ A.Ş. The number of patents the company has is not reachable. However, Boytaş Furniture has been awarded the most productive company in Kayseri, Turkey due to the massive number of patent applications. It is obvious that the company will have several more patents in the coming years.

GE Turkey: The company has over 3,500 patent registration for its commercialized products as of today.

HİSAR A.Ş. The company has approximately over 100 registered patents.

SME 1: They have had eight patents for their commercialized products as of today. They are planning to have some new patents filed in the coming years.

SME 2: The company has over ten patent registration for its commercialized products.

Balpet Petrol Ürünleri A.Ş. (bpet): The company does not have any patents for its commercialized products. The company holds the patent registration of its own brand name.

ISRA VISION VISTEK: The company has two patents, one registered for the company and the other for the university.

Çağlar Makina Sanayi ve Ticaret Ağaç İşleme Makinaları Hidrolik Pres İmalatı: The company does not have any patents for its commercialized products as of today, but the employer is planning to have at least 2 patent registration for his new products.

Publik: No information has been gathered.

23. Does the company have any licence agreements with any of the domestic or international companies?

Arçelik A.Ş. There is inefficient information in the report about the question above.

Ereğli Demir ve Çelik Fb. T.A.Ş. No, the company does not have any licence agreements with any of the companies, either domestic or international.

SÜTAŞ A.Ş. No information is available to answer the question above.

BOYTAŞ A.Ş. No specific information has been reached.

GE Turkey: Yes, the company has various license agreements with some companies.

HİSAR A.Ş. Yes, the company has various license agreements with some other companies.

SME 1: Yes, they do have some licence agreements with some domestic and foreign companies.

SME 2: Yes, the company has various license agreements.

Balpet Petrol Ürünleri A.Ş. (bpet): Yes, the company has a licence agreement, but not with any of the domestic or international companies; the licence agreement is with the government.

ISRA VISION VISTEK: No, the company does not have any licence agreements with any of the domestic or foreign companies.

Çağlar Makina Sanayi ve Ticaret Ağaç İşleme Makinaları Hidrolik Pres İmalatı: No, the company does not have any licence agreements with any of the domestic or international companies. In fact, the company has received some offerings but refuses to have such agreements. The latest offering is from an Italian group.

Publik: Yes, the company has various licence agreements both with domestic and foreign companies.

- **If yes, what are the names of the firms the company works with?**

Arçelik A.Ş. No specific information has been gathered.

Ereğli Demir ve Çelik Fb. T.A.Ş. None.

SÜTAŞ A.Ş. No information is available to answer the question above but, the company has some subsidiaries of its own. For instance, Enfaş A.Ş, in which the company has partnership, produces biogas, power, and organic fertilizer from the waste of the company's farms and production plants.

BOYTAŞ A.Ş. No specific information has been reached.

GE Turkey: Some companies are privately run, some are state run companies.

HİSAR A.Ş. The question is declined as it is trade secret.

SME 1: The question is declined due to the trade secret concept of the company.

SME 2: The question is declined as it is a trade secret for the company.

Balpet Petrol Ürünleri A.Ş. (bpet): None.

Vistek ISRA VISION: None.

Çağlar Makina Sanayi ve Ticaret Ağaç İşleme Makinaları Hidrolik Pres İmalatı: None.

Publik: For Facebook, P&G, Evyap, Nestlé. SONY and BDF Beiersdorf. For Linkedin, Turkcell, Vodafone, IBM, TTNET, Türk Telekom. For Cevap.tv, P&G, Unilever, Turkcell, SONY, Johnson&Johnson. For T24, Yapıkredi, Vodafone, Garanti, Borusan and Turkcell. For search engine, Yataş, Yoyo, BDF Beiersdorf, INTEMA and YoYo.

- **Is / Was it contract manufacturing?**

Arçelik A.Ş. No specific information has been gathered.

Ereğli Demir ve Çelik Fb. T.A.Ş. None.

SÜTAŞ A.Ş. No information is available to answer the question above.

BOYTAŞ A.Ş. No specific information has been reached.

GE Turkey: No, none of them is contract manufacturing.

HİSAR A.Ş. Yes, it is contract manufacturing.

SME 1: No, it is not contract manufacturing.

SME 2: Yes, they are contract manufacturing.

Balpet Petrol Ürünleri A.Ş. (bpet): None.

ISRA VISION VISTEK: None.

Çağlar Makina Sanayi ve Ticaret Ağaç İşleme Makinaları Hidrolik Pres İmalatı: Yes, but the company declined the offer.

Publik: None.

24. Does the company have a trademark? If yes, when was it registered?

Arçelik A.Ş. Beko is the prestigious trademark among the first 3 in Europe. Grundig, Blomberg, Elektrobregenz, Altus, Arctic, Leisure, Flavel, and Defy are the other brands of Arçelik A.Ş.

Ereğli Demir ve Çelik Fb. T.A.Ş. Yes, ERDEMİR has various trademarks each of which is owned by its group companies. For instance, ERENCO is for Erdemir Mühendislik Yönetim ve Danışmanlık Hizmetleri A.Ş. No definite information has been gathered for trademark registration date though its establishment was issued by the Turkish Parliament onMay11,1960.

SÜTAŞ A.Ş. The company has many trademarks like Hüptirik, Büyümix and Minimix. Dates of trademark registration have not been reached.

BOYTAŞ A.Ş. The company has a group of trademarks. Istikbal, Bellona,Istikbal Regina, Mondi and Deco. The information about the registration dates is not reachable.

GE Turkey: Yes, the company has a trademark.

HİSAR A.Ş. Yes, the company has a trademark.

SME 1: Yes, we do have a registered trademark. In fact, the company has 10 various trademarks.

SME 2: Yes, the company has a trademark.

Balpet Petrol Ürünleri A.Ş.(bpet): Yes, the company has a registered trademark.

ISRA VISION VISTEK: Yes, the company has a registered trademark.

Çağlar Makina Sanayi ve Ticaret Ağaç İşleme Makinaları Hidrolik Pres İmalatı: No, the company does not have a trademark.

Publik: Yes, the company has a trademark but the date of trademark registration is unreachable.

25. Does the company have any long-term pending patents due to bureaucratic processes?

Arçelik A.Ş. No specific information has been gathered.

Ereğli Demir ve Çelik Fb. T.A.Ş. No specific information has been gathered.

SÜTAŞ A.Ş, No information is available to the question above.

BOYTAŞ A.Ş. No information to answer the question above has been reached.

GE Turkey: None.

HİSAR A.Ş. Yes, the company has some pending patents due to bureaucratic processes.

SME 1: No, they do not have any pending patents.

SME 2: None.

Balpet Petrol Ürünleri A.Ş. (bpet): bpet does not have any patents for its products as they do not need any patents.

ISRA VISION VISTEK: Yes, Vistek has two pending patents due to slow bureaucratic processes.

Çağlar Makina Sanayi ve Ticaret Ağaç İşleme Makinaları Hidrolik Pres İmalatı: None.

Publik: No information has been gathered.

26. Has the company had any patent sales for domestic and / or foreign companies?

Arçelik A.Ş. No specific information has been gathered.

Ereğli Demir ve Çelik Fb. T.A.Ş. No, the company has not had any patent sales for any company.

SÜTAŞ A.Ş. No information is available to the question above.

BOYTAŞ A.Ş. No information to answer the question above has been reached.

GE Turkey: None.

HİSAR A.Ş. None.

SME 1: No, the company has not had any patent sales for domestic or foreign companies. In fact, the company itself uses the patents for its own production.

SME 2: None.

Balpet Petrol Ürünleri A.Ş. (bpet): bpet has not had any patent sales because the company does not have any patents for its products.

ISRA VISION VISTEK: Yes, the company has been in the process of patent sale negotiations with a company for a while.

Çağlar Makina Sanayi ve Ticaret Ağaç İşleme Makinaları Hidrolik Pres İmalatı: None.

Publik: No information has been gathered.

27. To sum up the information derived from these interview questions, in this new traffic-pattern on a five lane freeway where the most sophisticated vehicles on the first 3 lanes on the left are going at full speed, in what areas Turkey, though seems to be belated in some sophisticated areas, needs urgent improvements in order not to be thrown out of the lane involuntarily and for these urgent improvements, according to the company, what kind of lane shifting has to be done at least not to miss the latest business trend?

- **Infrastructure**
  - port
  - highways
  - railroads
  - airport

- **Education**
  - universities & vocational schools
  - employee training
  - workshops
  - certificate programs

- **Government Incentives**
  - taxes
  - loans with zero/low interest rates
  - free land
  - inexpensive equipment, machinery, power and water

Arçelik A.Ş. The answer to this question stems from the interview questions that are replied according to the achievements of the company found on the Internet. It is assumed that , Arçelik A.Ş. as the leader of the domestic market today would select the educational shift for the urgent improvement because it is obvious that knowledge, to inform and being informed, is the major access to success for Arçelik A.Ş.

Ereğli Demir ve Çelik Fb. T.A.Ş. Based on the information on its official Website (http://en.erdemir.com.tr), it is obvious that Erdemir Group's priority is "education". Consequently, it could be asserted that for Erdemir, lane shifting needs higher education with better quality.

SÜTAŞ A.Ş. The answer to this question stems from the interview questions that are replied according to the achievements of the company found on the Internet. It is assumed that the company , as the leader of the market today and the small business of the recent past, would select the educational shift for the urgent improvement because knowledge, to inform and being informed, is the major access to success.

BOYTAŞ A.Ş. Due to the information on the company's website, it is predicted that education plays a significant role in company's priorities. It could be assumed that the owners of the company would ask for a better education to create better designs. Next, since the company has made the required shift and started using railroads for logistics, they might ask for a better railway system as delivery through railroads is safer and less expensive when compared to other infrastructure tools like ports and / or airports.

GE Turkey: For GE Turkey, vocational schools and training are the most important areas both of which need urgent improvement.

HİSAR A.Ş. Improvement in the quality of education in universities and vocational schools has the utmost priority for the company. The other area of improvement is supplying low-cost energy and equipment for production.

SME 1: Stable political environment and more individual and social freedom are the required shifts which are to be provided urgently in order not to miss the latest business trend.

SME 2: For infrastructure, railroads and airports, for education, vocational schools, raining and certificate programs, for government incentives, tax discounts, loans with little or no interest and easy access to imported material for domestic production are the areas of urgent improvement for the company.

Balpet Petrol Ürünleri A.Ş. (bpet): Education is the required shift which is to be urgently provided in order not to miss the latest business trend. Apart from the areas of improvement listed for the interviewees, one of the executives adds another area of improvement with vital importance. He says, "People in Turkey should not be enforced to put on the same old grandparent coat over and over again. Sizes keep changing and the old grandparent coat does not fit anyone anymore. What I mean is that people do not want to get stuck in the same old way of living led by some out-of-date customs and traditions".

ISRA VISION VISTEK: According to Vistek, each part above needs some sort of urgent improvement. For instance, for infrastructure, more highways should be constructed and the existing ones should be improved. For education, more universities and more vocational schools are to be opened, and for governmental incentives, more free land should be offered together with loans of low-interest rate and low-cost machinery and power.

Çağlar Makina Sanayi ve Ticaret Ağaç İşleme Makinaları Hidrolik Pres İmalatı: Çağlar Makina recommends urgent improvement for SMEs and TÜBİTAK support for innovative products.

Publik: Since this interview was not made in person, and there is not efficient information on its Web site, it is difficult to predict what the company would select for the improvement of the lacking areas in Turkey.