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STATISTICAL ANALYSIS OF CUSTOMER SATISFACTION OF TV GOODS IN FOREIGN MARKETS

(SPECIAL CASE AT A BRAND LEVEL IN RUSSIAN MARKET)

Yüksek Lisans Tezi

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Danışman: PROF. DR. RAUF N. NİŞEL

İstanbul, 2007

Marmara Üniversitesi
Sosyal Bilimler Enstitüsü Müdürlüğü

Tez Onay Belgesi

İŞLETME Anabilim Dalı SAYISAL YÖNTEMLER (İNG) Bilim Dalı Yüksek Lisans öğrencisi ELKHAN GULUZADE nın STATISTICAL ANALYSIS OF CUSTOMER SATISFACTION OF TV GOODS IN FOREIGN MARKETS(SPECIAL CASE AT A BRAND LEVEL IN RUSSIAN MARKET) adlı tez çalışması ,Enstitümüz Yönetim Kurulunun 03.05.2007 tarih ve 2007-5/22 sayılı kararıyla oluşturulan jüri tarafından oybirliği/oyçokluğu ile Yüksek Lisans Tezi olarak kabul edilmiştir.

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ABSTRACT

STATISTICAL ANALYSIS OF CUSTOMER SATISFACTION OF TV GOODS IN FOREIGN MARKETS

(SPECIAL CASE AT A BRAND LEVEL IN RUSSIAN MARKET)

Throughout the history, the exports sector has been played a significant role in the economy of world countries. The countries pay special attention to investments, enlargement of manufacture industry and hence the enhancement of exports; which will bring to attracting foreign money to country and increase life standards. The given study is focused on the Turkish electronics sector and the exports of this sector. After the thorough analysis of this sector's data, it is found that, the TV goods have a significant role in Turkish electronics sector exports. Then, we found that, Vestel foreign trade co. has the highest contribution to Turkish TV exports and Russian market is one of the most potential markets of Vestel Company. Further, it is aimed to analyze the sales of Vestel TVs in Russian market and the level of Customer Satisfaction in Vestel TV goods in Russia; and to determine the factors affecting the customer satisfaction. After the completion of the survey data, these data were analyzed with different statistical methods by using software. It is tried to investigate the relationships between the factors and overall satisfaction; the unrelated factors were eliminated and the factors which are really affect the customer satisfaction were stayed in the research model.

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ÖZET

YABANCI PAZARLARDA TV ÜRÜNLERİNİN MÜŞTERİ MEMNUNiYETİNİN İSTATİSTİKSEL ANALİZİ

(RUSYA PAZARINDA MARKA SEVİYESİNDE ÖZEL ÇALIŞMA)

Tarih boyunca, ihracat sektörü dünya ülkeleri ekonomisinde önemli röl oynamıştır. Ülkeler yatırımların yapılmasına, sanayinin büyümesine be buradan ihracat rakamlarının yükselmesine özel dikkat yetiriyorlar; bunun sonucu olarak ülkeye yabancı para akışı artıyor ve hayat standartları yükseliyor. Bu çalışma Türk elektrik – elektronik sektörüne ve bu sektörün ihracatına odaklanmıştır. Bu sektörün verilerinin tam analizinden sonra, TV ürünlerinin Türk elektrik – elektronik sektörü ihracatında önemli röle sahip olduğu anlaşılmıştır. Daha sonra, rakamlardan Vestel Dış Ticaret AŞ"nin Türk TV ihracatına büyük katkısı olduğu ve Rusya pazarının Vestel"in en büyük potansiyel pazarlarından biri olduğu ortaya çıkmıştır. Çalışmanın amacı, Vestel TV"nin Rusya pazarındakı satışlarını ve Vestel TV ürünlerinin Rusya"dakı müşteri memnuniyetini analiz etmek; ve müşteri memnuniyetini etkileyen faktörleri ortaya çıkarmaktır. Araştırma (anket) verileri tamamlandıktan sonra, bu veriler farklı istatistiksel yöntemlerle bilgisayar programlarını kullanarak tahlil edilmiştir. Genel memnuniyet ve etkenler arasındakı bağ ve ilişkiler araştırılmış, ilgisiz etkenler modelden çıkarılmış ve müşteri memnuniyetini gerçekten etkileyen faktörler araştırma modelinde kalmıştır.

Foreword

I would like to thank Professor Rauf Nurettin Nisel for his support and kind attention during preparation of my thesis study.

31.05.2007 Elkhan GULUZADE

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ABBREVIATIONS

CBT	Central bank of Turkey
SIS	State Institute of Statistics
EU	European Union
WTO	World Trade Organization
EBU	European Broadcasting Union
CIS	Commonwealth of Independent States
PCA	Principal Components Analysis
RA	Reliability Analysis
MRCA	Multiple Regression and Correlation Analysis
MAC	Measures of Association and Correlation
CC	Core Concept
CCC	Core Concept Categorical

1. INTRODUCTION

1.1. The short history and significance of Turkish exports sector

Throughout the history, the exports sector has been played a significant role in the economy of world countries. The countries pay special attention to investments, enlargement of manufacture industry and hence the enhancement of exports; which will bring to attracting foreign money to country and increase life standards.

In Turkey also, throughout the five year plan periods applied since 1963, "industry based growth" was taken as the prime target. However, the industrialization strategies adopted and economic policies followed showed a great difference before and after 1980. After the 1980, with the introduction of export-oriented industrialization, significant progress was made in Turkey towards establishing the principles and fundamentals of an economy open to competition, liberalizing the foreign trade, substituting market forces to a great extent for administrative decisions in determination of prices, and restructuring public institutions and government role.[1]

These reforms contributed significantly to the dynamism of the private sector and achieved the flexibility of Turkish economy to adapt to both internal and external shocks. Therefore, the source of industrial growth in recent years has been the investments and the dynamics of the private sector.

As a result, considerable increases were recorded in GNP growth, volume of exports and share of manufacturing industry in exports. The average annual growth rate of industry has been 6.6 percent in the 1980-90 period, and 5.6 percent in the 1990-98 period. Share of industry in GNP reached 22.4 percent in 1998 increasing its share from 18.3 percent in 1980. [2]

The growth in industry has been mainly generated from manufacturing sectors. Significant improvements were observed in the manufacturing industry, transforming the

[1] Central bank of the Republic of Turkey (CBT), ''The impact of globalization on Turkish economy'', Ankara, June 2002, p-12
[2] CBT, p-13

agriculture-dominant structure of the Turkish economy through a rapid industrialization period. The manufacturing industry production increased by 7.1 percent annually between 1980-1990 and by 5.7 percent annually between 1990-1998. [3]

The most important implication of industrial growth has been observed on the foreign trade. Total exports have shown a rapid increase after 1980. The total value of exports, which was $2.9 billion in 1980, reached to a level of $ 26.9 billion in 1998. The industrial goods have gained further significance within the exports, and the share of industrial goods within total exports has increased from 50 percent in 1980 to 88.5 percent in 1998, where manufacturing industry exports have reached 24 billion dollars. [4]

As a result of industrialization, the volume of imports of investment and intermediate goods has also increased, and the total imports which was $7.5 billion in 1980, exhibited a rapid increase and reached $45.9 billion in 1998. Manufacturing industry imports reached 39,9 billion dollars in 1998, accounting up to 86.9 percent of total imports.[5]

The industrialization process has its effects on the employment structure as well. Total employment has reached 21,1 million in 1998, and the share of industry has increased from 11,6 percent in 1980 to 15.6 percent in 1990, and 16.8 in 1998. Manufacturing sector contributes over 90 % of industrial sector employment.[6]

We have to evaluate the Turkish economy with different perspective in 1999 due to the effects of both global crises and the earthquakes taken place.

After initially emerging in Asian countries in the middle of 1997, Global Crises which, occurred in Russia later, has had a world-wide effect, not only developing, but also on developed countries.

Starting from July 1998, however, international environment has worsened markedly and the turmoil in capital markets has intensified. In addition to continuing

[3] CBT, p-15
[4] State Institute of Statistics (SIS), Foreign Trade Statistics and Indices, Ankara, 2002, p-8
[5] SIS, p-9
[6] SIS, p-10

deterioration in underlying economic conditions in Asia, Russia has suffered a serious crisis and Latin America has also been affected. In this environment, tension in financial markets increased extensively.

These developments have had immediate effects on financial markets in Turkey. Subsequently, we have observed the impacts on foreign trade and output growth of industrial firms.

These impacts were mainly originated from;

- Slowdown in export growth due to the measures taken by crisis economies, increased competition from crisis countries on our export markets and slowdown in economic growth of OECD countries.

- Higher interest rate which caused further financial difficulties to the industrial companies.

The impacts of Global Crises on industry have been observed on the output, capacity utilization, employment and exports in 1999[7]:

- Growth rate of the industry value added was – 5 %.

- Industry production decreased by 3.5 %.

- Capacity utilization in manufacturing industry decreased to 73.3 % from 79 % in 1998.

- Production workers index of manufacturing industry decreased

by 9 %.

- Manufacturing industry import decreased by 13.1 % to 34.7 million dollars, and exports by 0.5 to 23,8 million dollars.

[7] Turkiye-AB Ticaret-Sanayi ve AKCT urunleri 1, Alt Komitesi, Report, Bruksel, 2000, p-10

The most affected sectors were food, textile and clothing, leather, chemicals, petrochemicals, iron and steel, and automotive industry.

As long term implications, Global Crises has affected the investors' decision and some of the planned foreign direct investments were postponed. Furthermore, increase in the financial cost has also negatively affected the investment tendencies.

As a result, at the end of 1999, Turkish government has introduced a 3-year macroeconomic program with the support of IMF in order to put economy in a more stable growth environment. Following the implementation of this program, positive developments has been observed in the economy and industrial production started to increase again.

Privatization has been one of the major concerns in industry. In recent years, in parallel with activities to improve the existing industrial structure, privatization of the economic activities carried out by the public sector has been accelerated. The privatization of public enterprises in food, cement, electronics, automotive, textile and wood products sectors has been carried out. The public enterprises in iron and steel, oil refining, petrochemicals and paper sectors are in the scope of privatization program. There is also a considerable share of public enterprises in tobacco and beverages, chemistry, railway vehicles and defence industry sectors.

The structure of industry is another important aspect of industry. Turkish industry is mainly depending on private sector. In manufacturing industry, more than 80 percent of production and about 95 percent of gross fixed investment is realized by private sector.[8]

The sectoral structure of manufacturing industry is quite diversified. Food sector has the largest share in manufacturing industry production with 18.8%, followed by textiles and clothing with 16.3%, petroleum products with 8.8%, iron-steel with 6.2%, automotive with 5.8% and chemistry industry with 5.0%. In manufacturing exports, food, textiles, ready-made garments and iron-steel products are the major sectors.[9]

[8] Turkiye-AB Ticaret-Sanayi ve AKCT urunleri 1, Alt Komitesi, p-12
[9] Turkiye-AB Ticaret-Sanayi ve AKCT urunleri 1, Alt Komitesi, p-13

Turkey has introduced significant legislative and administrative arrangements to encourage foreign capital investments after 1980. The principle of making the foreign investors subject to same rights and responsibilities with Turkish investors was accepted. Thus, the foreign investors can both invest in any field open to Turkish investors and can benefit from the investment incentives. The changes made in the foreign capital policy proved to be effective and the foreign capital permission given between 1980-1999 exceeded 25.5 billion dollars, whereas about 14.7 billion dollars was in manufacturing industry. Foreign direct investment was mostly attracted with automotive industry, food, tobacco, chemistry, iron and steel and electrical machinery sectors.[10]

As far as competitiveness concerned, as a result of market economy, outward orientation and customs union, mainly the large Turkish companies have gained strength in market and became more competitive through the last two decades. The private sector is quite dynamic in Turkey. The high levels of growth rate in recent years and the capability of the industrial sector to stand up competition after the customs union indicate the strong potential of the Turkish firms.

In general, the primary factors that provide Turkey's competitiveness in the foreign markets are its natural resources, its geographical proximity to the EU market, trained work force, well established industrial base, the progress achieved in infrastructure and telecommunication systems, together with the existence of a large domestic market and the liberal economic policies in force. On the other hand, the inability of maintaining macroeconomic stability, the chronic high inflation rate, the high cost of capital and basic industrial inputs, inability to keep in pace with technological developments, the lack of innovation and new technology creation are the factors detracting the competitive power of Turkey, in addition to the inadequate capital accumulation.

The necessary legislation to improve the competitive environment has been also introduced. In this framework, investment incentives are almost totally adapted to the requirements of EU. Legal and institutional arrangements regarding Intellectual Property

[10] Turkiye-AB Ticaret-Sanayi ve AKCT urunleri 1, Alt Komitesi, p-18

Rights, Consumer Protection, Competition, Accreditation and Prevention of Unfair Competition in Imports have been introduced.

1.2. Aim of Study

The aim of this study is to find the level of customer satisfaction of TV goods in foreign markets and to determine and to analyze the factors those influence the customer satisfaction. We specify the foreign market as Russian market. The reason of choosing Russian market is explained below.

1.2.1. Market

1.2.1.1. Definition of electronic goods sector

The electronic goods sector is the field which affects the other industrial sectors very much, due to its economic and technologic properties. Because of the number of workers in its production volume, the affect on all other industrial sectors and because of constituting more than 10 % of world industrial production, this sector is one of the largest and leader sectors.[11]

The 1/3 of products of electric equipment and electronics sector is repeatedly used by this sector and the rest of products are directly used by others.

Turkey in the last twenty years has applied the export oriented expansion model, and by means of the progress in electronics sector and with the price advantage and quality provided by technology, creates the serious rivalry on global level.

The steady progress in Turkish electronics sector, its harmony with world technology, the fastness in adoption of modern technology shows the bright future of this sector.

The growth of the Turkish electronics industry is deeply embedded in the structure and success of Turkey's industrial revolution. The country has developed from an exporter of agricultural products to a major contributor to the clothing, consumer durables and

[11] World Trade Organization (WTO) Statistics, Annual Review, November 2005, p-14

automotives in European markets. In the last of these, the role of electronics is critical and Turkey has been developing rapidly by using them.

The Turkish electronics sector started with the assembly of imported components in the 1960s and took off in the 1980s. It has grown to become an industry manufacturing $8.1 billion of goods in 2005, importing $10.8 billion worth of goods and exporting $7.1 billion. These figures include consumer and defence electronics, and office and telecommunications equipment.[12]

The growth of the telecommunications industry has been supported by proper and consistent long-term policies, which started from 1965, and focused on developing the industry's research capability in collaboration with Northern Telecom of Canada. For its part, demand for consumer electronics was stimulated by the start of colour television broadcasting in 1982, and the expansion of the area receiving broadcasts. Private channels began to develop as of 1990s, increasing demand for colour TV receivers at the expense of demand for the video players that had been popular in the 1980s.[13]

The most important event for the sector was the launch of two GSM networks in 1994 and 1995. This has led to a rapid expansion in GSM penetration, with 26 million subscribers as of end-2002 and about 43 million as of end-2005. The emergence of Turkey as a production base for automotive and white and brown goods became another factor to trigger the electronics market.[14]

The electronics market was worth $14.5 billion in 2005. This figure includes components, consumer electronics, telecommunications, professional and industrial equipment, defense and information technology, but do not include white goods or automotives.[15]

The Turkish electronics sector is far from being saturated. The young population of the country and ever- growing urbanization rate coupled with low penetration rates (26% in

[12] Industrial and Trade Ministry, Industrial sector report, Ankara 2005, p-10
[13] Industrial and Trade Ministry, p-12
[14] Industrial and Trade Ministry, p-13
[15] Industrial and Trade Ministry, p-16

fixed line telephone services, 55% in mobile telecommunications and approximately 14%in internet) in all the sub sectors of the electronics industry adds to the market potential.[16]

Additionally, having obtained a market share of between 15-20% yet, the Turkish producers of consumer equipments are optimistic about further export growth. Some TV manufacturers expect strong growth in exports particularly after 2006. Meanwhile, international white and brown goods and automotive manufacturers eye Turkey as an alternative production base. These factors, coupled with positive developments in the IT and telecommunications sectors, are expected to enhance the competitiveness of the Turkish electronics industry in the medium term.

The factors which will increase the dynamism of Turkey's electronics sector are as follows:

- The Turkish producers of televisions and other brown goods - Arçelik, Beko, Profilo Telra and Vestel - are rapidly developing to become of world-scale. The Turkish producers of consumer equipments are optimistic about further export growth. The high growth prospects in the component demand by consumer durables has led some manufacturers turn to imports due to lack of sufficient local production capacity.

- International white and brown goods manufacturers are **relocating** and eye Turkey as an alternative production base. Far Eastern companies, including Pioneer and LG increasingly seek Turkish partners for joint production. The Chinese TV producer Konka has already started procing in Turkey and plans to move to its new premises worth $100 million.

- **In automotive**, Turkey is one of the strong candidates together with Eastern European countries to become a production base. It is forecasted that a total 2.3 million automotive will be produced in this region in 2006, increasing to 3.8 million by 2010.

[16] Communications Ministry, http://www.ubak.gov.tr (20 September 2006)

- Electronics manufacturers are now able to import, with either lower or no tariff rates, certain raw materials or intermediary inputs, after submitting the required documentation to the Turkish Standards Institute. This follows the entry into effect in January 2003 of the **suspension list,** which was prepared in cooperation with the EU aiming to increase competitiveness of domestic companies.

- The policies of the Turkish **Armed Forces**, sometimes in collaboration with TUBITAK, to support the Turkish electronics industry in reaching the required technological level to supply its critical security needs.

- The **Public Procurement** Law's allowance of a price advantage of up to 15% for local firms. Unless and until amended the definition of 'local' means that only Turkish firms without foreign partners will benefit from the advantage the law allows.

- In telecommunications, with the end of the monopoly of Turk Telekom in voice communication and infrastructure in January 2004, and its privatization in mid-2005, local and international investors have been investing in other forms of communication and developing plans for value added services. Licensing as regards long-distance telephone service was started in May 2004 and operators have been licensed. Further, licensing regarding the fixed wireless access services, cable services, MVNO, etc are in progress.

- E-Transformation Turkey and e-government projects will create a lucrative demand for ICT companies, paving the way for large e-Government projects with large amounts of public funding and fueling internet use and content creation.

- The enactment of the Law on Electronic Signature, which took effect in 2004, and the draft Law on the Electronic Communications will enhance e-commerce and e-government applications. The first three institutions have

been awarded authorizations as “electronic certificate service providers” and the first implementations have been launched.

- Government promises to support small and medium enterprises, which in turn may create demand especially for the IT products and services. There are approximately 3 million SMEs in Turkey and, an estimated 90% have no IT infrastructure. This also creates an unsaturated potential market for the IT sector.

1.2.1.2. Importance of electronic goods sector in Turkish exports

The electronics sector exports are increasing day by day and have an important role in the overall exports of Turkey. In the last five years (2001 – 2005) the exports of this sector showed an increase of 168 % and increased from $2.67 billion to $7.1 billion. In this period the increase percent in electronics sector exports was higher than that of in overall exports sector. The share of electronics sector in the overall exports in Turkey was 8.5 % in 2001 and became 9.8 % in 2005. And in the period of January – March 2006, the electronics sector exports was $1.77 billion (Table – 1).

Table-1:

Exports of electronic goods sector (1.000 USD $)

	2001	2002	2003	2004	2005	2006 (3 month)
Exports of electronics sector	2,669,167	3,500,326	4,444,603	6,141,796	7,137,337	1,774,271
Change proportion	-	31%	27%	38%	16%	%16
Overall Turkish exports	31,334,216	36,059,089	47,252,836	63,167,153	73,122,150	17,984,899
The share of electronics sector in Turkish exports	8.5%	9.7%	9.4%	9.7%	9.8%	9.9%

Source: http://www.foreigntrade.gov.tr/IHR/madde

As we see from the table the electronic goods sector is really important for Turkish exports.

1.2.2. Product

1.2.2.1. Exports in Turkish electronic goods sector

The exports in Turkish electronic goods sector are shown on product base in Table – 2. According to this, the 41 % of electronics sector exports is related to TV product group in the 8528th position, the 10 % of electronics sector exports is related to refrigerators product group in the 8418th position, and again 10 % of exports is related to isolated wire and fiber optic cable product group in the 8544th position. Beside of these three groups, the product groups like washing machines, electrical water heaters, electrical transformers and electric circuit devices with voltages lower than 1000 V, in total constitute the 18 % of the electronic goods sector exports. As a result, from these data we can see that, the exports of electronics sector depend upon the certain products' exports.

Table-2:

The exports in electronic goods products with positions (USD $)

Position	Position Name	2005	Share
8528	TV, VIDEO MONITORS AND PROJECTORS	2,933,948,995	0.41
8418	REFRIGERATORS, FREEZERS, HEAT PUMPS	737,989,723	0.10
8544	ISOLATED WIRE, CABLE, OTHER ISOLATED ELECTRICAL CABLES, FIBER OPTIC CABLES	716,192,178	0.10
8450	WASHING MACHINES	491,785,352	0.07
8516	ELECTRICAL WATER HEATERS, ELECTRO-THERMIC DEVICES	317,088,701	0.04
8504	ELECTRIC TRANSFORMERS, STATIC CONVERTERS, INDUCTORS	264,607,206	0.04
8536	ELECTRIC CURCUIT DEVICES WITH VOLTAGE LOWER THAN 1000 V	205,356,734	0.03
9405	OTHER ILLUMINATION DEVICES, LAMPS, ILLUMINATED BOARDS AND ETC..	129,905,980	0.02
8502	ELECTROGEN GROUPS, ROTATIVE ELECTRICAL CONVERTERS	128,546,077	0.02
8537	ELECTRICAL CONTROL, DISTRIBUTION TABLES	114,380,204	0.02
2716	ELECTRICAL ENERGY	103,443,788	0.01
8521	VIDEO RECORDER DEVICES	73,461,860	0.01
8422	MACHINE AND DEVICES FOR WASHING, CLEANING, DRYING, FILLING ANT OTHER WORKS	68,793,518	0.01
8503	ELECTRICAL MOTORS, GENERATORS, ELECTROGEN GROUPS PARTS	59,052,082	0.01
8509	ELECTROMECHANIC – ELECTRIC MOTOR DEVICES FOR HOUSEHOLD WORKS	58,146,057	0.01
8529	MARINE CRANES AND LIFTING DEVICES PARTS	56,184,259	0.01
8501	ELECTRIC MOTORS, GENERATORS	55,503,293	0.01
8538	BOARDS FOR ELECTRIC CONTROL/DISTRIBUTION AND OTHER	53,336,358	0.01
8471	AUTOMATIC INFORMATION PROCESS MACHINES, UNITES	41,130,276	0.01
8415	AIR CONDITIONERS, VENTILATORS, HEAT, HUMIDITY REGULATORS	39,620,735	0.01
	TOTAL	**7,093,795,118**	

Source: http://www.foreigntrade.gov.tr/IHR/madde

As a result, as we see from the Table-2, the TV product exports have a significant role in the exports of electronics sector.

In 2005 in the electronic goods sector, goods are exported to 190 countries. In 2005 Germany with 15,4 % share and $1.101 million was the first exported country, England with $965 million and 13.5 % share was the second and France with $491 million and 6.9 % was the third. Iraq, to which exports began from 2003, in 2005 became the fifth with the $406 million and 5,7 % share. The share of the first ten countries in our exports is 66 %, and this shows the dependence of sector export on certain markets (Table – 3).

Table-3:

The electronic goods exports in 2005 according to countries (USD $)

Country	Overall Exports ($)	Electronics sector exports ($)	The share of electronics sector in overall country export	The share in the in the electronics sector
Ülkeler Toplamı	**73,122,150,263**	**7,132,917,735**	**9.8%**	**100.0%**
EU (25)	**38,306,534,610**	**4,729,620,627**	**12.3%**	**66.3%**
GERMANY	9,435,894,203	1,101,254,155	11.7%	15.4%
ENGLAND	5,915,810,647	965,441,693	16.3%	13.5%
FRANCE	3,788,948,170	491,420,671	13.0%	6.9%
ITALY	5,601,171,206	483,695,833	8.6%	6.8%
IRAQ	2,695,609,774	406,120,274	15.1%	5.7%
SPAIN	3,005,018,116	400,654,417	13.3%	5.6%
HOLLAND	2,464,712,888	390,519,876	15.8%	5.5%
RUSSIA	2,371,446,464	178,904,695	7.5%	2.5%
ROUMANIA	1,781,189,094	166,489,692	9.3%	2.3%
BULGARIA	1,176,713,916	128,498,865	10.9%	1.8%
GREECE	1,122,108,994	117,094,421	10.4%	1.6%
SWEDEN	659,794,073	113,987,375	17.3%	1.6%
ISRAEL	1,461,238,885	97,793,304	6.7%	1.4%
BELGIUM	1,287,194,610	95,503,775	7.4%	1.3%
UCRAINE	800,861,074	81,471,799	10.2%	1.1%
AZERBAIJAN	524,102,574	79,163,265	15.1%	1.1%
POLAND	828,654,118	74,593,801	9.0%	1.0%
AUSTRIA	658,179,455	74,385,532	11.3%	1.0%
ALGERIA	803,801,655	71,935,245	8.9%	1.0%
HUNGARY	377,854,818	71,244,477	18.9%	1.0%

Source: http://www.foreigntrade.gov.tr/IHR/madde

1.2.2.2. Significance of TV goods in Turkish electronic goods sector

It is necessary to analyze the colour TV product groups, because it has a significant role in Turkish electronic goods sector. In electronics sector the colour TV production is leading, and other consumer electronics production follows it. Turkey has become an important TV producer in Europe, and has the capacity to compete in world markets. Turkish electronics sector produces own technology in design and production, adds own research and development investments in foreign countries and Turkey. The leader companies of this sector, in addition to investments in Turkey, create the new companies and plants in different countries of the world. Therefore, the local industry also strengthens and increases its capacity.

In 2005, the colour TV exports became $2.8 billion, and had a share of 39 % in $7.1 billion electronics sector exports (Table – 4).

Table-4

Colour TV exports (1.000 USD $)

	2003	**2004**	**2005**
Colour TV exports	1,764,705	2,614,367	2,764,720
Share of Colour TV exports	40%	43%	39%
Electronics exports	4,444,603	6,141,796	7,137,337

Source: http://www.foreigntrade.gov.tr/IHR/madde

Colour TV continues to be a locomotive in the field of production and exports in electronics sector. In 2003, TV exports were 14.7 million pcs with $1.76 billion cost, and in 2004 it was 18 million pcs, with $2.61 billion cost, which was 23 % increase in quantity and 48 % increase in cost. In 2005, in comparison with 2004 it was a 10 % decrease in exports quantity, but it was 6 % increase in exports cost: for 16.1 million pcs the cost was $2.8 billions.

The colour TV exports are shown in the Table – 5, according to screen dimensions. If we analyze the table in detail: in 85281289th position there is an increase in quantity and cost of exports of the ‘picture recording/sending devices with other type

screens'. This increase, shows that, the exports of plasma TV and digital products is important in the last years due to increasing demand.

Table-5:
Colour TV exports

Position	Name	2003	2004	2005	% Chng
85281220	DEVICES WITH VOICE, PICTURE SEND/RECEIVE IN THE SAME CABINE	103,493,453	182,193,457	141,802,774	-%22
85281252	COLOUR TV (SCREEN DIAGONAL =<42 CM)	307,378,741	341,919,266	255,828,405	-%25
85281254	COLOUR TV (42 CM < SCREEN DIAGONAL < 52CM)	202,483,561	237,410,756	137,217,447	-%42
85281256	COLOUR TV (52 CM < SCREEN DIAGONAL < 72 CM)	898,833,102	932,144,428	603,050,254	-%35
85281258	COLUR TV (SCREEN DIAGONAL > 72 CM)	88,109,661	128,984,957	110,260,793	-%15
85281262	COLOUR TV SCANNER (PARAMETER < 625, SCREEN DIAGONAL < 75 CM)	70,821,959	187,504,570	114,093,223	-%39
85281266	COLOUR TV SCANNER (PARAMETER < 625, SCREEN DIAGONAL > 75 CM)	71,532,432	102,803,049	66,376,043	-%35
85281281	SCREEN PICTURE (VIDEO) TUNNERS W/L < 1,5 (OF THE SCREEN)	19,298,521	73,427,632	270,666,514	%269
85281289	PICTURE RECORDING/SENDING DEVICES WITH OTHER TYPE SCREENS	2,753,600	427,979,017	1,065,424,891	%149
	TOTAL	**1,764,705,030**	**2,614,367,132**	**2,764,720,344**	**%6**

Source: http://www.foreigntrade.gov.tr/IHR/madde

According to countries, in 2005 the 91 % of TV exports were to EU countries, and the main countries were Germany, England, Holland, Italy and Spain. In 2004-2005

periods it was an important increase in the exports to Germany, Holland and Hungary (Table – 6).

Table-6:

The first ten countries in colour TV exports

ÜLKE ADI	2003	2004	2005	% change	Share of each country (2005)
GERMANY	394,004,471	508,259,243	624,294,129	23%	22,58 %
ENGLAND	301,649,558	540,430,153	546,603,975	1%	19,77 %
HOLLAND	81,171,803	223,999,247	274,423,557	23%	9,92 %
ITALY	160,801,367	247,188,591	244,625,592	-1%	8,85 %
SPAIN	163,907,049	234,928,332	221,975,987	-6%	8,03 %
FRANCE	156,987,661	206,646,066	196,798,776	-5%	7,12 %
SWEDEN	41,466,594	69,384,961	80,629,428	16%	2,92 %
ROUMANIA	37,373,847	72,505,184	62,313,347	-14%	2,25 %
HUNGARY	30,716,334	27,024,532	43,329,096	60%	1,56 %
GREECE	24,788,640	38,781,146	42,853,111	10%	1,55 %
TOTAL OF THE FIRST TEN COUNTRIES	1,392,867,324	2,169,147,455	2,337,846,998	8%	
SHARE IN THE TOTAL	%79	%83	%85	-	85 %
TOTAL	**1.764.705.030**	**2,614,367,132**	**2,764,720,344**	**6%**	100 %

Source: http://www.foreigntrade.gov.tr/IHR/madde

The share of Russia in Turkish colour TV exports was approximately 1, 52 % in 2005.[17] In 2003, Vestel Co. and other Turkish brands constructed TV factories in Russia, therefore official TV exports number from Turkey to Russia was affected as well.

1.2.3. Brand

1.2.3.1. Comparative analysis of brands in TV exports

Production of consumer electronics has grown impressively since the late 1980s. The Turkish producers of televisions– Arcelik, Beko, Profilo Telra and Vestel – are rapidly developing to become of world-scale. Unstable local demand has forced manufacturers

[17] http://www.foreigntrade.gov.tr (24 February 2007)

to become export-oriented. They have met international quality-assurance standards and established good distribution channels in their export markets. They were assisted by the Customs Union agreed with the EU in 1996. Turkish producers have so far fought off allegations of dumping on the European markets. Turkish electronics firms have gone more global in scope.

Arçelik made new investments in 2002 including the purchase of Brandt's Bloomberg factory in Germany, and the Electra Bregenz company of Austria with its two brands Bregenz and Triola. Arçelik has also acquired the UK brands Leisure and Flavel and SCArctic of Romania. It plans further investments in Eastern Europe and has recently started an €58 million investment in Russia to produce refrigerators and washing machines in 2006**.** Arcelik is Europe's fifth largest household appliance maker (refrigerators, washing machines, ovens, dishwashers), with its brand repeatedly voted #1 in Turkey for the last 11 years by a national survey. Arcelik's extensive line of products is available in over a 100 countries. It proclaims a vision to possess one of the top ten brands in the world within five years. It is also one of the top four companies in the European durable consumer goods sector with the highest number of patents to its name.[18]

A unit of Turkey's largest conglomerate, Koç Holding, Beko sells fewer TVs overseas but still ranks as the No. 3 supplier in Europe. And like Vestel, Koç is also in the white goods business, where its Arcelik brand dominates the Turkish market with 56% share. Meanwhile Beko is looking to Eastern Europe, India and Far East for new plants. Beko has bought Grunding and Profilo Telra has been producing Philips branded TV sets in Turkey since 2002. In July 2005, Beko announced its plans to transfer one of its TV production lines to Russia to establish a 700,000 units/year facility. Beko, with its own line of television sets, DVDs, personal computers, and more is the first brand in Turkey ever to export its products under its own brand, with the objective to become a "World Brand." Having achieved a great deal in the domestic market first, Beko has now managed to introduce its brand to millions of consumers in more than a 100 countries worldwide.[19]

[18] http://www.arcelik.com.tr (18 October, 2006)

[19] http://www.beko.com.tr (18 October, 2006)

Vestel today has an impressive 26 percent of Europe's color TV market share. It leads the European market in terms of unit sales, followed by Philips and Beko (another Turkish brand). It also operates in television components, personal computers, PC monitors, and white goods, and has R&D centers in Turkey, the UK, and even Silicon Valley. Vestel is the largest exporter of Turkey, marketing its cutting edge products to 108 countries. Vestel built a TV manufacturing plant with an annual production capacity of 1 million in Russia in 2002. In addition, the company announced plans to set up an assembly line in India to meet the demand for low-cost Vestel TVs and is developing plans to produce in China.[20]

TV set manufacturers forecast consolidation in the Turkish market, among both manufacturers and importers as well as substantial changes in the distribution channels. Imported brands used to be preferred over local brands despite limited after-sales service but Turkish brands have now won respect. Manufacturers of consumer equipments put strategic emphasis on plasma and LCD TVs to by-pass dependency on imported picture tubes.

The consumer electronics sector is the product of private sector initiative. Turkish TV producers, namely Beko (Koc Group), Vestel (Zorlu Group) and Profilo Telra, have obtained 15% of world market and over 60% of the European market. Large production capacities, which help reduce fixed costs and provide bargaining power in material procurement, are a key factor behind the Turkish companies' success. In addition, low labour costs, a wide product design range, and good logistics also help sustain Turkish manufacturers against competition from their European and Far Eastern competitors. Transportation is the biggest advantage of the Turkish TV manufacturers against the Chinese TV makers.

[20] http://www.vestel.com.tr (19 October, 2006)

1.2.3.2. The role of Vestel in Turkish TV exports

VESTEL Group is the largest TV (in 2001 4.6 million pcs) and digital devices producer in Turkey. In 2001 almost all the produced digital devices and 95.8 % of the produced TV were exported. As a result, the market share of the company in EU in TV category became 15 % and in the world 5.5 %.[21] At the same moment Vestel produces PC, monitor, refrigerator and air-conditioner, imports different white goods products and sells it, and by means of VestelNet provides internet communication products. According to UMS results, the sales of Vestel, which were $ 1.133 million (this value was corrected according to inflation-deflation proportions) in 2000, stayed at the same level in 2001 and became $ 1.118 million. Although there was crisis in Turkish economy, Vestel declared $ 25 million net profit (Table – 7).

Table- 7

Vestel Income statement (UMS, million USD)

	2000	2001	2002	2003
Net Sales	997	1.118	1.342	1.519
Cost of Sales	-744	-770	-1.023	-1.180
Gross Profit	253	348	318	339
Activity Expenses	-103	-109	-139	-157
Main Activity profit	164	258	194	197
Net Financial Expenses	-79	-166	-89	-87
Turn Profit	85	92	105	110

[21] Vestel, Ak Yatirim Report, December 2003, p-6

Tax	-15	-26	-33	-34
Net Profit	46	25	98	80

Source: Vestel, Ak Yatirim

In 2000, Vestel exports were 548 million USD, and it was export champion of Turkey in that year.

In 2001, in addition to crisis in internal market, the 11 September terror acts also affected negatively the international trade, and as a result, there was a decrease in export-oriented sales. The decrease in TV and monitor sales of Vestel was compensated by the increase in average prices and in DVD/DVB devices and white goods sales.

In 2003, Vestel exported 77 % of produced white goods in the cost of 1.5 billion USD. According to 2003 year results, Vestel Electronics possesses 31 % of Turkish internal TV market, 53 % of Turkish TV exports and 23 % of European TV market. In the last 2 years, Vestel began to produce in its factories Hitachi and Toshiba products.

In 2004, there was an increase of 24 % in the overall sales of Vestel and it became 4.4 million YTL. The share of exports in the overall sales was 90 %.

Vestel Electronics was an export champion of Turkey in 1998, 1999, 2000, 2002, 2003; and in 2004 it increased to 54 % its market share in TV exports and again became a leader. Today, Vestel has 26 % market share in EU, and is the greatest TV producer of Europe with 10.5 million pcs. production. Totally Vestel exports to 108 countries and most of these countries are European countries.

In 2005, Vestel accomplished own record and its total exports became 2 billion and 220 million USD.[22]

One reason Vestel is so little known is that, most of its TVs are sold under other brand names, including SEG in Germany and Teletech in Britain. Vestel also supplies TVs

[22] http://www.vestel.com.tr (02 November, 2006)

to dozens of other companies, such as Sanyo (SANYY) and Hitachi (HIT), who relabel them under their own names. All told, the Turkish manufacturer sold more than 8 million conventional and flat-panel TVs last year in Europe. That was more than Philips Electronics (PHG), though the Dutch giant booked higher revenues thanks to a richer mix of high-priced flat-panel models.

Now Vestel is ramping up its flat-panel TV capacity to meet growing demand. By next year, it expects to produce nearly 3.4 million export units, on top of 6.9 million traditional cathode-ray tube TVs. It's investing $144 million in capital spending this year to expand its Vestel City manufacturing complex in Manisa, near Izmir on Turkey's Aegean coast.[23]

Western Europe is a rich target, but Vestel is also hoping to capitalize on growing demand in Russia and former Soviet states as well as the domestic Turkish market, where it commands a 40% share. Thanks to its success outside its home market, Vestel is Turkey's leading exporter, selling more than $2.5 billion worth of goods in 108 countries around the world. "We represent 55% of all Turkish TV exports, and we feel we're doing it right," says Turan Erdogan, head of Vestel's foreign trade division.[24]

To escape the commodity trap and raise profitability, Vestel is trying to move up the value chain. It has 500 research and development engineers -- half working on software -- employed in labs scattered from San Diego to Britain to Taiwan. Vestel makes huge investments in Research & Development in Turkey and in the world.[25]

Today Vestel's role in Turkish economy and exports is really significant and undeniable.

[23] Business week, issue 4, August-September 2006, p-11
[24] Business week, p-12
[25] Business week, p-12

1.2.3.3. Short history of Vestel Group[26]

Vestel was originally founded in 1983 as Ferguson Elektronik Sanayi ve Ticaret AS for the purpose of manufacturing a variety of white and brown goods (principally televisions) under the Ferguson name and using Ferguson-licensed technology for sale to the Turkish market. The same year, the Company's name is changed to "Star Elektronik Sanayi ve Ticaret AS".

In 1983, the Company is acquired by the Polly Peck Group but retains its existing name. After the Polly Peck acquisition, major changes are made in the Company's basic strategies. Instead of being a relatively small manufacturer of electronic goods (200,000 televisions a year in 1986) the Company is to focus on export markets and will expand the scope of its operations by collaborating with Capetronic, Sansui, Imperial, and other electronics companies in the Polly Peck Group.

In 1987, the first TV sets are exported.

In 1988, the Company begins manufacturing PC monitors. The same year, the Company signs a joint venture agreement with the South Korean company Goldstar to manufacture microwave ovens in Turkey.

In 1990, the Company enters into another joint venture agreement with Goldstar to import an extensive line of home appliances including refrigerators, washing machines, and dishwashers into Turkey and resell them. The same year, in the Company's initial public offering, Polly Peck sells shares representing about 18% of the Company's capital.

In 1991, following the collapse of Polly Peck, the Company is placed in administration along with many others that are members of the group.

In 1992, the joint venture with Goldstar is wound up when the Company enters into another agreement with the Italian firm of Merloni to manufacture refrigerators in Turkey under a Merloni license.

[26] http://www.vestel.com.tr (06 November 2006)

In 1994, Ahmet Nazif Zorlu acquires the Company from the administrator of the Polly Peck Group with his outright purchase of Collar Holding BV, which at the time held 82% of the Company's issued share capital. He subsequently acquired the Polly Peck Group holding company as well.

In 1996, the Company begins importing and selling electrical household appliances such as refrigerators, washing machines, and dishwashers in Turkey under the "Vestel" trademark. It also resumes manufacturing PC monitors.

In 1997, The Company begins producing internet technology products. The Zorlu Group sets up (Vestel White Goods) to manufacture static and no-frost refrigerators in Turkey under a Sanyo license and technical assistance agreement. The same year, Zorlu Group established Vestel White Goods for the manufacture in Turkey of refrigerators, which had the benefit of technical assistance from Sanyo of Japan.

In 1998, Vestel White Goods expands the scope of its technical assistance agreement with Samsung to include the manufacture of split air conditioners. Vestelkom, the group's components maker, is formed. The same year, Vestel USA is also set up to oversee the group's technology acquisitions.

In 1999, the Company develops and begins selling inexpensive internet access devices such as internet televisions and web terminals. Vestal White Goods begins manufacturing commercial refrigerators.

In 2000, the Company takes in USD 150 million in its second public offering in the form of global drawing rights and ordinary shares. Vestel White Goods begins manufacturing split air conditioners. As commercial opportunities in the information technology industry grow fewer and farther between, through Vestelkom the Company begins concentrating on making and selling digital products, especially DVD devices, during the second half of the year. The Company acquires a 10.0% stake in Vestel White Goods and invests about TL 400 billion (USD 7 million).

In 2001, because Vestel White Goods undertakes the sale of refrigerators and air conditioners, Vestel Marketing's activities are limited to importing and reselling

refrigerators and air conditioners that are not made by Vestel White Goods in Turkey. The Vestel Group expands its line of digital products with the addition of DVB set-top boxes, digital-to-analog converters, and integrated digital televisions. The same year, the Company signs an agreement to acquire a 90% stake in UK-based Cabot Communications. In the same year, most of the Company's PC monitor manufacturing activities are ended and the assembly lines are changed over to television production.

In 2002, the Company takes in USD 200 million on a corporate bond flotation. A private placement brings in an additional EUR 75 million.

In 2003, the Company sets up a high-end TV plant adjacent to its original plant that was founded in 1984 and was subsequently expanded in 1998-1999. The Company invests EUR 30 million to increase its stake in Vestel White Goods to 35%. The Company takes in USD 75 million in a letter of credit syndication. Redeploying its old production lines in Turkey in order to supply goods to Russian and regional markets, Vestel sets up a TV plant in Alexandrov 110 kms north of Moscow. The plant has an annual production capacity of a million units a year. In 2003, Vestel White Goods begins manufacturing washing machines.

In 2004, the Company takes in USD 80 million in another letter of credit syndication. The same year, Company is now manufacturing televisions for Mitsubishi, JVC, Hitachi, Sanyo, Toshiba, Funai, Akai, Teac, Sharp, and Panasonic. The Company is now exporting goods to Russia, Ukraine, Belarus, Iraq, Iran, Syria, Israel, and South Africa and to North African countries. The Company's televisions are being marketed in Turkey and non-EU countries under the name "Vestel". A project is developed to build a new washing machine and refrigerator factory next to the Company's television plant in Russia at a total investment cost of about USD 15-20 million. The project is slated to get under way in the last quarter of the year. When finished the factory's output will be shipped to Russian and neighboring markets.

On 5 May 2005, the Company's Board of Directors unanimously votes to obtain a 7-year loan in the amount of USD 225 million at 8.7% interest from Cayman Islands-based Vestel Electronics Finance Ltd and also to guarantee the bonds that Vestel Finance will be

issuing internationally to finance the loan. The deal's agreement is signed on May 6th. As a result of this transaction, 94% of bonds worth a total of USD 200 million bearing interest at 11.5% a year and maturing on 14 May 2007 were redeemed by Vestel Electronics Finance Ltd in return for which the loan that our Company had received from Vestel Electronics Finance Ltd was repaid by the same amount.

1.2.4. Brand in foreign market

1.2.4.1. VESTEL Foreign Trade in Russia

In the last few years, Russia became a potential and huge market for Turkey. Consequently, many of Turkish exporting companies began to concentrate on Russia. Due to large population and strong purchasing power of population of Russia, it was good chance for Vestel Foreign Trade to expand its exports.

Vestel began his exports to Russia from 1998. The most successful were TV exports. Vestel TVs with its reasonable price, high quality and modern technology were really competitive. Vestel TVs became more preferable in Russia, especially in Moscow.

The TV demand in Russia was increasing very rapidly day by day. The Vestel city factories in Manisa / Turkey, could not cope with such high demand. Then, the critical decision was made by Vestel Group. The decision was, to construct and take into operation a TV factory in Russia. For this reason Vestel CIS Ltd. was established in Moscow. The mission of Vestel CIS Ltd. was to meet the TV demand of Russia and post Soviet republics.

In December, 2002 Vestel group began the construction of TV factory with the capacity of 1 million TV in a year in Russia. This factory is situated in the town of Alexandrov, which locates at 120 km distance in the north from Moscow. [27]

In 2003, the construction of TV factory was completed. In the same year Vestel CIS Ltd. was established and the factory began to operate in August, 2003. The factory met the high demand of Russia and former Soviet republics. The modern technology of the

[27] Vestel CIS Ltd., Company records

world and totally automated quality control system were implemented in the TV factory. The Vestel TVs correspond to international standards of quality and are approved by international certificates. The TVs produced in the factory are sold to more than 80 cities of Russia and CIS (Commonwealth of Independent States) countries.[28]

Unfortunately, in November 2005, the factory was totally collapsed by fire. And in December 2005 the TV production was replaced to 'Arsenal' TV factory which is also situated in the town of Alexandrov. The Vestel TV factory is under re-construction now and it is planned to complete till 2007.

In 2006 the Vestel refrigerators and washing machines factory was constructed in Alexandrov, near the TV factory. In perspective, it is planned to achieve annually 2 million pcs production capacity in this factory.[29]

At the moment, the products presented in Russian market, are tube, LCD, Plasma TVs, refrigerators, washing machines, kitchen-ranges. The most of these products are produced in Russia.

In the Table - 8 below are presented the Sales of Vestel CIS Ltd. for September, 2006.

Table – 8

Sales of Vestel CIS Ltd. in September, 2006 by product groups.

PRODUCT	QUANTITY	USD AMOUNT	SHARE (%)
TV	29503	3 712 302,59	42,69 %
Washing Machine	13502	3 259 805,732	37,49 %
Refrigerators	5815	1 708 945,17	19,65 %
Kitchen-Range	106	12948,83	1,48 %
Grand Total	48926	8 694 002,322	100 %

Source: Vestel CIS Ltd.

[28] Vestel CIS Ltd.
[29] Vestel CIS Ltd.

As we see from Table, the most sold product of Vestel CIS Ltd. is TV, then Washing Machine, then Refrigerators. As a result, TV products have a significant role in the revenues of Vestel / Russia.

2. CUSTOMER SATISFACTION IN TV GOODS MARKET

2.1. Customer Satisfaction definition

Generally, we can define the customer satisfaction as the difference between what the customer expects from a product or service and what the customer perceives (he/she received). As a result, customer satisfaction is perceptual in nature. It is defined by how customers think and feel about your product or service.[30]

Customer satisfaction is a qualitative measure of performance as defined by customers, which meet their basic requirements and standards.[31]

According to A. Taylor, customer satisfaction occurs when the acquisition of products and/or services provides a minimum negative departure from expectations when compared with other acquisitions.[32]

Customer satisfaction is the key to success. You want customers to be happy with the products and services you provide. If they feel that, they have received good value for their money, your business will prosper. Getting your customers to tell you what's good about your business, and where you need improvement, helps you to be sure that your business measures up to their expectations.

A customer satisfaction survey is one way to gather this vital information. There are any numbers of ways to get copies to your customers. Copies can be included with orders, mailed directly at regular intervals, sent and received by fax, or filled during purchase, whatever is convenient for your particular business. Many won't be returned, but those that are will make it worth your while.

[30] European Journal of Operational Research, Volume 154, issue 3, May 2004, p-12
[31] Industrial Marketing Management, Volume 33, issue 4, May 2004, p-14
[32] Business Horizons, Volume 46, issue 5, september-october 2003, p-6

2.2. Importance of TV in our life

Today it is very common in industrialized countries for a household to have at least one television. In fact, it is so common that it is difficult to imagine a household without TV. This shows just how significant television is to us, but we can see that its importance is far greater than just being an object we own if we look at the variety of programmes and valuable content it offers and the purposes it serves in daily life. Today we can not imagine our life without TV.

Did you know there are more television sets in the world than there are telephones? Even the television professionals find it hard to believe. However the statistics prove it to be true; according to official figures from the International Telecommunication Union there were 565 million telephones in 1983, and 600 million television sets. Other figures are just as impressive: in Belgium, from 1967 to 1982, the average time spent watching television by children from 10 to 13 years, increased from 82 to 146 minutes per day.[33] Stupefying in every sense of the word. Our senses are assailed every day by the attraction of the visual message. Its all-pervasiveness and instantaneity are finely tuned to our way of thinking, whether we are hard-pressed or lazy. We expect from it effortless pleasure and hot news. A Chinese proverb tells us a picture is worth ten thousand words. But the stupefaction takes its toll and we thirst for more. Images pour over us in a never-ending torrent.

Television has already modified our social behavior. It fosters, for example, our taste for things visual the impact of the picture and its colours. It encourages in us a yearning for the big spectacle the razzmatazz and the forthright declaration. The effect can be seen in the way we react one to another and in the world of advertising. But television cannot yet be said to have enriched our civilization. For that to happen it must become interactive, so the viewers may cease to be just absorbers.[34]

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33 Jean-Jacques Peters, 'European Broadcasting Union (EBU)', 2000, http://www.ebu.ch/dvb_articles/dvb_tv-history.htm [02/11/2006], p-2

34 Jean-Jacques Peters, p-2

2.2.1. Short History of TV[35]

For ages Man dreamt about the possibility of transmitting pictures over great distances, but not until he had learnt to master the electron was there any real hope of turning dream into practical reality.

1873. Ireland. A young telegraph operator, **Joseph May**, discovered the photoelectric effect: selenium bars, exposed to sunlight, show a variation in resistance. Variations in light intensity can therefore be transformed into electrical signals. That means they can be transmitted.

1875. Boston, USA. **George Carey** proposed a system based on the exploration of every point in the image simultaneously.

In France in 1881, **Constantin Senlecq** published a sketch detailing a similar idea in an improved form. This is the basis of modern television: the picture is converted into a series of picture elements. Nonetheless, Senlecq's system, like that proposed by Carey, needed a large number of cells and lamps.

1884, the German **Paul Nipkow** applied for a patent covering another image scanning system.

Other scientific developments were to offer an alternative.

The cathode ray tube with a fluorescent scene was invented in 1897. **Karl Ferdinand Braun**, of the University of Strasbourg, had the idea of placing two electromagnets around the neck of the tube to make the electron beam move horizontally and vertically. On the fluorescent screen the movement of the electron beam had the effect of tracing visible lines on the screen.

A Russian scientist, **Boris Rosing**, suggested this might be used as a receiver screen and conducted experiments in 1907 in his laboratory in Saint Petersburg.

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[35] EBU, DVB – The history of television 2000, http://www.ebu.ch/dvb_articles/dvb_tv-history.htm [02/11/2006]

As early as 1908 the Scotsman **A. A. Campbell Swinton** outlined a system using cathode ray tubes at both sending and receiving ends.

In 1925, an electrical engineer from Scotland, **John Logie Baird**, exhibited in Selfridges department store in London an apparatus with which he reproduced a simple image, in fact white letters on a black background, at a distance.

In Germany, **Manfred von Ardenne** built the first "flying spot" cathode-ray tube, thereby enabling transparencies to be scanned. A complete transmission system was presented at the 1931 Berlin Radio Show. This scanning method was subsequently used for all television films. March 1935. A television service was started in Berlin (180 lines/frame, 25 frames / second). Pictures were produced on film and then scanned using a rotating disk. Electronic cameras were developed in 1936, in time for the Berlin Olympic Games.

It is difficult to summarize the developments in television since the 1950s. Of course picture sources have become more sensitive. New equipment has made its appearance. There were two innovations however which introduced radical change and whose effects were felt not only in the way television programmes are made but also in the way in which they were perceived by the viewer: these were the arrival of colour and the introduction of digital technologies.

Television is a technology-based medium. It is the continual development of this technology and the associated facilities which has enabled producers and directors to overcome one after the other the limitations of the tools at their disposal and to offer an ever-greater challenge to the ingenuity of Man's imagination. Time spent reviewing these developments will be well rewarded.

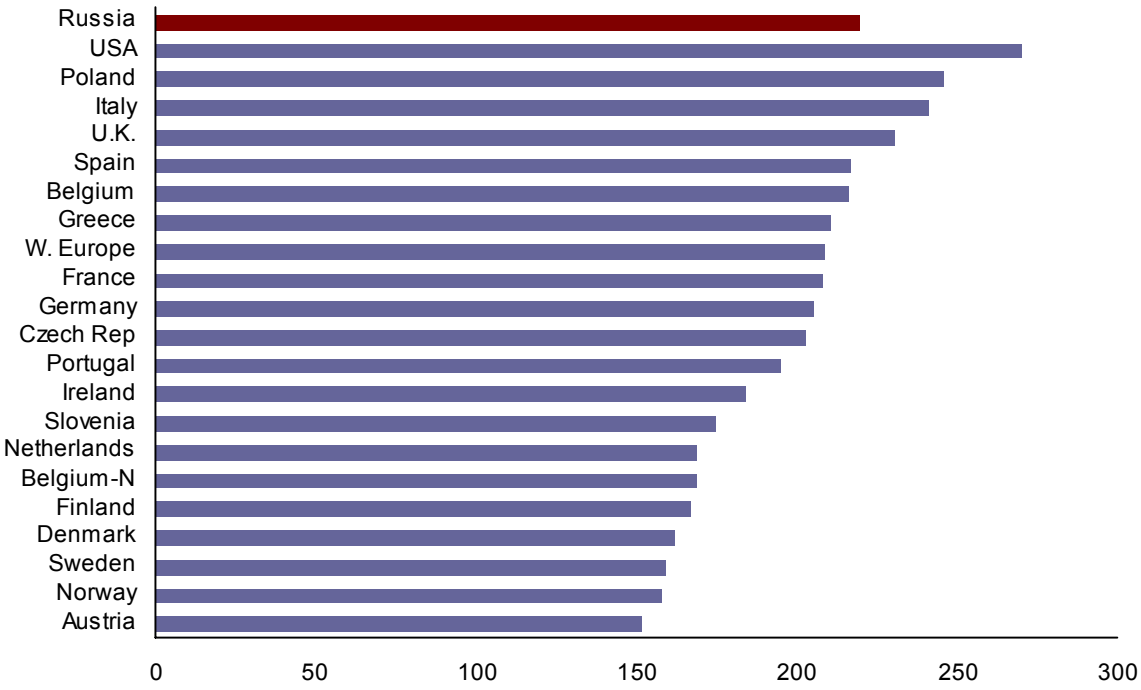
2.3. Significance of TV in Russian market

Like in many countries of the world, in Russia also TV goods have great significance. Today, TV products have large share in Russian market.

Russia watches a lot of television:

Figure 1

Minutes per day TV (Russia)



(Minutes per day / adult universe)

Source: Local institutes in IP's TVKF 2002, TNS Gallup (Russia)

Also, in Turkey average adult watches TV, 195 minutes per day.[36]

[36] http://www.gallup.ru/article1234/12%2&31.htm (24 February 2007)

In Russia, the production of TV started after 1930. In the early 60ths the color TV sets were produced. In 1980 the production of TVs of forth and fifth generation started.[37]

In 1993-95 years the volume of TV goods production in the local companies decreased four times. It was the result of entrance of the imported foreign TVs into the national market. This tendency continued in the 1996 also. In the period of the first two months of 1996 the overall production of TVs in Russia decreased to 86.7 thousands pcs., which were 33.9 % of TV production in the relevant period in 1995.[38] Because of decreasing demand for local TV goods, the local TV factories had difficulties with financing, hence the quality of products worsened.

From 1996, the 'Panasonic', 'Sony' and 'Samsung' and other foreign brands of Japan, South Korea and Europe covered the 80 % of Russian TV market.[39]

In 2001 the volume of Russian TV market was 4.01 million TVs, and in 2002 it became 4.5 million TVs, which is 12 % increase. The 1.7 million of that volume was local (Russian) products, and Russian TVs had 38 % share of TV market. But in 2001, this percentage was only 14 %, in other words, 550 thousands TVs of TV market were Russian TVs. In 2001, the import of foreign TVs was 2.95 million pcs.[40]

In 2003, the volume of Russian TV market increased to 30 % in comparison with 2002 and became 6.5 million TVs. According to Marketing Department of Russian company 'Polar', the leader in Russian TV market in 2003 was 'Samsung', and the first among Russian companies was 'Rubin' which had 31.8 % share among Russian TV brands, the second was 'Polar' with 17.9 % and the third 'Sokol' with 11.9 % share.[41]

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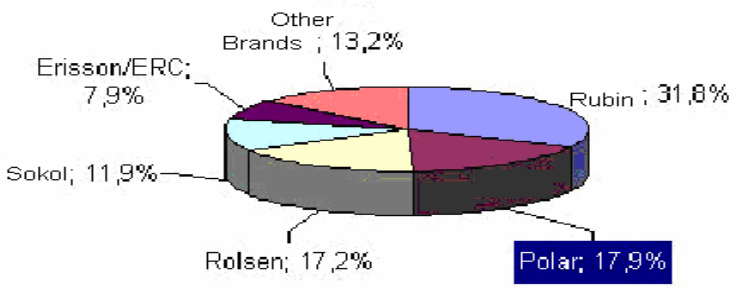
[37] A.A. Braverman, 'Marketing in the Russian Transition period economy', ''Ekonomika'', 1997, p-2
[38] Goskomstat of RF, 'Report about production of consumer goods in the regions', 1993 – 1995, p-19
[39] A.A. Braverman, 'Marketing in the Russian Transition period economy', ''Ekonomika'', 1997, p-12
[40] RUOA, 'Russian TV market', 2002, www.rg.ru (04.12.2006)
[41] OOO 'Polar', 'Marketing Department of LLC Polar', 2004, **http://www.cnews.ru/news/line/index.shtml?2003/12/22/153271** (05.12.2006)

Figure 2

Shares among Russian TV brands in 2003



Source: Marketing Department of OOO 'Polar'

The general tendencies in Russian TV market in 2003-2004-2005 were the following:[42]

- The government does not support the Russian manufacturer; the manufacturers have not any advantages. The difference between customs duty for components parts and that of for ready product was – minimum.
- The Chinese manufacturers BBK, TCL and Turkish Vestel cover the Russian TV market with its inexpensive products.
- Flood of Market with cheap "no name" products
- Hard price rivalry

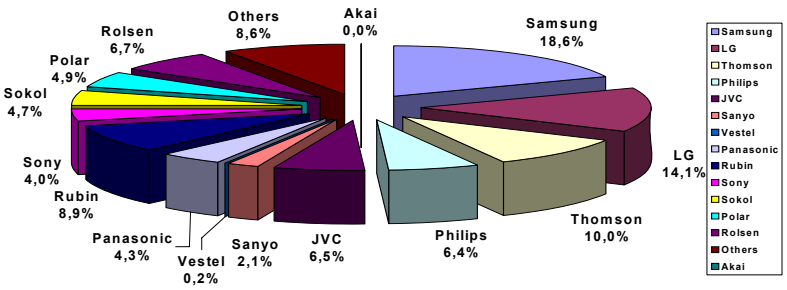
[42] OOO 'SOKOL', "Press-conference materials", 10 Mart 2006, p-4

- With the increase of prosperity of population, the share of foreign TV brands increases

In 2004, the volume of Russian TV market was 7 million pcs. The market showed an increase of 20 % in comparison with 2003 and in 2005 it became approximately near 8 million pcs.[43]

Figure 3

Russian TV market in 2003



Source: OOO 'SOKOL', "Press-conference materials", 10 Mart 2006

[43] OOO 'SOKOL', "Press-conference materials", 10 Mart 2006, p-6

Table 3.1.

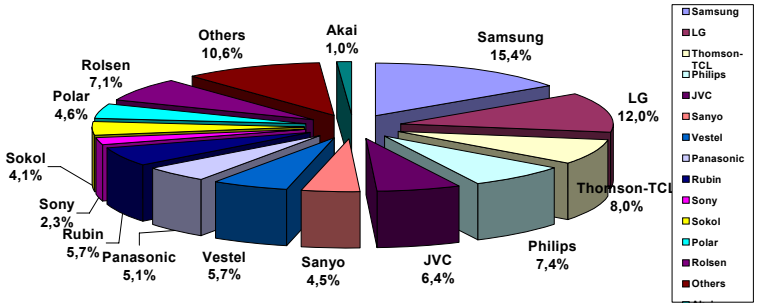
Russian TV market in 2003

Item	Brand Name	Market share (%)
1	Samsung	18,6 %
2	LG	14,1 %
3	Thomson	10 %
4	Rubin	8,9 %
5	Rolsen	6,7 %
6	JVC	6,5 %
7	Philips	6,4 %
8	Polar	4,9 %
9	Sokol	4,7 %
10	Panasonic	4,3 %
11	Sony	4 %
12	Sanyo	2,1 %
13	Vestel	0,2 %
14	Akai	0,0 %
15	Other	8,6 %

Source: OOO 'SOKOL', "Press-conference materials", 10 Mart 2006

Figure 4

Russian TV market in 2005



Source: OOO 'SOKOL', "Press-conference materials", 10 Mart 2006

Table 4.1.

Russian TV market in 2005

Item	Brand Name	Market share (%)
1	Samsung	15,4 %
2	LG	12 %
3	Thomson	8 %
4	Philips	7,4 %
5	Rolsen	7,1 %
6	JVC	6,4 %
7	Vestel	5,7 %
8	Rubin	5,7 %

9	Panasonic	5,1 %
10	Polar	4,6 %
11	Sanyo	4,5 %
12	Sokol	4,1 %
13	Sony	2,3 %
14	Akai	1,0 %
15	Other	10,6 %

Source: OOO 'SOKOL', "Press-conference materials", 10 Mart 2006

As we see form the Figures 2 and 3, the leader of Russian TV market is 'Samsung', then, 'LG' and 'Thomson – TCL' with 15.4 %, 12 % and 8 % accordingly. In 2003 the market share of Vestel was 0.2 %, while in 2005 it had a great increase and became 5.7 %. Vestel is the fifth company in Russian TV market according to TV sales. Note that, most of 'Sanyo', 'JVC' and 'Akai' TVs are also produced in Vestel / CIS factory.

2.4. Factors affecting customer satisfaction

Customer Satisfaction of TV goods: My customer satisfaction model is based on Vestel CIS / Russia customers' perceptions. It is tried to find the basic factors that satisfies the Russian customers in Vestel TV products.

I have designed my model in the following way: the core concept - Customer Satisfaction, has a sub-concept: **overall satisfaction** – means, general (absolute) satisfaction of Vestel CIS clients' in TV goods.

I determined the factors affecting customer satisfaction, in other words: the external (independent) variables on which overall satisfaction depends.

These external variables are as follows:

Brand name: means, the prestige of company

Structural equation modeling[44] shows that **brand name (corporate image)** has both direct and indirect effects on customer satisfaction. Furthermore, product involvement decreases the direct effects of brand attitudes on satisfaction and loyalty, but it increases the indirect effects of ad attitudes and corporate image.

Guaranty: means, the guaranty given to goods by company

While a reliable product may not dramatically affect customer satisfaction in a positive manner, an unreliable product will negatively affect customer satisfaction severely. Thus high reliability, in other words the **guaranty** given to product is a mandatory requirement for customer satisfaction.[45]

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[44] Jung Chae Suh, 'When Brand Attitudes Affect the Customer Satisfaction', 'Journal of Consumer psychology', 2006, Volume 16, No 2, page 145

[45] Ida Zecco Associate Customer Centricity Inc, 'A guide to help your business become nimble and retain customers', 2005, page 13

Campaign: means, special campaigns and offers in sales, implemented by company in order to stimulate the sales

A **campaign** is a series of advertisement messages that share a single idea and theme which make up an integrated marketing communication (IMC). The campaign theme is the central message that will be communicated in the promotional activities. The campaign themes are usually developed with the intention of being used for a substantial period but many of them are short lived due to factors such as being ineffective or market conditions and/or competition in the marketplace and marketing mix. Campaign has indirect effects on Customer Satisfaction.[46]

Delivery to any place: means, the shipment service, offered by company

The general process of delivering goods is known as distribution. The study of effective processes for delivery and disposition of goods and personnel is called logistics. Firms that specialize in delivering commercial goods from point of production or storage to point of sale are generally known as distributors, while those that specialize in the delivery of goods from point of sale to the consumer are known as delivery services. The **delivery services** stimulate the sales and affect positively the customers and customer satisfaction.[47]

Advertisement: means, the commercials of company implemented for popularity and for being well known and for achieving brand name.

Advertising is paid communication through a non-personal medium in which the sponsor is identified and the message is controlled. Advertising clients are predominantly, but not exclusively, for-profit corporations seeking to increase demand for their products or services. **Advertising** has impact on corporate image and affects customer satisfaction.[48]

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[46] Belch, George and Michael, 'Advertising and Promotion: An integrated marketing communications perspective', Mc Graw-Hill / Irwinn, 2004, page 16

[47] Sunil Mithas, M.S. Krishnan and Claes Fornell, 'Why do customer relationship management applications affect customer satisfaction', Journal of Marketing, Volume 69, October 2005, page 202

[48] Anderson, Eugene W., Claes Fornell, and Sanal K. Mazvancheryl, "Customer Satisfaction and Shareholder Value," *Journal of Marketing*, Volume 68 October 2004, page 172

Service: means, a degree of service offered in company during purchase

Customer service is the provision of service to customers before, during and after a purchase. Its importance varies by product, industry and customer. As an example, an expert customer might require less pre-purchase service (i.e., advice) than a novice. In many cases, customer service is more important if the purchase relates to a "service" as opposed to a "product". **Customer service** plays great role on customer satisfaction.[49]

Branch quantity: means, the large number of branches

Branch location: means, the convenient places of branches

Both branch quantity and branch location means the accessibility of company. Accessibility is a general term used to describe the degree to which a system is usable by as many people as possible. In other words, it is the degree of ease with which it is possible to reach a certain location from other locations. Consequently, the easy access to company will affect the customer perceptions and satisfaction.[50]

Friendliness toward client: means, the friendly behavior of sales personnel towards customer

A study[51] was conducted in order to analyze the relationships between client satisfaction and service. The client's satisfaction is measured both at the end of the service delivery when it is paid for and later on after the printout produced by the service has been used and the client is ready to recommend or criticize the service to some other potential user. The impact of client orientation on satisfaction through expectations of friendly

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[49] Sunil Mithas, M.S. Krishnan and Claes Fornell, page 212

[50] Anderson, Eugene W., Claes Fornell, and Sanal K. Mazvancheryl, page 182

[51] Barbara Garland, Michael Reilly, Robert Westbrook, 'The Influence of Client Orientation on New Users' Satisfaction with an On-Line Information Retrieval Service', Journal of professional services marketing, Volume 4, Issue 2, page 24

performance and actual friendliness in the service delivery is evaluated and it is concluded that, **friendliness in the service** has affect on client's satisfaction.

Kind treatment to client: means, the kindness of sales personnel towards customer

Attentive in respect of client: means, the attentiveness of sales personnel towards customer

Individual approach to client: means, the individual treatment of customer

Well-disposed to client: The willingness of sales personnel to help the customer

Drawing from the theory of cognitive schemata and from means-end theory, the customer evaluations can be represented as a set of self-relevant, interconnected and hierarchically organized elements. Elements of the hierarchy are components of a satisfactory service experience that range from concrete service attributes such as **staff kindness, willingness for help, staff's attentive and special approach** for each client separately , to higher level benefits such as the feeling of being looked after, to more abstract values such as happiness. To construct a hierarchical map of components and explain overall satisfaction the laddering technique was applied to a sample of hotel customers. Results suggest that the links between concrete attributes, high-level benefits, and values provide a better explanation of overall satisfaction than service attributes alone.[52]

Price: means, the price of good

The customers' reactions to price increases (i.e., re-purchase intentions) are strongly driven by two factors: the magnitude of the price increase and the perceived fairness of the motive for the price increase. In this context, it was examined the role of **customer satisfaction** in influencing the impact of these two variables on repurchase intentions after a **price increase**. The findings reveal that as satisfaction increases, the

[52] Chiara Orsingher, Gian Luca Marzocchi, ` Hierarchical representation of satisfactory consumer service experience`, International Journal of Service Industry Management, May 2003, Volume 14 Issue 2, Page 205

negative impact of the magnitude of a price increase is weakened. Furthermore, the results suggest that satisfaction moderates the impact of perceived motive fairness. Also, the level of satisfaction can influence the valence of the perceived motives in response to a price increase. [53]

Design: means, the appearance design of good (TV)

Variety of menu options: means, additional features in TV

Screen property: means, screen feature (LCD, Plasma, Projection and etc.)

Diversity of models: means, the variety (wide range) of good (TV) models

Qualitative image: means, the quality of TV picture

Modern technology: means, the technology applied during Good (TV) production

Quality, Design and other technical properties of product play a critical role toward increasing customer satisfaction, which increases customer retention, lowers marketing costs, and increases revenues (Johnson 1998).[54]

The **characteristics of target population** will be:

Sympathy to Manufacturer Company's origin country

In many studies related with customer satisfaction, the significance of the factor `having sympathy to Producer` was stressed. For instance, in a study issued in Journal of Consumer Research this subject was investigated: ``We investigate the role of `**Sympathy of customer towards Producer**` in the formation of satisfaction judgments. Building on

[53] Christian Homburg, Wayne D. Hoyer, Nicole Koschate, ` Customers' Reactions to Price Increases: Do Customer Satisfaction and Perceived Motive Fairness Matter? `, TDN Publications 2006, page 12.
[54] Anders Gustafsson, Fredrik Ekdahl, `Linking Customer Satisfaction to Product Design: A key to success for Volvo`, ASS Inc., 2005, page 02

the valence-expectancy framework, we find that, this factor impacts satisfaction in a complex manner``[55]

Income Sufficiency: means, the sufficiency of customer's income for buying the product

Net Income: means, the net income of customer

Nationality: means, the nationality of client

Age: the age of customer

Profession: profession of customer

Marital Status: family status of customer

The relationship between customer satisfaction and loyalty has been investigated in a variety of contexts. These predominantly cross-sectional studies however have focused on customer retention as the primary measure of loyalty. The impact of **customer characteristics** has been much less investigated. One of researches on this subject was conducted in 2004. The research aimed to 1) provide the first longitudinal examination of the impact of changes in customer satisfaction on changes in loyalty and 2) determine the moderating effects of **customer age, nationality, income, education, profession, family status**, expertise and length (age) of relationship using data from the Canadian banking industry. Data from 4319 households using 12,249 observations over a five-year period indicates a positive relationship between changes in satisfaction and loyalty: in particular, the initial satisfaction level and the conditional percentile of change in satisfaction significantly correspond to changes in loyalty. Two variables, income and length of the

[55] Michael Tsiros, Vikas Mittal, ` The Role of Attributions in Customer Satisfaction: A Reexamination`, *Journal of Consumer Research*, volume 31 (2004), page 476

relationship, were found to negatively moderate this relationship. Other demographic and situational characteristics were found to have no impact.[56]

Gender: means sex of customer

How sex differences in perceptions influence customer satisfaction: a study of theatre audiences[57] – in this study was explored the effects of sex-related, value-expressive and functional image perceptions on satisfaction through a study of audience members at two theatres. Results suggest that satisfaction is higher for men when they perceive an elevated level of functional service quality and for women when they perceive that the theatre possesses pro-social values. Satisfaction overlap exists when either men or women perceive market or artistic values.

Household Size (of customer)

Multinomial logistic regression analysis was conducted using data from the 19941996 Continuing Survey of Food Intakes by Individuals (CSFII) and the Diet and Health Knowledge Survey (DHKS). Results indicate that **household size**, household composition (presence of a young child), urbanization, day of the week, and season of the year affect the choice of a particular foodservice facility for an evening meal and client satisfaction.[58]

[56] Bruce Cooil, Timothy Keiningham, ` A Longitudinal Analysis of Customer Satisfaction and Loyalty: Investigating the Moderating Effect of Customer Characteristics`, Journal of Marketing, Vol. 70, No. 4, October 2006, page 265
[57] Zannie Giraud Voss, 'Marketing Theory' Volume 6, No 2, Sage Publications, 2006, page 205
[58] J.W. Alan, D.L. Stacy, ` Consumers' Restaurant Choice Behavior and the Impact of Socio-Economic and Demographic Factors`, Journal of Foodservice Business Research, Volume 9, Issue 1, 2006, page 157

Trademark of previous TV: means, the model of TV which customer previously used

The state of being familiar with a product may affect the client's satisfaction during repurchase of the same product.[59]

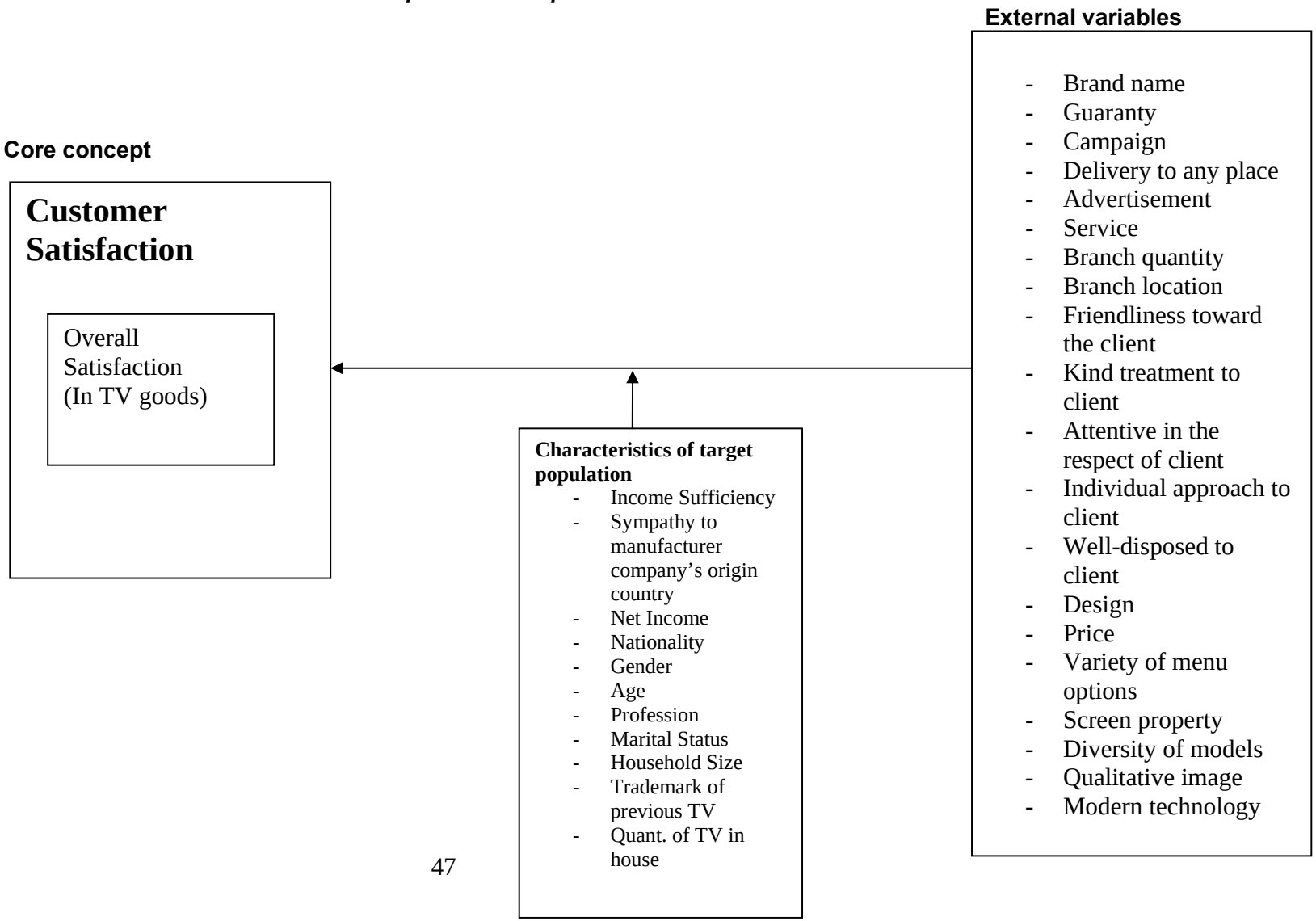
Quantity of TVs in the house (of customer)

Sometimes, the reason of low sales of certain goods is not related with customer satisfaction, but due to market maturity. In other words, the clients of market are just replete with those goods.[60]

[59]Anderson, Eugene W and Mary W. Sullivan "The Antecedents and Consequences of Customer Satisfaction for Firms and Customer's behavior" Marketing Science 12 (Spring), 1993, page 125

[60] Bolton, Ruth N. and Katherine N. Lemon "A Dynamic Model of Customer's Usage of Services: Usage as an Antecedent and Consequence of Satisfaction." Journal of Marketing Research Volume 36, 1999 (May), page 171

Figure 5
Proposed Conceptual Research Model



3. METHODOLOGY OF RESEARCH

3.1. Aim of the Research

The aim of the Research, the essence of which will be explained and expounded below, is to find the level of customer satisfaction of Vestel TV goods in Russian TV market and to determine and to analyze the factors those influence the customer satisfaction. The Research was conducted in Moscow / Russia, among the 'Vestel CIS' company's customers. The Research was started on 20th of October 2006, and finished on 22nd of December 2006.

3.2. Structure of the Research Data

3.2.1. Target population definition

The target population of this Research is the clients of the 'Vestel CIS' company. All the customers are the residents of Moscow city. The target population has the following properties:

- **Sample unit:** Customer satisfaction of Vestel TV goods in Russian TV market
- **Sampling unit:** Customer satisfaction of Vestel TV goods in Russian TV market
- **Content of the Research (Coverage):** The clients of Vestel CIS company
- **Period of time required for the Survey:** October 20, 2006 – December 22, 2006
- **Size of population:** 126 persons

The source of the Research information is the primary source, in other words it is a field study. The method of collecting data in this Research was the sampling method – simple random method. The data were collected by Questionnaires, by distributing these questionnaires to the clients of 'Vestel CIS' company. The permanent clients as per Vestel

company records, were preferred for target population, 126 persons were selected randomly from this population.

3.2.2. Characteristics of the sample

The sample consists of 126 persons. All this persons acquired at least one Vestel TV product. The characteristics of the sample are represented by the following demographic variables (Chapter 2.4., pages 43-46):

- Income sufficiency
- Sympathy to Manufacturer company's origin country
- Net Income
- Nationality
- Gender
- Age
- Profession
- Marital Status
- Household size
- Model of the previous TV
- TV quantity in the house

All the persons questioned, have sufficient income to buy a Vestel TV.

The 51.6 % of clients (65 persons) definitely agree with that their income are sufficient in order to purchase TV in Vestel / CIS and 48.4 % of clients (61 persons) strongly agree (Annex 2, Table 1).

Generally, most of the questioned persons have a sympathy to Manufacturer's company's origin country, in other words to Turkey.

The 67.5 % of clients (85 persons) have definite sympathy and 22.2 % of the clients (28 persons) have strong sympathy to Turkey. 11 persons (8.7 %) moderately agree and 2 persons (1.6 %) slightly agree with that opinion (Annex 2, Table 2).

According to Research results, most of questioned persons have high incomes.

65 persons (51.6 % of the clients) have high income, 60 persons (47.6 % of the clients) have medium income and only 1 person has very high income (Annex 2, Table 3).

Most of the respondents are Russian citizens.

109 persons (86.5 % of the clients) are Russian citizens, 6 persons (4.8 % of the clients) are Ukrainian citizens, 4 persons (3.2 % of the clients) are Kazakhstani citizens, 3 persons are Kyrgyzstani citizens, 2 persons are Turkish citizens and 2 persons are Azerbaijani citizens (Annex 2, Table 4).

Generally, the most of the respondents are males.

92.1 % of the clients (116 persons) are males and 7.9 % of the clients (10 persons) are females (Annex 2, Table 5).

Generally, the respondents are in middle-ages.

The average age of the respondents is 39 years, the youngest client is 19 years old, and the oldest client is 69 years old (Annex 2, Table 6).

Now look at the results of research from ''clients' profession'' point of view (Annex 2, Table 7).

7 persons are Doctors, 6 persons are lawyers, 5 persons are Entrepreneurs and so on. Totally we fixed 52 different professions of the respondents, such as engineer, accountant, salesman, student, designer and etc.

The most of respondents are married.

72.2 % of the respondents (91 persons) are married, and 27.6 % of the respondents (35 persons) are single (Annex 2, Table 8).

Now let's look at the household size of respondents (Annex 2, Table 9).

23.8 % of the clients (30 persons) do not provide a family, 29 respondents (23 % of the clients) are responsible for 1 person, 28 respondents are responsible for 2 persons, 25 respondents have a household size of 3, 12 respondents have a household size of 4, one person has 5 and one person has a household size of 6 persons.

Then, we will look at the models (trademark) of the previous TVs of the respondents.

14 persons' (11.1 % of the clients) previous TV's model was 'Sony', 12 persons had 'Samsung', 12 respondents had 'Vestel', 11 persons had 'LG' and so on. Totally, there are 18 different TV models that respondents had in their house previously (Annex 2, Table 10).

Approximately, half of respondents have one TV at their home.

64 respondents (50.8 % of the clients) have one TV at their house, 55 respondents (43.7 % of the clients) have two TVs, and 7 respondents (5.6 % of the clients) have three TVs at their home (Annex 2, Table 11).

3.2.3. Research instrument

The tool of collecting the data in the given study is Questionnaire. The questionnaire (Annex 1) consisted of 32 questions is prepared and distributed to the clients of Vestel CIS company and the research data were collected.

The questionnaire has core concept – Overall Satisfaction, and twenty instruments affecting the overall satisfaction (Figure 5 - Proposed conceptual research model).

The questionnaire has 25 questions in Ordinal scale, 2 questions in Nominal scale, and 5 questions in Interval scale. There are 11 questions related to the demographic structure of the target population – Demo questions. There are 14 Intensity questions, and 9 Frequency questions.

The questions' scale is – Itemized rating scale (unipolar, itemized rating scale). The number of scale points is five in each item.

The questionnaire has two reversed items (questions): the fifth question (about guaranty) and the sixteenth question (about service).

3.3. Statistical methods to be used in Research analysis

After we designed the conceptual research model (part 2.4. figure 5) and determined the factors affecting the core concept, and collected the research data, we have to check the relationships between these factors and core concept. We have to find out which factors affect the core concept more and which less; which factors (external variables and demographic variables) have contribution to the explanatory power of model. We will extract the factors, which have less or no affect on the core concept and will construct a finalized research model. In doing so, SPSS software and the below mentioned statistical methods will be used. First, we will reduce the collected data and classify the data into components by means of Principle Components Analysis. Then we will measure the internal consistency of components by using Reliability Analysis. We will extract the factors from the components which will internally inconsistent. Then, Multiple Regression and Correlation Analysis will be performed and by means of different tests the components which have no contribution to the explanatory power of model, will extracted from survey.

Further, the relationship between demographic variables (characteristics of target population) and core concept will be checked by using Measures of Association and Correlation analysis; and the factors which have no relationship with core concept will be extracted from the model. So, we will finalize our research model.

3.3.1. Principal Components Analysis

Principal Components - A set of variables that define a projection that encapsulates the maximum amount of variation in a dataset and is orthogonal (and therefore uncorrelated) to the previous principle component of the same dataset.[61] Principal Components Analysis (PCA) is an exploratory method in factor analysis. Factor analysis is a collection of methods for explaining the correlations among variables in terms

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[61] Yeung and Ruzzo, **Principal component analysis for clustering gene expression data,** *Graz, 2001,p-*74.

of more fundamental entities called factors.[62] We use exploratory methods to describe the characteristics of the variables or items and classify them into groups based on their common characteristic. The exploratory methods enable us to discover the new dimensions by classifying them into homogeneous groups. The variables in each group will represent a new concept or a new instrument which later we can consider in the research model. We can not determine how many groups or factors we can extract from the set of variables and also exploratory methods can not validate the structure of the factors obtained as the result of the analysis. But in case of confirmative methods, we have to predetermine the number of factors which is going to be extracted in the analysis. And this confirmative method enables us, to validate the factor structure of the model in terms of the number of factors and in terms of the composition of the variables within each factor. In confirmative methods, the factors extracted are considered as correlated factors – correlated factors technically defined as oblique factors. In the exploratory methods extracted factors are uncorrelated and uncorrelated factors defined as orthogonal factor. And this is why we prefer exploratory methods over the confirmative methods in our research analysis. Our ultimate aim is to validate the research model by using multiple regression and correlation analysis. In this analysis, external variables are assumed to be as independent variables. In other words, they are not correlated to each other. If the number of independent variables in the model exceeds the optimum of 8, their contribution to the exploratory power will become significant. In our research analysis or in the real life situation we can not limit the number of independent variables to that optimum number of 8, unless we exclude some of the variables from the model. Exclusion of the variables is not a good strategy for the researcher. The researcher should keep all the variables within the model, based on his theoretical assumption and the reasoning for construction of the model. The strategy can be developed for keeping all the variables in the model by classifying the related external variables into homogeneous groups. In order to achieve this, we need to use an exploratory method not a confirmative method of factor analysis. If we were using the confirmative method for classifying the variables into homogeneous groups, these groups are considered as correlated (oblique) groups (factors). And the

[62] Harman H.H., Modern Factor Analysis, 3rd edition, The University of Chicago Press, Chicago, 1976, p – 141

correlated groups can not be used as independent variables in the regression analysis; but in exploratory methods the factors extracted or the groups created are considered as orthogonal which is uncorrelated. So, this characteristics orthogonality fits to the assumption of independence of external variables in the research model.

The first stage in performing the PCA is computation of KMO (Kaiser 1970) sampling adequacy coefficient[63]. If this coefficient is larger than 0.50 then, it shows that the set of variables which is going to be used in the analysis is assumed to be homogenous. The second condition is the significant result of Bartlett test of sphericity (Bartlett 1950)[64]. This test shows the significance of the correlation matrix which is used as an input data for the PCA. We have to consider both conditions to be satisfied for performing the PCA. If the condition for KMO is not satisfied we can increase the sample size till KMO reaches a value more than 0.50.In Bartlett test if the result is not significant we have to check each variable's data structure whether or not it fits to the normal distribution characteristic.

3.3.2. Reliability Analysis

In statistics, reliability is the consistency of a set of measurements or measuring instrument. Reliability does not imply validity. That is, a reliable measure is measuring something consistently, but not necessarily what it is supposed to be measuring. For example, while there are many reliable tests of specific abilities, not all of them would be valid for predicting, say, job performance.[65]

Reliability Analysis (RA) deals with the degree of the reliability of the result obtained from a certain instrument. There are two preconditions which need to be satisfied for the reliability of an instrument. The first condition is the internal consistency of the instrument (if an instrument has at least two items).Internal consistency can be defined as the similarity of the responses given to each item within an instrument by the respondent. If the similarity increases then the consistency of the results of an instrument also increases.

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[63] Thompson B., Exploratory and confirmatory: Factor analysis, Washington DC, American Psychological Association, 2004, p - 24

[64] Thompson B., p-25

[65] Sigmund Tobias, Multivariate Behavioral Research, City University of N.Y., 1969, Vol. 4, No. 3, P -377

We use Cronbach α to measure internal consistency of an instrument. **Cronbach's α (alpha)** has an important use as a measure of the reliability. It was first named as alpha by Cronbach (1951), as he had intended to continue with further instruments.[66]

To measure an internal consistency – an instrument should have at least two items to be measured. If an instrument has a single item, then, internal consistency can not be measured. If the instrument is consistent then the Cronbach α should have a value at least 0.70. This level is the smallest acceptable level for the consistency of the responses given to a certain instrument. If it is inconsistent we must remove the items until we reach the value of 0.70. If we have no chance to reach that value, then that instrument should be represented by the single item which is the one that provides the worst consistency under the condition that it is removed from the instrument. The second condition is the stability of the results obtained from an instrument. If an instrument provides consistent results in two different periods of time and/or in two different populations at the same time then we can say that, those consistent results have the characteristic of stability or we just say that, those consistent results are stable. And then you are able to say that, the instrument is reliable or provides reliable result.

3.3.3. Multiple Regression and Correlation Analysis

Generally speaking, multiple regression examines the relation between a single dependent (or criterion) variable and a set of independent (or predictor) variables to best represent the relation in the population.[67] The first stage in Multiple Regression and Correlation Analysis (MRCA) is linearity analysis. Linearity means that, the relationship between dependent variable and independent variable is at least 0.70.This is the desirable situation. This rule has tolerable characteristic, but when violated, it causes the decrease of explanatory power of the model - r^2 and the result of F-test to be invalid; in other words the whole model to be invalid.

The second stage is multicollinearity analysis. **Multicollinearity** is the intercorrelation of independent variables. Multicollinearity means that, the relationship

[66] Allen M.J. and Yen W. M., Introduction to measurement theory, Long Grove IL: Waveland Press, 2002, p-76

[67] Jacob Cohen, Applied Multiple Regression / Correlation Analysis for the Behavioral sciences (3rd edition), Lawrence Elbraum Assoc Inc., 2003, p-15

between one independent variable and other independent variable should be at least 0.70.[68]This is undesirable situation; if the situation is like this, then the independent variables will loose their characteristic of independence. In this case the results of T-tests of β coefficients will be meaningless.

The next stage is adjusted r² and F-test analysis. **R^2**, also called *multiple correlation* or the *coefficient of multiple determination*, is the percent of the variance in the dependent explained uniquely or jointly by the independents. **Adjusted R-Square** is an adjustment for the fact that when one has a large number of independents, it is possible that R^2 will become artificially high simply because some independents' chance variations "explain" small parts of the variance of the dependent. The F test is used to test the significance of R, which is the same as testing the significance of R^2, which is the same as testing the significance of the regression model as a whole.[69] F-test determines the validity of whole model. If the result of F-test is insignificant then we stop the analysis .If it is significant then the adjusted r² should be interpreted (which shows the explanatory power of the model). If the adjusted r² is at least 0.50 then the model is powerful, otherwise the model is weak.

The next stage in MRCA is autocorrelation analysis. Here we just check or examine the significance of the F-test result. The F-test result of significance can be based on two different reasons. The first - the changes of the core concept can be explained by the changes of the independent variables which are remained in the model. This situation is desirable situation which we expect from the significance of F-test result. But if we base the reason of significance not on the relationship between independent and dependent variable, but on the sequentiality of the values in the data set, then the significance of F-test can not be considered as a valid result. When the data, in other words the units of values within the data set are correlated to each other, but not the variables, then this situation is called as the existence of serial or autocorrelation. Which is undesirable situation and if this situation exists in our data set we can not go on interpreting the regression analysis results just because we did not confirm the validity or the significance of the F-test which we have found at the previous stage. The Durbin-Watson test is used in order to check an autocorrelation. The **Durbin-Watson coefficient, d,** tests for

[68] Allison, Paul D., *Multiple regression.* Thousand Oaks, CA: Pine Forge Press., 1999, p- 18
[69] Berry, William D., *Understanding Regression Assumptions.* Series: Quantitative Applications in the Social Sciences, No. 92. Thousand Oaks, CA: Sage Publications, 1993, p-23

autocorrelation. The value of d ranges from 0 to 4. Values close to 0 indicate extreme positive autocorrelation; close to 4 indicates extreme negative autocorrelation; and close to 2 indicates no serial autocorrelation. As a rule of thumb, d should be between 1.5 and 2.5 to indicate independence of observations. Positive autocorrelation means standard errors of the b coefficients are too small. Negative autocorrelation means standard errors are too large.[70]

If we can find no autocorrelation from Durbin-Watson test we can confirm the validity of F-test.

The last stage of MRCA is β coefficients and T-tests analysis. **The regression coefficient, β,** is the average amount the dependent increases when the independent increases one unit and other independents are held constant. Put another way, the β coefficient is the slope of the regression line: the larger the β, the steeper the slope, the more the dependent changes for each unit change in the independent. The β coefficient is the unstandardized simple regression coefficient for the case of one independent. When there are two or more independents, the β coefficient is a *partial regression coefficient*, though it is common simply to call it a "regression coefficient" also. **T-tests** are used to assess the significance of individual β coefficients. specifically testing the null hypothesis that the regression coefficient is zero. A common rule of thumb is to drop from the equation all variables not significant at the .05 level or better.[71]

After performing autocorrelation analysis and finding no autocorrelation result from the Durbin-Watson test we start examining the contribution of each independent or external variable to the explanatory power of the regression model. The first stage in this examination is the significance of the T-test of each independent variable. If there is an independent variable having insignificant result from T-test then it implies that, it has no contribution to the explanatory power of the regression model although it has remained in the model. That's why, that type of independent variable having an insignificant T-test result should be removed from the model and the whole analysis should be reperformed from the beginning, until there is no independent variable left with an insignificant t-test

[70] Berry, William D., p-28

[71] Berry, William D., p-36

result. At the end, the independent variables which are left in the model with their significant contributions, should be compared and ordered by considering their magnitude of the absolute values of β coefficients. Whichever independent variable has the highest magnitude will have the highest contribution to the explanatory power of the regression model.

3.3.4. Measures of Association and Correlation

Measures of Association and Correlation are used for the determination of the relationships between variables; these measures are mostly represented by the coefficients below.[72] If the data is qualitative, in other words measured in nominal or ordinal scale the relationship between two variables is measured by an association measure. If the two variables are in interval or ratio scale (if they are represented by quantitative data) the relationship between these two measures can be measured by a correlation measure. The relationship between two variables with different scale levels can not be computed. If one variable has a scale level higher than the other, the higher level of scale should be transformed into a lower level of scale.

If the demographic variable is in nominal scale level, it is necessary the transformation of Core Concept scale level to nominal level by creating new variable – CCC (core concept categorical). The appropriate measure of relationship will be Cramer's V coefficient and Phi coefficient.

Cramer's V - Cramer's V is the most popular of the chi-square-based measures of nominal association because it is designed so that the attainable upper limit is always 1. Cramer's V equals the square root of chi-square divided by sample size, n, times m, which is the smaller of (rows - 1) or (columns - 1).[73]

Phi Coefficient - This is a measure of association based on adjusting chi-square significance to factor out sample size. The range of it is between -1 and 1 for 2-by-2 tables, and is between 0 and min(sqrt(R-1), sqrt(C-1)). Computationally, phi is the square

[72] Albert M. Liebetrau, Quantitative Applications in the Social sciences – Measures of Association, Sage publications, 1983, p - 23
[73] Albert M. Liebetrau, p-25

root of chi-square divided by n, the sample size. The phi coefficient is often used as a measure of association in 2-by-2 tables formed by true dichotomies.[74]

If the demographic variable is in ordinal scale level, then core concept scale level is automatically transformed into an ordinal scale; so, original core concept is used in the analysis. The appropriate measure of relationship will be Spearman rho and Kendall's tau coefficients.

In statistics, Spearman's rank correlation coefficient named after Charles Spearman and often denoted by the Greek letter ρ (rho), is a non-parametric measure of correlation – that is, it assesses how well an arbitrary monotonic function could describe the relationship between two variables, without making any assumptions about the frequency distribution of the variables. Unlike the Pearson product-moment correlation coefficient, it does not require the assumption that the relationship between the variables is linear, nor does it require the variables to be measured on interval scales; it can be used for variables measured at the ordinal level.[75]

The Kendall tau rank correlation coefficient (or simply the Kendall tau coefficient, Kendall's τ or Tau test(s)) is used to measure the degree of correspondence between two rankings and assessing the significance of this correspondence. In other words, it measures the strength of association of the cross tabulations. It was developed by Maurice Kendall in 1938.[76]

If the demographic variable is in interval scale, then no transformation is needed. The appropriate measure of relationship will be Pearson r coefficient.

In statistics, the Pearson product-moment correlation coefficient (sometimes known as the PMCC) (r) is a measure of the correlation of two variables X and Y measured on the same object or organism, that is, a measure of the tendency of the variables to increase or

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[74] Albert M. Liebetrau, p-30

[75] Goodman, Leo A. and W. H. Kruskal, Measures for association for cross-classification, IV. Journal of the American Statistical Association. 1972, p - 310

[76] Goodman, Leo A. and W. H. Kruskal, p - 350

decrease together. It is defined as the sum of the products of the standard scores of the two measures divided by the degrees of freedom:[77]

$$r = \frac{\sum z_x z_y}{n - 1}$$

[77] Edwards, A. L., *An Introduction to Linear Regression and Correlation,* San Francisco, CA: W. H. Freeman, 1976, p-72

4. FINDINGS

4.1. Findings about Principle Components Analysis (PCA)

Now, in order to achieve the aim of study, by using SPSS software we will conduct different statistical analyses on the data collected by means of Questionnaire (Annex No 1) from the potential customers of Vestel / CIS Moscow.

First, we perform PCA on the data of 'Customer satisfaction on Vestel TV goods' survey.

Table 9

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,746
Bartlett's Test of Sphericity	Approx. Chi-Square	3647,578
	df	190
	Sig.	,000

Source: SPSS software, PCA output

As we see from the Table 9, the KMO measure of sampling adequacy coefficient is 0.746 which is higher than 0.50. It means that, the set of variables which is going to be used in the analysis is homogeneous.

The result of Bartlett's Test of Sphericity is significant. Sig. = 0,000 which is lower than 0.05. So the result is significant.

So, the both conditions for performing PCA are satisfied.

Table 10

Total Variance Explained

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6,010	30,051	30,051	5,716	28,579	28,579
2	4,955	24,773	54,824	5,160	25,801	54,380
3	3,596	17,978	72,802	3,620	18,102	72,481
4	1,736	8,680	81,481	1,693	8,464	80,946
5	1,497	7,485	88,966	1,604	8,020	88,966
6	,489	2,444	91,410			
7	,347	1,735	93,144			
8	,248	1,240	94,384			
9	,222	1,112	95,496			
10	,209	1,045	96,541			
11	,182	,911	97,453			
12	,116	,580	98,032			
13	,098	,489	98,521			
14	,081	,407	98,928			
15	,061	,307	99,235			
16	,055	,277	99,512			
17	,052	,260	99,773			
18	,027	,137	99,909			
19	,012	,059	99,969			
20	,006	,031	100,000			

Extraction Method: Principal Component Analysis.

Source: SPSS software, PCA output

Table 11

Rotated Component Matrix[a]

	Component				
	1	2	3	4	5
Design	,994	,048	,004	-,024	-,002
VarietyMenu	,974	,032	,010	-,009	-,011
ScreenProp	,972	,055	,034	,020	-,042
ModernTech	,971	,056	,005	-,025	-,002
QualImage	,971	,049	,047	-,023	-,002
DiversModels	,962	,027	-,022	-,047	,010
Friendliness	,026	,985	-,028	,046	-,052
Service	,028	,945	,001	,086	,010
Attentive	,064	,906	-,036	-,108	-,053
KindTreatment	,027	,902	,019	,058	-,066
IndvApproach	,077	,902	-,093	,048	,082
Welldisposed	,036	,902	,030	,059	-,063
Campaign	,026	-,020	,983	-,013	,026
Price	,016	,032	,957	-,055	,029
Guaranty	,037	-,011	,945	-,035	-,018
Delivery	-,013	-,082	,899	-,011	,025
Advertisement	-,078	,077	,028	,913	-,017
Brand	,008	,051	-,122	,903	,074
BranchLoc	-,009	-,033	,069	-,012	,893
BranchQuant	-,020	-,059	-,019	,065	,881

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 4 iterations.

Source: SPSS software, PCA output

Using the results from the tables above (Table 10 and Table 11) we classify the variables into components:

Table 12

Classification of variables into components

Number of components extracted	**C1**	**C2**	**C3**	**C4**	**C5**
Percentage of explained variation	28.58 %	25.8 %	18.1 %	8.46 %	8.02 %
Compositions of Variables within each component	Design VarietyMenu ScreenProp QualImage ModernTech DiversModels	Friendliness Service Attentive KindTreatment IndvApproach WellDisposed	Campaign Price Guaranty Delivery	Advertismnt Brand	BranchLoc BranchQuant
Labels of each component	Product's technical attributes	Company's Personnel's attributes	Sales Stimulating Strategy of Company	Image of Company	Access to Company

Also from the table, we see that our data set is homogeneous; the compositions of variables within each component approve the KMO and Bartlett's test results.

4.2. Findings about Reliability Analysis

We perform reliability analysis on variables in each component which we obtained in PCA in order to measure the internal consistency of each component.

The RA result for the first component - Product's technical attributes ('Design' , 'VarietyMenu' , 'ScreenProp', 'QualImage', 'ModernTech', 'DiversModels') :

Table 13

Reliability Statistics

Cronbach's Alpha	N of Items
,990	6

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Design	22,8016	5,856	,993	,985
VarietyMenu	22,8175	5,910	,963	,988
ScreenProp	22,7857	5,930	,962	,988
QualImage	22,8016	5,920	,961	,988
ModernTech	22,8016	5,920	,961	,988
DiversModels	22,7778	5,966	,946	,989

Source: SPSS software, RA output

According to the RA of the first component (Product's technical attributes) (Table 13), the result of Cronbach α (0,990) is higher than 0,70, so the first component is internally consistent. The most powerful item is 'Design'; and the weakest item is 'DiversModels'.

The RA result for the second component - Company's Personnel's attributes ('Friendliness', 'Service', 'Attentive', 'KindTreatment', 'IndvApproach', 'WellDisposed'):

Table 14

Reliability Statistics

Cronbach's Alpha	N of Items
,967	6

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Friendliness	24,1667	2,924	,982	,951
Service	24,1667	2,988	,921	,957
Attentive	24,1667	3,052	,863	,963
KindTreatment	24,1667	3,052	,863	,963
IndvApproach	24,1667	3,052	,863	,963
Welldisposed	24,1667	3,052	,863	,963

Source: SPSS software, RA output

According to the RA of the second component (Company's Personnel's attributes) (Table 14), the result of Cronbach α (0,967) is higher than 0,70, so the second component is internally consistent. The most powerful item is 'Friendliness'.

The RA result for the third component - Sales stimulating strategy of company ('Campaign', 'Price', 'Guaranty', 'Delivery'):

Table 15

Reliability Statistics

Cronbach's Alpha	N of Items
,962	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Campaign	12,5952	1,267	,968	,931
Price	12,5952	1,299	,921	,945
Guaranty	12,5714	1,271	,906	,950
Delivery	12,5952	1,363	,829	,971

Source: SPSS software, RA output

According to the RA of the third component (Sales stimulating strategy of company) (Table 15), the result of Cronbach α (0,962) is higher than 0,70, so the third component is also internally consistent. The most powerful item is 'Campaign'. The weakest item is 'Delivery'.

The RA result for the forth component - Image of Company ('Advertisement' and 'Brand'):

Table 16

Reliability Statistics

Cronbach's Alpha	N of Items
,802	2

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Advertisement	3,1190	,106	,669	.[a]
Brand	3,1270	,112	,669	.[a]

a. The value is negative due to a negative average covariance among items. This violates reliability model assumptions. You may want to check item codings.

Source: SPSS software, RA output

According to the RA of the forth component (Image of Company) (Table 16), the result of Cronbach α (0,802) is higher than 0,70, so the forth component is also internally consistent.

The RA result for the last component - Access to Company ('BranchLoc' and 'BranchQuant'):

Table 17

Reliability Statistics

Cronbach's Alpha	N of Items
,737	2

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
BranchLoc	2,9603	,038	,583	.[a]
BranchQuant	2,9603	,038	,583	.[a]

a. The value is negative due to a negative average covariance among items. This violates reliability model assumptions. You may want to check item codings.

Source: SPSS software, RA output

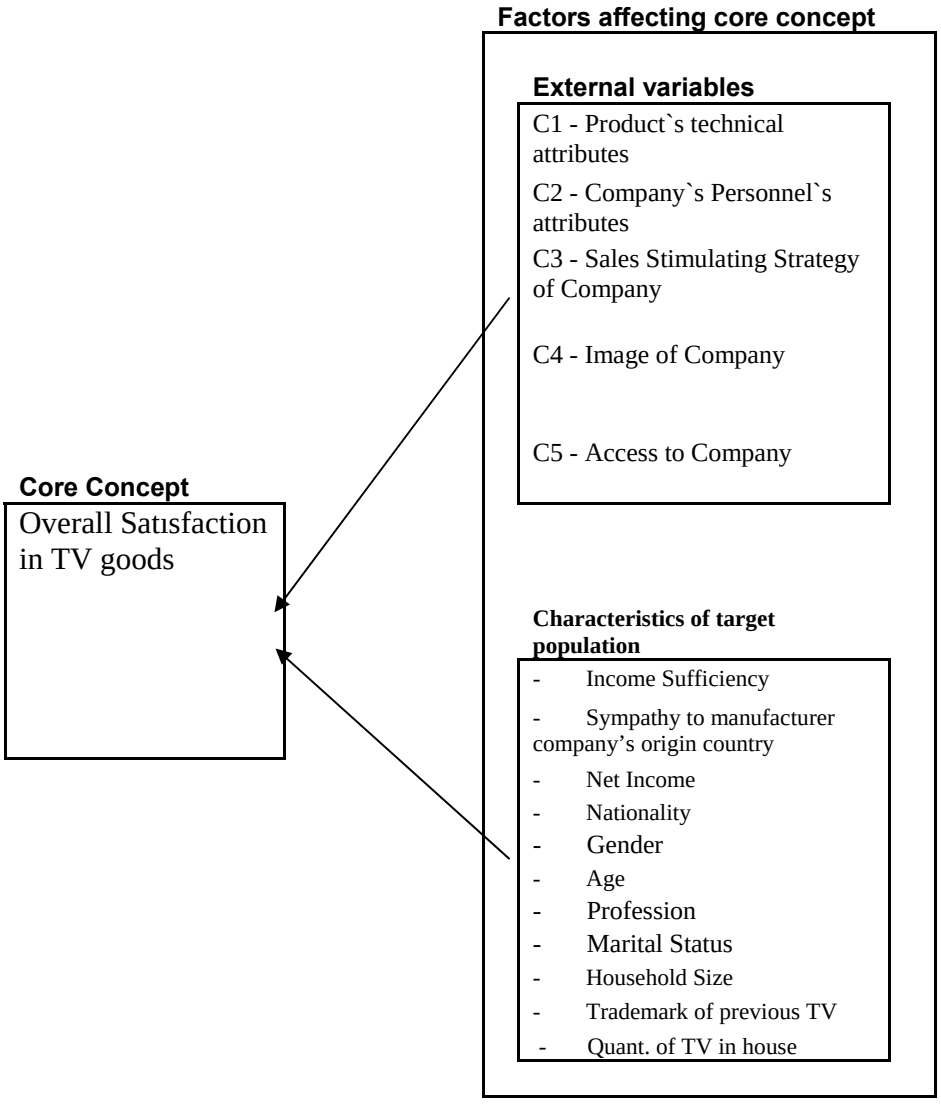
According to the RA of the last component (Access to Company) (Table 17), the result of Cronbach α (0,737) is higher than 0,70, so the fifth component is also internally consistent.

4.3. Modified Research Model

After the Principle Components and Reliability Analyses the Research model will be as follows:

Figure 6

Modified Research Model



4.4. Findings about Multiple Regression and Correlation Analysis (MRCA)

Now, we perform MRCA on our model, using the core concept data, and the components obtained in previous analysis.

Total Score is computed, and new external variables (C1, C2, C3, C4 and C5) were generated from the components obtained in PCA analysis.

Table 18

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	C5, C1, C3, C4, C2[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: OverallSatisf

Correlations

		OverallSatisf	C1	C2	C3	C4	C5
Pearson Correlation	OverallSatisf	1,000	,915	,108	-,039	-,145	,060
	C1	,915	1,000	,091	,030	-,055	-,027
	C2	,108	,091	1,000	-,041	,102	-,077
	C3	-,039	,030	-,041	1,000	-,082	,043
	C4	-,145	-,055	,102	-,082	1,000	,056
	C5	,060	-,027	-,077	,043	,056	1,000
Sig. (1-tailed)	OverallSatisf	.	,000	,115	,334	,052	,251
	C1	,000	.	,155	,368	,270	,382
	C2	,115	,155	.	,325	,127	,195
	C3	,334	,368	,325	.	,180	,315
	C4	,052	,270	,127	,180	.	,268
	C5	,251	,382	,195	,315	,268	.
N	OverallSatisf	126	126	126	126	126	126
	C1	126	126	126	126	126	126
	C2	126	126	126	126	126	126
	C3	126	126	126	126	126	126
	C4	126	126	126	126	126	126
	C5	126	126	126	126	126	126

Table 19

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,928[a]	,862	,856	,18992	1,920

a. Predictors: (Constant), C5, C1, C3, C4, C2

b. Dependent Variable: OverallSatisf

Table 20

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	27,044	5	5,409	149,950	,000[a]
	Residual	4,329	120	,036		
	Total	31,373	125			

a. Predictors: (Constant), C5, C1, C3, C4, C2

b. Dependent Variable: OverallSatisf

Table 21

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	,153	,479		,320	,750
	C1	,156	,006	,910	26,656	,000
	C2	,010	,008	,040	1,175	,242
	C3	-,026	,011	-,078	-2,281	,024
	C4	-,093	,029	-,111	-3,241	,002
	C5	,140	,049	,098	2,859	,005

a. Dependent Variable: OverallSatisf

Source: SPSS software, MRCA output

From the first column of the correlation matrix we see that, there is linearity between **Overall Satisfaction** and **Product's technical attributes** (C1) (Table 18).

Also, there is no multicollinearity between C1, C2, C3, C4 and C5 (the relationships between these variables are <0, 70) (Table 18). This is desirable situation.

The result of F-test is significant (Table 20) (Sig = 0,000, which is lower than α = 0,05). Because F-test is significant, we can interpret adjusted r² (Table 19). Adjusted r² = 0.856; it means, 85,6 % of changes in the dependent variable Overall Satisfaction can be explained by the changes in the independent variables of Product's technical attributes (C1), Company's personnel's attributes (C2), Sales stimulating strategy of Company (C3), Image of Company (C4) and Access to Company (C5).

Now, we will check the significance of the F-test result by means of Autocorrelation analysis:

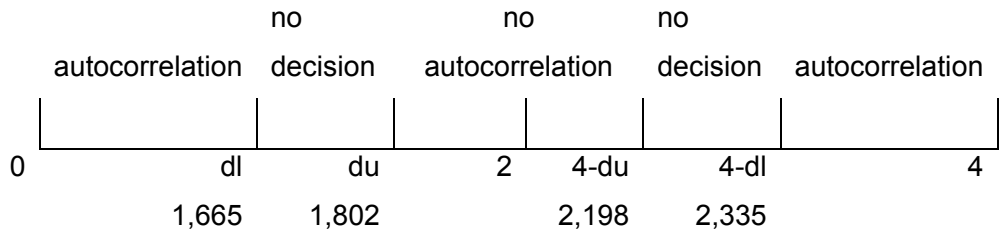
From Durbin-Watson test d = 1,920 (Table 19); the sample size n = 126, the number of independent variables k´ = 5. Using (n and k´) we obtain from Table B-5 the values of dl and du. From table B-5, dl = 1,665 and du = 1,802.

4 - dl = 2,335

4 – du = 2,198

Table 22

Autocorrelation Analysis



Durbin Watson test's result shows that, test statistic value (d=1,920) takes place in the area of 'No Autocorrelation' (Table 22). Therefore, we confirm the validity of F-test.

After performing autocorrelation analysis and finding no autocorrelation from the Durbin Watson test we start to examine the contribution of each independent variable to the explanatory power of the regression model. We look at the results of T-test (Table 21). C2 has insignificant result (Sig = 0,242 which is higher than α = 0,005) and all other external variables have significant results. It implies that, C2 has no contribution to the explanatory power of the regression model, although it has remained in the model. That's

why, we will remove the C2 from the model and the whole analysis will be performed from the beginning.

So, after excluding the C2, with the remained variables we again perform the MRCA analysis and the results are below:

Table 23

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	C5, C1, C3, C4[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: OverallSatisf

Correlations

		OverallSatisf	C1	C3	C4	C5
Pearson Correlation	OverallSatisf	1,000	,915	-,039	-,145	,060
	C1	,915	1,000	,030	-,055	-,027
	C3	-,039	,030	1,000	-,082	,043
	C4	-,145	-,055	-,082	1,000	,056
	C5	,060	-,027	,043	,056	1,000
Sig. (1-tailed)	OverallSatisf	.	,000	,334	,052	,251
	C1	,000	.	,368	,270	,382
	C3	,334	,368	.	,180	,315
	C4	,052	,270	,180	.	,268
	C5	,251	,382	,315	,268	.
N	OverallSatisf	126	126	126	126	126
	C1	126	126	126	126	126
	C3	126	126	126	126	126
	C4	126	126	126	126	126
	C5	126	126	126	126	126

Table 24

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,928[a]	,860	,856	,19022	1,908

a. Predictors: (Constant), C5, C1, C3, C4

b. Dependent Variable: OverallSatisf

Table 25

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	26,995	4	6,749	186,503	,000[a]
	Residual	4,378	121	,036		
	Total	31,373	125			

a. Predictors: (Constant), C5, C1, C3, C4

b. Dependent Variable: OverallSatisf

Table 26

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	,429	,419		1,024	,308
	C1	,157	,006	,914	26,853	,000
	C3	-,026	,011	-,079	-2,315	,022
	C4	-,089	,028	-,107	-3,126	,002
	C5	,135	,049	,094	2,769	,007

a. Dependent Variable: OverallSatisf

Source: SPSS software, MRCA output

From the first column of the correlation matrix we see that, again there is linearity between **Overall Satisfaction** and **Product's technical attributes** (C1) (Table 23).

Also, there is no multicollinearity between C1, C3, C4 and C5 (Table 23).

The result of F-test is significant (Sig = 0,000, which is lower than α = 0,05) (Table 25). Because F-test is significant, we can interpret adjusted r^2 (Table 24). Adjusted r^2 =

0.856; it means, 85,6 % of changes in the dependent variable 'Overall Satisfaction' can be explained by the changes in the independent variables of Product's technical attributes (C1), Sales stimulating strategy of Company (C3), Image of Company (C4) and Access to Company (C5).

Now, again we will check the significance of the F-test result by means of Autocorrelation analysis:

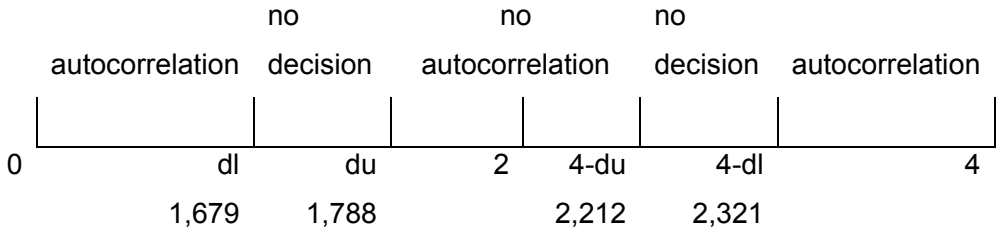
From Durbin-Watson test d = 1,908 (Table 27); the sample size n = 126, the number of independent variables k´ = 4. From table B-5, dl = 1,679 and du = 1,788.

4 - dl = 2,321

4 – du = 2,212

Table 27

Autocorrelation Analysis



Durbin Watson test's result shows that, test statistic value (d=1,908) takes place in the area of 'No Autocorrelation' (Table 27). Therefore, we confirm the validity of F-test.

Again, we look at the results of T-test (Table 26). And we see that, all other external variables have significant results. It implies that, all the remained variables have contribution to the explanatory power of the regression model.

As a result we found the model as a valid model.

Now we look at the magnitudes of the absolute values of β coefficients (Table 26). According to this, C1 (Product's technical attributes) has the highest contribution to the explanatory power of the regression model, and C3 (Sales stimulating strategy of the company) has the lowest contribution.

4.5. Findings about Measures of Association (MAC)

Now we will examine the relationships between CC – Core Concept (Overall Satisfaction) and demographic variables. In doing so, we will perform MAC analysis.

The first demographic variable (Income Sufficiency) is in interval scale. No transformation of CC is needed, so we will use original CC in analysis.

Table 28

Correlations

		OverallSatisf	IncSuff
OverallSatisf	Pearson Correlation	1	,969**
	Sig. (2-tailed)		,000
	N	126	126
IncSuff	Pearson Correlation	,969**	1
	Sig. (2-tailed)	,000	
	N	126	126

**. Correlation is significant at the 0.01 level (2-tailed).

Source: SPSS software, MAC output

As we see from the Table 28, the result of Pearson Correlation is significant. (Sig. = 0,000 which is <0, 05). It means that, there is a relationship between Income Sufficiency and CC-overall satisfaction. The clients which satisfied in TV goods have sufficient income to buy a TV.

The second demographic variable (Sympathy to Manufacturer Company's origin country) is also in interval scale, so we use original CC in MAC analysis.

Table 29

Correlations

		OverallSatisf	Sympathy
OverallSatisf	Pearson Correlation	1	,161
	Sig. (2-tailed)		,072
	N	126	126
Sympathy	Pearson Correlation	,161	1
	Sig. (2-tailed)	,072	
	N	126	126

Source: SPSS software, MAC output

As we see from the Table 29, the result is insignificant. (Sig. = 0,072 which is >0, 05). It means that, there is not relationship between Sympathy and CC-overall satisfaction.

The third demographic variable (Net Income) is in ordinal scale, therefore we use original CC in analysis.

Table 30

Correlations

			OverallSatisf	NetInc
Kendall's tau_b	OverallSatisf	Correlation Coefficient	1,000	,051
		Sig. (2-tailed)	.	,568
		N	126	126
	NetInc	Correlation Coefficient	,051	1,000
		Sig. (2-tailed)	,568	.
		N	126	126
Spearman's rho	OverallSatisf	Correlation Coefficient	1,000	,051
		Sig. (2-tailed)	.	,570
		N	126	126
	NetInc	Correlation Coefficient	,051	1,000
		Sig. (2-tailed)	,570	.
		N	126	126

Source: SPSS software, MAC output

As we see from the Table 30, the result is insignificant. (Sig. = 0,568 and 0,570 which are >0, 05). It means that, there is no relationship between Net Income and CC-overall satisfaction.

The fourth demographic variable (Nationality) is in nominal scale. Therefore transformation of CC to nominal level is necessary. We do it by creating a new variable – CCC (Core Concept Categorical) in SPSS.

Table 31

Nationality * CCC Crosstabulation

Count

		CCC		
		1,00	2,00	Total
Nationality	1,00	51	58	109
	2,00	3	3	6
	3,00	2	0	2
	4,00	1	1	2
	5,00	0	4	4
	6,00	2	1	3
Total		59	67	126

Source: SPSS software, MAC output

Table 32

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	,224	,278
	Cramer's V	,224	,278
N of Valid Cases		126	

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

Source: SPSS software, MAC output

According to Table 32, the result is insignificant (Sig. = 0,278 which is > 0,05). Then, there is no relationship between Overall Satisfaction and Nationality.

The next demographic variable (Gender) is also in nominal scale. And the transformation of CC to nominal level is necessary.

Table 33

Gender * CCC Crosstabulation

Count

		CCC		
		1,00	2,00	Total
Gender	1,00	53	63	116
	2,00	6	4	10
Total		59	67	126

Source: SPSS software, MAC output

Table 34

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	-,078	,384
	Cramer's V	,078	,384
N of Valid Cases		126	

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

Source: SPSS software, MAC output

According to Table 34, the result is insignificant. (Sig. = 0,384 which is larger than 5 %). That's why; there is no relationship between Overall Satisfaction and Gender.

The sixth demographic variable (Age) is interval scale. Then, no transformation is needed; we use original form of CC.

Table 35

Correlations

		OverallSatisf	Age
OverallSatisf	Pearson Correlation	1	,027
	Sig. (2-tailed)		,763
	N	126	126
Age	Pearson Correlation	,027	1
	Sig. (2-tailed)	,763	
	N	126	126

Source: SPSS software, MAC output

Seen from the Table 35, the result of Pearson Correlation is insignificant (Sig. = 0,763 which is larger than 0,05). So, there is no relationship between Age and Overall Satisfaction.

The seventh demographic variable (Profession) is in nominal scale and we use CCC in analysis.

Table 36

Profession * CCC Crosstabulation

Count

		CCC		
		1,00	2,00	Total
Profession	1,00	2	5	7
	2,00	1	5	6
	3,00	4	1	5
	4,00	52	56	108
Total		59	67	126

.

Table 37

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	,207	,144
	Cramer's V	,207	,144
N of Valid Cases		126	

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

Source: SPSS software, MAC output

As we wee from the Table 37, the result is insignificant (Sig. = 0,144 which is larger than 0,05). There is no relationship between Overall Satisfaction and Profession.

The next demographic variable (marital status) is in nominal scale. So, we use the transformed form of CC, in other words we use in analysis CCC.

Table 38

MaritalStat * CCC Crosstabulation

Count

		CCC		
		1,00	2,00	Total
MaritalStat	1,00	18	17	35
	2,00	41	50	91
Total		59	67	126

Source: SPSS software, MAC output

Table 39

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	,057	,521
	Cramer's V	,057	,521
N of Valid Cases		126	

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

Source: SPSS software, MAC output

The result of Phi and Cramer's V is insignificant from Table 39, because Sig. = 0,521 and this is larger than 5 %. Then, there is no relationship between Overall Satisfaction and Marital Status.

The other demographic variable is Household Size. This variable is in interval scale. No transformation of CC is needed.

Table 40

Correlations

		OverallSatisf	Household size
OverallSatisf	Pearson Correlation	1	,087
	Sig. (2-tailed)		,331
	N	126	126
Householdsize	Pearson Correlation	,087	1
	Sig. (2-tailed)	,331	
	N	126	126

Source: SPSS software, MAC output

From Table 40, the result of Pearson Correlation is insignificant (0,331 > 0,05). Then, there is no relationship between Overall Satisfaction and Household Size.

The tenth demographic variable is 'Model of previous TV' and it is in nominal scale. We use CCC.

Table 41

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	,270	,935
	Cramer's V	,270	,935
N of Valid Cases		126	

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

Source: SPSS software, MAC output

From Table 41, the result is insignificant. There is no relationship between Overall Satisfaction and Previous TV Model.

Finally, the last demographic variable (TV quantity in house) is in interval scale. So, we don't need to transform the CC.

Table 42

Correlations

		OverallSatisf	TVQuant
OverallSatisf	Pearson Correlation	1	,035
	Sig. (2-tailed)		,699
	N	126	126
TVQuant	Pearson Correlation	,035	1
	Sig. (2-tailed)	,699	
	N	126	126

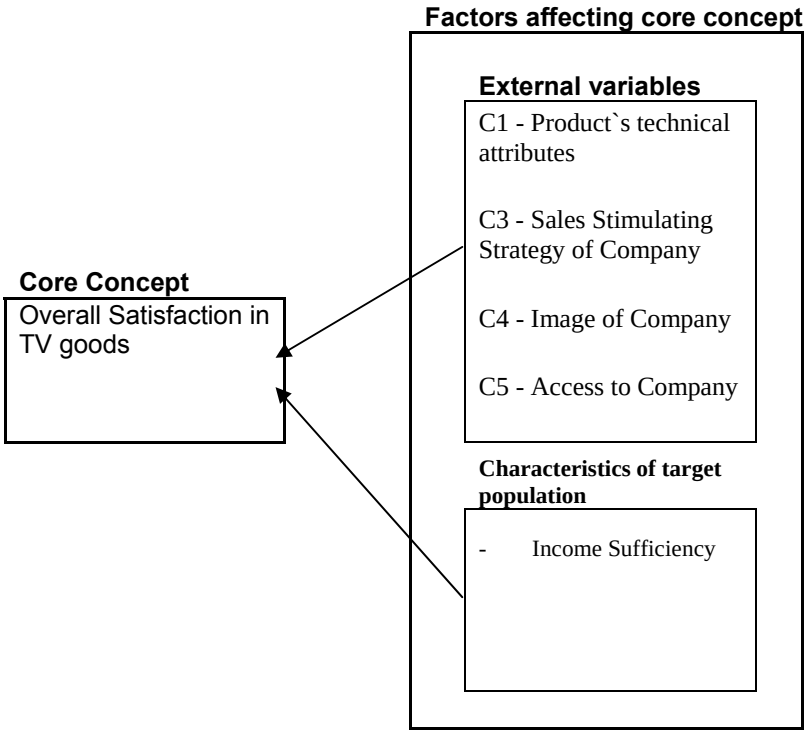
According to Table 42, the result of Pearson Correlation is insignificant (Sig. = 0,699 > 0,05). Then, there is no relationship between Overall Satisfaction and TV Quantity in house.

4.6. Finalized Research model

After the performing of MRCA and MAC analyses, the research model will be finalized and as follows:

Figure 7

Finalized Research Model



5. CONCLUSION

The given study is focused on the Turkish electronics sector and the exports of this sector. After the thorough analysis of this sector's data, it is found that, the TV goods have a significant role in Turkish electronics sector exports. Then, we found that, Vestel foreign trade co. has the highest contribution to Turkish TV exports and Russian market is one of the most potential markets of Vestel Company. Further, it is aimed to analyze the sales of Vestel TVs in Russian market and the level of Customer Satisfaction in Vestel TV goods in Russia; and to determine the factors affecting the customer satisfaction. For this purpose, the Research model is proposed, the questionnaire is designed on the basis of this model and the survey data were collected from the Russian customers of Vestel Company by means of this questionnaire. After the completion of the survey data, these data were analyzed with different statistical methods by using software. It is tried to investigate the relationships between the factors and overall satisfaction; the unrelated factors were eliminated and the factors which are really affect the customer satisfaction were stayed in the research model.

First, the Principal Components and Reliability analyses were performed. In the result of these analyses, we found out that, the data are homogeneous, and generally the factors are divided into five groups: Product's technical attributes, Company's personnel's attributes, Sales stimulating strategy of the company, Image of Company and Access to Company (Figure 6, p-70). And each of these groups (components) was internally consistent. This was really successful result.

Then, Multiple Regression and Correlation Analysis was performed. This analysis showed that, "Company's personnel's attributes" component (group of factors) has no contribution to the explanatory power of the regression model, although it has remained in the model. Therefore we removed this component from the model (Figure 7, p-86).

Further, the Measures of Association and Correlation Analysis were performed. We checked the relationships between the characteristics of target population (demographic variables) and the core concept. We found out that, only "Income sufficiency" variable have relationship with overall satisfaction in Vestel TV goods. Therefore, all other demographic variables were extracted from the research model (Figure 7, p-86).

As a result, the overall satisfaction of Russian customer in Vestel TV goods depends on:

- Vestel TV's technical attributes (Design, Variety of menu options, Screen property, Qualitative Image, Modern technology, Diversity of models)
- Sales stimulating strategy of Vestel Company (Campaign, Price, Guaranty, Delivery)
- Image of Vestel Company (Advertisement, Brand)
- Access to Vestel Company (Branch location, Branch quantity)
- Income Sufficiency of the Russian customer

The Vestel CIS Company should pay an attention to the aforementioned factors, in order to increase the customer satisfaction and the sales of Vestel TV goods. It should be paid attention especially to 'Product's technical attributes' and 'Image of company' (Table 26, β coefficients, p-75).

6. LIMITATIONS AND IMPLICATIONS

During the survey, the sample was selected randomly among the permanent customers of Vestel CIS / Russia. We would have definite results, if we reached to all the permanent customers of Vestel CIS.

Vestel CIS / Russia sells TVs not only to Moscow, but also to whole Russia and countries of CIS (Commonwealth of independent states – post soviet republics). But all the respondents of the questionnaires, used in this survey, are Moscow residents. In other words, it would be better to conduct the survey among the permanent customers from different cities and regions of CIS and Russia.

The survey data were collected from 126 persons, it would be better to collect from more clients. But due to lack of time and money, most of clients couldn't be reached.

The factors, which affect the Customer satisfaction are determined and approved scientifically by the given research. But as stated before, the scope of this research includes only the Moscow area.

As we mentioned before, the "technical properties of product", "image of company", "access to company" and "sales stimulating" are the main factors those affect the sales and satisfaction. It is strange that, "Company's personnel's attributes" (Friendliness, Service, Attentiveness, Kind Treatment, Individual Approach, Well disposed) (Table 12, p-58) component did not stay in the research model. This component was extracted during MRCA analysis. May be, it is related with the mentality of Russian people. The approach of personnel towards clients during service is not very important for this people.

7. APPENDICES

7.1. Appendix No1- Questionnaire

	QUESTIONNAIRE				
	Disagree	Slightly agree	Moderately agree	Strongly agree	Definitely agree
1 'VESTEL' is really Brand in Moscow	☐	☐	☐	☐	☐
2 Vestel / CIS has many branches in Moscow	☐	☐	☐	☐	☐
3 Vestel TV satisfies me	☐	☐	☐	☐	☐
4 Vestel / CIS has branches in convenient places.	☐	☐	☐	☐	☐
5 The TV goods sold in Vestel / CIS do not have guaranty	☐	☐	☐	☐	☐
6 The appearance design of Vestel TVs is very pretty	☐	☐	☐	☐	☐
7 Vestel TV has reasonable price	☐	☐	☐	☐	☐
8 Vestel TV has many additional features	☐	☐	☐	☐	☐
9 Vestel TV has various screen features (LCD, Plasma, Projection)	☐	☐	☐	☐	☐
10 Vestel / CIS has a wide range of TV models on sale	☐	☐	☐	☐	☐
11 The quality of Vestel TV picture is excellent	☐	☐	☐	☐	☐
12 'Vestel' applies high technology on TV production	☐	☐	☐	☐	☐

		Never	Seldom	Some times	Often	Always
13	There are frequently different campaigns in Vestel /CIS	☐	☐	☐	☐	☐
14	Vestel / CIS has convenient 'delivery to any place' service	☐	☐	☐	☐	☐
15	I often see on TV the commercials of Vestel / CIS goods	☐	☐	☐	☐	☐
16	The service in Vestel / CIS is bad	☐	☐	☐	☐	☐
17	The sales personnel in Vestel/CIS are very friendly to me	☐	☐	☐	☐	☐
18	The sales personnel in Vestel / CIS are very kind to me	☐	☐	☐	☐	☐
19	The sales personnel in Vestel/CIS are very attentive	☐	☐	☐	☐	☐
20	The sales personnel in Vestel / CIS serve a customer individually	☐	☐	☐	☐	☐
21	The sales personnel in Vestel / CIS are always ready to help the customer	☐	☐	☐	☐	☐

		Disagree	Slightly agree	Moderately agree	Strongly agree	Definitely agree
22	My income is sufficient enough in order to purchase TVs in VESTEL / CIS	☐	☐	☐	☐	☐
23	I have strong sympathy to Turkey	☐	☐	☐	☐	☐
		Very low	**Low**	**Medium**	**High**	**Very high**
24	Approximately what is your monthly household net income?	☐	☐	☐	☐	☐
25	What is your nationality?	_____				
26	Your Gender?	Male ☐	Female ☐			
27	What is your age?	_____				
28	Please, state your profession	_____				
29	Your marital status?	_____				
30	Your household size?	_____				
31	What is the model (trademark) of your previous TV?	_____				
32	How many TV's do you have in your house?	_____				

7.2. Appendix No 2 – Characteristics of Sample

Table 1

Frequencies – 'Income Sufficiency' variable

IncSuff

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	4,00	61	48,4	48,4	48,4
	5,00	65	51,6	51,6	100,0
	Total	126	100,0	100,0	

Table 2

Frequencies – 'Sympathy to Manufacturer's origin country' variable

Sympathy

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2,00	2	1,6	1,6	1,6
	3,00	11	8,7	8,7	10,3
	4,00	85	67,5	67,5	77,8
	5,00	28	22,2	22,2	100,0
	Total	126	100,0	100,0	

Source: SPSS software, Sympathy VAR Analyze – Frequencies

Table 3

Frequencies – 'Net Income' variable

NetInc

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3,00	60	47,6	47,6	47,6
	4,00	65	51,6	51,6	99,2
	5,00	1	,8	,8	100,0
	Total	126	100,0	100,0	

Source: SPSS software, Net Income VAR Analyze – Frequencies

Table 4

Frequencies – 'Nationality' variable

Nationality

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1,00	109	86,5	86,5	86,5
	2,00	6	4,8	4,8	91,3
	3,00	2	1,6	1,6	92,9
	4,00	2	1,6	1,6	94,4
	5,00	4	3,2	3,2	97,6
	6,00	3	2,4	2,4	100,0
	Total	126	100,0	100,0	

Source: SPSS software, Nationality VAR Analyze – Frequencies

Table 5

Frequencies – 'Gender' variable

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1,00	116	92,1	92,1	92,1
	2,00	10	7,9	7,9	100,0
	Total	126	100,0	100,0	

Source: SPSS software, Gender VAR Analyze – Frequencies

Table 6

Statistics - 'AGE' variable

Statistics

Age		
N	Valid	126
	Missing	0
Mean		39,1905
Minimum		19,00
Maximum		69,00

Source: SPSS software, Age VAR Analyze – Frequencies

Table 7

Frequencies – 'Profession' variable

Profession

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1,00	7	5,6	5,6	5,6
	2,00	6	4,8	4,8	10,3
	3,00	5	4,0	4,0	14,3
	4,00	108	85,7	85,7	100,0
	Total	126	100,0	100,0	

Source: SPSS software, Profession VAR Analyze – Frequencies

Table 8

Frequencies – 'Marital Status' variable

MaritalStat

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1,00	35	27,8	27,8	27,8
	2,00	91	72,2	72,2	100,0
	Total	126	100,0	100,0	

Source: SPSS software, Marital Status VAR Analyze – Frequencies

Table 9

Frequencies – 'Household Size' variable

Householdsize

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	,00	30	23,8	23,8	23,8
	1,00	29	23,0	23,0	46,8
	2,00	28	22,2	22,2	69,0
	3,00	25	19,8	19,8	88,9
	4,00	12	9,5	9,5	98,4
	5,00	1	,8	,8	99,2
	6,00	1	,8	,8	100,0
	Total	126	100,0	100,0	

Source: SPSS software, Household Size VAR Analyze – Frequencies

Table 10

Frequencies – 'Model of previous TV' variable

TVModel

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	LG	11	8,7	8,7	8,7
	Samsung	12	9,5	9,5	18,3
	Sony	14	11,1	11,1	29,4
	Panasonic	9	7,1	7,1	36,5
	Philips	9	7,1	7,1	43,7
	Toshiba	5	4,0	4,0	47,6
	Grundig	7	5,6	5,6	53,2
	Siemens	5	4,0	4,0	57,1
	Hitachi	4	3,2	3,2	60,3
	Sanyo	6	4,8	4,8	65,1
	Horizont	9	7,1	7,1	72,2
	Rekord	5	4,0	4,0	76,2
	JVC	4	3,2	3,2	79,4
	Beko	3	2,4	2,4	81,7
	Vestel	12	9,5	9,5	91,3
	Funai	5	4,0	4,0	95,2
	Akai	5	4,0	4,0	99,2
	Fizutsu	1	,8	,8	100,0
	Total	126	100,0	100,0	

Source: SPSS software, TV model VAR Analyze – Frequencies

Table 11

Frequencies – 'TV quantity' variable

TVQuant

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1,00	64	50,8	50,8	50,8
	2,00	55	43,7	43,7	94,4
	3,00	7	5,6	5,6	100,0
	Total	126	100,0	100,0	

Source: SPSS software, TV quantity VAR Analyze – Frequencies

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