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**TÜRK İNŞAAT SEKTÖRÜNDE ÇEŞİTLENME VE YETKİ DEVRİ
ARASINDAKİ İLİŞKİ**

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RELATIONSHIP OF DIVERSIFICATION AND DELEGATION OF
AUTHORITY IN THE TURKISH CONSTRUCTION SECTOR

MASTER'S DEGREE THESIS

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PREFACE

Nowadays, the Turkish construction sector has been growing rapidly and successfully in Turkey and other foreign markets. This growth requires new alternative strategies accordingly and modifications on current structure.

This study summarizes the results of investigation between the relationship of diversification and delegation of authority in the Turkish construction sector.

I would like to express my appreciation to Prof. Dr. Zeynep Sözen due to her great understanding and patience and to my colleagues due to their hard work and help.

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SUMMARY

Since the 1980's, the Turkish construction sector has been expanding its activities successfully in domestic and foreign construction markets and increasing its knowledge and experience in these markets.

The present study aims to explore the relationship between diversification and decentralization in the Turkish construction sector.

In this context, in the first section, the aim of the study and the objectives are presented. The aim of the study is to investigate the relationship between strategy and organizational structure in general. In particular, the main objective of the study is to find out the relationship between diversification and decentralization in the Turkish construction sector.

The second section is constructed by the help of literature. Strategy and structure concepts are explored in detail. Especially the relationship between diversification and delegation of authority is analyzed in this section.

In section 3, the characteristics of the construction sector are identified and the relationship between variables is explored in construction context.

Evaluation of data is completed in section 4. The hypothesis of the study is constructed in this section. The method, which is used to evaluate the data, is presented in this section.

In section 5, the findings of the study are demonstrated by the help of tables and charts. The statistical analyses of the study are completed in this section. The hypothesis is examined.

Finally, in section 6, the findings are examined and results are discussed. By looking at the results, the conclusions of the study are declared.

ÖZET

TÜRK İNŞAAT SEKTÖRÜNDE ÇEŞİTLENME VE YETKİ DEVRİ ARASINDAKİ İLİŞKİ

1980’den sonra Türk inşaat Sektörü, alanında hızlı bir gelişme göstererek Türkiye’nin bir kaç lokomotif sektöründen biri olmuştur. Özellikle Rusya ve Türkiye cumhuriyetlerinde üstlenilen büyük projeler sözü edilen gelişmenin ve büyümenin birer göstergesidir.

Türk İnşaat şirketleri içte ve dışta kazandıkları tecrübeleri ile bölgesinde inşaat sektörü açısından öncü konumundadır. Bu başarının sebepleri birer araştırma konusu olabilir.

Bu çalışma da amaçlanan, Türk inşaat sektöründe faaliyet gösteren firmalardan toplanacak verilerle, genel anlamda literatürde var olduğu ispatlanan strateji ve yapı arasındaki ilişkinin sınanmasıdır.

Genel anlamda strateji ile yapı arasındaki ilişki ortaya çıkarılmaya çalışırken esas hedeflenen daha spesifik bir ilişkiye zemin hazırlamaktır. Bu ilişki ise yine literatür tarafından sunulan “çeşitleme” ile “yetki devri” arasındaki karşılıklı ilişkidir.

Birinci bölümde, yukarıda açıklanan amaçlar ve hedefler daha kapsamlı olarak açıklanmıştır.

Çalışmanın temelini oluşturacak kavramlar detaylı bir şekilde ikinci bölümde ele alınmıştır. Bu bölümde öncelikle “örgütsel yapı” kavramı ele alınarak tüm yönleri ile incelenmiştir. Buna göre örgütsel yapı; genel olarak örgüt içindeki görevlerin ve ilişkilerin hiyerarşik bir örüntüsü olarak tanımlanmıştır. Daha sonra var olan yapı türleri sıralanmıştır. Bunlar;

- Fonksiyonel bölünlenmiş yapılar
- Bölgesel bölünlenmiş yapılar
- Ürüne göre bölünlenmiş yapılar
- Müşteriye göre bölünlenmiş yapılar
- Matriks yapılar
- Çok uluslu şirketler

Bu yapı türlerinin hangi ortamlarda kullanıldığını ve avantajlı ve dezavantajlı yönleri irdelenmiştir.

Yapı türlerine değindikten sonra diğer önemli bir konu olan denetim alanı kavramı, bir üstün denetleyebileceği alt sayısı olarak tanımlanmış ve denetim alanına göre yüksek

ve basık yapılarla ilgili örnekler verilmiştir. Bir üstün denetleyebileceği optimum alt sayısı 5-6 olarak belirtilmiştir.

İkinci bölümde, araştırmanın değişkenlerinden biri olan “yetki devri” konusu ayrıntılı bir şekilde işlenmiştir. Bu kavram, üstlerin alt kademelere göçerdiği karar verme yetkisini tanımlamaktadır. Buna göre bir örgütte alınması gereken iki tip karar vardır. Bunlar:

1. İşlemsel kararlar
2. Stratejik kararlar

Yetki devrini belirleyen faktörler şöyle açıklanmıştır.:

- Örgütün içinde bulunduğu çevre, iş ve işgücü özellikleri
- Büyüklük
- Biçimselleşme ve standartlaşma düzeyi
- Demokratik yönetim

Bir yapıyı belirleyen birtakım unsurlar vardır. Bunlar:

- Biçimselleşme
- Merkezileşme
- Karmaşıklık

Bu üç kavramdan merkezileşme konusu çalışmanın temel konularından birini oluşturmaktadır. Merkezileşme tanım olarak, devredilen yetkinin özelliğini ve yönünü göstermektedir.

Merkezi bir yapıda stratejik kararlar tepe yönetimi tarafından verilirken işlemsel kararların çok az bir kısmı alt kademelere bırakılır. Merkezkaç bir yönetimde ise stratejik kararlar üst kademelere verilirken işlemsel kararlar büyük miktarda alt kademelere devredilir.

Çalışmanın ikinci temel kavramı “strateji” dir. Strateji kavramı yine çeşitli tanımlar ile açıklanmıştır; genel olarak, gelecek için uzun dönemli plan yapma eylemi olarak tanımlanmıştır.

Stratejik yönetim kavramı yine çeşitli kaynaklardan yararlanılarak açıklanmıştır. Buna göre stratejik yönetim üzerine iki tür görüş vardır:

1. Programlı strateji
2. Durumsal strateji

Birinci tip stratejik yönetimde, stratejilerin önceden belirlenebileceği ve yöneticilerin, örgütün amaçlarına ulaşabilmesi için sistematik ve çerçevesi belli bir strateji geliştirilebileceği savunulur.

İkinci tip, yani durumsal strateji de ise, stratejinin tamamen önceden planlanamayacağı, her duruma uyan tek bir stratejinin olamayacağı, fakat bunun yanında gerekli koşullarda alınacak yerinde ve geçerli kararlarla oluşturulabileceği savunulur. Bu ise örgütsel teorideki durumsallık yaklaşımının stratejiye yansımasıdır.

Bir örgüt yapısı içindeki stratejik kararlar şu üç seviyede alınır:

- Örgüt düzeyi
- İş düzeyi
- Fonksiyonel düzey

Stratejik yönetimin üç bileşeni şu şekilde sıralanmaktadır:

- Stratejik formülasyon
- Stratejik uygulama
- Geri besleme

Stratejik yönetimin başarılı olması için yani örgütün amaçlarına ulaştırılabilmesi için stratejik problemin iyi tanımlanması ve tüm girdilerin (çevre, örgüt içi koşullar , vb) çok iyi ve eksiksiz olarak değerlendirilmesi gerekir. Daha sonra da çözüm için gerekli önlemler formüle edilir. Bu aşamaya stratejik formülasyon adı verilir.

Stratejik formülasyon kadar önemli olan bir başka adım ise kararların etkin şekilde uygulanması gereken stratejik uygulama aşamasıdır.

Geri besleme ise, sonradan karşılaşılabilecek olan benzer problemlerin kolay ve hızlı bir şekilde çözümüne imkan sağlayacak bir kazanım aşamasıdır.

Stratejik yönetimin uygulayacağı birtakım alternatif stratejiler bulunmaktadır. Bunlar:

- Satma/ elden çıkarma
- Konsolidasyon
- Market değiştirme
- Market geliştirme
- Ürün geliştirme
- Çeşitlenme

Bunlardan “çeşitlenme” bu çalışmanın en önemli kavramlarından birini teşkil etmektedir.

Çeşitleme, bir firmanın yaptığı iş ile veya hizmet ettiği pazarla, ilişkili veya ilişkisiz yeni ürün geliştirmesi veya pazarlarda faaliyette bulunmasıdır. İki türlü çeşitlenme vardır;

- İlişkili çeşitlenme
- İlişkisiz çeşitlenme

Çeşitlenmenin özellikleri ile ilgili tanımlamalar yapıldıktan sonra değinilen iki temel kavram arasındaki ilişki aranmıştır: Strateji ve örgütsel yapı

İlk önce genelden başlayarak strateji ile yapıya etkileri araştırıldıktan sonra, özele inilmiş ve çeşitlenme ile yetki devri ve özellikle merkezkaç yönetim ilişkisi araştırılmıştır.

Literatüre göre strateji ile örgütsel yapı arasındaki ilişki karşılıklıdır. Bir görüşe göre, örgütsel yapı stratejiyi takip eder, yani, bir başka deyişle strateji örgütsel yapıyı belirler.

Diğer bir görüşe göre ise strateji örgütsel yapıyı takip eder. Bu görüşü savunanlar, üst düzey yöneticilerin merkezkaç yapı içinde daha kolay stratejik karar üretebildiğini bu nedenle doğru seçilmiş örgüt yapılarının strateji üzerinde belirleyici etkisi olduğunu savunmaktadırlar.

Sonuç olarak, firmaların çeşitlenme stratejisini uyguladıklarında çok bölümlü yapıyı seçtikleri ve dolayısı ile merkezkaç yönetimi uyguladıkları görülmüştür. Bu görüş literatürde ampirik çalışmalarla da kanıtlanmıştır.

Üçüncü bölümde inşaat sektörünün genel karakteri incelenmiş ve çeşitlenmeye yol açacak özellikleri üzerinde durulmuştur ki bunlar, taleplerdeki çeşitlilik, inşaat sektörünün belirsizliklerle dolu doğası ve içiçe girmiş birkaç sektörden meydana gelmesi olarak özetlenebilir.

Dördüncü bölümde ise değerlendirme metodları üzerinde durulmuştur. Türk İnşaat şirketleri ile ilgili bilgiler üç bölümden oluşan bir soru kağıdı ile toplanmıştır. Bu uygulamaya 22 Türk inşaat firması katılmış ve bunlardan 18'i anonim 4'ü limited şirketlerdir.

Soru kağıdının birinci bölümünde firmalarla ilgili genel bilgi almak amacıyla uygun sorular düzenlenmiştir. Bu bölümde ayrıca firma büyüklüğünü ölçmek üzere sorular bulunmaktadır.

İkinci bölümde ise firmaların faaliyette bulunduğu alanları belirlemek üzere faaliyet alanlarını içeren bir listeden ilgili alanları işaretlemeleri istenmiştir.

Üçüncü bölümde ise firmaların merkezileşme seviyelerini ölçmek üzere belli kararların hangi seviyede verildiğini ölçen bir kararlar listesi hazırlanmış ve uygun karar seviyelerinin işaretlenmesi istenmiştir.

Çeşitlenme Rumelt'in sınıflandırma sistemi ile ölçülmüştür. Bu sisteme göre, firmaların faaliyet gösterdikleri iş kollarının herbirinden elde ettikleri ciroların, toplam ciro içindeki yüzdelere bakılarak çeşitlenme kategorileri oluşturulmuştur. Bu sonuca göre firmalar üç tip çeşitlenme kategorisinde toplanmıştır.

- Tek iş
- İlişkili-bağımlı
- İlişkisiz portföy

Yetki devri ise karar konularını ve seviyelerini içeren ve daha önce birçok defa kullanılmış ve sınanmış bir soru kağıdı ile ölçülmüştür.

Çalışmanın hipotezi “*tek iş, ilişkili-bağımlı ve ilişkisiz portföy, çeşitlenme kategorileri arasında merkezileşme düzeyi açısından anlamlı bir farklılık vardır*” şeklinde ifade edilmiştir. Yine aynı bölümde tanımlayıcı ve ilişkisel çözümlemeler yapılmış ve hipotezin geçerliliği sınanmıştır.

İlişkisel çözümlemelerde Kruskal-Wallis testi kullanılmıştır. Hipotezdeki değişkenlerden ayrı olarak bazı büyüklük göstergeleri (toplam personel sayısı, proje sayısı ve ciro) ile çeşitlenme arasındaki ilişkiler de araştırılmıştır. Ancak hipotezin sınanmasında uygulanan teste göre (Kruskal-Wallis)çeşitlenme kategorileri (tek iş, ilişkili- bağımlı ve ilişkisiz portföy) arasında yetki devri açısından bir farklılık bulunamamıştır.

Beşinci bölümde sonuçlar tablolar ve grafikler yardımıyla özetlenmiştir. Çıkan sonuçlar üzerine yorumlar yapılarak hipotezin sonuçları tartışılmıştır.

Altıncı bölümde ise bulguların genel bir değerlendirmesi yapılarak belirli bir sonuca varılmıştır. Sonuç olarak hipotezin gerçekleşmemesinin sebepleri aşağıdakilerden bir veya birkaçına bağlanabilir,

- Sosyo - ekonomik yapı
- Pazar şartları(belirsiz veya kararlı)
- Gelenekler / kültürel etkiler (aile firmaları)
- Stratejik yönetim kavramının yokluğu
- Profesyonel yönetici ve yönetim kavramlarının yokluğu
- Yeterli kalitede eleman eksikliği

Bu çalışmanın amaçlarından bir tanesi de ileride yapılacak çalışmalara temel oluşturacak ampirik bir çalışma olarak kullanılabilir olmasıdır. Çıkan sonuç bu açıdan bakıldığında daha da fazla önem taşımaktadır.

SECTION 1

INTRODUCTION

1.1. INTRODUCTION

In the last two decades, the Turkish construction sector has been growing rapidly and successfully in Turkey. This successful growth has provided access to foreign market areas. Especially Russia and the Turkic Republics were the new opportunities for the firms to expand their limits. Large Turkish contractors have undertaken many big projects in these international areas. These expansions also have been providing the Turkish construction companies to gain power and experience in both foreign and domestic construction areas.

One of the enduring characteristics of the construction industry is its variability of demand, which shapes the nature of industry, and the firms, which operate in it. The construction industry is made up of several different market areas and this variability increases uncertainly in the current environment.

On the other hand, the temporary nature of projects, rapidly changing demands and technologies and variation of product and service areas require a more flexible structure to adopt this changing environment in the construction industry.

Large firms in the construction industry tend to operate in all market areas to spread the risks and to ensure easy access between these market areas. In other words, they diversify to reduce the risks available in the current environment.

Therefore, changes in the strategy require some modifications on the current structure of firms.

In this study, it will be tried to find out the relationship between strategy and structure by looking into the Turkish construction companies.

1.2. THE OBJECTIVES OF THE STUDY

The aim of this study is to investigate the relationship between strategy and organizational structure in general. In particular, the main objective of the study is to find out the relationship between diversification and decentralization especially in the Turkish Construction Sector.

Parallel to this objective, the relationship between variables will be explored by the help of collected data about the Turkish construction firms. In addition to this, the relationship between size and diversification will be investigated. In this context, strategies and structure of the firms will be investigated through the study. The hypothesis will be constructed upon these variables in the light of gained knowledge from literature and collected information by the help of the questionnaire.

SECTION 2

THEORETICAL BACKGROUND

2.1. ORGANIZATIONAL STRUCTURE

In this part, organizational structure will be explored

2.1.1. Definitions

Structure can be defined in several ways according to what we want to mean. Although the definitions may vary, their meanings mostly refer to the same thing: a strong, pre-designed frame, which makes something, stand-alone.

The second important thing when we mention structure is that if we want to construct a structure, the structure must be planned previously. It does not mean that there are no structures without a plan but such a structure does not work properly.

Here are some different definitions of structure;

1. Common definition; a) the manner of building b) something built or something made up of interdependent parts in a definite pattern of organization c) arrangement or relationship of elements in a substance, body or system [1]

2. "Pattern of jobs and group of jobs in organization. An important cause of individual and group behavior." [2, p. 437]

3. Pattern of organizational regulations and relationships, which is permanently and formally approved. [3, p. 65]
4. Hierarchy of authority through which flows the formal power to control decision and actions with common groups to facilitate coordination. [3, p. 66]

2.1.2. The Concept of Organizational Structure

From an organizational point of view the major difficulties in achieving a rational decision process is the existence of a variety of goals and the ability of management to pursue them. According to Coase, "the role of the firm is to enable low cost and flexible coordination of resources, which can only be achieved by the use of rational decision processes." [3, p. 65]

The concept of 'task' is very important for an organization while designing its structure because it describes individuals' jobs in an organization. Task descriptions must be clear and easily understood by the owners. The task does not mean anything without responsibility and authority to manage it. It must be well matched by the person who designs a structure of an organization.

According to Barnard "within an organization decision-making must be a logical process which must and can characterize organizational action as contrasted with individual action. The task, therefore, is to ensure that an organization's decisions are as rational as possible and in line with its mission, while participating in that process are non-rational individuals who wish to pursue their own objectives". [3, p. 66]

In a well-designed organization structure, each job segment must be well defined and each job must be assigned an appropriate level in the hierarchy of the structure. In addition to this, every job description must contain its responsibility limits and the individual's span of control. To ensure a well-designed structure, relationships between jobs and levels must be examined previously and overlapping of jobs and positions of individuals must be avoided.

Organization structure results from managerial decisions about three important attributes of all organizations [2]:

- Formalization
- *Centralization*
- Complexity

The decisions made by managers are influenced by job design factors and organization design factors such as individual differences, task competence, technology, environmental uncertainty, STRATEGY and certain characteristics of managers themselves. The attributes of the structure determine the extent to which the organization reflects the dimensions of formalization, complexity and centralization.

In the first step, managers decide how to split the overall task into successively smaller jobs, dividing the total activities of the task into smaller sets of related activities. In the second step, related jobs are grouped according to their status. Bases of structure may vary according to the type of organization or other environmental conditions. The third step is the decision about the span of control. Managers must reach a decision about the appropriate size of the group reporting to each superior. Finally in the last step managers distribute authority among the jobs.

2.1.2.1. Division of Labor

According to Gibson division of labor is a “process of dividing work into relatively specialized jobs to achieve advantages of specialization”. [2, p. 444]

Division of labor concerns the extent to which jobs are specialized. Managers divide the total work into specific jobs having specified activities. The activities are defined according to what the person performing the job is to accomplish.

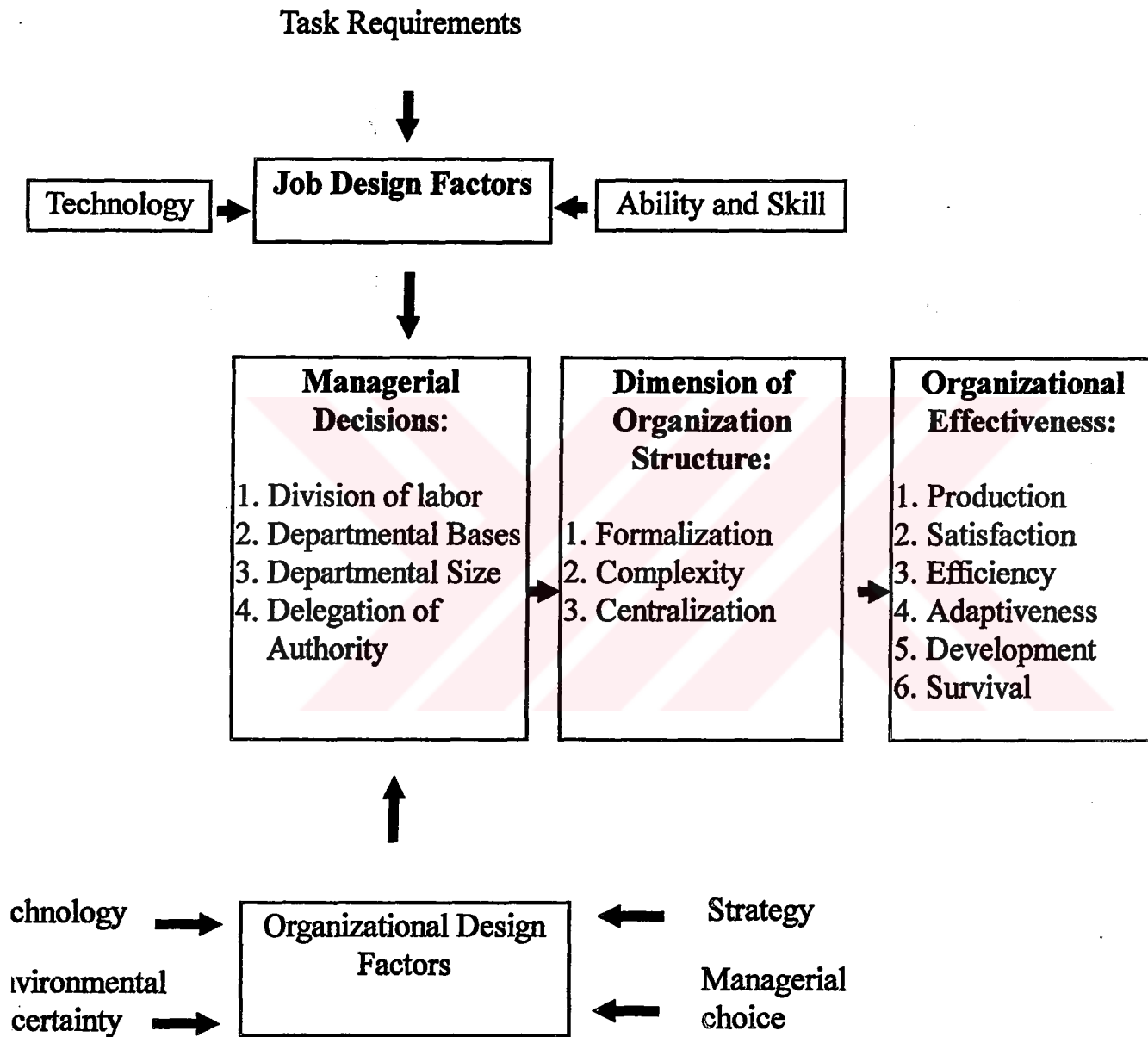


Figure 2.1
Organizational structure [2]

Division of labor in organization can occur in three ways: [2, p. 444]

1. "Work can be divided into different personal specialties. Most people think of specialization in the sense of occupational and professional specialties. Thus, we think of accountants, engineers, scientists, physicians, and the myriad of other specialties that exist in organizations and everyday life."
2. "Work can be divided into different activities necessitated by the natural sequence of the work the organization does. For example, manufacturing plants often divide work into fabricating, assembly and finishing; individuals will be assigned to the work of one of these three activities. This particular method of division of work is termed *horizontal* specialization."
3. "Finally, work can be divided along the *vertical* plane of an organization. All organizations have a hierarchy of authority from the lowest level manager to the highest level manager."

2.1.2.2. Departmentalization Bases

"Process in which organization is structurally divided by combining jobs in departments according to some shared characteristic or basis." [2, p. 445]

When a manager tends to build a structure of an organization, he/she must first consider how the interrelated jobs will be grouped. The pattern of the related jobs must be considered by the designer. These jobs must be performed in a specific manner and in a sequence defined by the management. It must not be ignored that, the more the specialized jobs, the greater the number of the managers in the organization.

Many organizations have their own organization charts, which indicate their formal organization structure. When we compare these charts, we can notice that there are some certain differences between these drawings, because every organization has its own special characteristics and accordingly has its own pattern of jobs. We can summarize this pattern of jobs with the following categories:

2.1.2.2.i. Functional Departmentalization

Every activity in an organization can be defined as a *function*. These functions vary from one type of organization to the other. If departmentalization is made according to functions, the structure will be termed as *functional*. [2]

For example if we consider a manufacturing firm, its required functions will be production, marketing, personnel, accounting, finance etc. These types of firms serve the best example for a structure, which is based on the functional departmentalization.

There are some certain advantages and disadvantages of functional departmentalization; the first advantage is efficiency and specialization in the work. The economies of specialization are obtained. The second advantage is minimizing information costs between different units within the same area. The third is low control cost because the role specification is easy and a clear hierarchy of control can be established. [2]

The major disadvantage of the functional basis is the conflict between functional units. Every unit sees its problem as unique and the others as unimportant. This causes a failure in terms of goal achievement. The second disadvantage is the difficulty of communication between departments in cases where the firm is a multinational: geographical dispersion, which may lead to loss of control. [2]

2.1.2.2.ii. Territorial Departmentalization

In this type of departmentalization, structure is designed according to geographical area. Generally, large firms, which operate in a wide-ranged product market, prefer this approach. Because this type of departmentalization allows decentralized administration, which is vital for the firms, those have a wide area divisionalization. Because of physical separation of activities, centralized structures are usually inadequate to manage the organization. [2]

“Territorial departmentalization provides a training ground for managerial personnel. The company is able to place managers in territories and then assess their progress in that region. The experience that managers acquire in a territory away from headquarters provides valuable insights about how products and /or services are accepted in the field.” [2, p. 447]

2.1.2.2.iii. Product Departmentalization

Some large firms construct their structure on the basis of their products or services. These types of structures are termed as product-based structures. In this type of structure, one particular product or product line is placed under the direction of one manager. [2]

As in the other cases, there are some advantages and disadvantages in this type of structure. Every product manager has a great authority and responsibility in his job. This ensures to stimulate the managers themselves. The second advantage is the specialization on the job because, every manager or personnel concentrates on his specific product. The third advantage is the competition among the departments. This creates a challenging environment in the firm but it must be well controlled and balanced by the top management. Otherwise, some conflicts between the departments will occur within the firm. [4]

One of the main disadvantages of the product-based structure is the duplication of the positions between the departments. For example, every department employs its own marketing, research and account personnel; this causes an increase in the cost of the personnel expenses. The other disadvantage is the conflicts between business groups that want to dominate their priority in the firm.

2.1.2.2.iv. Customer Departmentalization

Several customer and client groups can be the basis of a structure. This type of structure is termed as customer-based structure. Educational institutions, loan departments of some banks and some clothing firms are the good examples for this type of structure.

In this type of structure, because the design factors are especially considered for satisfying one group of customers' needs, it is the most suitable structure model for the firms, which serve directly to them. "Organizations with customer-based departments are better able to satisfy customer-identified needs than organizations that base departments on noncustomer factors" [2, p. 450]

2.1.2.2.v. The Matrix Organizations

The matrix organization is defined as "organization design that superimposes product- or project-based design on existing function-based design." [2, p. 450]

It can be explained simply by combining both functional and product departmentalization bases. "Although the exact definition of a matrix organization is not well established, it most typically is seen as a balanced compromise between functional and product organization, between departmentalization by function and by product." [2, p. 451]

In the matrix organizations, project teams are created by collecting specialists from each functional group, which is necessary for the achievement of the project or the

product. Every specialist in the team works for developing a certain project for a certain time and then he/she returns to his/her unit. During the project, specialists report to both the project manager and their department manager. "The existence of a dual authority system is a distinguishing characteristic of matrix organization." [2, p. 451]

Projects, Products	Functions			
	Manufacturing	Marketing	Engineering	Finance
Project or Product A				
Project or Product B				
Project or Product C				
Project or Product D				
Project or Product E				

Figure 2.2.
Matrix organizations [2]

According to Knight "Matrix structures are found in organizations that require responses to rapid change in two or more environments (e.g., technology and markets), that face uncertainties that generate high information processing requirements; and that must deal with financial and human resources constraints." [2, p. 451]

First advantage of the matrix structure is the utilization of the specialized staff and equipment. Instead of duplication of specialized resources for each unit in the firm, all the project groups share this highly specialized resource. There is a great feedback, which provides speed and flexibility to the projects. In this dynamic environment, some interactions occur during the project adventures between specialists who belong

to different departments in the same firm. This creates useful dialogue across the different units.

An important disadvantage of the matrix structure is the existence of dual authority in the firm. When the specialists are gathered for a new project, they have to report to both of their project supervisors and their department managers. This sometimes creates some conflicts between the managers and the specialists and causes a reduction in the performance of their works.

2.1.2.2.vi. Multinational Corporations

Some firms penetrate new markets, which are out of their national boundaries. These kinds of firms are called *multinational corporations (MNC)* and they operate in more than one country.

There are several reasons to compete in the foreign markets; the first reason is to be closer to the resources. This decreases the transportation costs of the firms and prevents time consumption. This ensures good advantages to the firms. The second important reason is the cheapness of labor costs and the third is the desire to be closer to the market for competing and to be ready for quick responses to the environmental changes.

Structure types can be changed from one another in the multinational corporations. "MNCs having a diversified product line will find certain advantages in the product-based organization structure. This structure assigns worldwide responsibility for a product or product line to a single corporate office, and all foreign and domestic units associated with that product report to the corporate product office. The basic product unit, called a line of business (LOB), makes its own decisions and succeeds or fails accordingly."

"MNCs with relatively few product lines, such as firms in the extractive industry, will use the function approach. According to this structure, a corporate office for each

business function (e.g., production, marketing, and finance) has authority over those functions wherever they take place throughout the world.” [2, p. 453]

It is possible to classify the certain types of structures, which take place in the firms around the world. In addition to these classifications, it is possible to see some other subtypes or combinations of more than one type. It is not important what the structure type is, but its appropriateness to the firm’s characteristics. The other important thing is the possibility of structural changes in the firm. The structure of a firm must be designed as flexible as possible, against the dynamic environmental conditions around it and be ready for the quick changes. This can be ensured by the successful and experienced managers.

2.1.2.3. Span of Control

In the departmentalization level, the manager who designs the structure decides the pattern of the jobs but it is not enough to create an efficient structure. One thing is very important for the efficiency of the structure that is termed as *span of control*. It is defined as “number of individuals who report to a specific manager.” [2, p. 454]

The term, “span of control”, is very important for the organization designers, because whether the span of control is wide or narrow, the designer decides the type of the structure, size of the departments and the height and width of the organization chart. [4]

The main problem while deciding the volume of the span of control is “how many subordinates can be overseen by a manager efficiently?” This question has been researched by many theorists but they could not reach a certain conclusion as a result. On the other hand, because of their research, traditional theorists claim that a manager can oversee 5 or 6 subordinates efficiently. This means that the narrow span of control ensures efficient management in a firm. This value (5 or 6) is considered for the top management and can be increased through lower levels. [4]

Another theorist Graicunas who supports the narrow span of control theory, developed a formula which determine the number of interpersonal relationships between manager and subordinates, because he claims that the important thing for the efficient management is the number of interpersonal relationships between manager and his subordinates. According to Graicunas, the number of potential interpersonal relationships between manager and subordinates increases geometrically as the number of subordinates increases arithmetically. In this formula, R indicates the number of relationships and N indicates the number of subordinates.

$$(2.1) \quad R = \frac{N(2^n + N - 1)}{2}$$

This calculation presumes managers potentially contend with three types of interpersonal relationship:

- I. Direct single
- II. Direct group
- III. Cross

Direct single relationships occur between manager and each subordinate individually and directly. Direct group relationships occur between manager and possible combinations of subordinates. The cross relationships occur between subordinates each other.

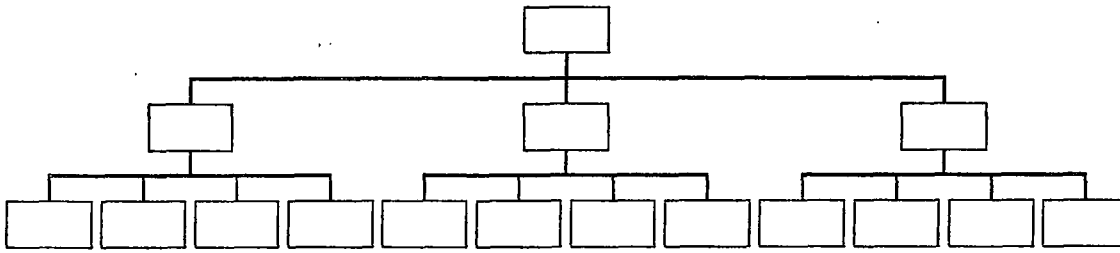


Figure 2.3.
Low organization chart
(Wide span of control)

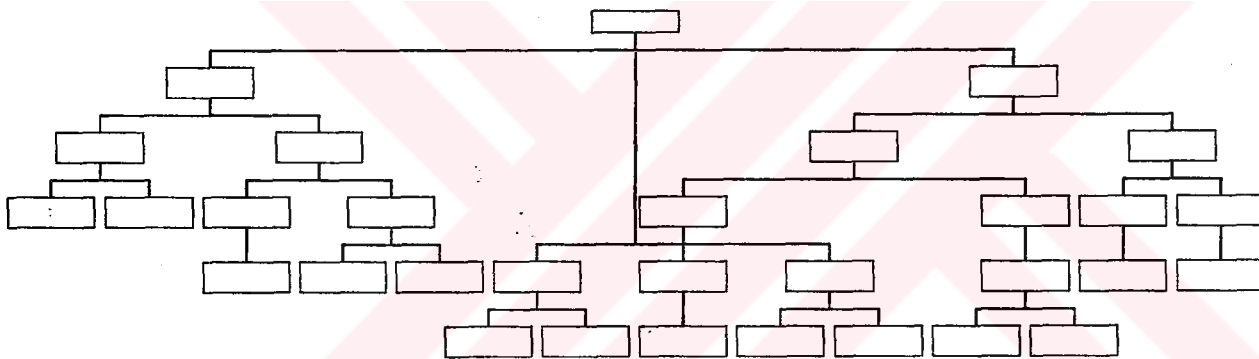


Figure 2.4
High organization chart
(Narrow span of control)

2.1.2.4. Delegation of Authority

Delegation of authority is one of the important aspects of organizational structure. In this step, while designing a structure, managers have to decide how much and what kind of authorities will be delegated along the downward positions in the firm structure.

Delegation of authority can be defined as “the process of distributing authority downward in the organization” and “authority refers to the right of individuals to

make decision without approval by higher management and the exact obedience from others". [2, p. 456]

According to this definition, we can note that, authority refers to decisions not to work. Because of this, observation of the organization chart is not sufficient to reach an idea of how much authority is delegated among the position.

The degree of delegated authority can be relatively high or low and this determines the authority characteristics of organizational structure. An organization may be centralized or decentralized depending on how much authority is delegated to lower level.

2.1.2.4.1. Reasons To Delegate Authority

There are some factors, which influence the degree of delegation of authority:

a) Environment, task and labor properties

According to Porter, Lawler and Hackman, it is generally observed that a firm structure is centralized if the task is simple and routine in a stable environment. On the contrary, if the environment is characterized by uncertainty, task is complex enough to require full skilled and experienced labor, the organization tends to be decentralized. [3, p. 98]

b) Size

According to Aston Group and Child and Mansfield (3, s.99) larger firms delegate more authority than small firms. In the larger firms, because of the necessity of making decisions about different and various problems, routine and daily decisions are delegated to subordinates.

c) Formalization and Standardization

The findings of the study imply that, the more the firm is formalized and standardized the more the firm is decentralized. It can be inferred from these findings that, there are two ways to control the individuals in the firm. First is done directly by individuals and the second is done by written rules, principles and procedures. [3, p.99]

When organizational control is not formal and standardized, it is possible to say that decisions will be made by individuals and the structure will be centralized. However, in large firms all the expected situations are considered and written as standard procedures. Sometimes it is possible to see that there are also some standard procedures, which applied for unexpected or urgent situations like fire, earthquake etc. In such cases, it is easy to delegate studies authority to lower positions. Aston Group, in England (1996) Khandwalla in Canada (1977) and Aldemir (1979) in Turkey, support the claim that the more the procedures are standardized, the greater the decentralization in the firm structure. In all studies, it is found that there is a negative correlation between centralization formalization and standardization.

d) Democratic Management

The managers, who believe in the benefits of democracy in management, delegate more authority than the others who do not.

There are some important questions, which must be answered by the manager who evaluates the benefits of both choices. These questions are;

1. How routine and straightforward are the decisions required by the job or the unit?

“The authority for routine decisions can be centralized.” It is very important to decide which jobs require strategic decisions and which do not. For example, in a fast-food chain, “the food is prepared at the local store, but the decision as how it will

be prepared is made at headquarters.” This question points out the importance of the distinction between deciding and doing. [2, p.459]

2. Are individuals competent to make the decision?

The ability of the individuals determines how much authority they can have. It differs from individual to individual.

3. Are individuals motivated to make the decision?

Motivation is an important factor in making decisions because decision making usually requires a high level of motivation. The reason for this is that decisions can be difficult and stressful, thus discouraging some individuals from accepting authority for that task.

4. Do the benefits of decentralization outweigh its costs?

Managers must analyze the benefits and the costs of the decentralization in the firms and according to this assessment, they have to reach a decision about authority through the decision channels.

Generally, the cost of decentralization may be very high, because it requires trained staff and the cost of these kinds of training programs are usually very high.

It is very hard to answer this question, because so many of the benefits and costs are assessed in subjective terms. Nevertheless, according to Blackburn, managers should at least attempt a cost- benefit analysis. [2, p.460]

2.1.2.4.2. Reasons For Decentralizing Authority

“Relatively high delegation of authority encourages the development of the professional managers.” [2, p.437]

“As decision-making authority is pushed downward (delegated) in the organization, managers have opportunities to make significant decisions and to gain skills that enable them to advance in the company.” Decentralization allows upper management to observe the decision-making performance of the manager. This comparison enables the managers to advance in the company management levels.” The advancement of managers on the basis of demonstrated performance can eliminate favoritism and personality conflicts in the promotion process.

Greater delegation of authority can lead to competitive climate within the organization. According to Gibson, a competitive environment in which managers compete on how well they achieve sales, cost reduction and employee development targets can be a positive factor in overall organizational performance. If the competitive environment is not well designed and managed by the upper management, this can produce destructive behavior within the company. According to Gibson, whether positive or destructive in effect, significant competition exists only when individuals have authority to do things that enable them to win.

Managers with relatively high authority are able to exercise more autonomy and thus satisfy their desire to participate in problem solving. This autonomy can lead to managerial creativity and ingenuity, which contributes to the adaptiveness and development of the organization and managers.

Decentralization prevents overlapping of the decision making process in the management levels. Some routine decisions can be made in lower levels without approval by higher management. These enables the upper management to make some important strategically decisions more easily.

2.1.2.4.3. Reasons For Centralizing Authority

Managers need training, high quality decision-making. The expense of formal training programs can more than offset the benefits.

Managers used in centralized decision-making may resist delegating authority to their subordinates. Consequently, they may lose performance because they believe that delegation of authority involves losing control.

When authority is delegated, administrative costs are incurred. New or altered accounting and performance systems must be developed to provide top management with information about the effects of their subordinates' decisions. The information may be provided by an effective reporting system.

The most pragmatic reason to centralize is that decentralization means duplication of functions. To be independent, each autonomous unit must be self-supporting. However, that involves a potentially high cost of duplication.

2.1.2.4.4. Relationship between Delegation of Authority and Formal Structure

As it is noted earlier, a firm structure is designed by describing each task. Departmentalization is based on the description of jobs and tasks. Departmentalization designates the level at which a task is to be referred to a certain extent.

Formal structure has two directions:

1. Vertical direction (scalar process)
2. Horizontal direction (functional process)

The Scalar process refers to hierarchical structure while the functional process refers to departmentalization. Described authorities and functions must be coordinated and well matched.

Coordination in the vertical dimension is ensured by;

- The chain of command
- The span of control
- The unity of command [3, p.36]

Description of interpersonal relationship, authorities and responsibilities as written rules (specifications) determines the “formalization level” in the firm structure.

As the organization structure grows vertically, some of the decisions will be delegated to the lower levels. At this point, the formalization level of the authority structure must be prepared as a written document because as the organization structure grows vertically, the span of control of the managers’ increases to ensure productive and efficient control. These job descriptions and written rules decrease the load of the senior managers.

2.1.2.5. Aspects of Structure

In many researches, the relationships between structure and performance, attitudes, satisfaction and other variables have been tested by researchers. In these studies understanding these relationships has been difficult because the complex nature of the organizational structure and the patterns of relationships and the difficulty of defining and measuring the concept of organizational structure.

Although there is no agreement on a certain set of dimensions to measure differences in structure, the three dimensions are often used in research and practice. These are;

- Formalization
- Centralization
- Complexity

2.1.2.5.1. Formalization

Formalization can be defined as “the extent to which organization relies on written rules and procedures to predetermine actions of employees” [2, p.461]

In a highly formalized organization structure, rules and procedures prescribe what each individual should be doing. Such organizations have written standard operating procedures, specified directives, and explicit policy. In terms of four design decisions, (division of labor, delegation of authority, departmentalization and span of control) formalization is the result of high specialization of labor, high delegation of authority, the use of functional departments and a wide span of control.

These kind of firms are defined as “mechanistic” by Burns and Stalker who studied the effects of formal and informal relations within firms. They suggest those firms that are dominated by the formal system: “they operate like a machine... in such a system the decision-making is characterized by the operation of rules and there is very little scope for individual judgment.” [3, p. 69]

According to Burns and Stalker, “the role of the informal structure in such a firm is small and, therefore, the management processes are not flexible or adaptive. Because of this, the organization will only succeed where there are stable market conditions, which do not require rapid changes and responses on the part of the firm.” [3, p. 69]

In contrast to this, a second form of organization structure is noted as associated with dynamic firms that respond to changes in market conditions. Burns and Stalker refer to these firms as “organic.”

In such firms, “the roles are less clearly defined and are subject to relatively frequent changes in response to changing conditions, there is continual interaction between the staff, particularly in terms of a great deal of group and team working, and there is a strong emphasis put on the importance of individual contributions, in terms of ideas

and judgment in the decision-making process... Individuals are encouraged to perform tasks in the light of their knowledge of the task and the firm as a whole." It is possible to say that in the light of findings in Burns and Stalker research, to make a decision between type of firms as mechanistic or organic will be contingent on the problems faced by the firm. [3, p. 70]

In a stable market, with a complicated but repetitive production process, the mechanistic approach may be efficient. It reduces disagreement, minimizes control cost, information costs and learning costs because it uses a system of established and unchanging practices. On the other hand, to respond to market change is an exceedingly difficult task for such a firm, not only because of the structure but because the personnel are suited to the mechanistic approach to management. [3]

In an unstable and rapidly changing environment (market conditions), it is better to apply organic firm structure. "With an unclear specification, considerable strain can be imposed on the people involved, and conflict in terms of job area and responsibilities can result. A great deal of time may be spent in resolving disagreements between staff, and control is difficult, so that there is a great need of coordination and expensive coordination meetings have to be held."

According to Gibson;

1. High specialization of labor, such as in the auto industry, facilitates the development of written work rules and procedures. The jobs are so specialized as to leave little to the discretion of the jobholder.
2. High delegation of authority creates the need to have checks on its use. Consequently, the organization will write guidelines for decision-making and will insist on reports that describe the use of authority.
3. Functional departments are made up of jobs that have great similarities, such as accountants, engineers, mechanists and the like. Because of the similarity of the

jobs and the rather straightforward nature of the department's activities, management can develop written documents to govern the department's activities.

4. Wide spans of control discourage one-to-one supervision because there are simply too many subordinates for managers to deal with on that basis. Consequently, managers will require written reports to inform them.

2.1.2.5.2. Centralization

Centralization is described as "the degree to which top management delegates authority to make decisions" by Gibson et al. More specifically, the concept refers to the delegation of authority among the jobs in the organization. There are two aspects of concept of centralization; [2, p. 461]

1. Decision making
2. Control

Although the concept can appear simple, under some circumstances it can be complex. This complexity derives from three sources.

"First, people at the same level can have different decision making authority. Second, not all decisions are of equal importance in organization. For example, a typical management practice is to delegate authority for making routine operating decisions (decentralization) but to retain authority for making strategic decisions (centralization). Third, individuals may not perceive that they really have authority, although their job descriptions include it. Thus, objectively they have authority, but subjectively they do not."

"The centralization of decision making does present certain advantages for some organizations. It means that diverse information from all parts of the business is filtered through some common control point. Because of this coordination is relatively easy, with senior management aware of the state of operation of each

department.” Therefore, because the senior managers are armed with this information they may be able to ensure that their assessment of strategic options is realistic and appropriate to the capabilities of the company. They may also be able not only to identify potential growth areas but also to ensure that decisions are made to facilitate development. [3, p. 71]

In the centralized structures, the decision making process can be very rapid, because the decision making process just like problem identification, searching alternatives and choice in strategic issues, all occur at the center of the management structure. “In the companies that are exposed to changes, this can be a tremendous advantage.” [3, p. 71]

On the other hand, if every decision is made by senior managers, there will be an overloading of top management decisions. There is a risk of slow response to the changes in the environment.

Decentralization of operational decisions has certain advantages. Decentralization provides a relatively flexible structure, because the decision-making process is more rapid in the decentralized structure. It is also likely to improve the motivation of staff. This motivation is influenced by the feeling of involvement and responsibility, which is given to subordinates by upper levels.

In large companies, especially ones that have diversified in different business areas and different geography's, some strategic decisions should be devolved, this is due to the difficulties of supervision in different locations by the top management.

One of the most important difficulties is the absence of a clear-cut decision structure. To find the answer to this question may cause delays and expense, so those decisions are perhaps needlessly referred through long management hierarchies. On the other hand, “if employees have too much authority in decision making, management loses control of procedures.” [3, p. 72]

Peters and Waterman have claimed that “what is required is a combination of central control plus flexibility and innovations, loose- tight properties.” [3, p. 72]

Centralization is one of the important aspects of organizational structure while designing it. The following indicate which must be considered clearly the effects of changes in the design decisions on centralization;

1. The higher the specialization of labor, the more centralized the organization. This relationship holds because highly specialized jobs do not require the discretion that authority provides.
2. The less authority delegated the greater the centralization. By definition, centralization involves retaining authority in the top management jobs rather than delegating it to lower levels in the organization.
3. The greater the use of functional departments, the greater the centralization. The use of functional departments requires that the activities of the several interrelated departments be coordinated. Consequently, authority to coordinate them will be retained in top management.
4. The wider the spans of control, the greater the centralization. Wide spans of control are associated with relatively specialized jobs, which have little need for authority.

2.1.2.5.3. Complexity

Complexity refers to the number of different job titles or occupational groupings, and the number of distinctly different units or departments in an organization. It means, that, the organizations, which have many different jobs and units, create more complicated managerial and organizational problems than those who have fewer jobs and units.

Complexity indicates differences among jobs and units. Because of this, it can be used synonymously with differentiation. As it is noted earlier, differentiation can occur in two directions:

1. Horizontal differentiation; refers to the number of the different units at the same level.
2. Vertical differentiation; refers to the number of levels in the organization.

Complexity and the four design decisions are generally related as follows: [2, p. 462]

1. The greater the specialization of labor, the greater the complexity. Specialization is the process of creating different jobs and thus more complexity. It contributes primarily to horizontal differentiation.
2. The greater the delegation of authority, the greater the complexity of the organization. Delegation of authority is typically associated with a lengthy chain of command that is with a relatively large number of managerial levels. Thus, delegation of authority contributes to vertical differentiation.
3. The greater the use of territorial, customer and product bases, the greater the complexity. These bases involve the creation of self-sustaining units that operate much like freestanding organizations. Consequently, there must be considerable delegation of authority, which creates considerable complexity.
4. Narrow spans of control are associated with complexity. A supervisor can manage more people in a simple organization than in a complex organization.

In the light of these definitions and descriptions, we can summarize the relationships of aspects of the organizational structure and the design decisions in Table 2.1.

Table 2.1.
Organization dimensions & decisions

Dimensions/Aspects	Decisions
High Formalization	1. High specialization 2. Functional Departments 3. Wide spans of control 4. Delegated authority
High Centralization	1. High specialization 2. Functional Departments 3. Wide spans of control 4. Centralized authority
High Complexity	1. High specialization 2. Territorial, customer, and product departments 3. Narrow spans of control 4. Delegated authority.

2.2. STRATEGY

2.2.1 Definitions

In the literature, definitions of strategy can vary because, according to Glueck, “business policy, long range planning, strategic planning are terms which may have, as many definitions as there are experts”. There is no consensus over “what strategy is” among the other writers and according to Gore et al “the multivariant nature of strategy definitions reflects the nature of strategy-making itself”. [3, p. 138]

It is because “in practice strategies are created and implemented by their propagators to provide pertinent ways forward” and “unique situations perceived by individual strategists produce unique strategies”. [3, p. 139]

After stressing the multivariant and vague nature of strategy definitions, it is better to see some definitions:

“A strategy is a set of rules for guiding decisions about organizational behavior ...strategy is concerned with the means to meet ends, that is it is concerned with achieving objectives.” (Langford and Male, 1991) [5, p.29]

“The theory of strategy is a field of study concerned with the management of the total organization with particular emphasis on its decisional behavior.” (Mintzberg, 1985) [3, p. 137]

“Strategy paradigm (Schendel & Hofer, 1979) is rooted in the concept of matching organizational resources with the corresponding environmental context.” (Andrews, 1983, Chandler, 1962) (Ginsberg & Venkatraman 1985) [8, p. 421]

“Strategy as an area of management is concerned with the general direction and long-term policy of a business as distinct from short-term tactics and day-to-day operations.” (Hansen & Tatum, 1989) [9, p. 67]

In addition to these individual definitions, Gore et al. suggests “an integrated model of strategy” (Figure 2.5) which “unifies writings in different branches of strategy.” [3, p. 139]

The first view in the model is “the organization is the fundamental strategy”. This view is supported by Henry Mintzberg and Igor Ansoff: “Individuals may also find it in their interests to share voluntarily common goals which are not intrinsically their own. The most obvious case of this is where the individuals benefit from the very existence of an organization... The one goal all the players may share is the need for a common playing field”.

In this basic proposition, the organization is seen as a mechanism which creates and distributes wealth to provide satisfaction to its members whose fundamental goal (strategy) is the achievement of the successful organization.

THE STRATEGY IS THE ORGANIZATION

↑
(As a creator and distributor of wealth and
personal satisfactions)
↓

THE BASIC MANAGEMENT STRATEGY IS THE
ACHIEVEMENT OF EFFECTIVE
ORGANIZATION /ENVIRONMENT ADAPTIONS

↑
via
↓

THE ORGANIZATION AS AN EFFECTIVE STRATEGIC
PLANNING SYSTEM

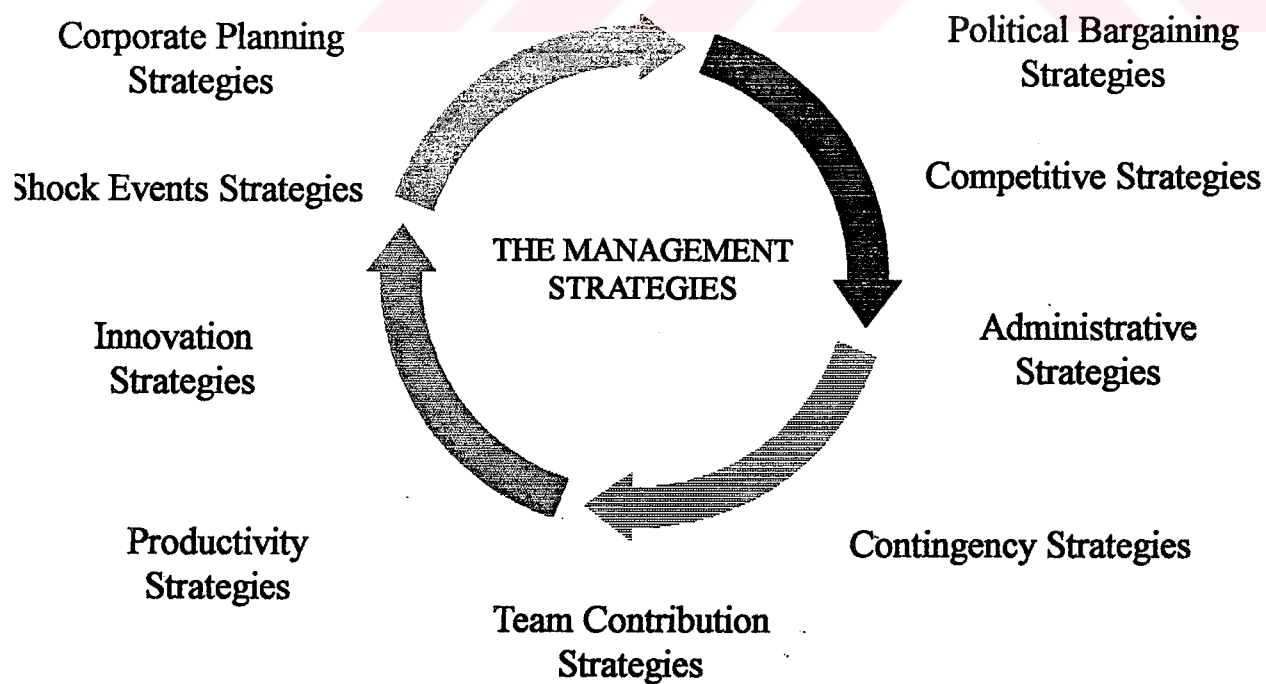


Figure 2.5.
Integrated model of strategy

Second view; strategy is “effective *adaptation* by the organization to its environment over time.” Hofer & Schendel and Harrison support this view: “Strategy is the basic characteristics of the match an organization achieves with its environments... In essence the term strategic management refers to the fit between the internal capabilities of a given organization and the attractive opportunities and significant threats in its external environment...If the organization is to continue to act as a strategy for the fulfillment of personal aspirations then it must continue to negotiate and create wealth from its changing environment.” [3, p. 141]

The third view sees the organization as a multi-decision-making system. This view of strategy is expressed by Andrews: “Corporate strategy is the pattern of decisions in a company that determines and reveals its objectives, purpose or goals, produces the principle policies and plans for achieving those goals.” It is also supported by Mintzberg- “Strategy is a pattern in a stream of decisions” - and Glueck “Strategic planning involves all those sets of plans, decisions and actions which lead to the development of an effective strategy”. [3, p. 141]

Finally, -the fourth- strategy is “particular sets of plans for particular types of problems.” The literature of management strategy can be categorized into attempts to help provide particular sets of plans to address particular types of problems. These are responses to environmental changes, which aim to promote better decisions by paying greater attention to critical strategic decision making problems as they arise or intensify.

The followings are some particular strategies which are responses to some particular problems: [3, p.142]

- Political bargaining Strategies.
- Corporate planning Strategies.
- Competitive Strategies.
- Administrative Strategies
- Contingency Strategies

- Team Contribution Strategies
- Productivity Strategies
- Innovation Strategies
- Shock Events Strategies

When taken as a whole, there is no global definition for the concept of strategy but in the light of definitions, which are explained above. Strategy can be defined as being about the theory and practice of: [3, p. 145]

- 1) "Organization in its role as a breeder and distributor of wealth and a fulfiller of personal aspirations."
- 2) "The achievement of effective adaptations of the organization to its environment-the placing or maintenance of organization in a wealth-producing position."
- 3) The achievement of the first two items through the making of effective plans, decisions and actions in a range of critical problem areas and/or from a range of different "planning strategy" perspectives the achievement of organization as a productive decision-making process."

Strategic planning in the definitions above, "includes the process required to develop a detailed road map of the direction and course an organization or company presently intends to follow". According to James B. Whittaker, the strategic planning involves: [9, p.69]

- Analyzing the environment of the firm.
- Evaluating the firm to determine its key skills and resources.
- Integrating the unique skills and resources with the specific opportunities.
- Establishing specific corporate objectives.
- Creating a number of corporate policies, plans, programs and tasks to successfully accomplish the objectives that were established (Whittaker, 1978) [9, p.69]

Inferred from this definition, such planning cannot remain static in "chaotic" or uncertain environments.

The nature of the strategic decision-making (planning) is summarized by Gore et al:

- It is eclectic, being based on and using knowledge from a range of disciplines.
- It is generic, applying to all types of organizations.
- It is both global (it regards an organization as a sub-system of a larger system, namely the external environment) and holistic (concerned with management of total systems or complete subsystems)
- It is synergistic (it creates additional wealth)
- Often it is unstructured, but it is purposeful in that it is concerned with the achievement of objectives and the resolution of problems. [3, p. 146]

Strategic management is a term, which combines strategic planning and management processes of an organization, which competes in a dynamic environment. According to Brandt, it consists of "... a set of managing practices that somehow link the day-to-day operations of an enterprise to the planning and decision making that must accompany longer time horizons. Below the surface, in its fullest meaning, the term strategic management suggests a state of affairs in which all the members of a dynamic organization move as one in response to plans made, opportunities and threats..." (Brandt, 1981) [9, p.69].

Whatever its objectives are, to be successful organizations must follow a strategic management which is developed through the decision channels in the organization.

2.2.2. The Strategic Management Process

According to Langford and Male, the strategic management literature differentiates between two kinds of strategic planning: [5]

1. Programmed Strategy (Planning Mode)
2. Contingency Strategy (Evaluating Mode)

In the programmed strategy, “strategy is worked out in advance, is explicit and managers develop a systematic and structured plan to meet objectives.” This is described as “planning mode” of strategy. [5, p.29]

The second assumption -contingency strategy- sees strategy as an “evolutionary mode”. “From this point of view strategy evolves over time, is not thought out and planned but is a stream of significant decisions.” (Langford & Male) [5, p.39]

Langford and Male point out that, “the evolutionary mode or logical incrementalism in Ansoff’s (1987) terms, is not concerned with the contribution that new proposals can make to growth and profitability. They also suggest that “a comprehensive, systematic approach to strategic planning (the planning mode) can challenge and reformulate the strategic logic of the firm’s future.” [5, p.29]

In the first generation planning, (the programmed strategy) because the strategic decisions are taken in advance, it becomes difficult to alter one implemented. In the second generation planning (the contingency strategy) on the other hand, there is a given set of strategic alternatives, which are predetermined by environmental conditions, and the strategist will choose the best alternative, which corresponds to the current situation. This requires cognition and insight besides experience, because the environmental changes must be monitored and evaluated by strategists. [5]

2.2.3. Levels of Strategy

As Ginsberg & Venkatraman noted, “most researchers agree with a three-level (corporate, business and functional) categorization of organizational strategy.” (Grant & King 1982; Hofer & Schendel, 1978) These are: [8, p.425]

- 1) Corporate Level (portfolio) Strategy
- 2) Division Level (business) Strategy
- 3) Functional Level (operational) Strategy

1. According to Ginsberg & Venkatraman “corporate level strategy is concerned with answering the question: In what set of business should this corporation be?” Accordingly, corporate level strategy has been viewed as “the pattern of entrepreneurial actions and intents underlying all of an organization’s strategic concerns - client groups and need, technologies of product and process, internal divisions, and subsidiaries, if they exist.” (Hansen & Tatum , 1989) [8, p.425] [9, p.71]

According to Hrebiniak & Joyce, in their global-local scale, corporate strategy is the most “global”, and they contend that corporate level decisions impact on the primary structure of the firm by suggesting appropriate or desirable levels of horizontal and vertical self-containment, for example, extent of divisionalization and vertical integration. [7, p.60]

2. At the business level strategy, strategists try to find an answer to the following questions:

- How to improve the firm’s competitive position?
- How to concentrate on future developments?
- How to promote business ventures that compliment ongoing activities?
- How to match specific product/service-market opportunities with internal skills, distinctive competencies, and financial resources? [8, p.71]

The answers to these questions determine the business level strategy of a firm. It is more “local” than the corporate level strategy. [7]

3. Functional level strategy requires more specific decisions on strategic variables within the domain of a particular functional area. “It focuses on maximization of resource productivity within each function - for example, marketing, research and development and operations.” [9, p.425]

Functional strategies consist of detailed and specific decisions about each major sub-activity of a business and support overall business strategy. [2]

The strategic management process consists of three interlocking parts: [5]

- Strategy formulation
- Strategy implementation
- Strategy feedback

2.2.4. Strategy Formulation

The strategic formulation process refers to focusing on the development of long-term objectives and the alignment of organizational capabilities and environmental contingencies to obtain them. [7]

Organizational objectives must be set and met with strategies to provide the best position for the organization in its competitive environment in the future. This requires SWOT analysis. This means, The strengths and weaknesses of the firm (the internal diagnosis) and the opportunities and threats in the environment which must be assessed. [5]

As Langford & Male noted, some factors affect the strategic formulating process:

- Environmental forces and pressures
- Resources available to the organization
- Internal power relationships within the firm. Organizational politics have an important impact on strategy formulation as established power groupings or coalitions may be threatened.
- Strategists' value systems. A person's values are affected by education, family backgrounds, attitudes and experiences
- Organizations may lack information about their environments or may not have the requisite skills to undertake strategy formulation and subsequently implementation

- The firm's history and its relationship to perceptions of the current situation. [5, p.36]

The strategy formulation process provides important outcomes or benefits that affect organizational performance. Hofer & Schendel note that studies by a number of researchers indicate that formal attention devoted to strategy indeed results in superior performance measured in terms of profits, sales and return on assets (ROA). According to Hrebiniak and Joyce benefits of strategic formulation process include but not limited to the followings: [7, p.30]

1. Identification of major opportunities and threats
2. Determination of key result areas to guide the setting of objectives
3. Improved resource allocation
4. Provision of a direction for change

Strategic formulation has several components that are presented in Figure 2.6. This model can be investigated in two parts: [7, p.36]

1. Identification of a set of strategic options
2. Assessment and choice from given options

Hrebiniak and Joyce argued that; first part (search process) of the formulation process would be influenced by

- consideration of limited rationality,
- the performance experience of firm,
- the location, quality and level of slack resources present
- the aspiration levels of key decision-makers. [7, p.35]

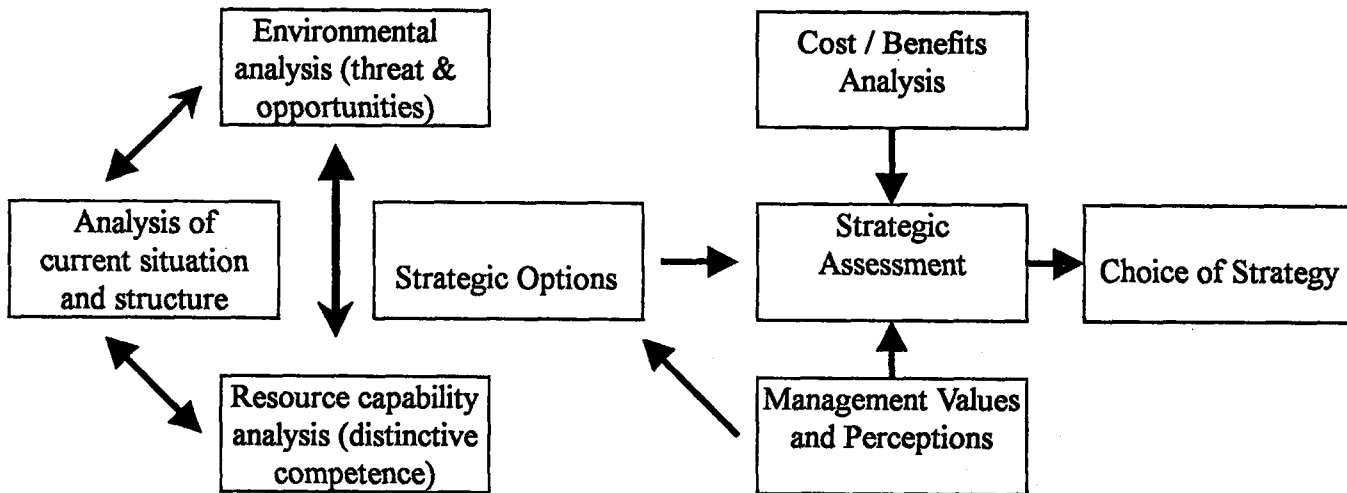


Figure 2.6.
Strategic formulation process (Hrebiniak & Joyce) [7]

The expected outcome of the search process is a set of potential options which are filtered and agreed by the decision makers.” This is achieved by considering what options are indeed feasible and then narrowing the range of feasible options through political compromise.” [7, p. 35]

The latter portion of the formulation process is related to the evaluation of the outcome of the search process and accordingly, selection from a set of acceptable options a smaller subset that will actually be pursued.

According to Hrebiniak and Joyce “this assessment will be still problematic because agreement resulting from the search process usually is not perfect, and variety of rational, nonrational (individual needs, values and perceptions) and organizational factors will impact the final decision process.” [7, p.35]

Strategic choice involves the selection amongst a number of options of the strategic alternatives that best meet the firm's objective. It has been suggested that the eventual decision should be based on the criteria of:

- suitability- the degree of fit between the proposed strategy and the situation identified in the SWOT analyses
- feasibility- the practicalities of the strategy to be adopted
- acceptability- once chosen, is the strategy acceptable. [3, p.38]

Another important aspect of the strategic assessment is competition. According to Hansen and Tatum, "an important criterion for strategy selection is the magnitude and duration of any competitive advantage which the various strategic options offer". They contend that there are two different kinds of competition: [9, p.71]

- Reciprocal competition, which most frequently occurs in mature industries like construction. In this instance, companies compete from very similar strategic positions, relying on operating differences to separate winners from losers.
- Strategic competition. This is the new form of competition and effectively pursued by the Japanese. In this approach choice of (1), market segments (2) product/service offerings (3) selective pricing and fundamentally different cost structure (4) contractual flexibility and (5) technology becomes the paramount consideration. [9, p.71]

The basis of competition is the three generic strategies identified by Porter (1980) [9, p.71]

- Cost leadership
- Differentiation
- Focus

Cost leadership where attention is directed to cost control to achieve the objectives of the organization. Thus, cost leadership requires;

- economies of scale
 - vigorous pursuit of cost reductions
 - tight overhead control
 - a close rein on both client and suppliers' accounts.
 - cost minimization of administrative functions like marketing, service and R&D
- [9, p.72]

Differentiation is the attempt of the firm to create the perception that it is different or unique from its competitors. The firm differentiates itself along several lines:

- image (the best, top performer etc.)
- responsiveness to the client
- quality of output
- technical as well as technological competency
- size

In the construction industry, schedule performance, safety record and flexibility of contract structure (design/construct, construction management or construction only) might be included. Differentiation does not allow the firm to ignore costs but they are not a primary target [9, p.72]

Focus; where the firm's attention is focused on a particular client group, segment of product line or geographic market. Focus strategy is aimed at in a niche in the current market.

2.2.5. Strategic Implementation and Feedback

Langford and Male claim that "the implementation process is the area most often neglected in the strategic management process." Strategic implementation and feedback occur through organization. [7, p.38]

A firm as an organization can be affected by its members, because it is a social entity in its own right but also forms part of the wider social system. People bring to the work setting their beliefs, values, prejudices and biases. Therefore, implementation by the organization requires coordination of activities through some form of structure. Thus three basic questions must be answered for the strategic implementation process: [7, p.38]

1. Who has the responsibility for carrying out the strategies?
2. What must be done in order for implementation to be successful?
3. How will the implementation process work?

Implementation process has certain effects on resource planning, organizational and operational structure, and evaluating the control system of the firm. By using these facilities, the behavior of individuals must be directed towards achieving strategic objectives. [7]

Feedback has a corrective effect on strategic planning processes by measuring actual performance of the outcomes because of implemented strategy. It provides corrected planning and decision-making processes for the next strategic problems, which are faced by the organization. [7]

2.2.6. Strategic Alternatives

Strategic management is a decision making process which is formed by several variables determined by contingencies like environmental and internal conditions, managerial cognition and skills, and objectives. Strategists are faced with some alternative directions and methods while implementing their strategies.

Johnson and Scholes note that there is a set of alternative directions and methods which is followed by strategists which is depicted in Figure 2.7 [6, p.170]

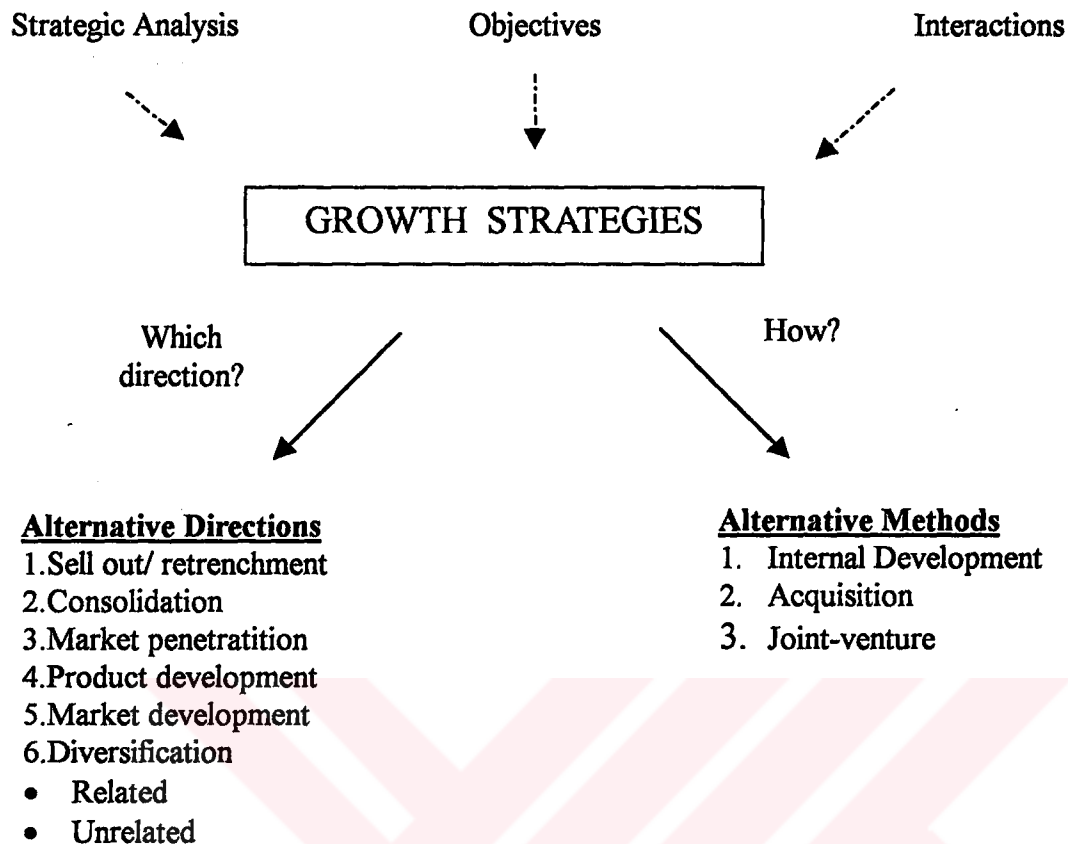


Figure 2.7.
Strategic alternatives [6]

There are number of directions that strategists can take: [7] [6]

- Sell out or retrench is usually ignored, because it implies failure whereas expansion strategies may be perceived as recipes for managerial success.
- Consolidation or stabilization does not necessarily mean to be static. Some changes will occur in the way the firm operates depending on changes in the environment whilst the product and the market remain the same.
- Market penetration means to challenge in new markets which are available for the firm but it requires high quality in products and effective marketing structure. It depends also on the current situation of the market if it is mature, narrow, or stable.

- Product development is another growth strategy, which is frequently seen. There are some situations to stimulate the firm to develop new products. Some of them are client's requirement change in local markets and development in R&D facilities.
- Market development means to change the current market whereas the product remains the same. To penetrate through new market segments, to explore new usage for the current product or to enter in a new geographic market, these may be seen as a market development.
- Diversification refers to changing the product and the market at the same time.

There are two forms of diversification:

1. Related - concentric diversification
2. Unrelated - conglomerate diversification

There are three alternative methods of achieving strategic development: [7] [6]

- Internal development is the primary method for the growth strategies for many organizations. A firm, which follows this method, invests its own capital to set up a new venture.
- Acquisition. This option is often used where speed is vital for the firm or where market growth is very slow. According to Langford and Male "the biggest problem with acquisition is the integration of the required with the acquiring firm or in the case of merger the successful integration of two organizational cultures to produce a new culture that represents something other than the dominance of one culture over another." [7, p. 41]
- Joint Venturing is a combination strategy of the first two options. This means, a firm can use its own capital or obtain external supports through contractual agreements.

Langford and Male claim that "there are two additional approaches associated with diversification which can be linked with internal or external strategic development": [7, p.41]

1. Integration
2. Internationalization

Integration can be forward or backward to increase value added. In the case of forward integration, the firm moves towards “the eventual end purchaser of goods or services (marketing, distribution or delivery services). In the case of backward integration, the firm moves towards raw material supply.

Under some circumstances, firms expand their geographic operating boundaries and move from domestic division to international business environment to compete in international areas.

2.2.7. An Alternative Direction for Growth: Diversification

Diversification is a commonly argued concept in the field of strategic management. Pennings and Douma note that “organizations have displayed a wide-range of behaviors intended to extend the boundaries of their competencies”, because there are many reasons to motivate them. Some of them are: [10, p.608]

- The transfer of a firm’s know-how
- Enhancement of its scale economies
- Growth in market power
- Spreading of risk

Diversification decisions are among the most important and complex decisions. Diversification extends a firm’s domain but entails risk and uncertainty. [10]

Pennings and Douma explain that; “organizations evolve as they accumulate experiences, incrementally adjusting their reactions to similar problems while absorbing feedback about past decisions. In as such as expansions represent a homogeneous class of diversification decisions, they are manifest in complex and

diverse ways.” This view shows that managerial experience is associated with diversification decisions. [10, p.609]

On the other hand, environmental contingencies like; market conditions, technology and synergistic economies have a strong effect on the diversification decisions. Hoskisson and Johnson argued that, “If a firm has a strong strategic advantage in its primary market, there may be no reason to seek additional diversification. However, if diversification becomes important for defensive reasons such as potential for synergy, a small amount of diversification may be inefficient” [11, p.626]

“Often firms considering diversification implement the M-form (multi-product form) structure in anticipation of diversified expansion.” (Russo, 1991). Because according to Williamson (1975) M-form structure is suitable for the organizations to continue to diversify due to information processing advantages. As it is explained earlier, there are two forms of diversification: related and unrelated. [4,p.626]

Related diversification occurs within the broad confines of the industry within which a firm operates. Unrelated diversification, on the contrary, refers to the firm, which operates in multi-industrial business areas.

Regardless of its relatedness, once a firm decides to diversify, it commonly implements a multi-product form (M-form) structure. Accordingly Pennings and Douma argued that, “once a firm becomes diversified and implements M-form structure it may expand diversification to an effective and efficient level: that level will be less for related and more for unrelated diversified firms.” [11, p.626] [6]

Hill, Hitt, and Hoskisson (1992), paralleling this line of thought, proposed that “related diversifiers emphasize a control system of cooperation while unrelated diversifiers emphasize a control system of competition among business units.” [4, p.626]

There are two different methods to measure diversification relatedness. The first method is developed by researchers who measure relatedness by using output-based criteria that rely on product, market, or technological similarities within a diversified firm's business portfolio. [14]

"Rumelt (1974) defined lines of business as related if they were tangibly related to the collective skills and strengths possessed originally by the firm." He observed three types of relatedness: [14, p.1027]

- relationships among markets served and distribution systems
- relationship based on similar production technologies
- the exploitation of science-based research

Rumelt's output-based classification system will be used to measure diversification in the current study. This method, therefore, will be explained in more detail in "Section 4".

The second method, which is also used by Jacquemin and Berry (1979) in their widely cited study, is the Standard Industrial Classification (SIC) system created by United States Department of Commerce. SIC codes are based on traditional industry groupings in the U.S economy. [14]

In theory, similarities among products, markets or technologies should lead to synergy, often through economies of scope. (Panzer & Willing 1981; Rumelt, 1982; Teece, 1980) [14]

Synergy can arise from tangible similarities among businesses that allow the combining of physical processes like using same marketing channels for several related products or using excessive production capacity to produce an additional product.[14]

According to Harrison, Hall and Nargundkar, “synergy may also arise from intangible resources commonalities that result in an ability to share management expertise or know-how across several related business segments.” (Porter, 1985) [14, p.1028]

Harrison et al. contended that that synergy might not be realized by the firms: [14]

- Unless it is implemented appropriately or
- If the contingencies such as market , product conditions are ignored

Another important note from Harrison et al. is that it must be distinguished between resource-based and traditional approaches. They contend that “from a resource based perspective, the management of firm resources is closely linked to both strategy formulation and implementation but the use of traditional measures encourages a focus on strategy formulation only.” Consequently, that synergy described above may not be realized due to lack of strategy implementation. [14, p.1028]

From a source-based view, diversified resources should be managed to achieve a sustainable competitive advantage by business executives. (Barney, 1991) there are three types of firm resources classified by Barrey:

1. physical
2. human
3. organizational

It is possible that a firm may have the best resources within its industry but the ability of using these resources is also very important. Mahoney and Pandian noted that “a firm may achieve rents not because it has better resources, but rather the firm’s distinctive competence involves making better use of its resources.” [14, p.1029]

According to Hoskisson, Hitt and Hill (1991), diversification should have a limit. They argued that “excessive diversification creates control loss and misallocation of corporate resources through managerial risk aversion. It may be that firms reach a

limit of diversification that when exceeded reduce performance because poor strategic control creates mismanagement.” [11, p.625-626]

The cause of poor strategic control can be explained by followings;

“As major organizational consequence of diversification is the increased importance of a corporation’s head office. When firms are specialized by industry, resource allocation occurs through the interactions between firms and the suppliers of resources. Within a diversified firm, corporate management allocates resources between divisions and, hence, between industries. Also the managers of operating divisions are responsible to a corporate head office that occupies an intermediate position between senior operating managers and shareholders.” [12, p.776]

“Williamson (1979, 1981) argued that the internalization of transactions and control within diversified companies generates efficiencies through two main sources.”

“First, the allocation of resources between business units by a corporate head office can avoid the costs specialized firms incur in using the markets for capital labor and other resources... second, the separation of strategic and operational control in diversified firms may permit them to overcome some of the agency problems that afflict large management-controlled corporations.” [12, p.776]

At the same time, there are some disadvantages of internal governance:

- Increasing diversity may be disproportionately rising costs of administration and increased inflexibility
 - Diversification by creating an additional level of corporate management to control and coordinate operating units, not only imposes increased administrative cost but may cause inefficiencies arising from lack of adaptability to environmental change, politicization of strategic decision-making and strain on top management as the corporate center seeks to manage an increasing number and diversity of business.
- [12, p.777]

On the other hand, the capabilities and skills of the managerial team constitute an important aspect of a successful diversification strategy, because Mahoney and Pandian contended that “a rich connection among the firm’s resources distinctive competencies and mental models or ‘dominant logic’ of the managerial team drives the diversification process.” [14, p.1030]

A firm’s dominant logic consists of a knowledge structure and a set of management process that are acquired through the experiences of managers during their careers. [14]

According to Parahalad and Bettis, top managers in diversified firms are usually concerned with the “core business” of the company, and they face similar problems. Consequently, they use the same administrative tools to solve the familiar problems they faced. Managers consider few organizational events as being unique or requiring detailed analyses. “Instead, they process events through preexisting knowledge systems known as schemata” (Norman, 1976) [7, p.1030] Schemata represents beliefs, theories and propositions that are developed over time through participation in certain firms and businesses.

Parahalad and Bettis reasoned that differences in the strategic characteristics of the businesses in a firm’s portfolio could influence the ability of top managers to manage the firm successfully. [14]

Grant posits that the effectiveness of diversification strategies “are determined, in part, by the ability of top management to apply similar knowledge and systems to the different businesses within the firm.” We can summarize the determinants of successful diversification as follows: [14, p.1031]

- Relatedness degree between businesses in the firm’s portfolio
- Appropriate resources allocation among the business units
- Limits of diversification
- Internalization degree

- Ability of top management

To identify the relationships between diversification and decentralization (delegation of authority) it will be better to examine the relationship between strategy and structure.

2.2.8. Relationship of Strategy and Structure

It is obvious that strategic planning and strategy formulations and implementations have some certain effects on an organizational structure. These effects must be recognized and evaluated by the strategists and the structure and the strategy must be formed according to possible results of these evaluations.

Hrebiniak and Joyce explained that there are two types of structure in an organization: [7, p.66]

- Primary structure
- Operating structure

They defined primary structure as “the major elements, components, or differentiated subunits of the entire organization.” [7, p.66]

“Structural decisions such as coordination and control mechanisms, lateral relations strategies, product or project management systems, and extent of decentralization versus centralization in decision making within major operating units focus on operating structure.” [7, p.66]

Hrebiniak and Joyce argued that “distinguishing primary from operating from structure suggests that all design variables are not equally relevant at various stages of the strategy implementation process. Some design decisions logically precede others, simplifying the array of variables that must be considered at any one time.”[7]

The primary structure of an organization is not identical for the operating structure of it. This means that we can not identify the operating structure of a firm from its organization chart, because it does not reflect coordination and control mechanism, lateral relation strategies, product or project management systems and the extent of decentralization versus centralization in decision making within major operating unites of the firm.

2.2.8.1. Hierarchical Relationship of Structure and Strategy

According to Amburgey and Dacin, “the bulk of the work on the strategy-structure relationship has presumed a hierarchical link, with strategy determining structure.” They also noted that there are new arguments for a reciprocal relationship between organizational strategy and structure in recent works, which raise new issues. [13, p.1427]

One of the most studied contingency relationships in organization theory is expressed by Chandler (1962):

“Structure follows strategy.” He showed that “historically organizational structure tended to follow the growth strategy of the firm.” According to Chandler, with growth, an organization faces various administrative or managerial problems that adversely affect economic performance. [7]

To prevent decreasing profitability, it is necessary to manage the new administrative problems and consequently to take certain precautions in the firms' structure. This is accomplished by altering organizational structure. Thus, a change in growth strategy results in a change in structure. Chandler suggests that there are three steps for growth and development over time: [7, p.69]

- an accumulation of resources by the organization
- an expansion into new market areas to take advantage of the resources

- the development of new structures to handle the increase product and market diversity and the administrative problems it creates

He also offers the various types and stages of growth strategy. The predominant structural modifications occur which is shown in Table 2.2.

Table 2.2.
Strategy-Structure Relationship

Stage or Type of Growth Strategy	Structural Response
1. Simple growth expansion	1. Central administrative office
2. Geographic expansion	2. Functional organization (to achieve coordination and control geographically dispersed units)
3. Vertical integration	3. Functional organization (with more sophisticated planning techniques and operating structures)
4. Product diversification	4. Multidivisional organization (separate divisions or businesses) with a central corporate control center (to achieve coordination across divisions)

The authors of much of the theory and research on the contingency relationship between strategy and structure have proposed the same hierarchical order that strategy precedes structure. (Williamson, 1975; Rumelt 1974; Mintzberg, 1990; Ansoff, 1991). [15, p.1428]

On the other hand, Hannan and Freeman who are the proponents of organizational ecology, often regarded as the antithesis of strategic management have made the same

claim. They classified organizational strategy as a core feature and administrative structure as a peripheral feature, which is premised on and adapted to core feature. They argued that “changes in the core features require adjustment in peripheral features but modifications of peripheral features need not require changes in core features. (Hannan & Freeman, 1984) [15, p.1428]

The second argument on relationship between strategy and structure is that “the causal relationship between strategy and structure is reciprocal, that structure also influences strategy.” (Hall and Saias, 1980; Mintzberg, 1979; Pitts, 1980; Rumelt, 1974) [15, p.1430]

Some authors argued that the link between structure and strategy is a function of managerial cognition and managerial skill sets. Changes in structure produce changes in cognition and skills. Accordingly, a change from a centralized structure to decentralized structure alters the cognitive process of managers and their repertoire of skills in a way that encourages diversification. (Hall & Saias, 1980; Parahalad & Bettis 1986) [15]

“A number of authors have argued that cognitive maps (Walsh, 1990) and related constructs such as world views, schemata, dominant logic, knowledge structure, et cetera, provide the foundation for managerial action (Huff, 1982; Parahalad & Bettis 1986) [15, p.1431]

Williamson (1975) argued that change in incentive system changes managerial cognition and he contended that the incentive system associated with the divisionalized structure reduces opportunism. Organization structure of a firm has certain effects on motivation and incentive systems. Mintzberg (1979) stated that middle-level managers would likely follow a strategy that is encouraged by the divisionalized structure. [15]

According to Amburgey and Dacin “a similar argument can be made for differences in the information flow and decision structures of centralized and decentralized

structures.” Rumelt (1974) argued that “the relief from tactical decision making that often results from decentralization in the divisionalized form could provide top managers with more time and objectivity, making it more likely that they would perceive opportunities that would be overlooked in a centralized structure.” [15, p. 1431]

Another link between structure and strategy concerns changes in managerial skills and competencies. In a divisionalized structure, for example, divisional managers learn to run semiautonomous or autonomous business units. Acting as the head of a division with profit and loss responsibilities requires more general skills than acting as the head of a functional unit. [15]

Amburgey and Dacin contended that “proponents of the structure-to- strategy link argue that the different skills, competencies and cognitive styles developed by top-level and divisional managers in centralized and decentralized structures have consequences for strategy - a change in structure should lead to a change in strategy.” [15, p. 1431]

As a result we can conclude that there is a reciprocal relationship between strategy and structure and the link from strategy to structure is based on efficiency and effectiveness, and the link from structure to strategy is based on the evaluation of managerial cognition and skills. Amburgey and Dacin argued that “these distinct casual processes produce differences in timing; there should be a longer time lag between strategy to structure changes.” This is an alternative perspective to the strategy-structure relationship and adds new arguments on this topic. [15, p.1432]

We can summarize this reciprocal causality between strategy and structure with a broader and stronger claim of Mintzberg (1990): “... we conclude that structure follows strategy as the left foot follows the right in walking. In effect, strategy and structure both support the organization. None takes precedence; each always precedes the other, and follows it, except when they move together, as the organization jumps to a new position.” [15, p. 1429]

In the literature, another dimension in strategy-strategy studies is the assumption of effects of some other variables on this relationship: Size and age. [15] [16]

Williamson argued that “increases in size can produce pressures to decentralize. As size increases, cumulative control losses decrease efficiency and performance; reorganization along divisional lines resolves the problems of control.” (Williamson, 1975) [15, p 1435]

Another claim from Grinyer and Yasai-Ardekani is that size is a moderate variable between diversification and delegation of authority (decentralization). They have suggested that “the correlation between strategy and each of structure and bureaucracy may well be via size. As companies diversify, they become larger and then adopt more bureaucratic, more complex organizational structures” [16, p 478-479]

Age refers to the maturity and experience level of the organization. Grimier and Yasai-Ardekani argued that “companies tend to become more diversified as they age, when they have larger parent companies, have more operating sites, and in the process have more advanced technologies.” [16, p. 479]

2.2.8.2. Relationship of Diversification and Delegation of Authority

As it is assumed above, changes in strategy require certain modifications on organizational structure. The aim of the strategists is to foresee appropriate forms of structure, which correspond to possible strategic implementations.

As it is noted earlier, diversification is one of the alternative directions for growth strategies, which is commonly implemented by strategists. Because of diversification, it is naturally expected that it will have some impacts on the current organizational structure.

Chandler and his followers have proposed contingency relationship between strategy and structure: [15, p.1429]

- Small, undiversified firms have simple centralized structures
- Large or vertically integrated firms have centralized, functionally divided structures
- Very large or diversified firms have decentralized divisionalized structures

Chandler argued that an expansion of a firm's activities produced new administrative needs; unless a new structure was developed to meet these new needs, the technological, financial and personnel economies of growth and size could not be exploited. (Chandler 1962) [15, p.1430]

In their recent study based on contingency relationship between strategy and structure, Amburgey and Dacin (1994) demonstrated that "independent of other effects, a diversification change in strategy greatly increases the probability of a decentralizing change in structure. Moreover, the change in structure is more likely to take place relatively quickly." [15, p. 1446]

In addition to these studies, in parallel, "Wringley (1970), Paran (1972), Thanheiser (1972), Dyas (1972), Channon (1973) and Rumelt (1974) showed that diversification and divisionalization were related in the United States and Western Europe, though only Rumelt (1974) applied statistical analysis." According to Grinyer and Yasai-Ardekani, "implicit in these studies was the assumption that creation of general office, and separation of central, top management from the details of operating decision taking by means of interposing divisional general managers must promote better coping with a sometime hostile environment. (Galbraith & Natkanson, 1978) [16, p.471]

This belief is consistent with Franko's (1974) finding that diversified European international companies moved to divisional structures only as their environments became less benign." [16, p.471]

In parallel, Grinyer et al. showed a linkage between diversification, divisionalization, and certain configurational variables (lateral and vertical spans). They contended that there is “a highly significant, positive correlation between an ordinal measure of structural complexity (structure) and these configurational variables as well as the Aston (Pugh, Hickson, Hinings & Turner, 1968) measures of bureaucracy such as formulation, functional specialization, qualifications of office holders, and decentralization of operational decision taking.” These results suggested that, bureaucracy as what Child (1972) has called a “strategy of control”, marks divisional structure. [16, p.472]

We can conclude that divisional structures are associated with diversification and consequently diversification may be expected to be associated with bureaucracy. Mintzberg argued that “divisionalization increases bureaucracy within divisions.” [12, p.777]

From the other perspective, it is assumed that structure also influences strategy, because differences in the information flow and decision structures of centralized and decentralized structures affect strategic formulations and choices.

Mintzberg (1983) argued that, for example, “the primary mechanism top managers in divisionalized firms use is examination of outputs of a standardized control system imposed on business” [15, p.1431]

Thus, top managers learn to evaluate a variety of different businesses using a common, standardized flow of information.

Amburgey and Dacin have concluded that “low centralization encourages diversification, and increased centralization presumably discourages diversification. Proponents of the structure-to-strategy link argue that the different skills, competencies, and cognitive styles developed by top-level and divisional managers in centralized and decentralized structures have consequences for strategy.” [15, p.1432]

As a result, we conclude that, diversification as a growth strategy affects or determines how much authority will be delegated to lower levels or among divisions of a divisionalized firm and causes decentralization via bureaucracy.

On the other hand, decentralized decision making mechanism in the organization allows managers to gain more cognitive and competitive skills and experiences and to have a great deal of perception for a successful SWOT analyses. Consequently, decentralization causes diversification.

2.2.9. Strategic Behavior

According to Langford and Joyce, as firms analyze and respond to the environment through strategic management process (formulation, implementation and feedback), it is possible to discern a series of strategic behaviors. A number of different typologies of organization and their behavior have been formulated by some researchers. The typologies and their reflections on construction industry are as follows: [5] (Following typologies are taken directly from Langford and Male (1991))

Mintzberg's Typology

Mintzberg has identified five ideal structure types.

- **Simple structure**

This has direct supervision as its prime coordinating mechanism. The key part of firm is at the strategic and as its name implies the structure is simple and is uncluttered by rules and regulations. There is little, if any, in the way of functional departments and there is little planning or training but there is considerable personal interaction. The organizational structure can be described as organic. This type of structure characterizes small organizations. A small sub-contracting firm, employing a few operatives would be an example in the construction industry. A one or two person

architectural, quantity surveying or engineering consultancy would also typify this structure.

- **Machine bureaucracy**

Standardization of work process is the prime coordinating mechanism of this structure. This type of structure characterizes large firms in stable environments, which use highly routine technology. There are many rules and regulations, functional departments and centralized decision making that follows the chain of command. There is a sharp distinction between line and staff and a well-developed administrative structure. A building component manufacturer would typically have this structure.

- **Professional bureaucracy**

This structure has as its prime coordinating mechanism the standardization of skills. The operating core or production level is the key part of the firm. This type of firm is staffed by specialists - professionals - with highly -developed knowledge and skills who have considerable work autonomy. Decision-making is, therefore, decentralized. The difference between this and the former type of bureaucracy is that the machine type has standardization developed within the organization. Standardization with the professional type occurs outside the organization through educational and professional institutions. A typical example in the construction industry would be a large engineering, quantity surveying or architectural practice especially one that has diversified internationally.

- **Ad hococracy**

The prime coordinating mechanism of this structure is mutual adjustment through interpersonal interaction. Mintzberg differentiates between the administrative and operative ad hococracy depending on the nature of the skills brought to the task. However, there may be interaction between two forms. Ad hocracies are team based and temporary in nature. They are staffed typically by professionals with a high level

of expertise, and flexibility for adaptation and problem-solving with minimal supervision. Decision-making is decentralized with democratic decision-making common. Influence in an adhocracy is through professional expertise rather than positional authority. The adhocracy is typified by the project structure in construction.

- **Divisional structure**

This structure has its prime coordinating mechanism the standardization of outputs. The divisional structure creates a series of relatively autonomous smaller firms with functional structures. Groupings tend to be by markets served and strategic business unit concept (SBU) is applied to each of the relatively autonomous operating units. The divisional structure is common in the construction industry especially among the larger contractors.

Miles and Snow's typology

The typology developed by Miles and Snow reflects the relationship between managers' perceptions of the environment, the internal power and political structure of a firm and relationship between strategy, structure and process. This typology has been used by Usdiken (1987) in a study of the Turkish construction industry. Miles and Snow have identified four types:

- **Defenders**

They are concerned with stability and efficiency. They will concentrate on a narrow range of products or services and opt for a niche strategy through market penetration. There is an emphasis on hierarchical control, with centralized decision-making, limited environmental scanning but intensive planning for cost efficiency. Defenders opt for a focus strategy on the basis of cost leadership.

- **Prospectors**

They opt for flexibility and the exploitation of new market and product opportunities offered by environment. There is a stress therefore on environmental scanning. The structure is flexible, stressing informality, with new routines and procedures and it will be decentralized. The prospector in its search for new opportunities is, however, likely to be effective but inefficient.

- **Analysers**

The analyser attempts to combine aspects of the defender and the prospector, seeking to minimize risk while attempting to maximize the opportunity for profit. Analysers move into new markets or products only after market viability is proven. This type of firm is likely to adopt a strategy of imitation. The structure of analyser will reflect the dual nature of its operations. Parts of organization will have high levels of standardization with the presence of routines and procedures. Other parts of organization will be adaptive and have the characteristics of the prospectors.

- **Reactors**

This type of firm is caught between the other three types and represents an organization with inconsistent and unstable strategic behavior patterns, which attempts, unsuccessfully, to pursue one of the other three strategies. Reactors respond, therefore, inappropriately to the environment, have a poor performance and do not pursue particular strategy in an aggressive manner.

Ansoff's typology

The final typology to be discussed is that of Ansoff (1987). Ansoff identifies three modes of managed strategic behavior:

- **Proactive systematic mode**

Where change in environment is incremental, the firm will use extrapolation of historical trends and performance. This typifies long-range planning as opposed to a strategic management approach. Where environmental change is discontinuous and therefore more difficult to predict, there would be a periodic and systematic assessment of the firm's future direction. Thus, the firm would be adopting a strategic management approach. Strategic thinking and decision-making is explicit.

- **Proactive ad hoc mode**

In this mode, there is no centrally guided approach to strategic development; the emphasis is on incrementalism. Environmental scanning and search will take place but not in a planned way. Where change in the environment is incremental "bottom up" procedures would be used from the lower levels of the firm. Initiatives would be periodic, and incremental, that is, based very much on current directions with the emphasis on research and development and/or marketing. Where changes in the environment is basically incremental but periods of discontinuity occur the firm will use a trial and error approach in relation to perceived changes in the environment and focus on what are seen as important issues. Strategic thinking and decision-making is implicit.

- **Reactive mode**

This mode has similarities with the reactor type of firm identified by Miles and Snow. The emphasis is on minimization of strategic changes. Any changes in performance that have been identified by management will be considered to be operative as opposed to strategic. Where changes in the environment are incremental the firm will rely on trial and error approaches triggered by indicators of poor performance. Where change in the environment is discontinuous, the firm will search for a panic solution when confronted with a crisis.

SECTION 3

RELATIONSHIP OF DIVERSIFICATION AND DELEGATION OF AUTHORITY IN THE CONSTRUCTION SECTOR

3.1. CONSTRUCTION IN CONTEXT

According to most researchers (Hillebrandt and Cannon 1990, Shutt 1988) one of the enduring characteristics of the construction industry is its variability of demand.

This variability of demand in many ways shapes the nature of industry and the firms, which operate in it. The first point to note is that, according to Langford and Male, the construction industry, unlike most others, is not a single industry but is made up of several different market areas. [5]

The construction industry can be divided into four areas, which may be sub-divided into separate market segments:

- Building
- Civil Engineering
- Repair and Maintenance
- Materials Manufacture

The common view is that, "This fragmentation enables competition for work to be sharp and the ease of entry into the industry and most sectors of the market stimulates this competition" [5, p.4]

Despite, in theory, there is a uniform knowledge of the market and what competitors are doing in the market, in practice, the industry may be seen as a series of overlapping markets which define a particular service, and these markets may be divided by geography, size, type and complexity of work. [5]

According to Langford and Male, there is no competition between a small maintenance company and a large construction company. Although large construction companies may be capable of competing in all sectors of the industry, they opt to serve in one or two ways. As a conclusion, the construction industry may be broken down into several markets and this provides opportunities for constructors to focus activity or remain flexible to enable them to compete in all sectors. [5]

3.2. THE CONSTRUCTION ENVIRONMENT

For a firm, the environment in which it operates, is one of the most important dominator for its strategic behavior. Langford and Male have suggested five major forces determining industry structure which is illustrated in Figure 3.1 [5; p.33]

- *Buyers and suppliers* have similar effects in that if they are powerful, profit margins can be pushed down. Buyers as a group is particularly important in construction professions, can dictate the rules of competition for contracts. In the case of suppliers, construction is a highly interconnected industry through materials inputs from other industries.” [5]
- *Threat of entry* concerned with the likelihood of new competitors entering the industry and this is dependent on the presence or absence of entry barriers. According to Langford and Male, “it is often claimed that entry and exit barriers to the construction industry are low.” [5, p.34]
- *Threat of substitute products and services* is a difficult concept to apply in the construction industry. According to Porter (1980), the substitute must undertake the same function but the product in construction in a mix of services or manufacturing depending on the point of view adopted.

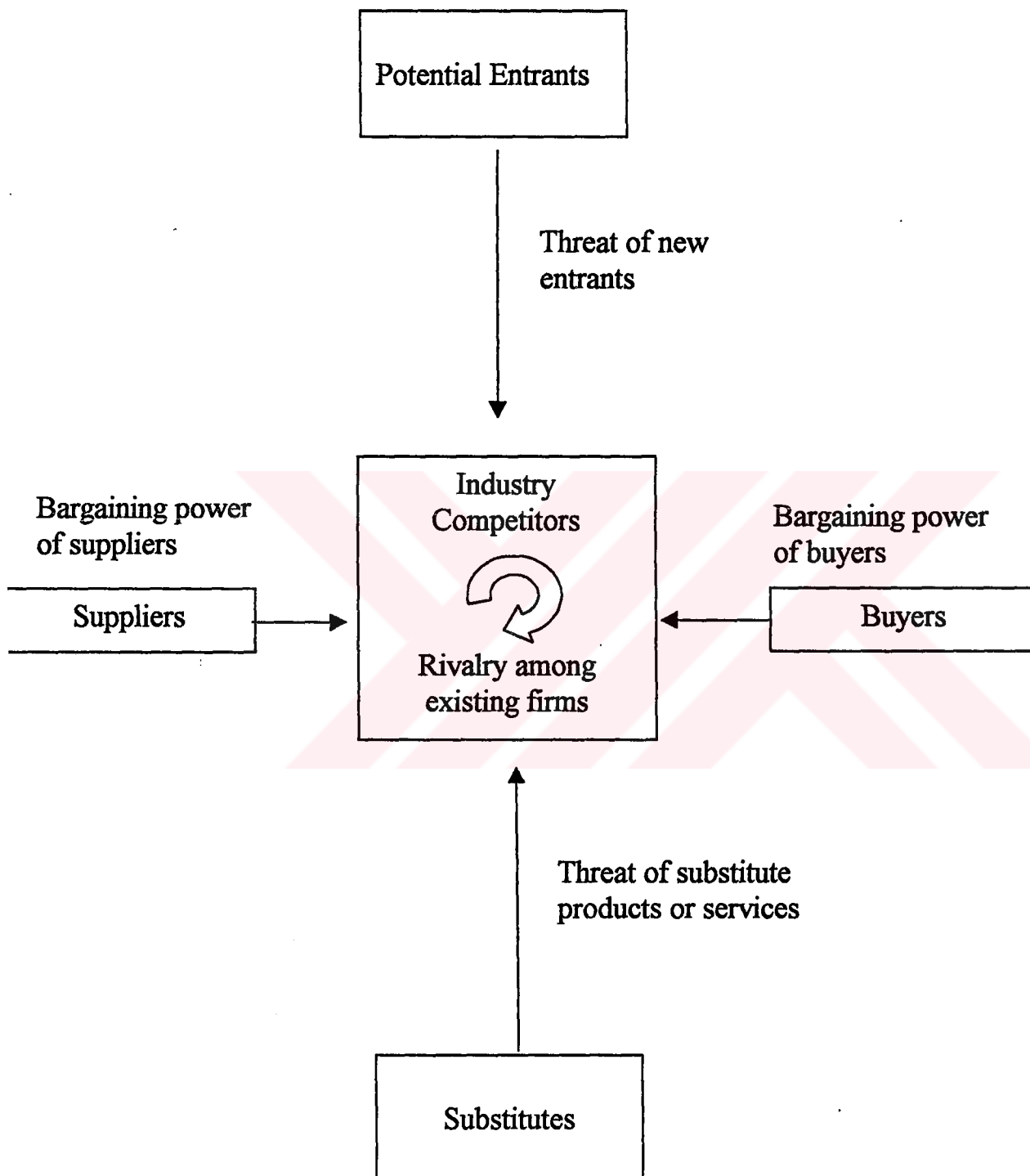


Figure 3.1.
Porter's industry structure framework

In construction, according to Langford and Male, “there are similarities between design and built and certain types of project management, for example, executive project management.” [5, p.35]

- “The extent of *competitive* rivalry is determined by the degree of mutual dependency or interaction between competitors and the likelihood of this setting off retaliatory strategic moves between them.” [5, p.35]

In addition to factors defined above, there are also some other environmental factors which affects the firm which operates within it: [5, p.35]

- Socio-economic trends.
- Technological changes.
- Demographic shifts.
- Government influences other than through the economy.
- Industry associations and interest groups.
- Communities.

There is an important discussion about the classification of the construction industry. There are two views about this discussion. Some of the researchers described the construction industry as “manufacturing”. (Newcombe 1976)

Given the nature and diversity of activities carried out in the construction industry, there is a natural tendency for the industry to be viewed as manufacturing in nature rather than a service industry. Newcombe (1976) submitted that “it is a misnomer to classify the construction industry as a service industry along with banking, insurance and retailing.” [5, p.18]

In contrast, some of the researchers define the construction industry as a service industry. Fleming (1980) submitted that “ the site based nature of construction where each site is necessarily a temporary place of work, and the individuality of most projects ensures that the conditions necessary for the existence of many technical

scale economies, mainly centralization of production of standard products using specialized production techniques do not apply". [5, p.19]

Hillebrandt (1974) who considers construction to be a service industry supported this view. She noted that "construction may be regarded as one industry whose total product is durable buildings and works. It is the contracting part of the industry which undertakes to organize, move and assemble various materials and component parts so that they form a composite whole of a building or other work. The product which the contracting industry provides is basically the service of moving earth and material, of assembling and managing the whole business." [5, p.19]

In light of the above observations, the construction industry can be divided into several sub markets some of which provide a service, other which reveal characteristics of manufacturing organization.

3.3. THE CONSTRUCTION ORGANIZATION

The construction industry is amorphous and diverse; as such, it is difficult to define. In this complex (environment) classification of the firm, it is hard to define the construction industry. A problem arises from the same discussion concerned above: Is the construction industry manufacturing or service industry? Accordingly, is a firm in the construction industry a manufacturer or service provider?

There is no one correct answer to these questions because some of the firms in the construction industry produce a "product" (building, bridge etc.) some of them provide services (project, consultant etc.) and some of them do both. (design and built) Despite this multivariant profile, there is a general separation among the construction companies: [5]

- The contractors
- The professions

The workload undertaken by the contractors typically includes

- general construction and demolition works
- construction and repair of buildings
- civil engineering works
- installation of fixtures and fittings

In their analysis for the U.K. construction industry, Langford and Male suggested that “the construction industry comprises firms who differ in terms size and scope, and even within firms there is often a great diversity of activity with different parts of the firm tackling specific sub-markets.” [5, p.17]

Langford and Male have claimed that, the separation of the industry into two distinct areas has been one industrial response to the relatively high levels of risk, which are perceived to exist within the market. This risk is being passed down the line to those who actually do the construct work. The separation of the management and the doing is reflected in the technical processes involved in each aspect of construction work and, therefore, industrial classification may be based upon differences in the technical process undertaken. Large firms providing management contracting and project management services may be regarded as part of the service industry, whereas those providing resources which are used to construct the building may be better described as manufacturing style organization.” [5, p.20]

A further complication exists when large organizations are highly diverse in their activities. For example, a construction company may move into property investment as a means of vertical integration. It may also move backward into component manufacturing in order to stabilize the environment in which it works. However, it must be considered that the expansions to the new products or markets require a new set of resources and management skills.

It is commonly observed that contractors are seeking to spread risks by strategies of related diversification into connected markets.

According to Langford and Male, “in common with contractors the professions associated with the construction industry may be seen as generalists.” This generalist attitude is a kind of precaution for the uncertainty of the environment. As it is noted earlier, uncertainty is one of the most important characteristics of the construction industry because of certain factors like changing demands, low entry barriers, competition etc. [5, p.22]

Under this circumstance, the professions of the construction industry have to develop and retain flexibility in the face of changing markets and economic hazards. For example, architects must not specialize in one particular building type or method of construction.

On the other hand, this concept of the professions as generally relates to the product rather than to the service being provided to the clients. Nowadays in a construction company besides the traditional professionals like architects and engineers providing specialist design facilities, and quantity surveyors providing expertise in financial management of projects, new positions are taking place; contract claim specialists, quality control experts, building envelope engineers (engineers who are commissioned to design cladding systems for the outsides of buildings) and other professionals currently on the margins of the construction process. These new positions arise from new needs, technologies and naturally new demands of environments. [5]

While the new entrances are being observed, there are some changes in the roles of traditional professions. Langford and Male have claimed that, for example, important changes have taken place to the strategic role of the architect in the construction process during 1980's. Perception of the architect's role may have resulted in changes, which have emphasized the design aspect and diminished the project management role. Certainly, new procurement methods such as management contracting and construction management, project management and even design and build methods have imposed changes on the way architects organize their practice. [5, p.23]

In developing technology and environmental conditions, clients are more often seeking “one stop shopping” for the purchase of their construction services. Because of this, architects have combined, formally or informally, to provide multi-discipline practices, which encompass the full range of expertise.

All of the above summarizes and explains the reasons of appearance of new types of companies and therefore, new positions and responsibilities in these companies. These developments in the sector may be seen as the cause of diversification of the firms.

3.4. DIVERSIFICATION AND DELEGATION OF AUTHORITY IN THE CONSTRUCTION INDUSTRY

The task of strategic planner in a construction organization is to synchronize the organization’s activities with those of the construction environment and this process should be consistent with the resources of the firm.

Strategic decisions are frequently complex in the construction firms, because there is a great uncertainty in the construction industry. According to Langford and Male, three kinds of environmental changes face managers in the construction industry: [5, p.88]

- Operational change; where events are largely familiar and routine and can be handled by the use of experience
- Strategic change; where events are largely unfamiliar and uncertain and will require the synthesis of information about different events that have not been directly experienced. Thus, insight and creativity will be required.
- Competitive change; falls somewhere between the two and requires a combination of insight and experience.

Langford and Male stated that “ managers’ responses to environmental changes are affected by the extent to which they have previously considered or familiarized themselves with problems presented by the business environment.” It is obvious that

diversification is related with the managerial cognition and skills of the managers. Another result inferred from this statement is that the more the relatedness between employed businesses the greater the success of diversification. [5, p.102]

The construction industry consists of several distinct construction markets; some of which provide a service, others, which reveal characteristics of a manufacturing organization. Larger companies tend to operate in all sectors. Their strategy is to diversify activities from relatively specialized bases, for example, a base centered on a product or service offered, or, more frequently defined by the geographical area in which the company operates.

Another reason of diversification is financial economies. According to Langford and Male, “the financial liquidity of contracting via methods of payment based on regular interim valuations, offers contractors a number of options that are denied firms operating in continuous process manufacturing. These options comprise in broad terms, financial management, such as running down construction operations to reduce overheads debt reduction, investing cash in the money markets and diversification, which provide contractors with an opportunity to restructure their operations and hence spread risk.” [5, p.92]

Diversification in the construction can occur by the firm taking on work which represents changes in project size, type or location. Additionally, it can include the firm moving into materials manufacture or property development, that is, “vertical integration” or taking on board overseas work which represents geographic diversification or internationalization. [5]

As Hrebiniak and Joyce noted, “traditionally, economists have viewed vertical integration as a form of organizational growth. Vertical growth indicates expansion or extension of the firm by integrating preceding or successive productive process, with or without more productive capacity for existing products.” [7 , p. 79]

It is important to note that, according to same authors, “the organization under vertical integration is not diversifying into different products or businesses; it remains in the same business but it assimilates preceding and successive production process to support its core technology.” [5, p. 79]

Diversification in construction is not a strategy to reduce industry capacity, as in manufacturing, as equipment and labor can be hired temporarily. Empirical evidence indicates that market diversification appears to be the dominant reason for takeover activity in contracting. (Langford and Male, 1991) [5, p.93]

As it is seen above, diversification is an inevitable consequence of growth in the construction industry especially for the larger firms. Diversification, especially geographic dispersion of divisions of firms, is consistent with multi-divisional (M-form) and decentralized structure. (Bettis, 1981; Bettis and Halls, 1982; Hill, Hitt and Hoskisson, 1992)[11] [13] [16]

Uncertainty of the environment, rapidly changing demands of buyers (clients) and suppliers and highly diversified product types and service areas, namely, the main characteristics of the construction industry force the firms to diversify. This complex pattern of the construction industry requires adopting a more “generalist” attitude to the sector and one of the important results of this attitude is diversification.

SECTION 4

THE STUDY

4.1. GENERAL APPROACH

The aim of this study is to investigate the relationship between strategy and organizational structure in general. In particular, the main objective of the study is to find out the relationship between diversification and decentralization, especially in the Turkish construction sector. In this context, the study will examine the strategic and structural profile of the Turkish contractors.

In section 2, the fundamentals of the study were conceptualized by the help of definitions. In this section, it is pointed out that there are several kinds of organizational structures (e.g., functional, divisional, matrix, etc.) currently in use by the firms, which have to compete in very complex environments.

One of the most important aspects of the organizational structure is *centralization*, which indicates the direction of the delegated authority in the organization. This direction is very important to identify the organization as “centralized” or “decentralized.”

What is the importance of the direction of the delegated authority for an organizational structure?

Both directions have some advantages and disadvantages, under some circumstances. This assumption refers to the contingency approach of the organization theory. According to contingency theory, “there is no one best way to organize, and that any

one way of organizing is not equally effective under all conditions.”(Galbraith, 1973) [8, p.421]

Because of this statement, we can conclude that fitting an organization into its environment is dependent on certain variables, which are described as *contingencies*. It is obvious that, to be successful, the needs of the organization should be satisfied by the environment. To ensure satisfaction organizations should generate and implement long-term plans. This process is called as “strategic management”.

The aim of strategic management is commonly growth, making a profit and performing better within the current environment although there are some opposite alternatives such as retrenchment and consolidation.

Growth strategies have some alternative directions. One of them is *diversification*, which is frequently used as an alternative among growth strategies. As one consequence of the diversification either in market or product or as both, modification in the current structure is essential because new patterns exist between the firm and its environment. New technologies and methods are required for further growth.

Often firms considering diversification implement the M-form structure in anticipation of diversified expansion. Furthermore, it is suggested by the literature that bureaucracy, as what Child has called a “strategy of control”, marks divisional structure (Grinyer and Yasai-Ardekani, 1981). This means, the complexity in the divisional structure may be well managed by bureaucracy, which refers to formalization, functional specialization, and qualifications of officeholders and decentralization of operational decision making. Thus we can conclude that diversification is associated with decentralization via bureaucracy. [11] [16]

On the other hand, delegated authority in decentralized structures allows the lower level managers to cope with the operational problems. This not only prevents the decision overload at top management but also enables the managers to gain experience and skills. Authority with responsibility in lower levels encourages the managers to make decision and stimulate them to be successful.

Top managers have more time to make strategic decisions in decentralized organizational structure. They will be able to perceive opportunities outside their areas of expertise. Consequently, decentralization will lead to greater diversification.

Consequently, the general approach can be outlined as above. In the present study, it is aimed to explore the reciprocal relationship between diversification and decentralization but only one direction will be considered: Diversification causes decentralization.

4.2. HYPOTHESIS

“There is a significant difference between centralization levels of *single business (S)*, *related-constrained (R)*, and *unrelated portfolio (U)* diversification categories.”

One of the enduring characteristics of the construction industry is its variability of demand, which shapes the nature of the industry, and the firms, which operate in it. Unlike most others, the construction industry is made up of several different market areas and this variability of markets stimulates the construction companies to compete in these markets. Especially larger firms are likely to operate in all construction markets. They frequently use diversification as an instrument to spread risks and to provide an easy access to market areas.

Threats, which are available in the construction industry such as rapidly changing demands, low entry barriers, complexity of the market relations, etc. lead firms to diversify.

Another important factor behind diversification is fragmentation of work in the construction industry. This fragmentation enables competition and it is seen as an opportunity to diversify.

As it is noted earlier sections, when a firm decides to diversify, it tends to implement the M-form structure. There are some reasons to make this strategic decision. One of these reasons is to prevent decision overload at top management. Thus, divisional or lower level managers learn to run semi-autonomous or autonomous business units as a “mini-general managers.”(Mintzberg, 1983) The authority with responsibility in the divisions provides quick responses to sudden environmental changes. [11] [15]

Another reason for adapting the divisional structure arises from the temporary and dispersed nature of product (e.g. building) of the construction work. Project-based nature of the construction product increases the uncertainty in the environment and requires specific solutions for specific problems.

In the light of given reasons, it is obvious that, as firms diversify they will modify their structures to adapt to conditions predicted by the environment. This view is supported by Williamson (1975). He argued that “as firms increase in diversity or size, a centralized -for example, a functional- structure produces cumulative control loss and decision overload at the top of an organization.” [15, p.1430]

On the other hand, similarly, Grinyer and Yasai-Ardekani (1980) showed that there is a highly significant, negative correlation between diversification and centralization of operating decision making. Moreover, they demonstrated that there is a strong relationship between diversification and bureaucracy which, dictates the decentralization of operational decision making.

We can conclude that, the centralized organization structure, namely, the centralized decision- making process does not satisfy the needs of diversified firms. In other words, diversification leads to decentralization, especially in divisionalized structures.

Rumelt's classification system, which is used to identify diversification levels of firms, uses a two-tier breakdown to assign a firm to 1 of 10 diversification categories. Assignment to a main diversification category is made on the basis of the percentage of a firm's total sales and this shows the "specialization ratio" of the firms. As the specialization ratio of a firm decreases it becomes more diversified.

This study aims to classify firms into three diversification. These are;

1. Single business (S)
2. Related-constrained (R)
3. Unrelated portfolio (U)

In this sample, *single business* represents the non-diversifiers, *unrelated portfolio* represents the maximum diversified category. *Related-constrained* category falls somewhere between these two categories.

Consequently, as suggested by the literature, a difference between these three diversification categories in terms of centralization levels is expected.

4.3. RESEARCH DESIGN

To investigate the validity of the hypothesis, a questionnaire (Appendix-A), which consists of three parts, was prepared and applied to 22 private sector construction companies, which operate as "general contractors." The questionnaire was applied directly to the top management of the companies.

The sample was chosen randomly among the sources listed below:

- Directory of Turkish Contractors, 1996 (Turkish Contractors Association Union of Contractors, Turkey)
- 1995 Türkiye İnşaat Klavuzu (Turkish Construction Guide, 1995)

4.3.1. Measurement of Variables

In this study, two main variables were used;

- Diversification
- Centralization

4.3.1.1. The Measurement of Diversification

There are two approaches to the measurement of firm diversification.

1. Continuous SIC-based product count measures.
2. Categorical measures as popularized by Rumelt.

This study uses Rumelt's classification system.

4.3.1.1.i. The Standard Industrial Classification System (SIC)

The SIC is a commonly used product-count measure of diversification by researchers. The SIC system is a numerical system developed by federal government for classifying all types of economic activity within the U.S. economy.

The system is based on establishment classifications, in which each of a firm's establishments (e.g., plants) is classified according to its primary activity.

4.3.1.1.ii. Rumelt's Classification System

In her study, where the two classification systems are compared successfully, Montgomery noted that "Rumelt's category measure of diversification was developed in response to the weaknesses inherent in the SIC system." Rumelt argued that "each company had a unique history and had developed its own pattern of relationships among technologies, products, and markets. What was a discrete

business for one firm was often an integral and nonseparable part of a larger business in another firm.” (Rumelt, 1972) [17, p.300]

Rumelt’s classification system was a two-tier breakdown to assign a firm to 1 of 10 diversification categories (Figure 4.1). Assignment to a main diversification category is made on the basis of percentage of a firm’s total sales that can be attributed to a “discrete business area”

Specialization Ratio

95-100%	Single Business Firms that are basically committed to discrete business area	- single business - single vertical
70-94%	Dominant business Firms that have diversified to some extent but still obtain the preponderance of their revenues from a discrete business area	- dominant vertical - dominant constrained - dominant linked - dominant unrelated
Less than 70%	Related business Firms that are diversified and in which more than 70% of the diversification has been accomplished by relating new activities to old	- related constrained - related linked
	Unrelated business Firms that have diversified and in which less than 70% of the diversification is related to the firm’s original skills or strengths	- multibusiness - unrelated portfolio

Figure 4.1.
Rumelt’s Classification System [17]

Further differentiation is based on the pattern of linkages among business lines as it is shown in Figure 4.2. To Rumelt a discrete business is firm specific, and can be defined by marketing, distribution, R&D, technology, production or any combination of these factors.

The “pattern of linkages” distinction is also highly individualized and incorporates the firm’s history when describing linkages among product lines. In Figure 4.2, (a) represents a constrained diversifier wherein new endeavors are consistently related to one core organizational strength or characteristic. In contrast, the linked diversifier (b) has grown through relating new ventures to old, but not necessarily to one core strength or characteristic.

Montgomery argued that Rumelt’s categorization system should provide a valid assessment of the firm’s diversification from the corporate point of view. In conclusion of her study she advised that, “researches investigating the relationship between diversification and firm-specific managerial variables (e.g., divisional autonomy and control and planning system) should use categorical assessments of diversification measures”. [10.p.306]

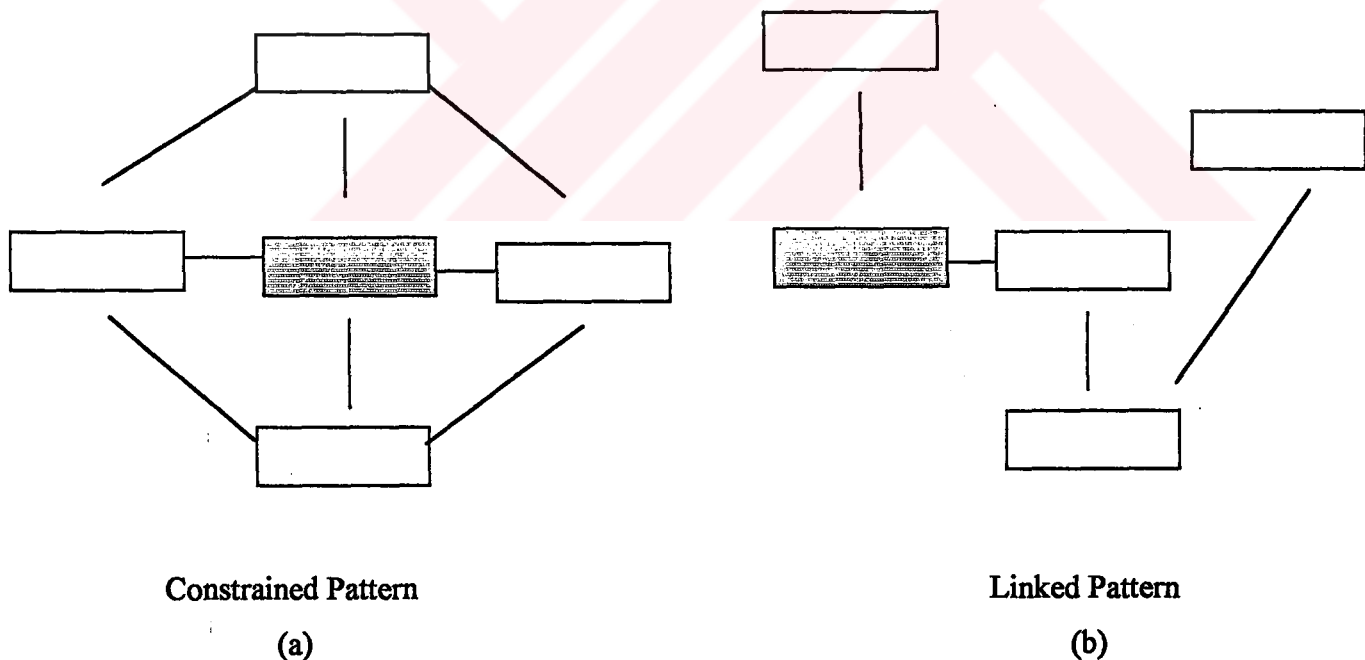


Figure 4.2.
Patterns of linkages [17]

4.3.1.2. Measurement of Delegation of Authority

Delegation of authority will be measured by a set of questions, which are borrowed from Sözen. [18] The present study will use the same questionnaire items.

First, the decision levels of the firm were defined in three levels and corresponding numbers were assigned to these levels;

1. Lower level (worker, foremen, site engineer, supervisor) : 1 point
2. Middle level (service engineers, engineers at headquarters) : 2 points
3. Upper level (head quarter, general manager and chairman) : 3 points

Second, the respondents were asked to indicate the level, where executive action could be authorized.

Finally, the total score was calculated by adding the scores for each subject of decision. The lowest possible score was 30 and the highest possible score was 90.

4.3.2. Time Horizon and Unit of Analysis

The present study contains the results of the cross-sectional research. The companies are investigated in a time interval between April 1977 and April 1998.

The unit of analysis is the contractor firm.

4.3.3. Collecting Data

The data is collected by a questionnaire, which consists of three parts. Except for several situations, the questionnaires were personally applied. In some cases, after a briefing, the questionnaire was left to the company and taken back after it was completed. All of the questionnaires were completed by the top management of the companies.

4.3.4. The Questionnaire

The questionnaire, which tends to measure two kinds of variables, consists of three parts. The variables are;

- Dependent variable (centralization)
- Independent variable (diversification)

4.3.4.i. Section 1

The purpose of this section is to obtain general information about the companies and to measure their size and height.

Introduction to section 1 contains open-ended questions to obtain general information about the company;

- Title and status of company
- Types of construction works undertaken (residential, industrial buildings etc.)
- Establishment date of company
- Parent company
- Subsidiaries or branches of company

Section 1 aims to measure the size of the company by the following questions;

- What is the current number of employees? (Administrative / workers, foremen)
- How many projects have you undertaken during the past three years? (domestic / abroad)
- What is your current business volume?
- What was your turnover for 1997?

There are also some questions to obtain information about the organizational structure of the company. The height of the firm was measured by the number of hierarchical levels (from top management to the workers) in the organization.

4.3.4.ii. Section 2

Section 2 is designed according to Rumelt's Classification System. The purpose of this section is to classify firms in terms of their diversification levels.

The second section is the reproduction of Rumelt's category measurement of the diversification system. The first question is related to possible business areas. A list of possible business areas was prepared and the respondents were asked to indicate the business areas, in which their company operates.

The second question aims to determine the percentage of firm's total sales in each discrete business area. This is an indicator of the "specialization ratio" of the firms. As noted earlier, Rumelt's classification system uses the specialization ratio of the firms.

The third question aims to determine the "core business" of the firms under study. Identification of the core business is significant for the linkage between the business areas.

In the last question, the patterns of linkages between business lines of the firm were investigated. Rumelt describes two kinds of patterns of linkages among the business lines shown in Figure 4.2.

The two kinds of patterns are as follows:

- Constrained pattern
- Linked pattern

Diversification category of the firm was identified by the responses to this question.

4.3.4.iii. Section 3

The aim of section three is to measure the centralization levels of the firms. The following method was used to complete the results;

First, the decision levels of the firm were defined in three levels and corresponding numbers were assigned to these levels;

4. Lower level (worker, foremen, site engineer, supervisor) : 1 point
5. Middle level (service engineers, engineers at headquarters) : 2 points
6. Upper level (head quarter, general manager and chairman) : 3 points

Second, the respondents were asked to indicate at which level executive action could be authorized for 30 decision areas.

Finally, the total score was calculated by adding the scores for each subject of decision. (Minimum possible score = 30; maximum possible score = 90)

4.3.5. Evaluation of Data

Three kinds of diversification categories were derived from collected data as a result of the evaluation of the questionnaires. 22 firms were assigned to the diversification categories as shown in Table 4.1.

Table 4.1.
Summary Table

Diversification category	Number of firms
Single Business (S)	8
Related-constrained (R)	8
Unrelated portfolio (U)	6
TOTAL	22

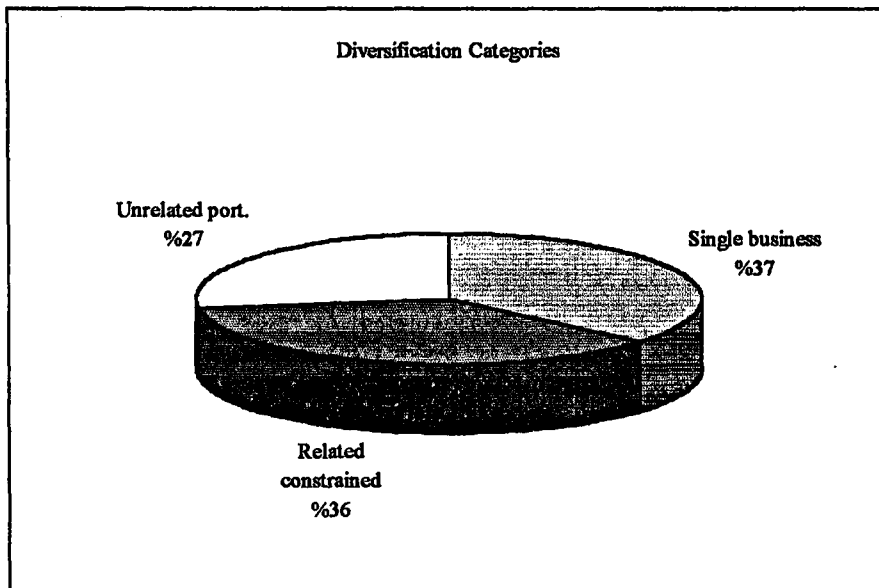


Chart 4.1.
Diversification Categories

To test the statistical significance of the results, the Kruskal-Wallis test was found appropriate. The test statistics involve a comparison of the variation of the ranks of the sample groups. The Kruskal-Wallis test statistic is

$$(4.1.) \quad K = \frac{12}{n(n+1)} \left(\sum (R_j^2 / n_j) - 3(n+1) \right)$$

where

n_j = the number of observation in the j th sample

$n = n_1 + n_2 + n_3 + \dots + n_c$

= total number of observation in the c samples.

R_j = The sum of the ranks for the j th sample.

Testing the null hypothesis at the 5% of significance, ($\alpha=0.05$) the critical value of K is 5.991 where there are three sample groups.



SECTION 5

FINDINGS

5.1. DESCRIPTIVE ANALYSES

In this section, general properties and characteristics of the sample will be summarized and demonstrated by the help of tables and pie charts.

5.1.1. General Information about the Firms

5.1.1.i. Number of Total Employees

Table 5.1.

The distribution of the firms in terms of number of total employees

Number of total employees	Number of firms
<50	3
50-500	15
>500	4
TOTAL	22

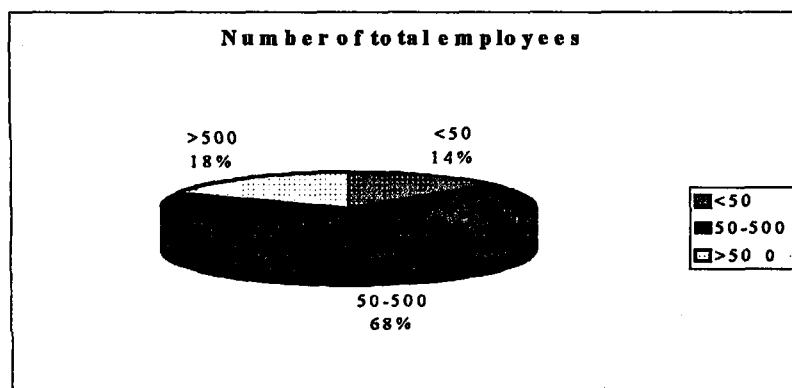


Chart 5.1.

Distribution of the firms in terms of number of total employees.

5.1.1.ii. The Age of the Firms

Table 5.2.
The age distribution of the firms

<i>Firm's Age</i>	<i>Number of Firms</i>
1- 10	4
11 -20	9
Above 20	9
TOTAL	22

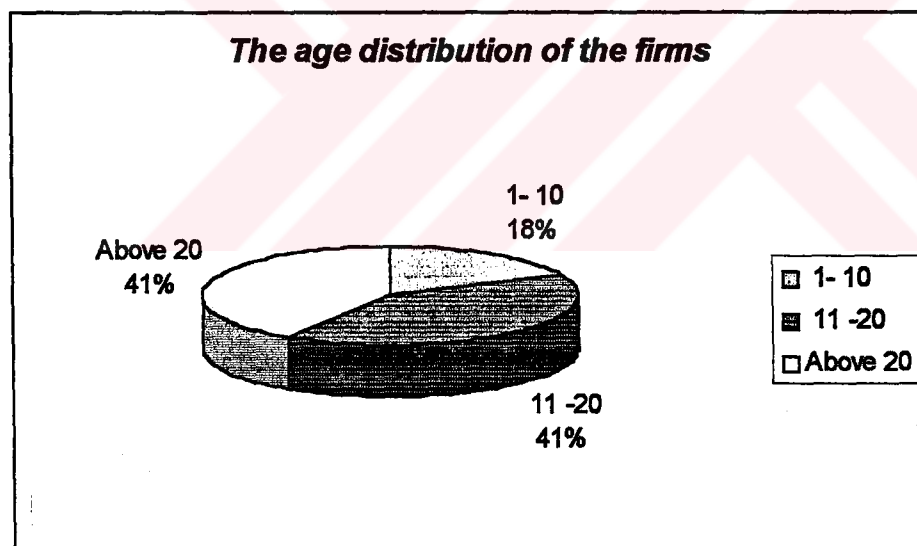


Chart 5.2.
The Age Distribution of the firms

5.1.1.iii. Number Of Business Areas

Table 5.3.
Distribution of the firms in terms of business areas

<i>Number of business areas</i>	<i>Number of firms</i>
1 -3	1
3 - 5	11
Above 5	10
<i>TOTAL</i>	<i>22</i>

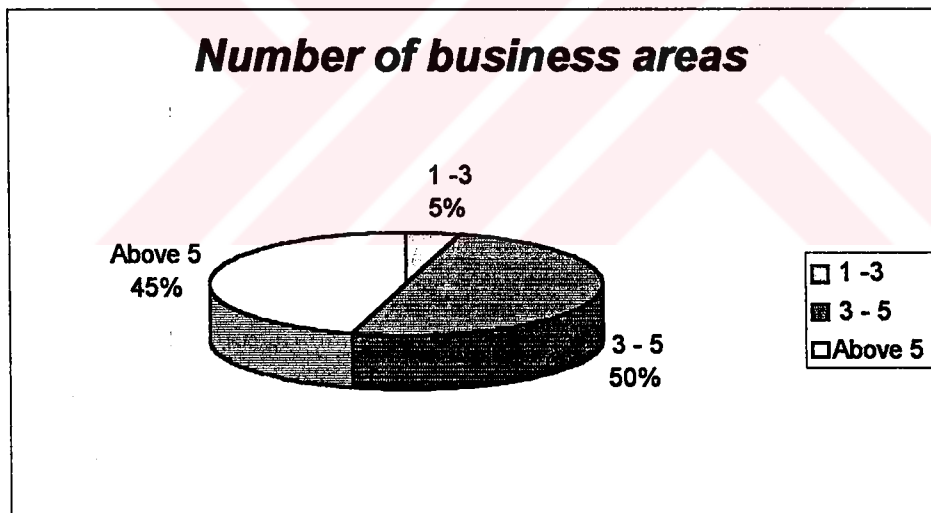


Chart 5.3.
Distribution of the firms in terms of business areas

5.1.1.iv. Number of Projects

Table 5.4.

Distribution of the firms in terms of the number of projects undertaken in the last 3 years.

<i>Number of projects</i>	<i>Number of firms</i>
<10	16
10 - 50	4
>50	2
TOTAL	22

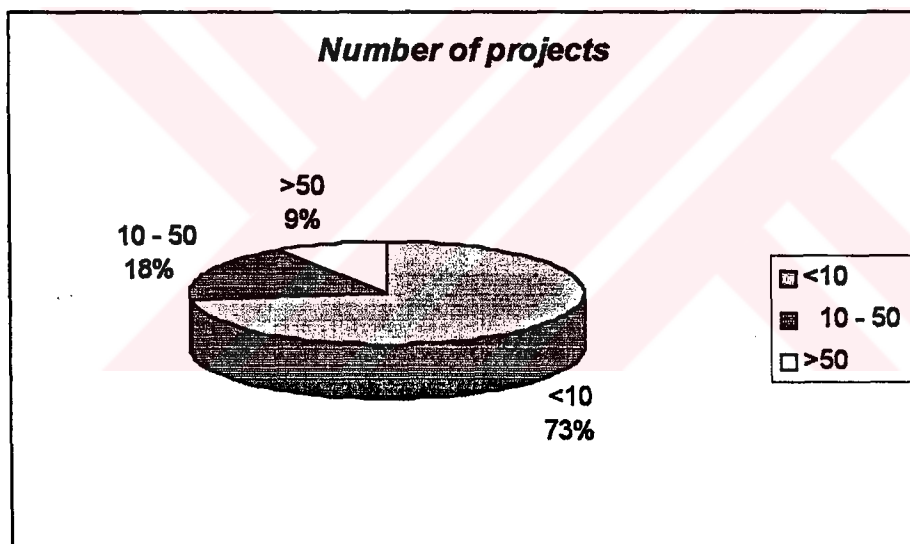


Chart 5.4.

Distribution of the firms in terms of the number of projects undertaken in the last 3 years.

5.1.1.v. Turnovers

Table 5.5.

Distribution of the firms in terms of their turnover (1997)

Turnover (1997)	Number of firms
< 2 million \$	3
2 - 4 million \$	4
> 4 million \$	15
TOTAL	22

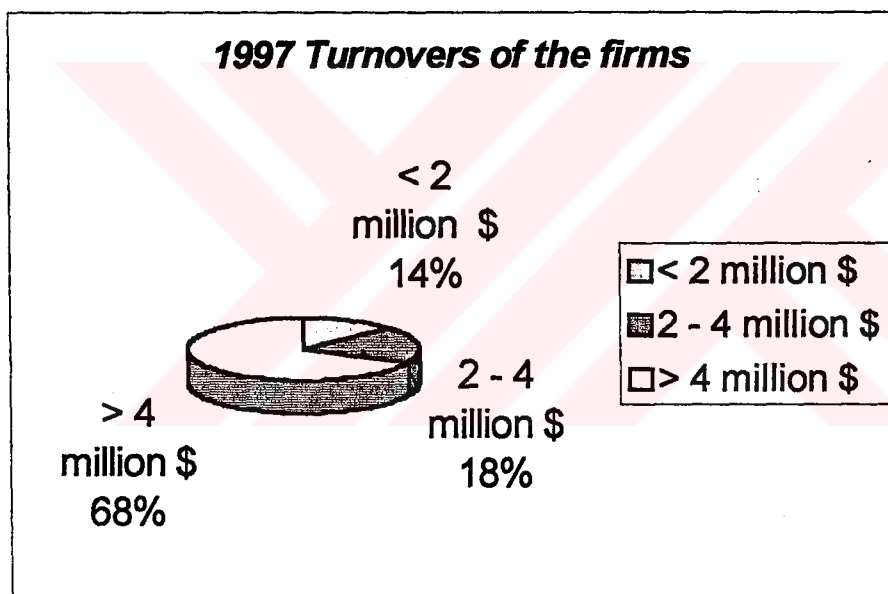


Chart 5.5.

Distribution of the firms in terms of their turnover (1997)

5.1.1.vi. Patterns of Linkages

Table 5.6.

Distribution of the firms in terms of their patterns of linkages

Patterns of linkage	Number of firms
Constrained	16
Linked	6
TOTAL	22

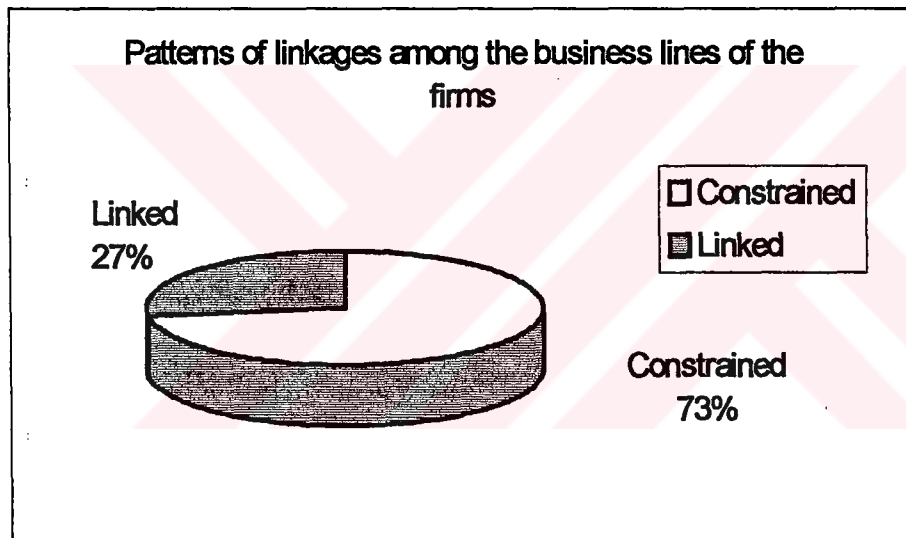


Chart 5.6.

Distribution of the firms in terms of their patterns of linkages

5.1.1.vii. Hierarchical Levels

Table 5.7.
Distribution of the firms in terms of number of hierarchical levels

<i>Number of levels</i>	<i>Number of firms</i>
1 – 3	2
3 – 5	10
5 – 8	10
TOTAL	22

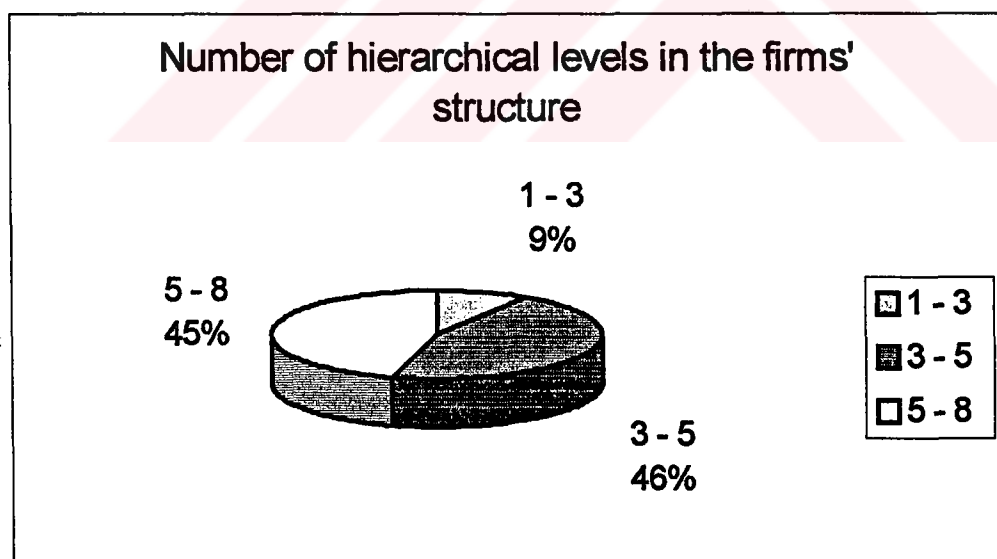


Chart 5.7.
Distribution of the firms in terms of number of hierarchical levels

5.1.1.viii. Centralization Level*

Table 5.8.

Distribution of the firms in terms of their centralization scores.

<i>Centralization score</i>	<i>Number of firms</i>
65 – 75	4
75 – 85	11
85 – 90	7
TOTAL	22

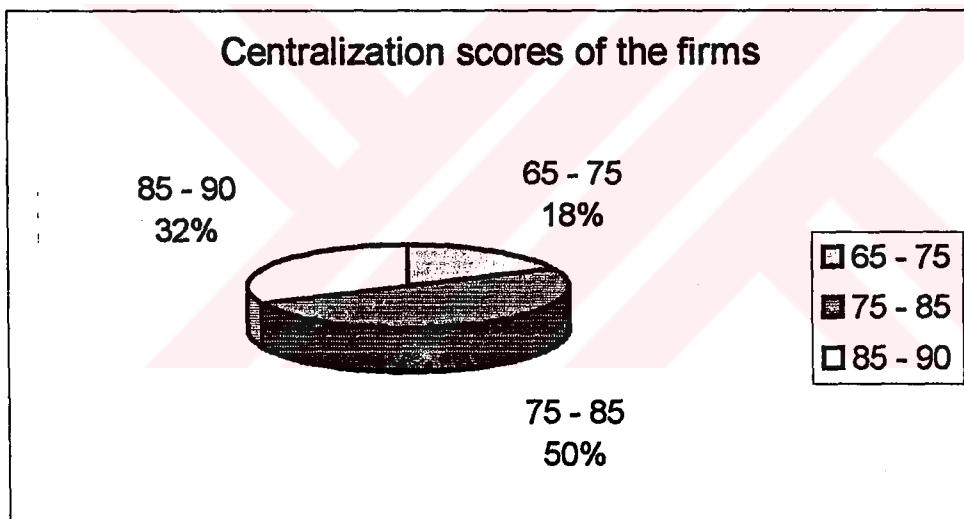


Chart 5.8.

Distribution of the firms in terms of their centralization scores.

It can be inferred from given data that the centralization levels of the sample firms are high. In other words, there is a small amount of delegated authority among the departments of the firms.

(*) Min. possible score = 30; max. possible score = 90

5.2. STATISTICAL ANALYSES

In this section, the collected data will be analyzed statistically. The significance of the results will be tested by the Kruskal-Wallis test. The results will be supported by tables and corresponding charts. All the relationships are tested at the 0.05 level of significance.

5.2.1. Relationship between Diversification and Size

Three indicators of “size” were used to analyze the relationship between size and diversification:

1. Number of total employees
2. Number of projects
3. Turnover

5.2.1.i. Relationship between Diversification and Number of Employees

The relationship between diversification and number of employees of the firms is tested by the Kruskal-Wallis test.

$K = 7.089$ is greater than the critical value of 5.991 at the 0.05 level of significance. (The critical value of K is 5.991 at the 0.05 level of significance.)

Therefore, we can conclude that there are significant differences among three kinds of diversification categories (S, R, and U) in terms of number of employees. The “S” type firm has the smallest average, while the “U” type firm has the highest average.

Table 5.9.
Average number of total employees

Type	Average number of total employees
S	121
R	309
U	1536

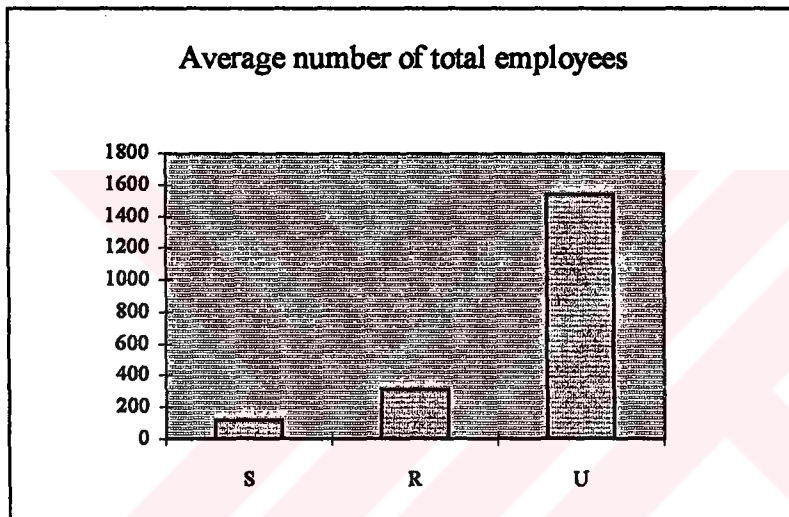


Chart 5.9.
Average number of total employees of S,R and U types

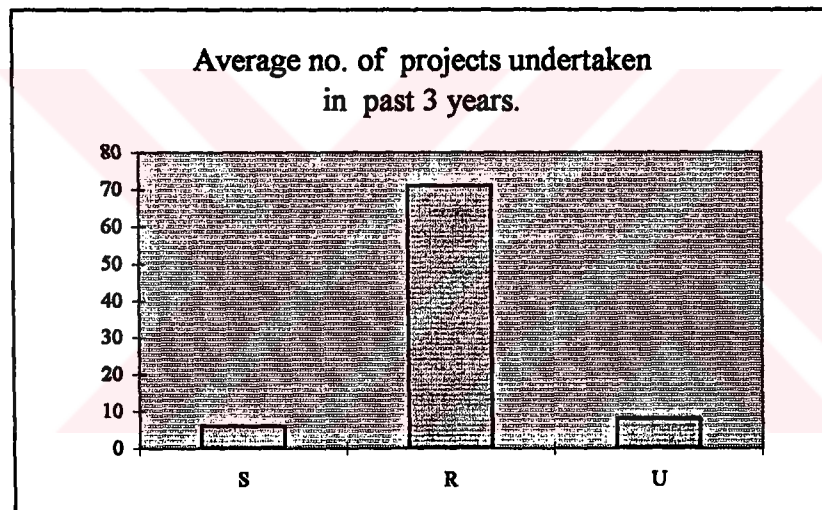
5.2.1.ii. Relationship between Diversification and Number of Projects

The K value for this examination is 3.284. This value is smaller than 5.991. This means that there is no significant difference among diversification categories in terms of number of projects undertaken by the firms in the past three years. Distribution of the average number of projects by diversification categories is as follows:

Table 5.10.

Average number of projects undertaken in past 3 years

Type	Average no. of projects undertaken in past 3 years.
S	6
R	71
U	8

**Chart 5.10.**

Average number of projects undertaken in past 3 years by S, R and U types

5.2.1.iii. Relationship between Diversification and Turnover

The K value for this analysis was 8.415. This value is greater than 5.991. This means that there are significant differences among the diversification categories in terms of turnover for 1997. Distribution of average turnovers of the firms for 1997 by the diversification categories is as follows:

Table 5.11.
Average turnovers of the firms for 1997

Type	Average turnovers for 1997 (billion TL)
S	1918,75
R	10125
U	17750

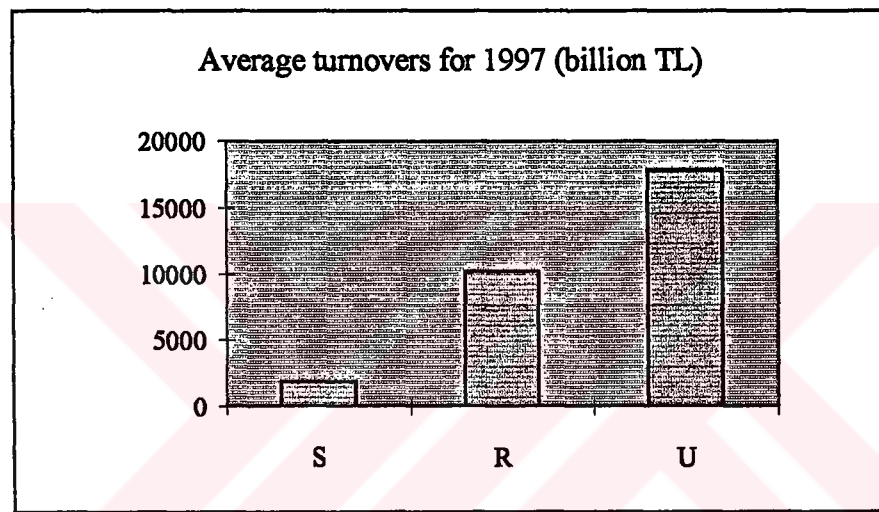


Chart 5.11.
Average turnovers for 1997 for S, R and U types

“S” type firms have the lowest average, while “U” type firms have the highest average

5.2.2. Relationship between Diversification and Height of the Firms

According to the result of the Kruskal-Wallis test, the K value for this relationship is 6.528. This value is greater than 5.991. This means that there are significant differences among three diversification categories in terms of hierarchical levels of the firms. Distribution of average number of hierarchical levels of the firms by diversification categories is as follows:

Table 5.12.
Average number of hierarchical levels

Type	Average number of hierarchical levels
S	5
R	7
U	6

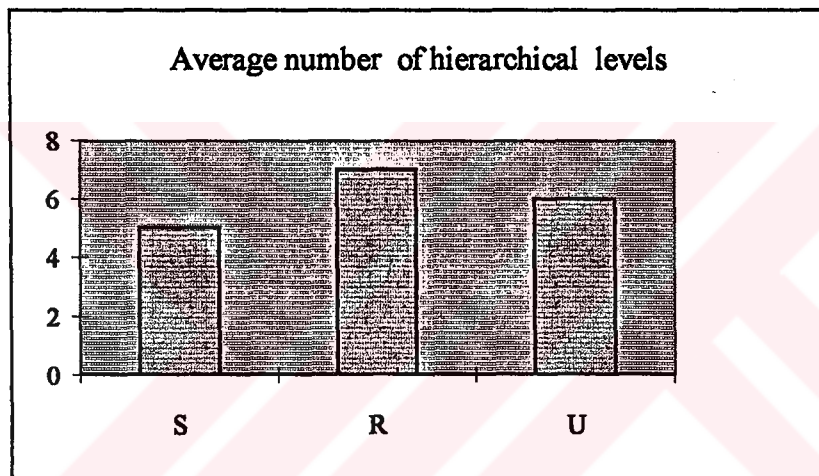


Chart 5.12.
Average number of hierarchical levels of S, R and U types

Average number of hierarchical levels of the related-constrained diversifiers is at the highest level (7 levels). From this result, we can conclude that related-constrained type has the highest average for hierarchical levels.

5.2.3. Relationship between Diversification and Number of Business Areas

According to the result of the Kruskal-Wallis test, K value is 9.165. This value is greater than 5.991. This means that there are significant differences among three diversification categories in terms of number of business areas, which the firms perform. Distribution of average number of business areas by diversification categories is as follows:

Table 5.13.
Average number of business areas

Type	Average number of business areas
S	5
R	5
U	8

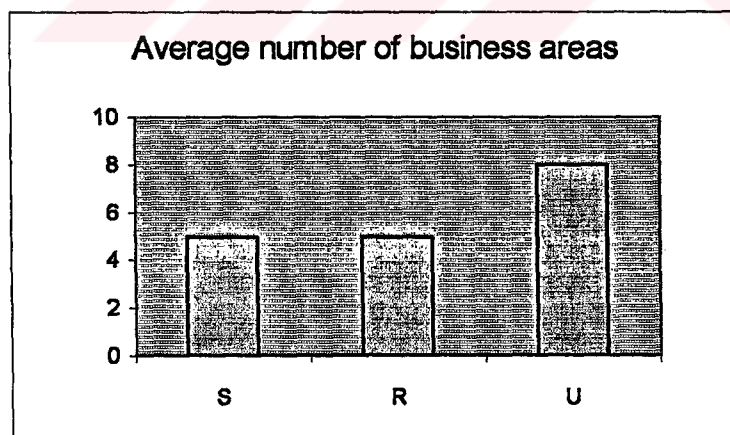


Chart 5.13.
Average number of business areas of S, R and U types

Unrelated diversifiers have the highest average value. We can conclude that unrelated portfolio has the largest business portfolio as expected.

5.3. EXAMINATION OF THE HYPOTHESIS

The hypothesis suggests that diversification is associated with delegation of authority and is based on the assumption that there are significant differences among the “single business”(S), “related-constrained”(R) and, “unrelated portfolio”(U) diversification categories.

The Kruskal-Wallis test yields a K value of 2.443, which is smaller than the critical K value, which is 5.991 at the 5% significant level.

The results indicate that there is no significance difference among three diversification categories in terms of delegation of authority.

Accordingly, the relationship between diversification and decentralization is denied by the statistical test. The implications of this finding will be discussed in the last section.

Distribution of average centralization scores by three diversification categories is as follows:

Table 5.14.
Average centralization scores

Type	Average centralization score
S	81
R	78
U	83

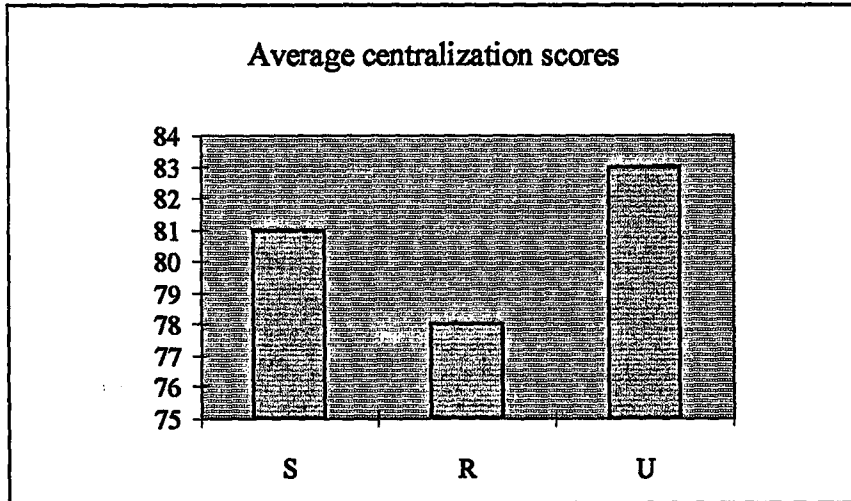


Chart 5.14.
Average centralization scores of S, R and U types

As observed above, the average centralization scores for each category are very close to each other.

SECTION 6

DISCUSSION AND RESULTS

6.1. EVALUATION OF FINDINGS

According to the results of the Kruskal-Wallis test performed in section 5, there are significant differences among three diversification categories (*single business (S)*, *related-constrained (R)* and *unrelated portfolio (U)*) in terms of each of the following variables:

- Number of total employees (K = 7.089)
- Turnover (K = 8.415)
- Number of business areas (K = 9.165)
- Height of the firm (K = 6.528)

On the contrary, there is no significant difference among three diversification categories in terms of any of the following variables:

- Number of projects (K = 3.284)
- Delegation of authority (K = 2.443)

As seen above, there are significant differences among three diversification categories in terms of two indicators of size. (number of total employees and turnover)

On the other hand, there are significant differences among three diversification categories in terms of number of business areas. From the table (Table 5.13.), which shows distribution of average number of business areas, we can conclude that

unrelated diversifiers have the largest business portfolio among the others. (Average number of areas: 8)

According to the Kruskal-Wallis test, there are significant differences among three diversification categories in terms of height of the firms. According to average values, related-constrained firms tend to be the highest. (Average number of levels: 7)

There was no significant relationship among the three diversification categories in terms of the number of projects undertaken in the past 3 years. The number of projects undertaken in a given period of time is one of the indicators of size and this result is inconsistent with result reported in literature, which confirmed the relationship between diversification and two indicators of size. (Number of total employees and turnover)

Finally, the most unexpected result of the test is absence of the relationship between diversification and decentralization

According to the results of the test, there is no significant difference among three diversification categories in terms of delegation of authority. Thus, the hypothesis of study could not be confirmed by the results of the test.

6.2. CONCLUSIONS

This study aimed to explore the possible relationship between diversification and decentralization in the Turkish construction sector.

The implications of the findings of the study can be summarized as follows;

Turkish construction firms tend to be centralized. Therefore, we can conclude that, centralization is not influenced by the degree of diversification.

On the other hand, the study showed that as the firms diversify their number of total employees and turnovers increase. The firms, which belong to unrelated portfolio diversification category, have the highest average values for these two indicators of size.

In conclusion, the results of this study could not confirm the assumption of the hypothesis. There may be several reasons for this;

- Socio-economic factors
- Market conditions (Uncertainty, stability etc.)
- Cultural factors
- Absence of a strategic management concept
- Absence of professional managers and a management system

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APPENDIX A

**I.T.U.
INSTITUTE OF SCIENCE AND TECHNOLOGY
DEPARTMENT OF ARCHITECTURE
BUILDING CONSTRUCTION MANAGMENT PROGRAMME**

MASTER'S DEGREE THESIS

**ADVISER LECTURER
PROF. DR. ZEYNEP SÖZEN**

-QUESTIONNAIRE-

**PREPARED BY
295Y054 ERDAL KUZUDISLI**

Dear Sir / Madam

The main purpose of this thesis is to evaluate the relationship between variety of business areas of Turkish construction companies and their management structures. Adequacy of this research will really be independent on your answers and therefore correctness of the answers is the most important. I personally request that when you filling this questionnaire please bear in mind that this is a part of scientific research. All the information received from you and the name of your company will be strictly kept confidential.

Yours faithfully

Erdal KUZUDISLI

PART 1**GENERAL INFORMATION ABOUT THE COMPANY**

P.S. If you are a subsidiary of a multi-divisional company please consider the questions only within your division

Company's title and status

Types of undertaken construction works (residential home, industrial buildings etc.)?

Establishment date?

Do you have a parent company?

Do you have subsidiaries or branches?

Part 1: General information about the company

1. What is the current number of your employees?-Administrative/ workers , foremen
(All temporary workers working less than 3 months will be excluded)

	Administrative	Workers, foremen
Domestic		
Abroad		

2. Number of departments, which directly report to administration?

3. How many hierarchical levels (from top manager to site workers) are there in your company? If possible, please attach your organization chart.

4. How many projects have you undertaken during the last three years?

Domestic	
Abroad	

5. How many projects have you undertaken as a subcontractor during the last three years?

6. What is your current business volume?

Domestic

Abroad

7. What was your turnover for 1996?

8. What was your turnover for 1997?



SECTION 2
DIVERSIFICATION RESEARCH

BUSINESS SCOPE

1. DESIGN
2. INFRASTRUCTURE
3. BUILDING CONSTRUCTION
4. INTERIOR WORKS
5. PREFABRICATED PRODUCTION
6. BUILDING MATERIAL PRODUCTION
7. TECHNICAL CONSULTING
8. CONTROLLING
9. MARKETING
OTHERS..(RELATED/UNRELATED)
10.....
11.....
12.....

Please answer the questions below according to classified groups above.

1. What are the business areas in which your company operates?

Please mark the from the list above

2. Please indicate the share of each business area in the total turnover.

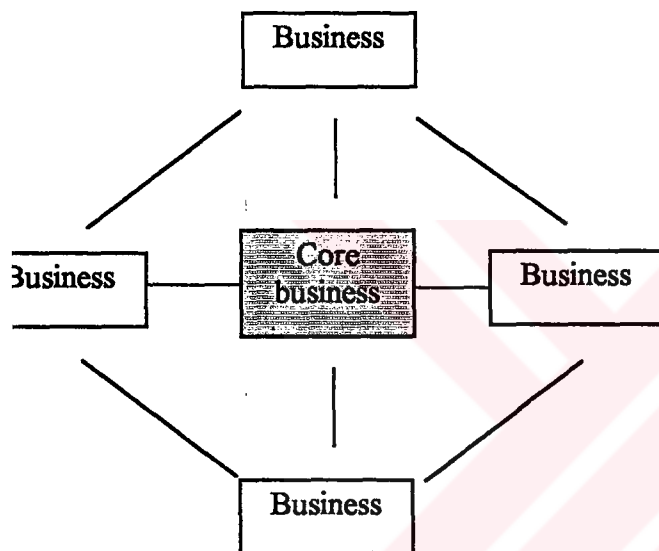
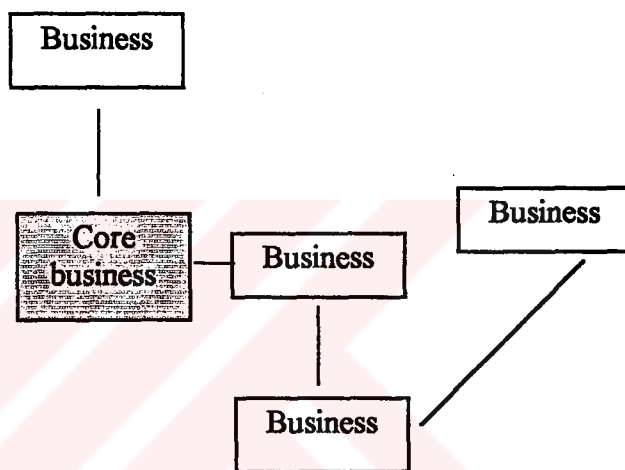
1 2 3

4 5 6

3. What is your company's original business? Do you still maintain your initial purpose?

4. Which pattern is most likely describes the relationship between the businesses of your company involved in?

(These patterns show two types of relationships, (1) a dominated business is surrounded by the businesses which provide income to the dominated business, and this core business presents company's characteristics, (2) there is no one dominated business, and all businesses interact each other)

PATTERN 1**PATTERN 2**

PART 3
STRUCTURE OF THE COMPANY

Please indicate the level at which executive action is authorized for the decision areas listed below

Levels:

- a. Lower level (workers, foremen, site managers, supervisors)
- b. Middle level (service engineers, engineers at head quarter)
- c. Upper level (department managers, principle, general manager)

No.	Subject of decision	Lower	Middle	Upper
1	Need of labor at site			
2	Employment and assignment at site			
3	Promotions of workers			
4	Dismissal of workers			
5	Number of foremen at site			
6	Dismissal of foremen			
7	Number of technical stuff at site			
8	Dismissal of technical stuff			
9	Expenditure above the budget at site			
10	Selection of the equipment and machinery			
11	Purchase of machinery			
12	Resolving the conflicts with client			
13	Modification decisions in schedule			
14	Meeting deadlines and priorities			
15	Operating in new business areas			
16	Tenders for new projects			
17	Service contracts			
18	Choosing construction technology			
19	Launching new departments			
20	Finance for new investments			
21	Developing new services and products			
22	Implementing new marketing strategies or enhancing existing conditions			
23	Dismissal of executives			
24	Choosing new investment areas			
25	Pricing new products			
26	Making decision in terms of taking over other companies			
27	Having meeting with trade unions and workers			
28	Defining production standards			
29	Making long term plans			
30	Restructuring of the company			

SECRET

BIOGRAPHY

Erdal KUZUDİŞLİ was born in 04/07/1972 in Istanbul. After completing his collage in Pertevniyal Lisesi, he attended Istanbul Technical University, Department of Architecture. He enrolled in Building Construction and Management Programme at Institute of Science and Technology, Department of Architecture Istanbul Technical University, in 1995.

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