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**EFFECTS OF CUSTOMER VALUE ON CUSTOMER PROFILE AND  
SATISFACTION**

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Effects of Customer Value on Customer Profile and Satisfaction

Müşteri Değerinin Müşteri Profili ve Memnuniyeti Üzerindeki Etkisi

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## **ABSTRACT**

In today's world of marketing, both B2C and B2B marketing professionals do a lot of work to understand the value perception of their customers and provide value to the customer. “The B2B Elements of Value”, which inspired our research, collects the values at five levels; as the level increases, the value components are more subjective and more personal. In this study, we looked at the values that heavy machinery customers pay attention to their purchases. Since our field of study is B2B, we first defined the concepts in this field and defined their differences in the B2C market. Then we define the value from the customer perspective and the most important values in the B2B market. In the next section, we defined different methods for qualitative research and explained the reasons for choosing our methods. Then, we defined the design of the research and explained how the population, data collection and interviews were conducted. In the fourth chapter, a brief description of the interview data analysis methods is made and the reason for choosing our analysis method is explained. After analyzing the data, the results were discussed and interesting results were obtained. The results showed that lowering costs was a major problem for heavy machine buyers and all heavy machinery buyers pointed to this. These reductions include a reduction in fuel consumption, a reduction in maintenance costs and a reduction in overall operating costs for the machine. Subsequently, other values such as the availability of after-sales services, the commitment of the seller to the sales contract and the after-sales service as well as the overall quality of the machine were the main priorities of heavy machinery buyers. Compliance with specifications, time saving, stability and at the same time reasonable prices were the other important factors for buyers. Values such as fun or ethical standards did not affect participants' decision making.

**Keywords:** Marketing, B2B Marketing, Customer Value, Heavy Machines

## ÖZET

Günümüz pazarlama dünyasında hem B2C hem de B2B pazarlama profesyonelleri müşterilerinin değer algısını anlamak ve değeri müşteriye sağlamak adına bir çok çalışma yapmaktadır. Araştırmamıza ilham kaynağı olan «B2B’de Değerin Bileşenleri» çalışması, değerleri beş seviyede toplamakta; seviye yükseldikçe değer bileşenleri daha subjektif ve daha kişisel olmaktadır. Bu çalışmada, ağır makine müşterilerinin alımlarına dikkat ettiği değerlere baktık. Çalışma alanımız B2B olduğu için ilk önce bu alandaki kavramları tanımladık ve farklılıklarını B2C pazarında tanımladık. Ardından değeri müşteri perspektifinden ve B2B pazarındaki en önemli değerlerden tanımlıyoruz. Bir sonraki bölümde, nitel araştırma yapmak için farklı yöntemler tanımladık ve yöntemlerimizi seçmenin nedenlerini açıkladık. Daha sonra, araştırmanın tasarımını tanımladık ve popülasyon, veri toplama ve görüşmelerin nasıl yapıldığını açıkladık. Dördüncü bölümde, görüşme veri analizi yöntemlerine ilişkin kısa bir açıklama yapılmış ve analiz yöntemimizi seçmenin nedeni açıklanmıştır. Verilerin analizinden sonra sonuçlar tartışılmış ve ilginç sonuçlar elde edilmiştir. Sonuçlar, maliyetlerin düşürülmesinin ağır makine alıcıları için temel bir sorun olduğunu ve tüm ağır makine alıcılarının buna işaret ettiğini gösterdi. Bu azalmalar arasında yakıt tüketiminde azalma, bakım maliyetlerinde azalma ve makine için genel işletme maliyetlerinde azalma sayılabilir.

Daha sonra, satış sonrası servislerin mevcudiyeti, satıcının satış sözleşmesine bağlılığı ve satış sonrası servisinin yanı sıra makinenin genel kalitesi gibi diğer değerler, ağır makine alıcılarının ana öncelikleriydi. Şartnamelere uymak, zamandan tasarruf, istikrar ve aynı zamanda makul fiyatlara sahip makineler alıcılar için diğer önemli faktörlerdi. Eğlenceli ya da etik standartlar gibi değerler katılımcıların karar vermelerini etkilememiştir.

Anahtar Kelimeler: Pazarlama, B2B Pazarlama, Müşteri Değeri, Ağır Makineler

## INTRODUCTION

Today, we see a vigorous competition between industry and business owners for more and more market share. In this competition, industry owners are looking to identify customers' behavior patterns of buying goods and products.

Finding a behavioral pattern of shopping can have an important role in increasing sales for businesses. As we know, selling more and making more profit is the most important goal of any business, and business owners are trying to increase their sales with different tools.

Finding a behavior pattern for buyers have attracted much attention of researchers in various fields, such as social sciences, Economics, Psychology, and Statistical Science. For these researchers, the main goal was to answer this question: What factors affect customer purchases? The answer to this question can be an enormous added value for the sales of any industry, including heavy machinery industry.

Value is one of the most important factors in people decisions making process. There are many things that need to be done to transform ideas into values. Perceptions can be built on the positive side and if they are sustainable they are likely to turn into buying behavior. For this reason, it is one of the most important issues for the seller to be able to manage customer perception correctly on the market where the buyer and seller are located.

The behavioral patterns considered in this research are related to the B2B market. This market has features that have made it different from the traditional B2C market. In the second chapter, we described the unique features of the B2B market.

Business-to-Business (B2B) markets are different from Business-to-Consumer (B2C) markets. One big difference is the number of transactions in the markets which is

incredibly higher in B2B markets. Another difference between B2B markets and B2C market is the selling method.

It should be noted that in the B2B market, the determinants of purchasing the machinery sector are very different from other fields. The decision to purchase the construction machine is one of the most complex decisions in consumer purchasing behavior.

## **BACKGROUND TO THE STUDY**

As stated above, the main goal of this study is to find out the factors that customers consider before purchasing heavy machinery and make their purchases based on them.

The research, which has been used as the basis for our research, has distinguished the determinant factors in the procurement and purchase process at 5 levels and 40 cases. The higher the levels go, the more subjective and personal it gets. In the second chapter, we will discuss in more detail the classification of deterministic factors.

Based on research that is considered as the main reference of this research, organizations can use surveys and statistical techniques to measure the elements of these values in their customer and get a better understanding of their customers' needs and desires.

At the second level of the pyramid, there are functional capabilities that include the proper functioning of machines and being cost effective. At the third level, the operational power is discussed. Some of the factors in this level are about objective analysis and some are all operational factors. The next two levels have focused on more subjective aspects of buyers.

As mentioned, this research has been considered as the main reference. In this study, based on the 12 interviews conducted on the buyers of heavy machines, we try to evaluate the factors determining the heavy machinery buyers in Turkey in accordance

with the 40 mentioned values. Finally, we determine which factors have more and less impact on the decision making the process for the purchase of heavy machinery.

## **RESEARCH QUESTIONS**

Each research is based on a question. In fact, the starting point for any research is a question that is generated in the mind of the researcher. In this research, which is about identifying values when buying heavy machines in the B2B market, we try to answer some questions about the determinant factors and customer values in heavy machines B2B marketing.

According to the preliminary research, the first question coming to the researcher's mind is that what factors in heavy machine industry are more important for the business-to-business market? And which of these factors are more effective in the procurement process?

**IN THIS STUDY, THE FOLLOWING TWO RESEARCH QUESTIONS HAVE BEEN ADDRESSED:**

What values customers have when purchasing a business machine?

How these values have an impact on procurement processes?

## **PURPOSE OF THE STUDY**

It was aimed to investigate the value of consumers in the study, the effects on the customer segment and satisfaction of the B2B sector, and to determine the effective factors for the decision to purchase. The model that is applied in the research is the model of a study that includes the B2B Elements of Value Pyramid and examines customer values and satisfaction in the Construction Machinery industry.

The purpose of this study is to be able to determine what factors consumers' values in the procurement process of construction machines.

An introduction to this research was provided in this chapter. The main questions of the research, the background of the research and the main goal of the research were the topics that have been mentioned. In the next chapter, the literature review and the history of the B2B market will be discussed.

Then the features of the B2B market will be discussed. Due to the fact that we are investigating the B2B subject, it is necessary to know the features of this market.

At the end of the second chapter, the pyramid of determinant factors in customer purchase decision making is described. Chapter 3 discusses the qualitative methodology used to analyze interviews. Based on the chosen methodology, the definition and method properties are introduced. Chapter 4 will discuss the detailed analysis of interviews based on the methodology introduced in Chapter 3. In this chapter, the main question of the research is being answered: which factors are more important for businesses when renting or buying heavy machinery in Turkey. Chapter 5 provides conclusions and future work.

## **2. LITERATURE REVIEW**

### **2.1 INTRODUCTION**

B2B marketing field's beginning and nature are related to advancements in general business. We can get a better comprehension from this topic by reviewing these advancements and the stories behind it. In this section, we will review some of the prominent articles in the field of B2B marketing respectively from the past to the present.

## **2.2 B2B MARKETING HISTORY**

In 1899, the first pioneer manuscript about the relationships of customers in businesses was written by Wanamaker. He was a retailer and also the first person to highlight the importance of positions and relationships between customers, retailers, and suppliers. He suggested that there should be a balance between sellers and buyers and also emphasized the importance of close relationships between producers, retailers, and customers.

In 1934, the first formal books about the B2B marketing were *Industrial Marketing – A Century of Marketing* by John Fredrick, and *Fundamentals of Industrial Marketing* the year after by Robert Elder which had significant impacts on the subsequent articles like Lewis, Leigh, and Lester in 1936. The next year in 1937 Moore worked on the importance of goods in industrial marketing.

As Wilkie and Moore in 2003 suggested, the marketing advancement can be categorized in 5 phases: 1) pre-marketing before 1900; 2) foundation of the field from 1900 to 1920; 3) shaping the field from 1920 to 1950; 4) paradigm shift from 1950 to 1980; and 5) intensification of shift from 1980 until now. Prior to 1980, the focus of B2B marketing articles was on the uniformity of markets, nominal price, logical decisions and a low distinction between products.

To minimizing the cost for suppliers with decent quality, the customer preferences were not included. These kind of ideas were prevalent in every country, as it was expensive to analysis the behavioral measures like preferences, desires, sentiments and social relationships of customers instead of only measuring the income and cost in economic view. (Hadjikhani & LaPlaca, 2013).

The investigation in the networks and relationships of B2B marketing area made the progress toward the more behavioral analysis. Articles like Trynin (1940), Alderson

and Cox (1948) and Alderson (1949) discussed the comprehension of relationships of behavioral systems to create a social network and diverse markets (Hadjikhani & LaPlaca, 2013). However, as many of articles considered customers as a passive entity during the years 1930 to 1950, there was a decrease in the progress of B2B marketing in this period.

The Great Depression and World War II from 1929 to 1945 should also be considered as the causes of this reduction. In the unreliable economic condition of the world in this period most of the studies of B2B marketing were focused on the short term marketing instead of behavioral analysis. However, in 1957 the first dedicated B2B marketing university course was held by Professor E. Raymond Corey. He wrote an influential book (Corey, 1962) about the concepts of B2B marketing and attracted many of the researchers to this field and it became the basis of B2B marketing and behavioral analysis for years to come.

In the development of B2B marketing in the 1970s, concepts like mutual satisfaction and uncertainty attended the spotlight and a dedicated research outlet in 1972 and a comprehensive thesis about buying behavior of organizations by the Marketing Science Institute in 1977 opened the way for further progress in the coming decade.

In the 1980s the first formal academic research trends began to emerge. In 1983 the establishment of Institute for the Study of Business Markets (ISBM) and the first conference of Industrial marketing and purchasing group (IMP) in 1984 were some of the significant moves toward the promotion of academic research of B2B marketing, which some call it “the new industrial revolution“. In 1986 Advances in Business Marketing and Purchasing (ABMP), and the Journal of Business and Industrial Marketing were the consequences of this revolution and behavioral analysis started to become dominant in B2B marketing researches.

In the 1990s, after the establishment of the Center for Business and Industrial Marketing, and Journal of Business to Business Marketing this field had taken a formal



structure. In 1996 Johnston and Lewin suggested that two new concepts were added to the behavioral analysis: 1) relationships between buyer and seller; 2) networks between buyer and seller

In the 2000s the relationship of firms with each other became a trend in B2B marketing researches. In 2009 Laplaca and Katrichis introduced six major areas of research from 1936 to 2006 which had established the foundation of today's studies: buyer behavior, sales management, innovation and new product development (NPD), channels, marketing strategy, and relationships.

In 2013 Wiersema found an increase in expectations of corporates from marketing which increased the value of it. He also indicated the importance of international markets, the transition of B2B firm to adopt with dynamics of markets, extracting and using more detailed information of the market and customer, deep engagement with customers and incorporating both centralized and decentralized marketing activities.

In 2016 Leilien work was focused on the B2B customer analytics, buying behavior and innovation. Works like this guided the direction of B2B marketing through the traditional markets and adopted by the new economies, including Centro de Marketing Industrial in Chile or Escola de Marketing Industrial in Brazil and a worldwide opening took place.

This historical review indicated that evolving B2B marketing research and activities is slower than the researcher's problems. As a result, B2B marketing today needs to manage the available knowledge and address the actual problem in the real world.

### **2.3 CUSTOMER VALUE**

The globalization of business and the economy and the more dynamic competition has changed the role of customers in organizations. Today organizations look at customers not just as a consumer. Customers in today's organizations are involved in the production of goods and services, the procedures for doing business and processes, the

development of knowledge, and competitive ability, and are companions of members of the organization. Therefore effective and efficient management of customer relationship and creating and delivering value to him is one of the most important topics of interest and attention of researchers and managers of organizations.

In today's world, we have to talk about the mature and perfectly developed markets that have different characteristics than the past, and the most important characteristics of these markets are the customer's skill and power, as well as the reduced impact of advertising on him. Today, suppliers in the industrial and consumer goods market are facing customers who have unlimited demand but are less influenced by traditional marketing tools. On the other hand, market products are not much different from the customer's point of view, as if the brand of the product is not available to the customer, it easily get replaced by another brand, which reflects a reduction in customer loyalty. Price competition has also lost its former meaning and market-oriented and customer-oriented organizations rather than price competition are thinking of maintaining and increasing customer loyalty as a new marketing tool. (Christopher, 1996)

In the concept of marketing, it is believed that the achievement of organizational goals depends entirely on the definition and determination of the needs and demands of the target markets and the provision of customer satisfaction in a more favorable and effective way than competitors. In the world of rising competition today, companies will succeed in providing more customer satisfaction. Today's Companies are not merely seeking short-term sales and endeavoring to obtain long-term customer satisfaction by delivering products and services with superior and distinctive values. In this ultra-dynamic market, the client expects the organization to offer the highest values at the most affordable price, and organizations are constantly looking for new ways to innovate in creating and delivering value, and even they call it their "Future Source of Competitive Advantage" (Khanh, 2004).

Bick et al. (2004) in of their research in the field of modern competition and what have kept market leaders successful in this field refer to three important facts that require a deep understanding:

1- Creating Value

2- Operational model of value

3- Valuable Strategies

The first concept refers to the implicit promise of the management of the organization to provide a combination of value-creating factors such as price, quality, performance, choice and other facilities to the customer. The second concept relates to a combination of operational processes, management systems, structures, and business culture that help and support the organization in creating value for the customer, and the third one includes three distinct ways in which organizations can create value and execute the operational model of the value in the market and provide it to customers.

These ways are as follows:

1. Operational superiority: Organizations such as Wal-Mart seek to provide products at reasonable prices, useful services, and the least confusion for customers.
2. Product Leadership: Organizations like Intel and Nike are looking for the most unique product of their kind to customers, which is why in these organizations, innovation, and rapid changes are unavoidable to maintain a better position on the product market.
3. Customer cordiality: These organizations have a deep understanding of their customers and want to provide the best solution and establish close relationships with them, which can be referred to some private banks.

Choosing any of these valuable strategies is a competitive strategic choice that puts the customer at the center of many of the organization's decisions and plans, and this strategic choice leads the organization's efforts to deliver superior value to customers. (Bick et al., 2004)

However, Bick et al. (2004) believe that modern competition has three facts: different customers require different values. Organizations cannot be the best in all aspects of values, they need to limit the range of values that they focus on according to their chosen clients group, as the standards of values increase, customer expectations will also rise. Therefore, companies need to continue to provide value to the customer in order to maintain their competitive advantage and pioneering.

### **2.3.1 EVALUATING THE VALUE**

There are two complementary approaches to measure and evaluate value. The first approach is to evaluate the received value (Perceived Value) by the customers of the organization's goods and services. When this value is better and higher than the suggested value of the competitors of the organization, the opportunity to succeed and maintain the competitive position of the organization in the market is provided.

The second approach focuses on assessing the value of a client or a group of clients to the organization. Here, these organizations continually and seriously promote and maintain its valued customers to increase their loyalty and incentive to buy and also strive to leads less valuable customers - in other words, the cost spent for them is more than the benefits of exchanging with them - to higher value groups (George Evans, 2002)

### **2.3.2 VALUE FROM THE CUSTOMER'S POINT OF VIEW**

Recently among management researchers, there has been a major tendency toward customer value, and this issue has been analyzed in several aspects. The concept of value is one of the most widely used concepts in the social sciences in general and in management literature in particular. This concept has been used in accounting and

finance texts, economics, management, information systems, ethics, and so on (Huber et al., 2001). But in marketing literature, issues related to relational marketing, pricing policies, and consumer behavior have been raised over the rest. The important thing is that the value is determined from the customer's point of view in the market and by the customer perception of what it pays and what it receives, not in the factory and through the supplier's preferences and assumptions. The value is not what is produced, it is what the customer gains.

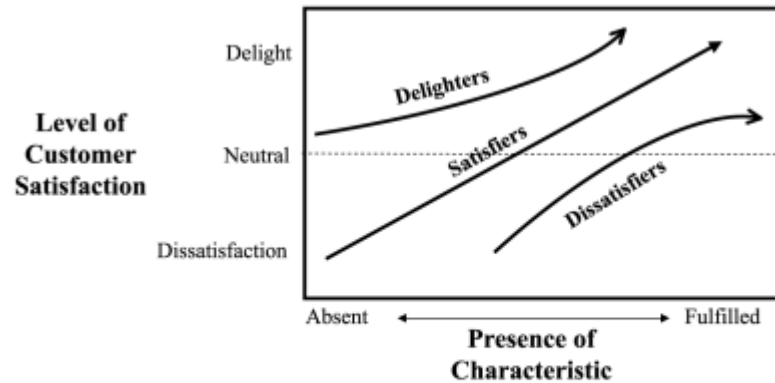
### **2.3.3 CUSTOMER PERCEPTION MODEL COMPONENTS**

Khalifa (2004) describes the customer perception of value with three main components as follows:

**Dissatisfiers:** The expected characteristics of a product or service, the absence of which causes customer distress and dissatisfaction, but their existence is neutral to the client.

**Satisfiers:** The expected and desired characteristics of the customer, whose existence makes them happy and sometimes pleasant and delighted.

**Delighters:** New and innovative features that are out of the expectations of the customer, which surprises the customer in the best way or, in other words, increase his satisfaction to a high degree of delightedness because they are innovative in satisfying a hidden demand. The lack of these features, as long as they are unpredictable and unexpected, will have no negative impact on customer perception of the value they receive, but their existence will have a positive impact on the customer perception.



Source: Joiner (1994, pp. 68-9)

Figure 1 Components Of Customer Perception Model

As shown in Fig. 1, in this model there is a close relationship between the three types of product characteristics and customer satisfaction. Under the dotted line of the region, there is a necessary and necessary specification (standards), and the area above this line represents an increase in satisfaction from a normal (neutral) state to a maximum of satisfaction, that is, to create delightedness.

This model is a great help in designing new goods and services with desirable features and characteristics. The model's greatest focus is to attract the customer and improve the relationship between him and the supplier of the product and service, but very little attention is paid to the customer's business cycle from the need to purchase, use, and stop using the product, as well as the benefits (interests) and The disadvantages (costs) that the customer gains along with gaining value. (Khalifa, 2004)

#### 2.3.4 COST-BENEFIT RATIO MODEL

In this model, the value is presented in relation to what the customer gains and what he pays for it. The benefits of acquiring goods or services include tangible and intangible items, and payments include monetary and non-monetary items such as money, time,

search costs, learning costs, and psychological costs, as well as financial, psychological and social risks. (Huber et al., 2001). In other words, the value from the customer's perspective is to exchange positive outcomes (profit) or desirable outputs and negative outcomes (damages) or costs.

In any system, with a specific value as gross value, product delivery requires a certain amount of cost that the system, given the cost and actions of value creation actors (people like the sales force with appropriate behavior that create or add value to the final product of the organization) determines the price for the final product and the difference between the price and the gross value of the product represents the net value for the customer.

In general, from the perspective of the two models, the value of the customer is defined as the ratio of the benefits and desirable results to the costs paid to obtain those results.

### **2.3.5 KEY ASPECTS OF VALUE FROM THE CUSTOMER'S PERSPECTIVE**

Sheth et al. (1991) raised the value of consumption theory and divided customer value into five key aspects:

- **The functional value** that is related to the economic desirability and represents the benefits of the product or service from an economic point of view and refers to the quality and functional characteristics of the product.
- **The social value** that represents the social desirability from the customer's point of view and the image resulting from the possession of that product in the eyes of friends and colleagues and other members a group.
- **The emotional Value** which is associated with the psychological and emotional consequences of the product and the ability to stimulate emotion and create attractive situations.
- **The cognitive value** that points to the new and surprising aspects of the product and its novelty.

- **The situational value** that is related to a series of situations that the customer encounters when deciding upon them. (Tser-yieth Chen et al, 2005)

The operational capability and ease of use of Sheth model have led many researchers to rely on this model. A study by a number of Chinese service organizations highlighted consumer behavior and customer value in a comprehensive and coherent framework and found interesting results (Wang, 2004). The purpose of these researchers was to investigate the real and practical value from the customer perspective in terms of the performance of customer relationship management. Therefore, they made changes to the Sheth model.

In their proposed model, the three key aspects of value are functional, social, emotional, and the fourth aspect of cost or damages are also included. According to these researchers, the Sheth model, with two cognitive and situational aspects, is not sufficiently comprehensive and also is not applicable. Therefore, the fourth aspect replaces these two aspects and they argue that in the fourth aspect both short-term and long-term customer's monetary and non-monetary losses are considered, such as searching, learning, maintenance, financial and social risks, time, and energy spent on customers (Wang, 2004)

In this section, we can conclude that from the perspective of traditional marketing strategies, customers by going through the process of searching, evaluating, buying, and using are often at the end of the value chain of goods and services. However, today's marketers' concern is to create satisfied and even delighted customers with the highest level of loyalty, which requires customer's involvement in the value chain and in all processes and activities of the organization. In this way, tools such as the customer relationship management, the staff relationship management, and the management of relationships with distribution channels are used to provide continuous feedback from all stages of delivering value to the customer and provide a lasting competitive advantage for the organization. (Mascarenhas et al, 2004)



In recent years, managers and researchers have tended to build valuable relationships with customers instead of focusing on exchanges and economic benefits. Organizations that enhance customer-centric culture in all their processes and actions have a higher business performance than others. (Sawhney, 2002)The concept of customer value can be expressed in terms of an equation: the customer's perceived value is equal to the difference between "gained benefits " and "paid costs." In this regard, payments and revenues are influenced by perceptions and customer expectations in the search, acquisition, use and keeping the goods or services. (Huber et al, 2001)

Regardless of the type of industry and product, organizations are trying to gain an excellent position in the minds of the customer, to create lasting relationships with him/her, to increase the amount of loyalty and satisfaction, and to meet the needs and demands of the consumer market, in order to produce and supply goods and services tailored to the market needs and offer a price for their material, human and information resources. Consumers will also pay for these products to meet their needs. But the relationship created for selling the product on one side and buying it on the other side is not only affected by the financial transaction factors. Consumers or recipients of service go through a complex and sophisticated process, which is far beyond the mere purchase of a product, and are linked to the organization and product, and its evaluation of the process goes beyond the paid price and the functional features of the product. In other words, the value that a customer attributes to this process involves several factors alongside the price and product performance that is referred to as "value from the customer perspective" and is considered as one of the key factors for gaining a sustainable competitive advantage in the market-based and customer-oriented world.

## **2.4 SPECIAL CHARACTERISTICS OF B2B MARKETS**

### **2.4.1 WHAT IS B2B MARKETING?**

As you can guess from the name, B2B marketing or Business-to-Business marketing is the marketing for other businesses or organizations and have some major differences

with B2C marketing, which the final consumer is its target. Industrial marketing or B2B marketing has a long history. In this kind of marketing, both seller and buyer are business owners.

In general, B2B marketing content is clearer than B2C marketing. The reason is that the impact of initial income matters more for organizations compared with the consumers. Return on Investment (ROI) doesn't matter for an ordinary consumer, at least in monetary definition, but it is the main and primary criteria in business decision making.

B2B marketing usually differs from B2C marketing and it is because of the professional buying processes, market, products, and more complicated services in B2B marketing.

#### **2.4.2 THE BUYING PROCESS IN A B2B MARKET**

In general, making a deal in B2B market is harder than the B2C market. The required time for gathering information about the product and ordering could take several weeks, and this will happen for more expensive products like heavy machines.

As a manager, it might take weeks or even months to reach an agreement about the services and products. This is because of the amount of money and stakeholders in the process.

#### **2.4.3 THE COMPLICATION OF PRODUCTS AND SERVICES**

Another difference between B2B and B2C business models is that products and services of B2B are totally more complicated. For example, not many people use an X-ray device, but your B2B customer might need a product that has detailed specifics.

#### **2.4.4 DIFFERENCES BETWEEN B2B AND B2C**

Business-to-Business (B2B) markets are different from Business-to-Consumer (B2C) markets. One big difference is the number of transactions in the markets which is incredibly higher in B2B markets. For example, if we buy a car from company A, there is a single transaction of our purchase. But the A company had a lot of transaction with

company B, C, D etc. to buy different part of the car and assemble it. There are also some other transactions like paying the employees' salaries, advertising, insurance and so on to run the business.

These transactions are B2B transactions which are more complicated than B2C transactions including a variety of products from cars and computers to military and heavy machines in the construction industry. The buying process of an organization is also as complicated as the transactions because there is a lot of people involved in the process and everyone can affect the decision-making process about the quantity and quality of the decision.

Since the buying capacity of a customer in B2B could be significantly large, then the stakes are higher in B2B markets and losing a customer could be a big failure, as also getting one could be a big success. Usually, a more expensive product has a longer buying process. The reason is the risk which is increased by the rising of the product cost. Some other reasons for the long process of buying in B2B markets are the great attention to product attributes or customization of the product. They also expect higher standards compared to customers.

Another difference between B2B markets and B2C market is the selling method. Usually, B2C customers are attracted by mass marketing methods like advertising or websites. However, in B2B market sales responsibility is largely on the hands of the salespersons and companies send their marketing salespersons to the target customer to draw their attention to the related product.

The demands in the B2B market is highly dependent on the demand of customers. When there is no demand from the customers of a business, then the suppliers, on the other hand, have no chance to make a deal with the business. The effect of this event in economics is called "the bullwhip effect", means a small change in the customer demand has big effects on the other end of the chain, which is the supplier.

So by understanding the importance of customers, B2B marketing today is trying to directly influence customers to persuade them and create demands in the market.

In the following we describe the most important differences between these markets:

- B2B markets have more complicated decision unit
- B2B buyers are more logical
- The B2B buying process is usually more complicated
- The numbers of B2B buyers are limited
- B2B market's products have a few customer segmentations
- Individual relationships in B2B markets are more important
- Industrial buyers are continuous buying
- Industrial markets are less innovative
- The importance of packaging in B2C markets is more than B2B

#### 1. B2B MARKETS HAVE MORE COMPLICATED DECISION UNIT

It is important to have an expert team (at least for consulting about buying a product or service). We can say that the decision unit in B2B marketing has a hard job in decision making. In fact, every member of the decision unit should not include his/her personal experiences and emotion for reaching a rational decision.

#### 2. B2B BUYERS ARE MORE LOGICAL

Actually, we can say that our choices in the work environment are more logical than our daily life. But why is that? There are several reasons: first, as a normal consumer, we have a little knowledge about the product we are going to buy. Meanwhile, we don't need to compute the Return on Investment (ROI) the profit from the purchase. In fact, we buy what we want, not what we need. However, an industrial or B2B buyer need to be very strict about the decision of a purchase he/she made because this decision has greater impacts on his/her environment than a personal cell phone purchase decision.

But being logical just make the B2B marketing easier, as we can predict the customer needs and requirements. What matters most for industrial buyers is trust and security. This is understandable because none of these buyers want to risk their career position by a wrong decision about the wrong purchase.

### 3. B2B BUYING PROCESS IS USUALLY MORE COMPLICATED

Just like the decision unit, the products and services in this area are also more complicated than the consumer market. Though we might have good information about a cell phone, it is unlikely that we have technical knowledge about the hardware and other details. However, this is a little different for an industrial buyer. The industrial buyer should have technical knowledge and experience about the intended product or service.

In fact, most of the consumers are not interested in technical details. Most of the chocolate buyers think about the taste or the appearance of the chocolate rather than the technology or the cost of the production.

In B2B marketing this is different because even for choosing a simple product or service, we need special and expert analysis. For example, a company is looking for a website. It is unlikely that they decide to buy a website because it looks good. The company experts should also evaluate the website for code optimization, loading time, and user interface to make the website more optimized. While maybe an ordinary user just cares about the appearance of the website.

### 4. THE NUMBERS OF B2B BUYERS ARE LIMITED

Almost all of the B2B market follow the 20:80 (Pareto) rule. According to this rule, about 80% of income businesses is from 20% of customers.

Do you think about how many customers a grader company will have? Thousands? Numbers are definitely lower than that. In B2B marketing we are not talking about

having thousands or millions of customers. It is completely normal that even the biggest industrial companies have less than fifty customers.

In B2C markets, there is a little difference between the purchases of a customer with another. For example, many customers of cellphones usually buy one cellphone. However, this difference sometimes is significantly broader and it can even reach up to millions. Thus another feature of B2B markets is relatively few customers with significantly different sizes.

A marketer should be able to support his/her product or service to satisfy these few customers. Because important customers not only expect the purchased product has high quality, but also to be provided with technical pieces of advice and solutions for future problems.

Actually, the price is not the only concern of important industrial customers. In one word, they are looking for a partnership. They are looking for the supplier which can be their partner in their profits and losses, giving them technical advice and sufficiently support their products and services.

Remember that industrial buyers always have high expectation and like you to show some attention to their business. They are not just your customers, they have an important role in your business expansion.

## 5. B2B MARKET'S PRODUCTS HAVE A FEW COSTUMER SEGMENTATIONS

Customer segmentation means that we classify customers based on the various criteria. B2B markets usually have fewer customer segmentation than consumer markets.

A consumer market might have 10 different segments. For example, we can classify sauce customers based on the different tastes, including hot sauce, ketchup, French

sauce, mayonnaise, barbecue sauce, mustard sauce, yogurt sauce, and other different kinds of sauces, each with their own specific enthusiasts. However, this segmentation might be limited to three or four segments in B2B markets. One reason for this difference is the difference in numbers of customers, which is lower in B2B markets.

It might look easy at first sight when we think about the fact that there are a few customers in industrial markets. But it is not that easy and there is a lot of new challenges like reaching an agreement about the segments by rigorous Market Research. And also after segmentation, identifying which companies are at which segments is difficult because sometimes customer distinctions are hard and we can't find features to put a company in a segment.

#### 6. INDIVIDUAL RELATIONSHIPS IN B2B MARKETS ARE MORE IMPORTANT

The individual relationship is very important in industrial marketing. As we mentioned in the previous sections, industrial companies usually deal with fewer customers. Regular interaction with these few customers of yours is relatively easy.

In the B2B market, sales and technical department meet the customer and expand their relationship to gain their trust. Through expanding the relationship with your customers, you can make them loyal. It is one of the most important differences between a B2B and B2C marketer. For the B2C marketer, the numbers of customers matter the most, but a B2B marketer cares about establishing a deep and reliable connection with customers. Therefore, the ability to make face-to-face contact with customers is of great importance to an industrial marketer.

#### 7. INDUSTRIAL BUYERS ARE CONTINUOUS BUYING

Let me ask a question first. How many cars do you buy in a month? How about a year? Do you buy a car every week? Even if you are very rich, it is not reasonable! This is

because these kinds of products can serve you for many years and you usually buy a car to use it personally. However, in a B2B market long-term purchases or purchases that are expected to be repeated over a long period of time is typical.

In addition, products and services in industrial marketing require a lot of support and after-sales service from the supplier. In fact, Continuous industrial purchases need support and services for training, installing, and implementation. Eventually, since industrial customers are fewer and more valuable, it is better to consider them as long term customers. Remember that the profits of maintaining an industrial customer are high and the results of their loss are very serious!

#### 8. INDUSTRIAL MARKETS ARE LESS INNOVATIVE

B2B markets are more sensitive and a little mistake and have serious consequences. In fact, these markets have a higher risk. Therefore it is rational for industrial companies to be less innovative. Actually, they prefer to wait and watch the performance of new products. It doesn't mean that there is no innovation in this market, but it is with a lot of caution and analysis before accepting one.

#### 9. THE IMPORTANCE OF PACKAGING IN B2C MARKETS IS MORE THAN B2B

Imagine you have a cotton factory and need 10 new machines to buy. How much the packaging of machines matter for you? Is the color of the packaging important to you, or the protection of the package against physical damages?

In a consumer market, people are usually less reasonable than the industrial market and might buy a product because of the appearance of a package, not the quality of it. It doesn't mean that packaging doesn't matter in industrial marketing, but the priorities of these markets are technical features, performance, warranty, and support, packaging becomes less important. It means that unlike the consumer market, packaging cannot compensate for the lack of quality of goods.



## **2.5 THE MOST IMPORTANT VALUES FOR CUSTOMERS IN THE B2B MARKET**

As the previous section mentioned, the decision-making process in B2B differs from B2C, because they B2B sellers have to be more rigid with everything, optimize the costs, meet the customization, and comply with laws. In B2C there is only a customer on the other side who make the final decision about the purchase.

Nevertheless, in every firm, there is a procurement section which is responsible for evaluating seller's conditions and analysis the cost of other aspects of a transaction to make sure they are making the right decision. We mentioned in the previous section that customer demand is essential for the supplier, as it has a great effect on the other side of the supply chain. Thus understanding the most valuable elements from the customer perspective is crucial for businesses.

In 2018 Eric Almquist et al suggested 40 elements of value by surveying the customers over decades to understand the customer priorities and values. He categorized these elements into 5 levels: table stakes, functional, ease of doing business, individual, and inspirational.

They put these elements in a pyramid with 5 levels. In the base of the pyramid values are more objective and by ascending the levels of the pyramid, values get more subjective. These values can have an impact on the decision of customers and after that on the demand of a business product. In the following, we can see Bain's Value Pyramid.

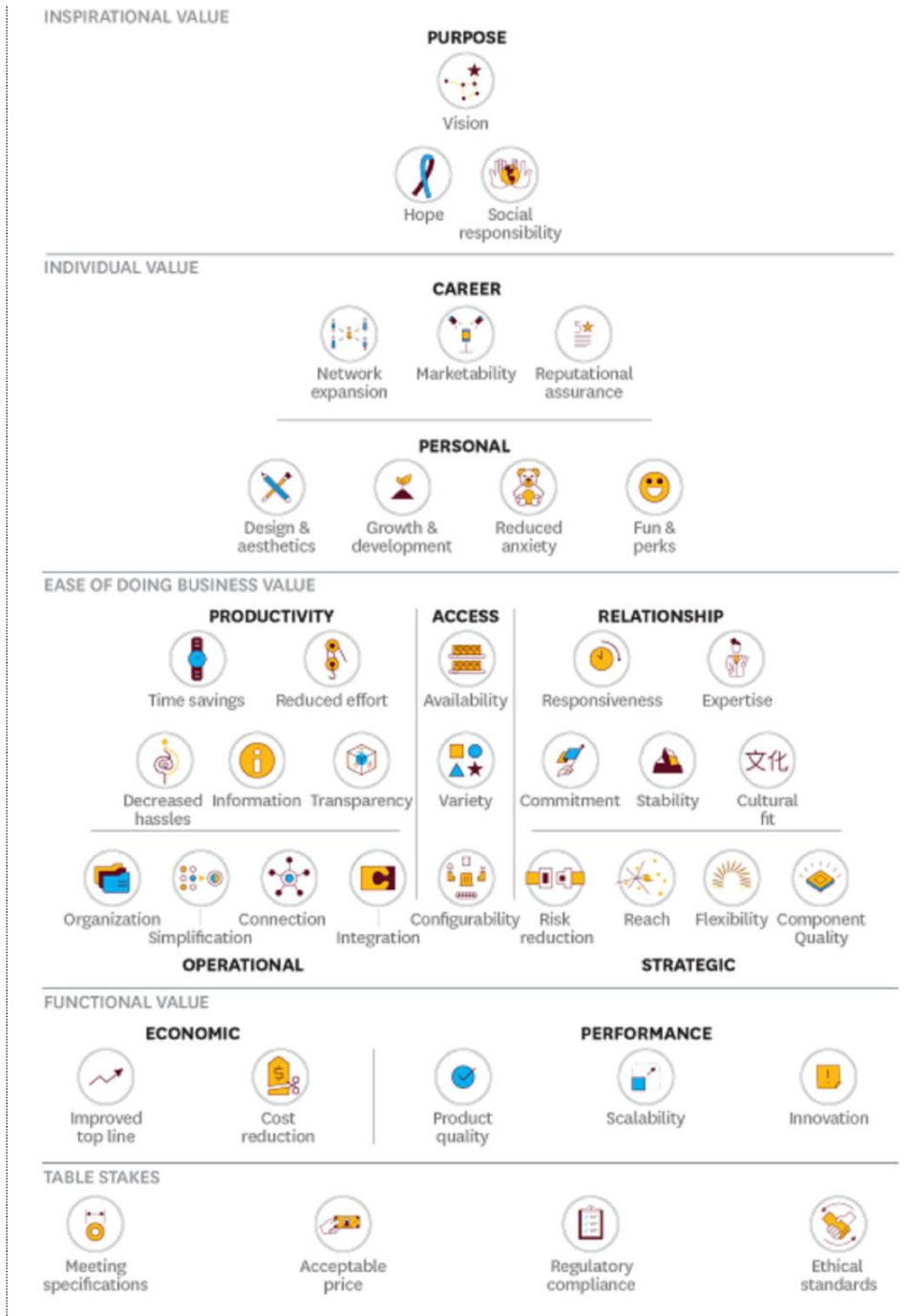


Figure 2 Bain's Value Pyramid

Here we describe the levels of this pyramid from the bottom to the top: the table stake level is the most objective kind of values such as *meeting specification*, *acceptable price*, *compliance with regulations*, and *ethical standards*. The above level is some economic requirements of company or product's performance including *improved top line*, *cost reduction* for economic requirements of the company and *product quality*, *scalability* and *innovation* for the performance of the product. These functional elements had attracted much attention for so long in conservative industries and still is the center of attention in B2B markets.

The third level is for the values that make doing business easier. In this level there is *time-saving*, *reduced effort*, *decreased hassles*, *information*, and *transparency* for the productivity of customer. For the operational performance, we have *the organization*, *simplification*, *connection*, *integration* and for the strategic values, we have *risk reduction*, *reach*, *flexibility*, and *component quality*. The access values are *availability*, *variety*, and *configurability*. The relationships of the customer and company are more subjective in this part and values such as *responsiveness*, *expertise*, *commitment*, *stability*, and *cultural fit* can improve the relationship between parties.

The second level is individual values which have two parts: personal and career, which indicating the priorities of the customers. In the personal part, there is *fun and perks*, *reduced anxiety*, *growth & development* and *design and aesthetics*. The career-related values are *network expansion*, *marketability*, and *reputational assurance*.

In the first level, there are the most subjective values such as *vision*, *hope*, and *social responsibility*. These values are some inspirational elements which can help the customer to predict future changes.

The more objective values are, the easier their measurements would be. As values get more subjective and emotional, quantification and measuring them will get harder.

Measuring the cost or the performance of a product is always easier than measuring the emotions and thoughts of customers.

They did a survey on IT infrastructure decision makers to find which values are matter most to customers. They found out that customer loyalty is the most important value in the IT infrastructure industry.

By considering this pyramid, companies can use surveys and statistical techniques to measure the elements of these values in their customer and get a better understanding of their customers' needs and desires.

### **3. METHODOLOGY**

#### **3.1 INTRODUCTION**

In today's highly competitive market, industry owners are looking to identify customers' behavior patterns of buying goods and products. Finding a behavioral pattern of shopping can have an essential impact on increasing sales for any business.

Of course, selling more and making more profit is the most important goal of any business, and business owners are trying to increase their sales with different tools. Finding a behavior pattern for buyers have attracted much attention recently. The main question to answer is: What factors affect customer purchases? To answer this question, we should look at the value from the customer's point of view. The answer to this question can affect all aspects of a business, and most importantly, it has a potential impact on sales.

In this study, we investigated the customer values and the effects of these values on their decision-making in the B2B market. These markets have significant disparities with consumer markets, and therefore we should consider different values from the customer's point of view. To do this, we must first define the customer's values and then create a questionnaire on these values. To define our values, we use Bane's Elements of Value Pyramid. Our target market is heavy machinery, so we set up a questionnaire based on this market.

We used the qualitative method for this research because customer values are subjective elements and the best way to get these elements is to interview the target population. To clarify the reason for our choice, some concepts will be defined in terms of qualitative and quantitative methodologies.

In the section after, the design of the research, the research approach, and the research strategy will be discussed in separate sections. Subsequently, the description of the population of the research will be presented. This description includes the population of the interview and the sampling method. In the next section, explanations will be provided on how the information is collected and the interviews are conducted. Subsequent sections deal with ethical considerations and limits of the study.

### **3.2 WHY QUALITATIVE METHODOLOGY?**

Qualitative research means any kind of research that provides findings which are achieved by methods other than quantitative methods. Some data may be statistically

quantitative, but their analysis is qualitative (Denzin, 1994). This research method often uses an inductive explanation. Qualitative research methodology is often referred to as methods used to obtain subjective data. In general, qualitative research tends towards a perception of the natural world, and its nature is entirely interpretative. The purpose of this is not to emphasize the causal relation through the rejection of the hypothesis based on the absence of a relation; on the contrary, the qualitative research recognizes the multifaceted interpretations of human experience and the recurring relation within social and cultural systems (Mcleod, 2011).

The root of qualitative research returns to a variety of field studies that are conducted by anthropologists and researchers through the daily routine of life. Qualitative research from the 1920s and 1930s was the cornerstone of sociologists for research projects. At present, the method of qualitative research in humanities research is more important than other methods. Qualitative research method can result in research results with different methods. Qualitative research utilizes historical, descriptive, and empirical data and data (Taylor, 2015). Qualitative research and essentially qualitative methodology generally have an interdisciplinary characteristic. Qualitative research involves a complex and interconnected set of terms, concepts, and assumptions. Qualitative researchers are trying to understand the state of affairs of social processes (Denzin, 1994).

Many people, especially novice researchers, think that this method is easier than a quantitative one. In particular, the qualitative method does not need to recall a mathematical formula and complex statistics. But in fact, this is not correct. Qualitative research can be really difficult because it requires a complex description of the subject. The process of collecting information in the quality methodology is longer. Researchers should also develop their analytical skills and apply them in their own research.

Beyond the various definitions of qualitative research, which defines each aspect of qualitative research, it may be generally possible to say that qualitative research describes political and social facts from the perspective of individuals, not from the viewer's perspective, in other words, a qualitative researcher studies the visible behaviors, motivations, feelings and emotions of the public, because he believes that internal events are only understandable if they are gained through personal experience. For this reason, qualitative methods are diverse (Mcleod, 2011).

Qualitative research is mostly done in social and human sciences such as anthropology, education science, communication sciences, management science, psychology, history, archeology, sociology, political science, international relations, and information management and it is usually multidisciplinary research. Qualitative methods produce a particular kind of knowledge about the world, which is different from the knowledge that other research methods produce. The essence of qualitative research can be summarized in this sentence: "The fundamental goal of qualitative research is to develop insight and understanding of how the world is made." (Mcleod, 2011)

The application and use of qualitative methods are linked to a specific epistemology. Thus, the methodological discussions have led to a long debate between positivists and relativists about the similarities and differences between methodologies of natural sciences and social sciences. Positivists and behaviorists from the early 20th century believed that the study of politics should be based on empirical observations and empirical theories (Denzin, 1994).

In this view, there is a great deal of emphasis on behavioral analysis, because behavior can be simply transformed into concepts that are operational and observable. Survey research along with a standardized approach is compared with interviewing based on the questionnaire with similar questions in a similar order (Denzin, 1994). There is limited interaction between the interviewer and the interviewee. This interaction

limitation is intended to prevent the respondent's reaction to anything that the interviewer may add to the scheduled interview and, as a result, triggers a bias in the interview. It is only through the design of unbiased questions that real objectivity can be achieved (Bryman, 2003).

A highly structured interview is a type of communication under controlled conditions, such as an empirical situation. Interviews can be easily replicated and relied on in the reproduction of similar facts. Statistical analysis of coded responses leads to the observation of orders that form the basis of explanation, generalization, and prediction. The main concerns of surveyors are their ability to predict their findings (Gummesson, 2000).

Regarding what has passed, some of the essential features emphasized by various scholars in the qualitative research method can be summarized as follows (Patton, 1999):

1- The proximity of the researcher: The methods used in qualitative research are designed to bring the researcher closer to social reality and social interaction in comparison with quantitative methods. Through them, the researcher is expected to become part of the research and interaction environment.

2. The openness of methods: Methods in qualitative research are meant to be open, which can be changed or manipulated at the time of application and collection. In quantitative research, the methods are standardized and constant, and there is no way to correct them.

3. The flexibility of the design: In qualitative research, the design of the research is flexible. That is, it can be changed to adapt to information. In quantitative research, the research design is developed at the start of the work and until the end of the research, no change is allowed.



4. Communication Method: This feature is about the nature of the research and about the study of this problem whether the methods must be achieved by way of communication and interaction (qualitative methods) or through an objectively defined fashion (quantitative methods).

5. Natural Methods: The key point here is whether the methods are designed to study interaction in the world and everyday life. As is clear and as interpreted by respondents, in qualitative research, the reality is observed as the interaction and association of members of society like it appears in a natural state.

6. Collecting and analyzing information: In some qualitative studies, collecting of information is closely related to the analysis of information and it is carried out simultaneously.

In these studies, the initial steps for analyzing information are common in the process of collecting information. In quantitative research, data analysis begins after finishing the information collecting process.

### **3.2.1 COMPARING QUALITATIVE AND QUANTITATIVE METHODOLOGIES**

According to many scholars, the discrepancy between quantitative and qualitative researches is fundamentally unnecessary, since these two methods need each. But since qualitative data is often composed of words and quantitative data is composed of numbers, and also because in quantitative research hypothesis is required before starting the research, and on the other hand, qualitative research is usually inductive and does not require hypothesis to begin the research, many researchers often find quantitative research superior and more practical than qualitative research (Gummesson, 2000).

Although there are obvious differences between the quantitative and qualitative approaches, some researchers believe that the choice of one of these approaches is more

dependent on specific principles or research traditions than on the methodology of the research. The difficulty in choosing a research method is due to the fact that research is often carried out by universities or other educational and research organizations, and their findings are used to decide on important policies with specific operational and practical actions (Bryman, 2003).

Despite the differences in opinion among researchers, it can be said that each of the research approaches has certain limitations. Quantitative research often forces researchers to put the responses and subjects to categories that may not be appropriate for them. On the other hand, qualitative research sometimes emphasizes much on individual outcomes and cannot explain broader situations or other social factors. Although each of these methods is a complete and accurate description of phenomena or individuals, no attempt is made in them to assign frequencies, numbers, and values to the studied features. For this reason, phenomena rarely receive the same attention in these studies (Gummesson, 2000).

In fact, qualitative methods have a common purpose in quantitative methods. This purpose is to gather information that will provide a basis for future ideas and actions. Their structures are different, but in most cases, the applied methods are similar in both types of research. Both types of research may, for example, use an analysis of the content of interview or observation. However, in these cases, the structure and the theoretical source of them are different (Bryman, 2003).

Qualitative analysis is a kind of non-numerical experiment and observational interpretation used to discover the underlying and non-standard meaning of relationships between individuals, and phenomena, while quantitative numerical is the representation and manipulation of observations to describe and explains the phenomena that reflect this observation.

In a quantitative study, scholars play the role of an objective observer without any participation or influence in the process of study. While in qualitative research,

researchers, with participation and engagement in the situation, actually study and learn more. The underlying assumptions of these two methods are actually guides and determine the types of data collection methods (Gummesson, 2000).

Qualitative research techniques provide real answers to researchers because they are based on sensory and interactive learning. An over-the-top approach is a logical and highly structured instrument of qualitative research, and it deals more with complex and emotional data. Researchers in a qualitative method try to understand through inductive analysis and move from specific observations to general observations. While, according to some scholars, the logic of quantitative analysis, is the analogy and its movement from the whole to the component (Patton, 1999).

### **3.2.2 ADVANTAGES OF QUALITATIVE RESEARCH**

In general, regarding the differences between quantitative and qualitative methods, we can mention the following advantages for quantitative research (Toulmin, 1999):

**Observation of Behavior in a Natural Situation:** The distinction between qualitative research and other methods is the study of social behavior in a natural state. In this way, the researcher's perception of the phenomenon under study is reliable because of the fact that the phenomenon is investigated in the real world and not in a fictitious environment. The situation is created in a very accurate and natural way by the researcher so that the interviews and notes that are being prepared at the same time are by no means in conflict with the natural conditions of the community.

The biggest difference between qualitative research and other methods is that the observer gains more experience with a direct presence in the scene, resulting in more sensitivity to non-scientific activities. In this method, the researcher has to reconsider the previous theory and adapt himself to the observed results.

**The depth of perception:** The second point of qualitative research is the ability of this method to attract and obtain specific ideas and comments that are related to and arising

from life. The qualitative research forces the researcher to directly enter into the lives of the subjects being investigated. Research follow-ups help the researcher examine his or her views with the current values of the research.

**Flexibility:** The third advantage of qualitative research is its flexibility. In this method, not only can question or questions be answered in advance, but the researcher also has the ability to answer the question raised at the time of the implementation of the research. In other words, he can expand his research on the basis of new developments that have come about. And since it deals with different groups and communities, it can direct its research based on direct observations. In this method, if the researcher is not flexible, he loses a lot of information.

### **3.2.3 LIMITATIONS OF QUANTITATIVE RESEARCH**

Qualitative research, with all the strengths it has, is not without limitations. Here we list four well-known public criticisms (Bryman, 2003).

1. Very subjective: People who tend to have quantitative research sometimes consider qualitative research very emotional and subjective. However, subjectivity is the goal of qualitative research. Given the criteria of validity and reliability (or credibility and legitimacy), you can overcome this issue.

2. Problems in Repetition: Because qualitative researchers are the main tool of research, repeatability in a study is impossible in practice. However, qualitative researchers are not interested in repeating the test. Their commitment is more about their integrity and consistency. The precise link between the steps taken and the research process helps to clarify the quality of study and critique of this type.

3. Problems in generalization: It is assumed that qualitative research studies represent a large society; however, the limitation of the conclusions of this type of study is a major challenge. By providing rich descriptions of what is true in one particular

context, it is possible to clarify important issues in a particular case or in a particular group of individuals. Nevertheless, the theory-based conclusion can be presented.

4. Little attention to the analysis: Qualitative researchers have been so much involved in sample selection methods, data collection, and their analysis and sometimes they care less about the qualitative research data analysis and how to interpret the results.

Finally, due to the fact that qualitative research involves concepts, many people, especially novice researchers, think that this method is easier than a quantitative method, especially since the qualitative method does not need to learn a complex mathematical and statistical formula. But this is not true. Qualitative research can be really difficult because it requires a complex description of the topic. The methods of collecting information in a qualitative methodology are longer and researchers must develop their own analytical skills when developing and reviewing themselves during the research.

### **3.3 RESEARCH DESIGN**

In this study, we sought to assess the customer's value in the heavy machinery industry. For this purpose, after determining the potential values in the industry, it was decided to collect the data through interviews with individuals within the industry. The reason for choosing this approach and interviewing method will be discussed further.

#### **3.3.1 RESEARCH PURPOSE**

It was aimed to investigate the value of consumers in the study, the effects on the customer segment and satisfaction of the B2B sector, and to determine the effective factors for the purchase decision. The purpose of this study is to determine what factors consumers' values in the procurement process of construction machines.

### **3.3.2 RESEARCH APPROACH**

The categorization of qualitative research is not easy and it is not agreed upon by everyone. There are many other approaches that cannot be covered all, and here are just a few most used approaches. Juliet Corbin and Anselm Strauss consider some qualitative research approaches as (Corbin & Strauss, 2008):

1. Grounded Theory: it is conceptually derived from the component to the whole of the phenomenological study and represents the phenomenon. In other words, it must be discovered and completed and tested experimentally by systematically gathering information and analyzing the data from which the phenomenon originated.

2. Ethnography: ethnographic research is usually correlated with anthropology. Ethnography is a profound and analytical description of the cultural situation and in the broad sense of culture. Ethnographic research has a strong emphasis on observing, describing, and qualifying judgments or interpreting phenomena.

3. Phenomenology: the use of phenomenology in order to research and direct knowledge of experiences and observations; in other words, to the phenomena that appear immediately in our experience.

Of all the existing categories, we used the ethnographic approach because the subject we are studying is about value from a customer perspective, and therefore we deal with the personal and subjective thoughts of individuals. In order to conclude and achieve the most important values in the purchase of heavy machinery, it is necessary to collect information from buyers. Since this information is subjective and may vary from person to person, data collection should take place in a face-to-face manner. In the following sections, we will discuss the method of collecting information.

### **3.3.3 RESEARCH STRATEGY**

The model that is applied in the research is the model of a study that includes the B2B Elements of Value Pyramid (Almquist et al., 2018) and examines customer values and

satisfaction in the construction machinery industry. We used this model because it had a proper classification of different values from a customer's point of view and adapted this model based on our study (i.e., heavy machinery). This value was used in interview questions to cover all aspects of the pyramid and to be able to reach the most subjective values from the most objective ones.

### **3.4 POPULATION AND SAMPLING DESIGN**

#### **3.4.1 SAMPLING METHOD**

The following methods are used to collect the required data in qualitative research (Sandelowski, 1995):

1. Homogeneous sampling: Includes people belonging to a subculture or group with similar characteristics. For example, in interviews with specific field specialists, the selected sample is similar in terms of certain variables such as occupation, background, type of experience, age and gender.
2. Heterogeneous sampling: Includes individuals or groups of people that differ in major aspects. For example, when comparing perceptions about the experiences of the group and individual vendors, the female and male gender can form a heterogeneous group.
3. Snowball sampling: In cases where the existing sample is not beneficial or known. In this method, the researcher finds someone through someone else.
4. Convenient or expedient sampling: Whenever a new member is rare or a few members are available, the researchers randomly, on exceptional and momentous occasions, chose the person that could be included their research. (For example, meeting with a member of the population at the party and ...)
5. Quotas sampling: In this method, the statistical population is divided into several classes, then by choice, a share is given to each class, and finally, samples that are easier to access are chosen arbitrarily.

6. Group sampling: In this method, the researcher finds a social group as representative of the community to which it belongs, based on personal experience or repetitive experiences, and conducts the necessary examinations.
7. Targeted sampling: In this sampling, we select from the unusual, ordinary and unique batch so that we can examine all dimensions of what is representative of the population.
8. Theoretical sampling: Selecting sample individuals in a way that ultimately leads to the construction of the theory.

Because our target population should all be familiar with the heavy machinery and have the experience of buying it, we used homogeneous sampling to form our population.

### **3.4.2 POPULATION**

The population in the qualitative studies using interviews includes the directors and experts in the field of study. The first step in calculating the sample size is the “expert” definition based on the exact specifications of the experts. We must provide a comprehensive definition of the experts.

The purpose of this comprehensive definition is to define the conditions that cause a person to be included in the population or to be removed from the population. For example, in this study, the expert is the customer of the heavy machinery and he/she is the individual that:

- A) Has a business related to heavy machinery.
- B) At least has one experience of buying a heavy machine.
- D) Has at least 5 years of heavy machinery experience.

With these conditions, we eventually reached to 12 eligible participants and interviewed them.



### **3.5 DATA COLLECTION**

In a qualitative study, there are usually three ways to collect the data (Patton, 1990): observing, using available documents, and interviewing. Observing is meant to observe the exact recording of all aspects of the occurrence of a particular event or the behavior and speech of a person or people through senses or other means of perception (by the assistance of a particular tool). In some researches, information that has to be analyzed as data is already available. In such a way that the researcher does not seek new information, he can collect the information that has already been prepared and is available in cases (Clinics, hospitals, registration, and students' records, or clients of various municipality centers). But in our case, the most important tool for collecting data related to the value of the heavy machinery buyers is the interview. So we decided to have an interview with heavy machine buyers. The process of the interview in qualitative research is as follows (Dummay, 2011):

1. Determining the type of interview (structured, semi-structured or unstructured)
2. Designing an interview protocol
3. Recording the interview
4. Interview Coding
5. Identification, Diagnosis, and Refinement of Indicators
6. Screening and refining of indicators
7. Preparation of final indexes of indicators

Considering this process, we conducted interviews with heavy machinery buyers.

#### **3.5.1 TYPE OF INTERVIEW**

The interview is the main tool for collecting data in qualitative research. The interview is one of the methods for collecting information, in which individuals or groups of individuals are questioned in person (Dummay, 2011). The important point is that interview questions have been pre-considered and determined. Another characteristic of the interview is its degree of flexibility and how it is implemented. Interviews have

been considered as one of the ways in which the opportunity to respond is more than other methods, since during the interview, it is possible to stimulate the subject to respond, and in the case of ambiguity, it can be clarified with the explanation to the subject.

The interview is divided into three main categories (Bloom, 2006):

- Unstructured interview
- Semi-structured interview
- Structured interview

There are many strengths and weaknesses in a variety of interview methods as a data collection tool. The method chosen for the interview should be appropriate for the strategies, goals, and research questions. In addition, our chosen interviewing method affects the scientific aspects of the interview and the management of this process. However, the different types of interviews have different depths and richness of information.

### **Unstructured interview**

In this type of interview, interview questions are not designed in advance but related to the purpose or general question of the research. There are no preset categories for categorizing responses in this way. Most interviews are not structured, but they are focused on a series of questions. This kind of interview is called "Unstructured", and it means the interviewee is free to talk about everything that he or she considers important, and usually, little interference and influence are imposed by the researcher during the interview.

This type of interview can only be used for qualitative research. An unstructured interview is used to search for the interpretations and meanings of events and cultural situations and their symbolic meaning from the public's point of view. An unstructured

interview is widely used in social research and other areas and has the capacity to produce rich and valuable data.

### **Semi-structured interview**

Semi-structured interviews are one of the most common types of interviews that are used in social-quality research. The interview is between two types of structured and unstructured interview and it sometimes called "deep interviews", in which all the respondents are being asked similar questions, but they are free to respond in any way they want. In this case, the responsibility of the coding the answers and their classification is for the researcher.

### **Structured interview**

The structured interview is very similar to the questionnaire. In these types of interviews, questions are already planned. First, the researcher uses a formal questionnaire listing all questions that are to be asked. The interviewer asks you questions and marks the answer based on your answers. A structured interview covers interaction between the interviewer and the interviewee. Structured interviews are used in quantitative research.

In a structured interview, flexibility will be minimized, while standardization will be maximized. In this type of interview, the researcher tries to play a neutral role and to have a neutral approach and to emphasize more on logical responses rather than emotional responses. These types of interviews are designed to remove the role of the researcher and to create objectivity in the study. But remember that as a qualitative researcher we must admit that there is no objective and individual reality, and that's why we are collecting, receiving and processing data. In this method, the questions are prepared and arranged in a logical order, and each interview follows the same order in the questions. Sometimes when the researcher feels that he needs more exploration, he

can add supplementary questions. This type of interview is more appropriate for research studies than qualitative research (Bloom, 2006).

With the above definitions, it was decided to use the semi-structured interview method. Because this method allowed us to define a set of pre-designed questionnaires and, at the same time, we were able to add some other questions regarding the context or the atmosphere of the conversation.

### **3.9 SUMMARY**

In this chapter, we introduced our selected methodology for conducting this research, and then we outlined the reasons for choosing these methodologies. In this study, we used the qualitative methodology, because it was more consistent with our research requirements. We used homogeneous sampling to sample our target population. Our sample of the population was 12 heavy machinery customers whose business was related to heavy machinery purchase. We decided to use semi-structured interviews to collect information from them. In this chapter, we tried to explain the reasons for our choices by defining different concepts related to our work. In the next chapter, we analyze the information and discuss the obtained results.

## **4. RESULTS AND DISCUSSION**

In this section, we analyze the data collected through interviews. We first describe the different types of interview data analysis methods and then select the method we want to use for our work. After selecting the method, the analysis of the interview is done and the values tables, along with the corresponding codes, are created according to the interviews. Afterward, we present the overall values in purchasing heavy machinery. After that, all statistics are presented in levels and general figures.

### **4.1. DATA ANALYSIS METHODS AND TECHNIQUES**

There are various ways to analyze the data of the interview; in this section we will review some of these methods and choose the method that we want to use.

#### **4.1.1 QUANTITATIVE ANALYSIS**

For this purpose, statistical methods are used. In this type of analysis, the written text of the responses of the interviewees is coded and counted in the frequency distribution table. Then the information in the table is analyzed using descriptive statistics methods, appropriate to the type of variables or research, the research method, and the purpose of the research. The researcher can calculate statistical indices such as distribution percentages, abundance, and compaction percentages (Cohen, 2002). A quantitative analysis is used to examine the data of structured interviews in survey research. In these interviews, questions may be closed response or open response. When the questions are closed, the interview guide looks like a questionnaire.

Where questions are open, the interviewer codes his interview manual beforehand, and while the interviewee responds freely, the interviewer marks the response content or part of it according to predetermined categories.

The data obtained from these questions, such as closed-ended questions, are answered, extracted, analyzed, and reported. Where it is not previously decided to analyze the answers to open questions, the words, sentences, and concepts are first identified and converted into numeric codes, then the digits or numbers obtained are used to compute descriptive and inferential statistics indices (Cohen, 2002).

#### **4.1.2 STRUCTURAL ANALYSIS**

In structural analysis of the transmitted text, we discover the components of the textual structure of the interview, namely words, concepts, and the relationship between them in terms of the number of repetitions, the number of words, abstracts and terminology used in the sentences, and the frequency of their counting, and the examination of the words in the statements. The advocates of this kind of analysis use various techniques and methods, including the method of communication analysis.

In this way, the researcher tries to identify the relationships between topics or issues. The basic assumption of the analysis of relationships is that the words and phrases that individuals make have no inherent meaning in itself, but meanings are created through the analysis of relationships, that is, the discovery of links and relationships between concepts, words, or phrases within the text.

Therefore, concepts should not be considered as separate semantic units but should be used as symbols that derive meaning in relation to other symbols in the text. According to Birmingham (2003), the seven-stage relationship analysis model is as follows.

1. The decision on the question: A carefully and expertly asked question can limit the number of topics, issues, and subsets to be examined, and allow the entire analysis

process to be managed. For example, in research, the fundamental question is that, according to interviews published in a newspaper, "What is the best way to manage health services?"

2. Definition of the analysis framework: When the question is determined, it is necessary to determine which interviews should be analyzed first. For example, in the above-mentioned research, it may be decided to analyze only two interviews from the published interviews.

3. Decision-making: We should decide about the type of relationship to be investigated. To examine the relationship between words, phrases, or other analysis units, one can use "effects extraction," "similarity analysis," and "cognitive mapping" approaches.

4. Coding and categorizing the text: Deciding on the type of analysis will determine what words or concepts should be coded and categorized. For example, if the researcher intends to code positive and negative advice on health service management based on the effects extraction approach, he must carefully review the texts and classify the recommendations in both positive and negative categories. In the example cited, the recommendation to change the wage bill can be a negative concept, and the transfer of management to the private sector has a positive concept.

5. Discovering Relationships: At this stage, the researcher, by examining the place of words and concepts in the text, the number of times that they are used, along with the main problem or issues in the research, reveals links and relationships between words and concepts.

6. Coding of relationships: At this stage, the researcher codes the text with the communication codes, for example, some codes indicating the positive relationship (positive numbers) and other codes indicating the negative relation (negative numbers).

7. Relationship analysis: At this stage, information analysis is performed using statistical techniques such as "matrix" mapping and calculation of correlation

coefficient. For example, in the mentioned research, the researcher can count all positive or negative codes, check their numbers, find links between concepts and words, or look at their direct and indirect relationships, then present the relationships in graph form.

An important point in structural analysis is that after analyzing the process, the researcher needs to judge the hypotheses based on the results or answer the basic questions in the research. In this context, the researcher must use the intellect, logic, mind, and thought to discover reality. Sometimes the results indicate that there were issues and problems in the implementation of the research. For example, there is little data, or there have been deficiencies in research hypotheses and questions. Hence, making changes to them or conducting additional interviews will be necessary.

#### **4.1.3 INTERPRETATIVE ANALYSIS**

In this method of analysis, the researcher is attempting, as far as possible, to reveal the latent messages in the written text of the interview. According to Gillham's recommendation, the text of the interview should be written in full detail (Gillham, 2000). The main questions, the reminders, the interviews conducted by the interviewer, and supplementary questions should be mentioned in order to provide a complete understanding of what the interviewer has said. Researchers code them with two approaches to make sense of these texts.

In the first approach, the researchers, by reviewing the literature on the research subject, have obtained ideas about what topics and concepts should be selected for coding, and already have a theory in their minds. Based on them, they define the codes, and then extract new concepts with these codes from the interview data.

In the second approach, the goal of the researcher is to achieve the underlying theory. In other words, he is seeking a theorem in the text of interviews, not a predetermined



one. Therefore, the determination of codes, the recognition of concepts, and the formulation of the theory of the segments of the interconnected process of analysis are extracted from the data without the use of literature and through open coding, selective coding or axial coding. In both approaches, according to Rubin (2005) and Gillham (2000), for interpretative analysis of the text of the interviews, the researcher must follow the steps below:

1. Review the transcribed texts accordingly.
2. In each text, basic words are highlighted, underlined, or inscribed in bold. Also, duplicate statements, sentences, divergent statements, and other irrelevant data should be ignored.
3. Identify some similar statements that seem to suggest something new.
4. When all the texts are reviewed, the researcher must return to the original text, review it, and make sure that nothing is neglected. Additionally, he answers the question that, are there any statements among the keywords that are not really essential? Sometimes it is necessary to ask another person to mark a set of texts separately. Then compare what he has highlighted with his own signatures and, if necessary, change them.
5. The researcher must return to the first text and, by reviewing the essential statements, try to extract a set of categories from the answers given to each question and assign them simple titles. It is clear that many texts are extracted from the first texts, but gradually, the number of titles that are extracted from subsequent texts decreases because people point to similar points.
6. At this stage, researchers should look at the list of categories and ask themselves: can they be combined? When reviewing this listing, you may find that some of the titles listed are not appropriate and should be removed. To be sure, it is necessary to ask other people to review the classification system.

7. After determining the final categorization system, the researcher must go back to the texts that have been transcribed and compare each of the substantive issues with the list of categories and see where the point is in the list of categories. Leave the question mark in front of the words that cannot easily be linked to any category. In addition, if necessary, they should change the words in the categories of titles or add new categories to fit the statements better and can include statements that are of doubt or other major responses.

8. It is necessary for the researcher to list the categories of each question in an analysis table. The titles of the categories above and the names or codes of the respondents is written next to it. Then, in each cell, we enter what the respondents said or part of it. The next step, which in it interviews should be described in detail, will help us to find the place of the words related to each category.

By doing these activities, the explicit content of the texts is analyzed and described. Now, the researcher has to put together what people have said about each category in a variety of ways to analyze the meaning of what people have said so that the hidden meaning of the interviews can be understood. It's a difficult task when people use different forms and expressions to say something (Rubin, 2005).

Anyone who analyzes may have different inference from the title of the categories and interviewees' statements and even interfere with their preferences. As a result, categories may be misused. In order to prevent it, the researcher or analyst must clearly identify the fundamental nature of his inferences before starting the analysis.

Another work that the researcher needs to do is use peer-review. It means that the researcher will get help from someone else who is equal or more in skill to him; he will provide him with an unsigned text, explaining the nature of the research to him and asking him to highlight the essential statement. Then compare them with his own analysis. If the peer does not highlight a statement that the researcher has identified as an essential argument or vice versa that statement can be reviewed (Gillham, 2000).

Of course, when a researcher performs coding on the ground theory approach, he defines the codes based on the meaning of the interviewees. As a result, when reading each line or paragraph, he asks: What is the meaning of the interviewee, and then summarizes the answer in one word or phrase. Whenever, while reviewing other texts, they find that the interviewees have expressed different views, the researcher's idea of the meaning of the subject may change. As a result, it has to re-code in order to coordinate his findings (Rubin, 2005).

The greatest benefit of the analytical research that the researcher has done so far is to provide him with the basic findings and details that are classified in terms of categories. In order to carry out the final analysis, as suggested by Gillham (2000), the researcher needs a one-week break because at the end of this time he can return to the information with a new and more mentally organized viewpoint and write a detailed description and interpretation of the statements and events. At this stage, in order to write the interpretative part of the study, the researcher may want to develop a theory or provide background theory. Therefore, one has to think and decide how to bring the results into a comprehensive theory in the opposite direction. Several ways can be used to link concepts with each other (Gillham, 2000).

One method is to use the question pattern through interviews and illustrating the researcher's idea of the topic of research. The second way to look at interviews is to find out more about how the interviewees interlinked the main issues? The third is studying the published literature, which not only gives the researcher the basic concepts but also how they relate to each other. The fourth is that the researcher decides on how the concepts and issues can be linked, based on an idea that is in his mind. Then come back to his ideas and see if such a connection is observable for them. By choosing one of the methods, the researcher must relate the results. He may exceed the data, omit the concepts due to the lack of evidence, and change some and combine others.

Therefore, in writing the report, the researcher does not only reproduce the statements and explain the processes, but he must provide an explanation or a description while providing sufficient evidence for his theoretical discussions. To this end, in a detailed description of the interview data, the researcher needs to link the opinions and beliefs of the interviewees with the direct and indirect quotes.

A few points are needed to prepare this report (Gillham, 2000):

First, it is not necessary to quote all the statements in a given category, but just a set of various answers as the representative of all the statements. Of course, if there are different statements, they should be added to provide accurate views. Some respondents have expressed a similar point in a clearer, more passionate way, or in a different way to others. These statements are more relevant to direct citation.

In general, the selected quotations should provide a coherent picture of the subject matter. Under each subtitle, one or two introductory clauses must be presented and then interviewed by the interviewees. Of course, linking between them is necessary. He also can bring two or more quotes that refer to one point of view.

Second, in order to observe the principle of "confidentiality," the researcher must refrain from mentioning the interviewees' name, and instead assign each one code and, where applicable, refer to them as their codes. The researcher can ensure that the reader is aware of the important characteristics of the respondents, such as type of their education, place of education, work experience, workplace, and interview time, and the information is new, and that person has sufficient information about the subject, which creates reliable data

Third, a concern that exists here is the intentional or unintentional impact of the researcher's prejudices on the selection of quotes. He should control it as much as possible. The basic solution of this problem is when the researcher quoting a conversation, he marks it in the table of categories. After writing a detailed description

of the terms for each category, carefully read all the quoted and unquoted statements in order to examine their reasons for choosing or not choosing. Also, note that there may be minor points or little differences that cannot be represented by just one or two quotes.

Fourth, one way of illustrating the types of comments mentioned and their interpretation is to mention the number and percentage of interviewees who have or would oppose the view. Sometimes there is a complex picture of the subject in the statements. Therefore, a pattern of interviewees' statements should be provided in the form of a table or chart.

Regarding the number of quotes, Gillham (2000) recommends two points: first, if all or most of the interviewees refer to the same fundamental point, this subscription should be better represented by a range of censuses; because the mention of a quotation, has the message that this is just a comment of one individual.

Second, although individuals may express almost the same thing, minor differences in views and delicate and important differences in detail can only be revealed by a set of quotes (Gillham, 2000).

## **4.2 OUR METHOD**

We used Bain's value pyramid as the reference for this research. Because interviews have open questions and the research question and classification of values is obvious to us, we only need to interpret the responses of interviewees. Therefore, we use the interpretive analysis method. The interpretation of the interviewees' responses was carried out according to the values of the Bain's value pyramid. So the value categories were available, and all we needed to do was connect the interviewees' statements to these categories. First, the interviews were read several times. Then, we highlighted the interviews' sentences and statements that were related to these categories. After

highlighting the interviews, the categorizing of these statements begins. Each statement is related to the closest equivalent in the value pyramid. For ease of work and prevention of mistakes, the pyramid categories were coded. In the following table, you can see the value pyramid classifications' codes.

Table 1 Coding The Values Of The Pyramid

<b>Bane's value pyramid</b>	<b>Codes</b>
Vision	VIS
Hope	HOP
Social responsibility	SOR
Network expansion	NEX
Marketability	MRK
Reputational assurance	RPA
Design & Aesthetics	DES
Growth & development	GRW
Reduced anxiety	RAX
Fun & perks	FUP
Time-saving	TSV
Reduced effort	REF
Decreased hassles	DHS
Information	INF
Transparency	TPN
Availability	AVA
Variety	VRT
Configurability	CFG

Organization	ORG
Simplification	SMP
Connection	CNC
Integration	INT
Responsiveness	RES
Expertise	EXP
Commitment	CMT
Stability	STB
Cultural fit	CUF
Risk reduction	RSK
Reach	REA
Flexibility	FLX
Component Quality	COQ
Improved top line	ITL
Cost reduction	COR
Product quality	PRQ
Scalability	SCL
Innovation	INV
Meeting specification	MSP
Acceptable price	ACP
Regulatory compliance	RGC
Ethical standards	ETS

Subsequently, each statement was assigned to a code, and finally, the overall result was obtained, which is discussed in the next section.

### 4.3. RESULTS

After reviewing the interviews and separating statements related to the values that the interviewees paid attention to when buying heavy machines, the pyramid values were coded, and each of the statements was linked to their code. After that, the number of repetitions of the codes was obtained. A detailed description of the results is presented in the following figures and tables.

Table 2 Values Stated By Interviewees With Respect To The Bain's Value Pyramid

<b>Bane's value pyramid</b>	<b>Codes</b>	<b>numbers</b>
Vision	VIS	2
Hope	HOP	0
Social responsibility	SOR	4
Network expansion	NEX	2
Marketability	MRK	3
Reputational assurance	RPA	1
Design & aesthetics	DES	2
Growth & development	GRW	0
Reduced anxiety	RAX	1
Fun & perks	FUP	0
Time-saving	TSV	8
Reduced effort	REF	7
Decreased hassles	DHS	4
Information	INF	9
Transparency	TPN	7
Availability	AVA	10



Variety	VRT	1
Configurability	CFG	2
Organization	ORG	0
Simplification	SMP	1
Connection	CNC	1
Integration	INT	0
Responsiveness	RES	9
Expertise	EXP	6
Commitment	CMT	10
Stability	STB	8
Cultural fit	CUF	2
Risk reduction	RSK	7
Reach	REA	3
Flexibility	FLX	2
Component Quality	COQ	7
Improved top line	ITL	1
Cost reduction	COR	12
Product quality	PRQ	10
Scalability	SCL	1
Innovation	INV	3
Meeting specification	MSP	9
Acceptable price	ACP	8
Regulatory compliance	RGC	2
Ethical standards	ETS	0

In each interview, it was possible that interviewee refers to the same value several times. In order to avoid mistakes in obtaining the proportion of values, in each

interview, each value was calculated only once, and duplicate codes were deleted. In Table 3, we can see the proportion of the different values.

Table 3 The Proportion Of Values In The Interviews From More To Less

<b>Value</b>	<b>percentage</b>
Cost reduction	100%
Availability	83%
Commitment	83%
Product quality	83%
Information	75%
Responsiveness	75%
Meeting specification	75%
Time-saving	67%
Stability	67%
Acceptable price	67%
Reduced effort	58%
Transparency	58%
Risk reduction	58%
Component Quality	58%
Expertise	50%
Social responsibility	33%
Decreased hassles	33%
Marketability	25%
Reach	25%
Innovation	25%
Vision	17%
Network expansion	17%

Design & aesthetics	17%
Configurability	17%
Cultural fit	17%
Flexibility	17%
Regulatory compliance	17%
Reputational assurance	8%
Reduced anxiety	8%
Variety	8%
Simplification	8%
Connection	8%
Improved top line	8%
Scalability	8%
Hope	0%
Growth & development	0%
Fun & perks	0%
Organization	0%
Integration	0%
Ethical standards	0%

We can also look at these results at different levels of the Bain's value pyramid. Table 4.4 shows the results by the levels, and each level is shown in a different color.

Table 4 The Proportion Of Values In The Interviews In Each Level Of Bain's Value Pyramid

Vision	17%
Hope	0%
Social responsibility	33%
Network expansion	17%
Marketability	25%
Reputational assurance	8%
Design & aesthetics	17%
Growth & development	0%
Reduced anxiety	8%
Fun & perks	0%
Time-saving	67%
Reduced effort	58%
Decreased hassles	33%
Information	75%
Transparency	58%
Availability	83%
Variety	8%
Configurability	17%
Organization	0%
Simplification	8%
Connection	8%
Integration	0%
Responsiveness	75%
Expertise	50%
Commitment	83%
Stability	67%

Cultural fit	17%
Risk reduction	58%
Reach	25%
Flexibility	17%
Component Quality	58%
Improved top line	8%
Cost reduction	100%
Product quality	83%
Scalability	8%
Innovation	25%
Meeting specification	75%
Acceptable price	67%
Regulatory compliance	17%
Ethical standards	0%

As we know, as we go from the top of the pyramid to bottom, values are getting from objective to subjective cases. In the following, some figures are presented to illustrate the results.

<b>Value</b>	<b>Meaning</b>
Cost reduction	Maintenance, service price and fuel consumption
Availability	Spare parts availability, expert technician
Commitment	Pre-Sales and After-Sales Commitment
Product quality	Material and Labor that used in the production of machine,
Information	Technical information, tips for machine use
Responsiveness	Quick respond in urgent service need
Meeting specification	Durable, second hand value, fuel-saving, with the most basic technical features
Time-saving	Faster completion of targeted work, rapid response to the need for service or spare parts
Stability	Employee circulation -Representative
Acceptable price	Machine performance vs Sales Price

Table 5 Top of Value mean in terms of Customer Mind

In the following, charts are broken down into different levels of the pyramid.

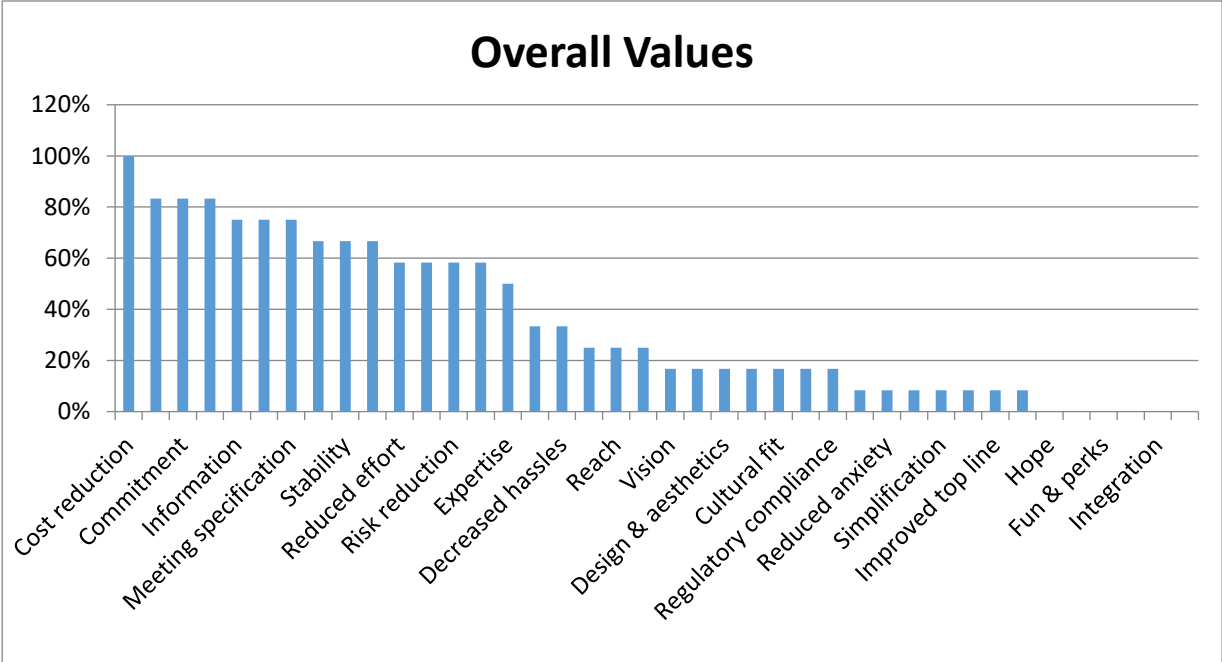


Figure 3 The overview of values stated by interviewees as effective values for the purchase of heavy machinery

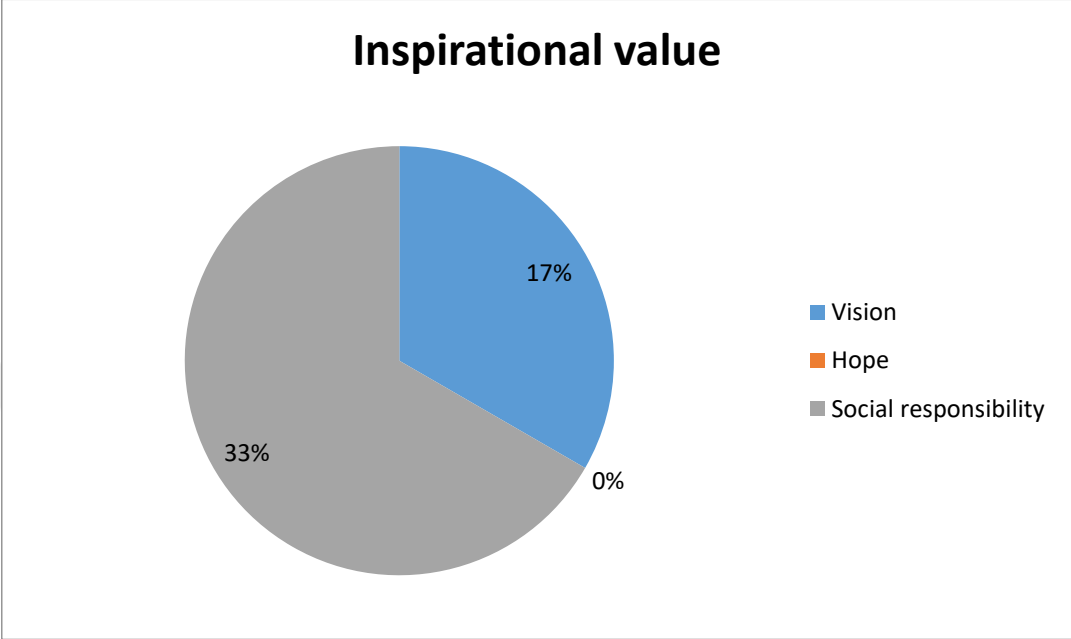


Figure 3 Proportion Of Values In Inspirational Level Of The Pyramid



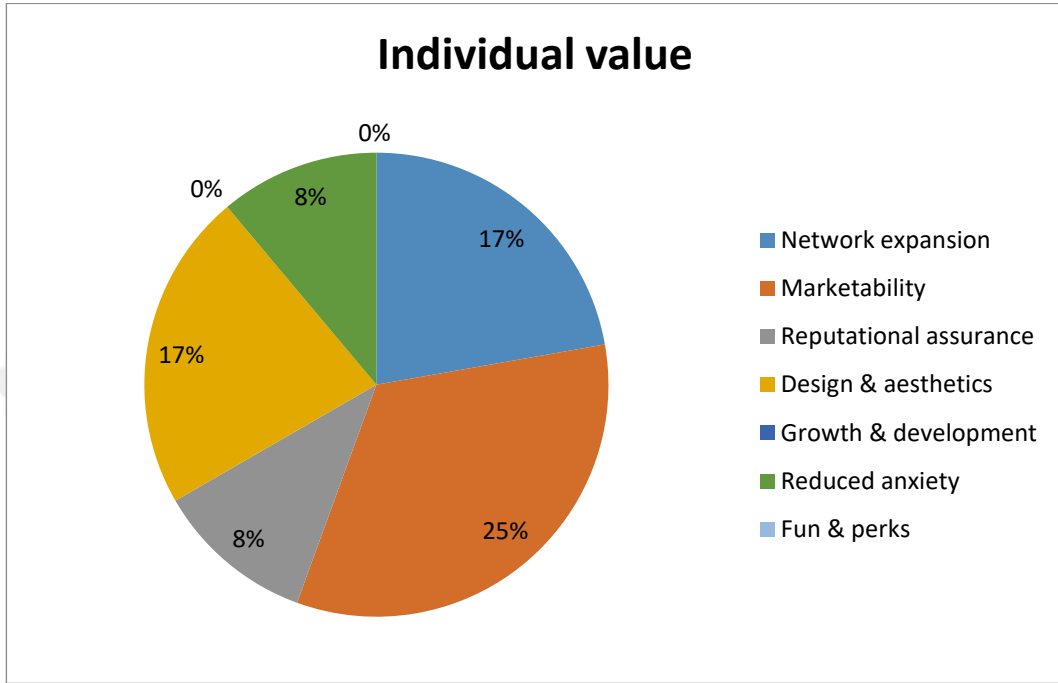


Figure 4 Proportion Of Values In Individual Level Of Pyramid

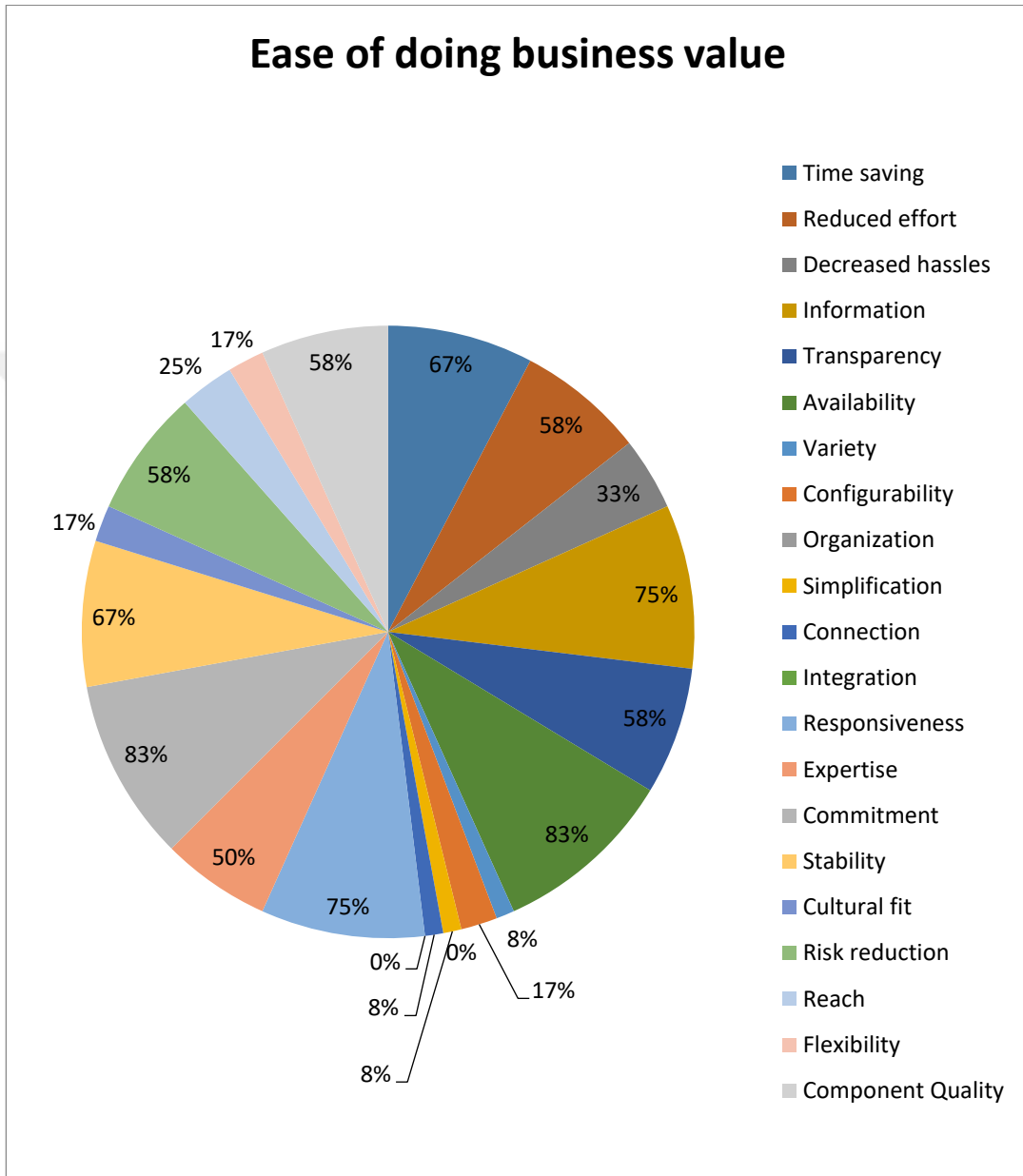


Figure 5 Proportion Of Values In Ease Of Doing Business Level Of The Pyramid

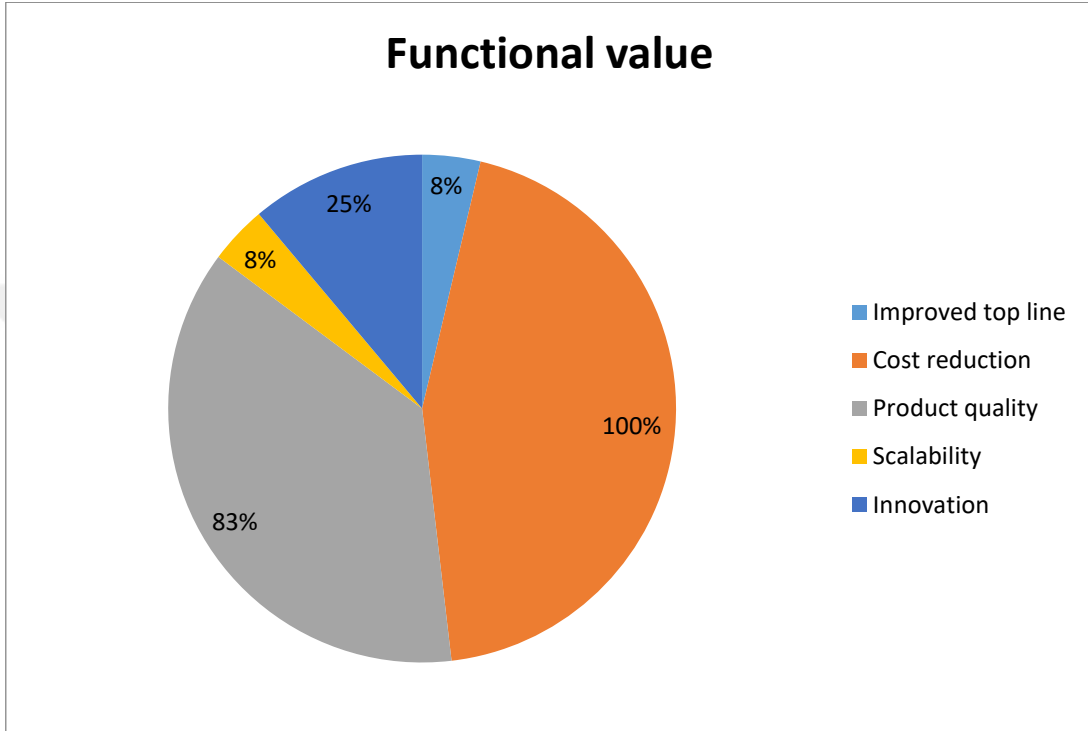


Figure 6 Proportion Of Values In Functional Level Of The Pyramid

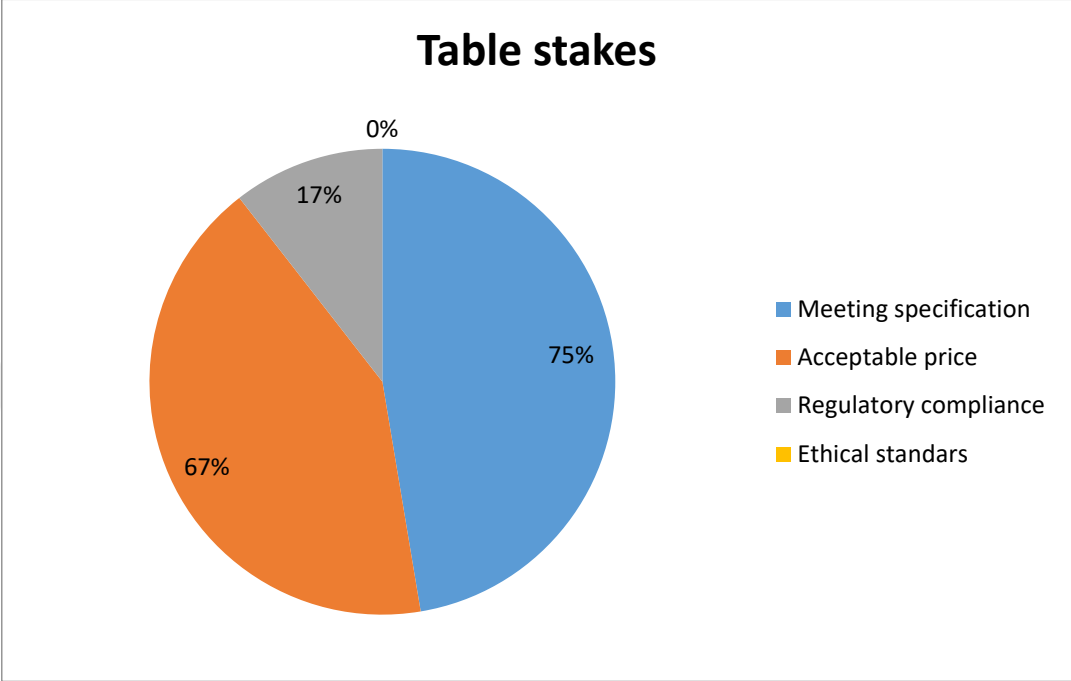


Figure 7 Proportion Of Values In Table Stakes Level Of The Pyramid

#### 4.4 DISCUSSION

According to the above tables and figures, it can be seen that *Cost reduction* with 100% in all interviews was considered as the highest value that the buyer paid the most attention when buying new heavy machines. This cost reduction can be considered in several aspects. Most interviewees were looking to reduce costs by reducing fuel consumption. So buying a machine that consumes less fuel than it does is of the highest priority. Therefore, buying a car that consumes less fuel compared to its performance is a high priority for interviewees. Reduced costs can include reduced maintenance and operational costs of the machine. For some interviewees, the availability of cheap services and spare parts was a priority.

In the second place, we can see three values of *availability*, *commitment*, and *product quality*, all of which are 83% in our chart. *Availability* means the availability of after-sales service and spare parts. Most interviewees were looking for the availability of after-sales services when they needed it. Furthermore, the availability of spare parts for the machines on the market was also a priority for most interviewees. The interviewees meant of *Commitment* was seller's adherence to the sales contract and after-sales service. The *Product quality* was also referred to the overall features of the machine, which generally was related to high performance and good productivity of the machine. These include design quality, machine power, high durability, and tolerance of hard conditions.

In the third place, there are *Information*, *Responsiveness* and *Meeting specification*. *Information* with 75% indicated these requirements: to get the machine's specifications accurately, get the details related to the machine's consumption and get the right technical information of the machine. By *Responsiveness*, it is expected that after-sales service will be responsible and responsive to the machine sold. In this regard, interviewees pointed out to the speed of services, the quality of services, and the

response of after-sales services. *Meeting specification* highlighted the specific needs that were important to the buyer of the heavy machine.

After that, *Time saving*, *Stability*, and *Acceptable price* with 67% were the priorities in the purchase of heavy machinery. By *Time-saving* respondents were looking for work more in less time. By *Stability*, respondents were demanding sustained service. Machine stability was also considered in some responses. Next one is *Acceptable price* which is the reasonable price of the machine. Although the machine's price was not the priority for buyers, it was important to buyers.

Then we have *reduced effort*, *Transparency*, *Risk reduction*, and *Component quality* with 58% and after that *Expertise* with 50%. Buyers would expect that purchased machines facilitate their work. By transparency, they wanted to have the right information about the machine and know exactly every detail about the pros and cons of the machine they wanted to buy. Risk reduction was also another factor. The buyers expected that purchased machine has enough safety and the safety of the operator and other people should not be compromised while working with them. Component quality was also another factor that buyers cared about. They wanted their parts to be durable and require minimal maintenance. Also, the expertise of the seller and their experience was also an important factor in purchasing heavy machines.

From here below, all of the following items were below fifty percent, and they were of little importance to the buyer. We can see *social responsibility*, *decreased hassles* with 33% and after that *marketability*, *Reach* and *innovation* with 25%. Interestingly, buyers had little interest in innovation, and most buyers preferred the same old machines.

From here on, less than 25% of respondents care about these values, and for this reason, we conclude that these do not affect the choice of machine buyers. These values are *Vision*, *Network expansion*, *Design & aesthetics*, *Configurability*, *Cultural fit*, *Flexibility*, *Regulatory compliance*, *Reputational assurance*, *reduced anxiety*, *Variety*, *Simplification*, *Connection*, *Improved top line*, and *Scalability*.

Interestingly, the values, after all, are zero percent, and none of the buyers paid any attention to them. They are *Hope, Growth & development, Fun & perks, Organization, Integration, and Ethical standards.*

With respect to the different levels of the pyramid, we can see that the lower part of the pyramid, the subjective, has a higher percentage than the upper part of the pyramid, that is, the objective part. This means that heavy machines buyers are less interested in their own subjective interests and more in the interests of their organizational interests, and in particular the costs involved. Particularly because of the high cost of fuel in Turkey, the main focus was on reducing costs by reducing fuel consumption.

#### **4.5 SUMMARY**

In this chapter, we analyzed the data obtained from interviews with 12 experts in the field of heavy machinery. First, we introduced a number of methods and techniques for analyzing the interview data, and we chose the method for our reasons. After that, we read the text of the interviews and highlighted all the terms related to the customer's values. Then we connected all the terms related to the value of the customer to its equivalent in the Bain's value pyramid. After that, we coded the values of the pyramid, and we got the number of values we wanted. We then analyzed these results. From the results, we concluded that reducing costs, especially fuel consumption, maintenance, and repair costs are the priorities of heavy machine buyers. The responsiveness of after-sales services and the quality of their services was also of particular importance. Some values, such as hope or ethical standards, have no impact in decision making of customers of heavy machines.

## 5. CONCLUSION

In this section, we will summarize the entire thesis. First, we describe the thesis processes, and we answer our research question according to the results.

In this study, we looked at the values that customers of heavy machines paid attention to their purchases. Since our field of work was B2B, we first defined the concepts in this field and described its differences with the B2C market. Then, we define the value from the customer perspective and the most important values in the B2B market. In the next chapter, we defined different methods for doing qualitative research and explained the reasons for choosing our methods. Subsequently, we described the design of the research and provided explanations on the population, how to collect data and interviews. In the fourth chapter, a brief explanation was given of the methods of interview data analysis, and the reason for choosing our analysis method was explained. After analyzing the data, the results were discussed, and interesting results were obtained. The results showed that reducing costs was a primary concern for heavy machine buyers, and all heavy machine buyers were pointing to it. These reductions include reduced fuel consumption, reduced maintenance costs, and reduced overall operating costs for the machine.

Subsequently, other values such as the availability of after-sales services, the vendor's commitment to the sale's contract and after-sales service, as well as the overall quality of the machine, were the major priorities of the heavy machine buyers. Meeting specifications, saving time, stability, as well as reasonable prices of machines, were other important factors for buyers. Values like fun or ethical standards did not affect respondents' decision making.



## **5.1. ADDRESSING THE RESEARCH QUESTIONS**

Our research question was:

1- What are the most important values for heavy machine buyers?

2- How do these values affect buyers' decision making?

1: After analyzing the data obtained from the interviews, we concluded that reducing costs is the main value for heavy machine buyers. This cost reduction includes fuel consumption, reduced maintenance and maintenance costs as well as operating costs. The second and third priorities were values such as the availability of spare parts, the seller's commitment to after-sales services, the overall quality of the machine, and meeting the buyer's needs.

2: Most interviewees considered the high fuel price as the main reason for this. They were seeking to reduce their machines costs by purchasing low-cost machines. Considering the high cost of repairing and maintaining heavy machines, it seems reasonable that the first priority for all heavy machine buyers is reducing costs.

## **5.2. CONCLUSIONS ON THE STUDY**

In this thesis, we examined the values associated with the purchase of heavy machines from the customer's point of view. Since the purchase of heavy machine requires major decisions and costs a lot, the decision making process to buy a heavy machine is a complex process. In this thesis, we examine the influential factors in this decision-making process. To this end, we looked at the value of the buyers of heavy machinery from the customers' point of view. We used Bain's value pyramid as a reference for classifying values. In this pyramid, there were subjective values at the top of the pyramid, and as we go down to the pyramid, the values become more objective. The method of conducting this qualitative research was through interviewing. Interviews were conducted with experts in the field of heavy machinery. The interviews were conducted with 12 expert staff with open questions. After translating the text of the

interviews, highlighting began. After highlighting statements related to purchasing values, these data were analyzed. For data analysis, an interpretative method was used. Subsequently, the statements of the respondents were linked to the values of Bain's pyramid. Then a general statistics of all the values found in the interviews was obtained. According to the results, we found that the most important value for the buyer of heavy machines is to reduce costs. This reduction in costs was possible by reducing fuel consumption costs, reducing maintenance and repair costs, as well as reducing operating costs. The quality of after-sales services, the seller's commitment to the contract, as well as the availability of spare parts were also important factors in buying heavy machines. Factors such as fun and ethical standards did not have an impact on the decision making of respondents.

### **5.3. LIMITATIONS AND FUTURE RESEARCH**

In this research, a population of 12 experts was used for the interview. In future work, we can increase the number of samples to get more detailed results. Also, the pyramid values have general classifications of customer values. In future studies, we can use special categories for heavy machinery to obtain better and more accurate results. In the future, these studies could also be extended to countries other than Turkey.

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