



Assessment the Customer Relationship Management in Cargo Sector: Improving a Model for a Cargo Firm

Kargo Sektöründe Müşteri İlişkileri Yönetiminin Değerlendirmesi: Kargo Firması İçin Model Geliştirme

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Abstract: Customer Relationship Management (CRM) is a business strategy, comprising segments for sales, marketing, and service without optimizing profitability, revenue, and customer satisfaction. CRM is a customer-focused strategy aimed at anticipating, understanding and responding to the requirements of an enterprise's current and prospective customers. The objective of a CRM strategy is to optimize profitability, revenue and customer satisfaction. CRM becomes an important business approach. CRM focuses on understanding the requirements and desires of the consumer and is achieved by placing these requirements at the heart of the business by integrating them with strategy, people, technology and business processes of the organization for business profit. Cargo Sector and Cargo Service are a growing industry in Turkey and it is open to developments. Beside National competition with European Union Participation, it will be harder to survive for cargo companies. The most convenient approach for overcoming this situation is CRM. This study includes the concepts, the detailed information about determining the problems of the cargo sector-cargo service and presenting solutions alternatives focused on CRM approaches. The study includes Swot (Strengths, Weaknesses, Opportunities, and Threats) Analysis in terms of determination of strengths, weaknesses, opportunities, and threats for the cargo sectors. Focused on this analysis, possible decisions and some suggestions regarding the sustainability of the sector are highlighted. The aim of this research is to present the detailed literature survey about CRM, a general CRM application model for cargo companies according to the Quality Function Deployment (QFD) with Pareto Analysis and finally a CRM model for ABC Cargo-Firm.

Structured Abstract: The advantages of customer relationships management can be seen in the areas stated below; Lower costs of recruiting customers: savings on marketing, mailing, contact, follow-up, fulfillment, services, etc. Reduced cost of sales: the existing customers are more responsive customers. CRM will provide higher return-on-investment in marketing and customer communications and it will also reduce the marketing campaign costs (with targeting profitable customers).

Higher customer profitability: larger wallet-share, more follow-up sales, more referrals from higher customer satisfaction and services, ability to cross-sell or up-sell from present purchases.

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Increased customer retention and loyalty: customers stay longer, buy more and contact the company for their requirements (which increases the bonding relationship).

Evaluation of customer profitability: through knowing the customers and knowing the potential the preferred customer will be turned into profitable customers with cross-or up-selling. The loyalty of the company has to develop its relationship with the customers to the desired.

Level described as: giving the right offer, at the right time through the right channel. Acquiring new customers is often obtained by cutting price deals or other incentives. However, these new customers move on as soon as another deal is offered to them by the competitors of the firm. One opportunity to turn new acquired customers to loyal customers is cross-selling. Of course crossselling is only possible if the company knows the habits, actions and desires of the new customers. The company has to learn these attributes as quickly as possible and store them. The purpose of this study is to present the concepts of CRM and emphasise the importance of CRM, the CRM of cargo service and constitute a cargo model to provide the sustainability of the customer loyalty, customer satisfaction and customer relationship.

Keywords: Business Strategy, Cargo Sector, Customer Relation Management (CRM), Quality Function Deployment (QFD), Pareto Analysis.

Öz: Müşteri İlişkileri Yönetimi (MİY), karlılığı, geliri ve müşteri memnuniyetini optimize etmeden satış, pazarlama ve hizmet için segmentleri içeren bir işletme stratejisidir. MİY, bir işletmenin mevcut ve gelecekteki müşterilerinin gereksinimlerini öngörmeyi, anlamayı ve yanıtlamayı amaçlayan müşteri odaklı bir stratejidir. Bir MİY stratejisinin amacı, karlılığı, geliri ve müşteri memnuniyetini optimize etmektir. MİY önemli bir kurumsal yaklaşım haline gelmektedir. MİY, tüketicinin gereksinimlerini ve isteklerini anlamaya odaklanır ve bu gereksinimleri işletmenin karına yerleştirmek için kurumun stratejisine, insanlarına, teknolojisine ve iş süreçlerine entegre ederek elde edilir. Kargo Sektörü ve Kargo Hizmetleri, Türkiye’de büyüyen bir endüstridir ve gelişmelere açıktır. Avrupa Birliği Katılımı ile yapılan ulusal rekabetin yanı sıra, kargo şirketleri için hayatta kalmak daha zor olacaktır. Bu durumun üstesinden gelmek için en uygun yaklaşım MİY 'dir. Bu çalışma, kargo sektörünün-kargo hizmetinin sorunlarını belirleme ile ilgili detaylı bilgileri ve MİY yaklaşımlarına odaklanmış çözüm alternatiflerini sunmayı içerir. Çalışma, kargo sektörlerine yönelik Güçlü, Zayıf, Fırsat ve tehdit unsurlarının tespiti açısından Swot-GZFT (Güçlü, Zayıf, Fırsat, Tehdit) Analizini içermektedir. Bu analize bağlı olarak sektörün sürdürülebilirliğine yönelik alınabilir olası kararlar ve bir kısım öneriler vurgulamaktadır. Bu araştırmanın amacı, Kalite Fonksiyon Yayılımı (KFY) ve Pareto Analizine göre kargo şirketleri için genel bir MİY uygulama modeli olan CRM-MİY oluşturmak ve son olarak da “ABC Kargo Şirketi” için bir CRM modeli kurup, MİY hakkında ayrıntılı literatür bilgisi sunmaktır.

Anahtar Kelimeler: İş Stratejisi, Kargo Sektörü, Müşteri İlişkileri Yönetimi (MİY), Kalite Fonksiyon Yayılımı (KFY), Pareto Analizi.

1. Introduction

The key word in CRM is the relationship. Although many firms claim to have good relationships with their customers, their relationship cannot pass beyond a transactional relationship. That is, a request of a customer to buy something is fulfilled at an agreed price. For customer loyalty and customer retention, it is important that the firm carries the relationship further (Rodgers and Howlett, 2000; Gray and Byun, 2001). Achieving this relationship is a long process making Communications two-way, integrated, recorded and managed. Without knowing your customers, there is no way that you can have a good relationship with them. For that reason, customer historical data, detailed transactions, focused and categorized Communications must be sustained. The main point in CRM is to turn a casual customer into a long term, loyal customer (Teklitiz and McCarthy, 1999; Rodgers and Howlett, 2000; Gray and Byun, 2000; Hughes, 2001; Lindstrand et al., 2006; Kostojohn et al., 2011). Performing a SWOT analysis to summarize and analyze is the situation of this ABC Cargo Business. The Strengths, Weaknesses, Opportunities, and Threats of the cargo industry are listed as below in figure 1.

Strengths • Hand Terminal • Online Delivery Tracking • Motivation (defending same idea on operational level) • Few Service Point • Vehicles belong to company • Brand Power • Short/Fast Shipment	Opportunities • Competitors have not gone too far at CRM applications • Sector is being defined in legal regulations • Cargo sector/market is open for growing • Qualified/Educated personnel is graduating Threats • The firms want to work with one Cargo Company • International companies are waiting for economical stability to invest in Turkey • File transfers on Internet are going to increase by e-sign • Unfair Competition
Weaknesses • Corporate Culture has not shaped yet • No motorized or courier personnel to speed up the service • The corporate customers are related to the local personnel's relations • Service point design • Insufficient design of carrying inside the trucks • No Performance Measurement • Lack of all kinds of advertising including new points and services • No quality systems (TQM, ISO...) and started applications • They do not take the responsibility of packaging • Far from the International Standards • Half-developed Data Processing System, IT Department • No spread service point network on the country wide although there is demand from customer • Low resistance to hard competition • Personnel appearances and behaviors, Training	

Figure 1: SWOT Analysis of ABC Cargo Business in Logistic-Service Industry (modified by author)

2. General Crm Model for Cargo Firms

CRM works on some specific elements. The elements of CRM which are collectively helping the businesses, are listed respectively (Hassan et al., 2015; Krishna and Ravi, 2018). a) Business Reporting b) Customer Service c) Analytics d) Human Resource Management e) Work flow automation f) Lead Management g) Marketing.

A CRM model is developed to be a guide book for the cargo organization that want to implement CRM. The cargo firm can establish different alternative CRM models according to their strategies and requirements. CRM model according to the Implementation Stages, there are four main stages: Preparation, planning, design and execution stages (Kasilingam, 1997; Rodgers and Howlett, 2000; Firth and Swanson, 2001; Winner, 2001; Parvatiyar and Sheth, 2001; Gray and Byun, 2001; Chen and Popovich, 2003; Ngai, 2005; Bohling et al., 2006; Matis and Ilies, 2014; Customer Relationship Management (UK) Ltd, 2019).

2.1. Preparation Stage

Preparation stage is the most important stage of CRM applications. The success and the failure of the CRM project will become clear at this stage. At this stage, these questions should be answered (Kasilingam, 1997; Rodgers and Howlett, 2000; Firth and Swanson, 2001; Winner, 2001; Parvatiyar and Sheth, 2001; Gray and Byun, 2001; Chen and Popovich, 2003; Ngai, 2005; Bohling et al., 2006; Matis and Ilies, 2014; Customer Relationship Management (UK) Ltd, 2019).

Does the cargo firm really need CRM project? To determine whether a cargo firm really needs CRM application, the cargo firm should ask itself these questions:

1. Do the major cargo firms provide the different services with the different price in the competitive environment?
2. Does our marketing department control what IT projects get resources for completion?
3. Are we tracking client opinions of your customer service ratings?
4. Do my salespeople have information about accounts that no one else does?
5. Do the cargo firm really put the customer's needs and wants first?
6. Is the cargo firm set up so that all departments support marketing and sales efforts to win and keep customer accounts?

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7. Is customer turnover rare?
 8. Is employee compensation tied to customer satisfaction and sales results?
 9. Isn't there hard competition in the cargo sector?
 10. Does the management of the cargo firm have a long-term expectation for CRM results?
 11. Do sales, customer service, management and the other departments have access to the same customer data? It means that is there an enterprise-wide customer database?
 12. Does the marketing department have a way to segment accounts and do targeted marketing?

If you answered "No" to two or more 2 of the above 12 questions, the business firm needs the CRM application. There should be an opportunity to compete with the other firms except by decreasing the price or whatever that causes zero profit. Thus the cargo companies should give importance to different strategies to become different from each other cargo firms. For example CRM, at which dimension the cargo company would implement CRM? Determine the category. There are four categories:

- i. The firms that seems interested to CRM for its popularity.
- ii. The firms consider that CRM is only technology or software investment
- iii. The firms consider that CRM would decrease their costs and increase the productivity
- iv. The firms accepted the CRM that is the reengineering means for the objective of increasing the competitive power in a competitive market.

The cargo firms that want to be successful at the CRM research implementation are fourth category.

Will the top management support the CRM research?: When the cargo firm needs CRM help then the top management should be a sponsor to the CRM project, because the CRM studies are very serious change research. The change is more comprehensive than the ERP projects, because all the main strategies would be looked over. Therefore if the top management does not give support with his heart to this serious change, then nobody wants to be contributing to change, so the failure of the project would be inevitable.

Is the corporate culture available for the change?: The cargo company including top management, middle management, operation departments as a summary all of the organization should be open to change and near to new strategies at everywhere and every time. CRM model is asked to the customer relationship responsible. After that, it is requested that the company really needs CRM research.

As a result, the company accepts the CRM that is the reengineering means for the objective of increasing the competitive power in a competitive market according to CRM application of ABC Cargo Business.

Will the CRM project be supported by the top management?: The structure of this ABC Cargo in the holding is different from the other institutions of the holding and the top management is dependent to the board of directors of the holding.

Is the corporate culture available for the change: The corporate culture has not shaped yet but it is available for the change. After these employees of CRM research-team is formed. As mentioned before at the general CRM model, this research focuses on determining the customer oriented strategies, determining the activity plan, reengineering of the processes and organization structure, migration management, selecting Technology and customizing etc. To perform the initial study, some customers are required from the sale-marketing department.

These customers are segmented by their values like most profitable, most growable in the future, having lower profit and having decreasing potential of service rate. Then, in order to understand these customers' needs, demands and expectations of the customer surveys, meetings or discussions are organized. After gathering information, this stage is supported to make decisions about the customer oriented strategy, such as what should serve, how should serve, which organization structure should be formed and which channels would be preferred to reach for each customer.

2.2. Planning Stage

Strategy is the total of the methods and processes applied for being different from the competitors. It does not mean being better, it means being different than the competitors. Basic concept is differentiating company's product or its presentation. Today, a strategy cannot be made at the office by thinking only, the companies must interact with the customers classified them and understand their needs, wants and demands after that according to the customer researches, the strategic decisions can be made. According to CRM, the strategies must be customer-centric not customer-focused. A company that wants to implement or use the CRM must have customer-centric strategies. "Customer Centric" means planning all strategies through the customer, such that covering their needs-wants and satisfying them. Differentiation-strategy must begin with the "what customer wants?" question not with the product improvement because the customer needs and wants are changing very fast and storing these changes can open a wide vision for a company before planning any strategy. After preparation and initial study interact with the customers and understand their needs, wants, requirements and demands. The Strategic decisions are made by answering the questions that are in the implementation stage. The study includes the results with the company and determine the strategies for the predetermined sub groups that most valuable, potentially profitable and below zero. The components of this stage are presented as below (Rodgers and Howlett, 2000; Gray and Byun, 2001; Firth and Swanson, 2001; Winner, 2001; Parvatiyar and Sheth, 2001; Hughes, 2001; Gray and Byun, 2001; Chen and Popovich, 2003; Bohling et al., 2006; MatisandIlies, 2014; Customer Relationship Management (UK) Ltd, 2019; summarized by author):

- Improving customized products, services and solutions that will satisfy the needs, wants and demands of the profitable customer group.
- Long-term customer loyalty to the company must be reached by mutually satisfactory relations.
- The defined product, service standards must be applied for the non-profitable customers concerning company profitability.

Information strategy: ABC Cargo cannot use the cumulative information that is gathered from the customers as a competition instrument. The only thing is customer complaints and their effect to the services.

Customer Relations: Customer evaluation and measuring customer expectations systems must be constructing. There is no data mining that will help the company for customer behaviors trends predictions. Such Systems are the backbone of the CRM so they must be built immediately.

Corporate Culture: Reward Systems do not support customer-centric actions. Customer is important but not a driven factor for the company. Employee can act only simple roles for customer satisfaction at the decision process of the company.

Products and services: These are not customized for each customer according to the information from the relations. The company makes some possibilities only at the payment branch for the customers. Benchmarking the competitors are observed carefully in various subjects but the customer centric approaches must be observed more detailed.

Technology: Technologies are chosen recent years and used but the customer relation factors are not involved. IT (Information Technology) selection is made by IT department not by whole participation of the company wide related parts.

Gap analysis is a method of determining and realizing the gap between your business design and the one that maximize the customer interactions and so the profit. It must be done company wide and participation of a large group. Gap analysis, the difference between the current business design and the one that maximize the customer interactions are vital steps of CRM implementation of this ABC Cargo Business. These steps-branches will help us for determining the changes of the roles and redefining the processes. The branches that the gap analysis must include are processes, information strategy, customer relations, corporation culture, products for planning good strategies of company and services, benchmarking and technology. The questions below expand the gap analysis (Kasilingam, 1997; Rodgers and Howlett, 2000; Gray and Byun, 2001; Winner, 2001; Hughes, 2001; Chen and Popovich, 2003; Hassan et al, 2015; Customer Relationship Management (UK) Ltd, 2019).

Here are some useful questions:

What is the strategy of your cargo company?

What are the resources and strengths of your cargo company?

What is the current status of the cargo sector?

What are the properties of the competitors?

How they compete at different fields (branches)?

How the products and services are bought?

Who are the current and potential customers?

What are the major segments?

What is the relationship level with the customers or what it must be?

Do the customers participate in the operations?

Is it possible to create one to one relationship with the customers?

What is the suitable information technology platform for needs of both the company and customers?

With these questions, it can be defined the current status of the business. This information will help the employer to understand insufficient parts of the business. On the other hand, understanding the customer needs, wants and lands will show the employer a way for changing the insufficient organs of the company.

2.3. Design Stage

Up to now, the preparation and planning stage of CRM model is determined for the company and the customer-centric business strategies. Now it is time to design the lifestyle of the cargo firm. At this stage "One to One Marketing (1:1)" which was developed by the Peppers and Rogers Group, will be used. One to One Marketing (1:1) means, setting long-term relation with the selected customers. Each customer must be treated according to his or her requirements. At every contact, the company must be closed to the customers. The main property of the One to One Marketing (1:1) is not only being structured on the multi-functional strategies and also having reasonable concrete methodology. This methodology is called IDIC (Identify, Differentiate, Interact, Customize). The introduction of this methodology is like this (Kasilingam, 1997; Rodgers and Howlett, 2000; Firth and Swanson, 2001; Bohling et al., 2006; Parvatiyar and Sheth, 2001;

Gray and Byun, 2001; Winner, 2001; Chen and Popovich, 2003; Ngai, 2005; Matis and Ilies, 2014; Meadows and Dibb, 2012; Touchtone Corporation, 2019; Customer Relationship Management (UK) Ltd, 2019);

- i. Identify customers, individually and addressably
- ii. Differentiate them by value and needs
- iii. Interact with them more cost-efficiently and effectively
- iv. Customize some aspect of the behaviours of enterprises.

i. Identify: In order to achieve different treatment to different customers, the first thing that should be done is to determine the customers and identify them with detailed information about them. Cargo firms have basically two types of customers: contractual and other customers. Contractual ones are companies; others are non-contractual companies and individual cargo customers. Each type has common and specific identity information. General identity information consists of the name, holding-group name, activity area, email, address and endorsement. The common and the most important interest of cargo companies are sending frequency, sending type (file, package etc.), amount (unit, volume-kg etc.), and sending pattern. Cargo share, on the other hand, is very critical information. It means that how much percent do the company have in its total shipments and total profit (Kasilingam, 1997; Rodgers and Howlett, 2000; Firth and Swanson, 2001; Customer Relationship Management (UK) Ltd, 2019; Winner, 2001; Hughes, 2001; Chen and Popovich, 2003; Ngai, 2005; Touchtone Corporation, 2019).

ii. Differentiate: At this stage, the aim of the cargo firm is differentiating the customers by their values and needs, wants and demands. The cargo companies should increase the "Life Time Value" (LTV), which can be said as maximizing the transaction duration and wallet share-customer share of the customers (Rodgers and Howlett, 2000; Firth and Swanson, 2001; Winner, 2001; Chen and Popovich, 2003; Touchtone Corporation, 2019; Customer Relationship Management (UK) Ltd, 2019).

-A fundamental concept of CRM is the lifetime value of a new customer, the basic idea is that customers should be judged on their profitability to the firm over the total time (called "markup over cost less lifetime") they make purchases.

-Profitability is usually based on net value, which is the considered because it is runs over less the cost of acquiring and keeping the customer.

-Two methods of doing the LTV (Loan-to-Value) calculations are presented here. The first is quite crude. It is based on the average customer and does not consider time value of money or the effects of marketing actions such as loyalty programs and referral programs.

-The second includes these factors. In both cases, the method is illustrated with an example that provides a template for performing the calculation.

The revenues and the costs are expected value calculations. They are based on a number of assumptions about the future such as total number of customers, the percentage of customers retained from year to year, and the average annual purchase per customer.

iii. Interact: As required by two-side learning relation with the customers, the interaction channels which are customer visits, telephone, website, SMS, WAP, GPRS, call center, direct mail, listening complaints, sending invoices, collecting money, and all ways that the company is on contact with the customers must be used efficiently. The database of the enterprise can recognize the customer and show the past information of the customer, and it would be possible to behave the customer according to this past data. With the highly capable and talented reporting tools of the system, some very strategic data can be taken under consideration of the decision makers

(Kasilingam, 1997; Rodgers and Howlett, 2000; Ngai, 2005; MatisandIlies, 2014; KrishnaandRavi, 2018).

- Are there any seasonal or periodical routes, accumulations, and increases in the country's cargo traffic? The answers given to these questions will affect the following business designs and form a very strong basis for the customization part.

-Which customers are receiving what, from whom, from where, at which frequency and how big is the shipments (unit, kg-volume, endorsement)?

- Which customers are sending what, to whom, to where, at which frequency and how big is the shipment (unit, kg-volume, endorsement)?

iv. *Customize*: In the action part, it time for the company to change the behavioral style from what have been learned about customers. By treating individually to every customer more and unique products, solutions and presentations should be developed. During field trips, it was surprisingly noted that ABC Cargo did not use motorized the pedestrian courier. Not in every point but also in some critical points especially where amounts are high, this advantage can be evaluated. Such customized way will satisfy them. One kind of customization can be realized for the companies that work with different suppliers and sell these goods on the Internet orders. They usually receive orders that are consists of different parts of computers or similar technological tools by nature to bring up an order anticipates working with different suppliers. At this point ABC Cargo Business can study and offer a system to that kind of firms. It works like in the Figure 2.

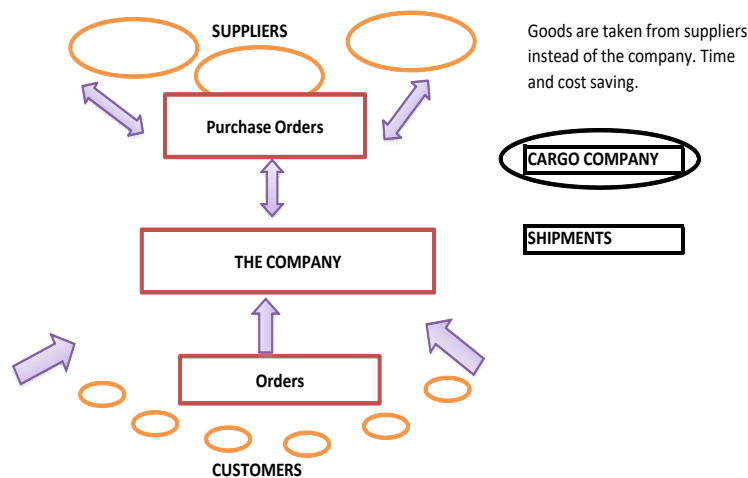


Figure 2: Online Cargo-Loading to order system for the Cargo Company (modified by author)

Goods are taken from suppliers instead of the company. Time and cost saving are provided with this model. As seen in the Figure 2, the company does not carry the goods to stock and keep them in there. Instead, by the help of an online system the company evaluates the whole orders, groups the purchase orders for the suppliers and buy the goods. Then ABC Cargo Business is informed including the receiver address and the vehicles go to the suppliers and take the shipments. This Cargo satisfies the customer with a customized solution and long term loyalty, of course profitability are provided.

2.4. Execution Stage:

For reducing the resistance of the employees to the CRM, change management must be implemented at the same time. The employees need to know it, its benefits and why it is

implemented for acceptance of the CRM system. This brings out the importance of training. The corporate culture of the company must be developed and changed in such way that the CRM brings; all interaction with any customer will add value to ABC company and the employees must take advantages of the interactions. These are (Firth and Swanson, 2001; Hughes, 2001; Parvatiyar and Sheth, 2001; Gray and Byun, 2001; Winner, 2001; Chen and Popovich, 2003; Bohling et al., 2006; Lindstrand et al., 2006; Meadows and Dibb, 2012; Matis and Ilies, 2014; Customer Relationship Management (UK) Ltd, 2019);

Change Management: For CRM implementation, the most important thing is a new culture that supports the one to one marketing. CRM may change every thing so there can be resistance that is caused by the Cultural effect of the employees. CRM is an idea, a thinking style, so if all departments at all levels do not accept this idea or style, it obvious that CRM will fail. For success of the CRM, the whole company-employees must change that change is a good thing; it must be for profit and future of the enterprise and the effects that force the changing, are customer needs and wants and market conditions. The corporate culture must include all these above. For satisfying this, it is useful to implement a “change management” beside the CRM. Change management aims to create personals that know, change is necessary and it provides success to the company. The employees need to know it, its benefits and why it is implemented for acceptance of the CRM system. This brings out the importance of training.

Redefining the roles: CRM will affect all departments of the company. First of all, the company must build a well-designed organizational structure that allows and supports the interaction of all departments with each other. The roles of the positions and departments will change according to the company strategy and CRM requirements so they must be redesigned. Some changes can come with the corporate culture effect indirectly these departments are not need to be revision directly. On the other hand, the departments such as sales, marketing, customer satisfaction and IT departments changes deeply. Basic departments and their roles can be summarized as below:

Sales Department: Beside the sales activity, information gathering become a main duty of this department. Sales spend more time with the customers forgetting information and less time for sale operation. Main responsible of the sales will change form managing the field to managing the customer relations. Sales men spend their time in front of the online computer monitors. Orders come through the Internet and this affect the premium system directly.

Marketing: The general duty of the marketing advertisement operations will change and be related more information less media. Marketing stuff will support the salesmen. The marketing researches change form general market situation to the customer behavior analysis. Marketing get information and report from the sales. Department according to the customer requirements, wants and demands and marketing transform this information to services and promotions.

Information Technology: Determining the initial CRM database needs related to the company strategy and marketing cooperation with the CRM software buying steps. After that this department construct of the enterprise wide software system and maintenance of it. Execution of the data mining processes for analyzing of the behaviors of the customers. Another function of this department is determining the new technological needs according to the improvements of the customer wants and update of the system continuously.

Redefining the processes: After the roles have changed, the company must need to redefine the processes. Corporate culture that changed in the direction of CRM research's needs and requirements cause a general changes at the all levels of company. Customer Relations become more important, the aim of all these changes are increasing customer loyalty and satisfactory and it is mandatory to make customer feel them. All changes have to be reflected to the customers and this causes some differences at the processes. The major processes that include customer relations

are more important. These are listed and summarized as below (Parsaye, 1997; Monclas, 1998; Pyle, 1999; Wu, 2000; Gray and Byun, 2001; Lindstrand et al., 2006; Tsiptsis and Chorianopoulos, 2010; Matis and Ilies, 2014):

Subsidiary processes: Subsidiaries are the ones that have the most of ten customer relations and it must be used very sufficiently. Customer segmentation is the main concept of CRM and for doing it the customer must be defined. When a customer comes first thing that the employee must do, is to check if the customer is known or not. If no the employee enters the main information about the customer to the enterprise wide software system for future. If the customer is known the employees learn the segment and service requirements of this segment simultaneously. The employee gives the service determined before like box supply, packaging, foam or bag. Beside these the main objective of the employee at the cargo subsidiary cargo taking and giving personal is information gathering from the customer without any discomfort and entering the information to the system.

Delivery processes: Delivery is second opportunity for information gathering. The employee service in a certain way that is predetermined service quality according to the customer segment. While the employee goes for the delivery, he must know the customer including the segment, service requirements and actions according to this information. The most important duty of the employee is information research. There are three ways for information gathering; conversation with the customer, the cargo information and observations.

Transfer processes: Transfers of the packages are the vision of the service quality so they must be needed to change. The tracks must be divided into parts and they must include some special places for different customer segment requirement services. The employee does not make the duties, loading the track, ordinarily he must care differently. The loading and transferring processes must be done according to the each customer needs.

Technology: Technology selection must be made after the company redefines the roles and the processes. Processes cannot be designed according to the software. Processes determine the software requirements. Technology must include the customer interaction points and their infrastructures. Of course all the information must be recorded and finally analyzed technology plays main role for this processes. Here are the components of the technology that will answer all needs and the subtitle that are determined for technology selection.

Databases: Recording all transactions of the customers to the system. Databases that can be interrogated and mined for nuggets of information and this allow the marketing professional to achieve a fine level of analysis. The idea is to create as close a match as possible between the marketing offer and the target customer. Data Marts, Data Warehouse can be called as main parts of database system.

Interactive media: A good technology support product will integrate interactions from the following sources: letter, telephone, fax, e-mail, Internet, personal device (Palm pilot, WAP phone etc.), Technology-assisted selling (TAS) system should be the means to coordinate the activities anyone involved in the selling process, whether based in the office, field or call center. This provides a single view of all selling activities.

E-marketing: (Monitoring the way marketing) The way in which customers behave when interacting with commercial Websites provides a far deeper level of understanding organizations can track visitors' progress through their site and deduce aggregate information about the most popular products and services.

At this stage, the designed system is executed. The differences between the current system and designed system can be identified and the point of the transformation from current to new system is determined. The most important part of the CRM research is performance evaluations.

For a more complete model, the following considerations can be added: Risk factor, Delay between order and payment, Repurchase cycles other than annual (Winner, 2001; Parvatiyar and Sheth, 2001; Gray and Byun, 2001; Chen and Popovich, 2003; Customer Relationship Management (UK) Ltd, 2019). As a summary lifetime customer value refers to the profit a customer is expected to generate while he/she maintains a relationship with the company.

3. Survey Study and Application

In this part of the study, a quality function deployment (QFD) was evaluated in the Cargo Service industry of Turkey. In this application, customer requirements, customer significance level and technical characteristics were determined and scored with the experts and employee of all production industrial sectors (TUSIAD). Besides, a questionnaire was prepared for learning the opinions, perspectives of customers about the sustainability of the lifecycle of services. This step of the study was very important to gather data and also to assist in the implementation of the research.

The research was based on a quantitative perception by means of a questionnaire-based survey determining the evaluation of the sustainability of the lifecycle of service for the cargo service industry with companies-firms in Turkey currently enrolled in the program. This survey was e-mailed to approximately a total of 103 companies of Cargo-Shipping Service Industry (Logistics) in Turkey with the help of the Turkish Industrialists' and Businessmen's Association (TUSIAD) and Turkey Exporters Assembly (TIM) and Regional Chambers of Commerce and Industry in Turkey. The results of this questionnaire were assessed on the framework of customer-oriented such as dimensions of sustainability of CRM.

The sample size was 83, returning the survey from the textile companies in Turkey, with a 81% rate of response. The questionnaire development was based on the lifecycle of customer satisfaction due to the sustainability dimensions and level of logistic service quality of Cargo Business Service industry.

Customer requirements in the term of the lifecycle of customer satisfaction for Cargo Logistic Services include some criteria. These are environmentally friendly Customization for customers Long Lifecycle Service-Transportation; Timely Delivery/Providing Service, Differentiating, segmenting customers by their needs, value, choices, behaviors and expectations; Serving to community (activities for contribution associations) Quality Service; and Environmental friendly Service-Green Marketing- Transportation.

The Technical characteristics include groupings identified due to the questionnaire on the sustainable CRM which is focused on quality of service-logistic supports and sustainability dimensions of lifecycle of logistic service quality of Cargo Business Service industry. These characteristics which were determined according to the survey questions and answers are shown in Table 1.

Table 1: Technical Characteristics-Requirements (TCs-TRs) for Sustainability dimensions of Customer Satisfaction-Loyalty (Logistic Service Quality) of Cargo Service- Industry

Symbol	Social Characteristics (Criteria)	Symbol	Environmental Characteristics (Criteria)	Symbol	Economic Characteristics (Criteria)
s1	Training and authorizing the personnel	en1	Controlling and evaluating periodically- Reliability Service	ec1	Cost Reduction By Providing Customer Satisfaction
s2	The firms that seems interested to CRM for its popularity	en2	Planning, implementing, organizing and controlling marketing programs	ec2	Determining the target customer mass
s3	Service Agency -Representation (solving the technical problems)	en3	Environmental Quality systems	ec3	The firms consider that CRM is only technology or software investment
s4	Giving flexibility for service policies	en4	Decreasing Carbon Footprints	ec4	Freemarkets Over Regulated Markets
s5	Customer Satisfaction	en5	Service Life Spans Through Better Quality	ec5	Hidden Engine Of Economy
s6	Service Style, Brands, Image (Media)	en6	Service-Cargo Lifetime Guarantee	ec6	Innovation Over Improvements Of Thread
s7	Service Satisfaction	en7	Reliability-Quality (Creating Quality Difference)	ec7	Developing the market mix-Service Affordability
s8	Competitors have not gone too far at CRM applications	en8	Environmental Degradation (Ecological Impact)	ec8	Developing customer keeping programs
s9	Sector is being defined in legal regulations			ec9	The More Advertisement increasing the competitive power in a competitive market
s10	Developing reward programs for customers and personnel			ec10	Developing service systems that are easy to access and provide easiness for users (for a specific service-cargo)
s11	Interactive communication with customers, taking feedback (listening complaints and desires)				

3.1. QFD-Quality Function Deployment Methodology: Quality function deployment (QFD) deal with requirements of clients and expectations more consistently for providing the most significant objective of a business, enjoyment of customers. QFD is generally a cumulative quality management (TQM) application technique requiring clear evaluations of client/end-user anticipations separately from the basic needs of a research to modify the minimization to design objectives. The advantages, we can acquire by performing QFD research are presented below respectively (Oakland, 1993; Shillito, 1994; Gitlow et al., 1995; Akao, 2004; Kim, 2007; Learn about Quality, 2016; Erdil, 2019):

- Better determining of customer requirements,
- Providing organization on development research,
- Fewer production start-up problems,
- Perceptions for being deliberate about quality,
- Improved business,
- Documented manufacturing definition focus on customer needs.

ii- Basic House of Quality Matrix: The general format of the "House of Quality" is made up of six major components which are completed in the research of QFD. These are listed and defines as below (Kim et al., 1998; Akao, 2004; Killen et al., 2005; Dikmen, 2005; Erdil, 2019; see Figure 3):

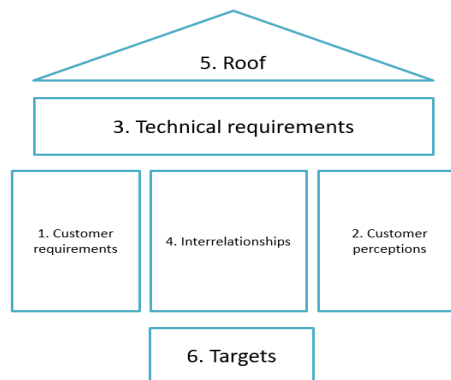


Figure 3: Basic House of Quality Matrix (What is PM-url, 2018, modified by author)

1. Customer requirements (HOWs) - a structured list of requirements derived from customer statements.

2. Technical requirements (WHATs) - a framework set of appropriate and measurable product properties.

3. Planning matrix – presents impressions of customer detected in market evaluations. Involves the relative importance of customer needs, business and opponent performance in supporting these needs.

4. Interrelation ship matrix – presents the QFD group’s approaches of interrelation ships between technical and customer needs. A suitable scale is implemented, demonstrated using symbols or images. Basing on key relationships and decreasing the numbers of needs are useful methods to decrease the demands on resources.

5. Technical correlation (Roof) matrix – applied to define where technical requirements provide or hinder each other in the product design. It can emphasize innovation possibilities.

6. Technical priorities, benchmarks, and objectives – applied to determine the priorities transfer to technical needs by the matrix, measures of technical achievement supported by competitive products and the rate of difficulty included in improving each requirement.

The quality function deployment applied from the feedbacks of surveys, reports of companies and interviews with experts of the business of textile industry in Turkey are shown in Table 2. This table provides the interrelationship matrix with the type of relationships. Any cell that is empty implies no or insignificant relationship.

Table 2: Quality Function Deployment Table –Matrix for Cargo Service Industry

Customer Requirements (What)	Importance of customer / Technical characteristics (How) ^a	CRITERIA OF SOCIAL DIMENSION*										CRITERIA OF ENVIRONMENTAL DIMENSION*							CRITERIA OF ECONOMIC DIMENSION*													
		s1	s2	s3	s4	s5	s6	s7	s8	s9	s10	s11	en1	en2	en3	en4	en5	en6	en7	en8	ec1	ec2	ec3	ec4	ec5	ec6	ec7	ec8	ec9	ec10		
Customization for customers	4																															
Long Lifecycle Service- Transportation		5	9	3		9	9	3	8	4	4	9	3	9	7	3	9	4	3	3	7	5	4	4	4	3	4	4	3	5	9	
Timely Delivery / Providing Service	5		5	7	8		9	8	3	9	3	3	5	8	9	7	8	9	9	8	9	8	8	5	4	7	8	3	3	5	9	
Differentiating, segmenting customers by their needs, value, choices, behaviors and expectations	4																															
Serving to community (activities for contribution associations...)	4		5	5	6		7	6	5	5	6	5	6	6	6	7	8	7	6	8	8	5	8	8	8	5	7	8	7	7	8	3
Quality Service		6	6	5		7	6	6	5	5	6	6	5	8	8	8	4	4	7	7	4	8	8	9	5	6	8	4	6	5	6	
Environmental friendly Service- Green Marketing- Logistic	5		4	5	6		7	8	8	7	8	9	7	5	7	9	9	9	9	9	9	5	4	6	4	7	3	6	6	4	5	5
AW		109	140	126		172	164	111	152	115	120	144	121	172	168	161	170	146	157	162	129	144	135	124	126	119	125	115	99	122	142	3990
CNW		2,73	3,51	3,16		4,31	4,11	2,78	3,81	2,88	3,01	3,61	3,03	4,31	4,21	4,04	4,26	3,66	3,93	4,06	3,23	3,61	3,38	3,11	3,16	2,98	3,13	2,88	2,48	3,06	3,56	100,00
Rank		28	14	17		1	5	27	9	25	23	11	22	1	4	7	3	10	8	6	16	11	15	20	17	24	19	25	29	21	13	29

Note: Strength of relationships(Yilmaz, 2009): importance of customer **1-5(1-Not important;2-Less important;3-not decide;4- important;5-very important), Technical characteristics* (0-Not correlated;7-9/very strong correlate;3-6/Middle correlate;1-2/Weak correlate)

The degrees of the strength of relationship are placed in the column of customer requirements and Technical characteristics of quality function deployment Matrix (Guinta and Praizler, 1993; Yılmaz, 2009). The formulations for QFD Analysis (1) and (2) are given as below:

$$AW_j = \sum_{i=1}^n IR_{ij} \times IW_j \quad (1)$$

Absolute weight (AW): multiplying the importance weight (IW) and improvement ratio (IR) give absolute weights of the customer requirements to us (Guinta and Praizler, 1993; Yılmaz, 2009).

The easy method to calculate Technical requirement weight is to assign numbers to symbols in the relationship matrix.

AWJ = Row vector of absolute weight for the degree-grade of the Technical difficulty of Technical requirements

Where:

IW = importance weight of customer's requirement in respect with IRij

IR = Improvement Ratio – Weight appointed to the relationship matrix, weight dedicated to the relationship Matrix by row i and column j (i = 1,2,...,m m = 29 ; j = 1, 2, ...,n n = 5)

m = number of Technical requirements

n = number of customer requirements.

$$CNW_j = \frac{AW_j}{\sum AW_j} \times 100 \quad (2)$$

Customer need weight (CNW- the relative importance); which the absolute weights are collected and each divided by the collect to yield a normalized customer need weight (Guinta and

Praizler, 1993; Yılmaz, 2009). The groups of the priority order for the Technical Requirements (Depending on the sorting (Rank) CNW –percentage value) from QFD Table-Table 3.

Table 3:The groups of the priority order for the Technical Requirements (Depending on the sorting (Rank) CNW – percentage value)

The priority number-importance (Rank)	CNW-percentage value	Technical Requirements	Technical requirements	AW	Percent (%)	Cumulative percent
1 (1)	4,31	s4; en1	s4	172	4,311	4,311
2 (3)	4,26	en4	en1	172	4,311	8,622
3 (4)	4,21	en2	en4	170	4,261	12,882
4 (5)	4,11	s5	en2	168	4,211	17,093
5 (6)	4,06	en7	s5	164	4,110	21,203
6 (7)	4,04	en3	en7	162	4,060	25,263
7 (8)	3,93	en6	en3	161	4,035	29,298
8 (9)	3,81	s7	en6	157	3,935	33,233
9 (10)	3,66	en5	s7	152	3,810	37,043
10 (12)	3,61	s10; ec1	en5	146	3,659	40,702
11 (13)	3,56	ec10	s10	144	3,609	44,311
12 (14)	3,51	s2	ec1	144	3,609	47,920
13 (15)	3,38	ec2	ec10	142	3,559	51,479
14 (16)	3,23	en8	s2	140	3,509	54,987
15 (18)	3,16	s3; ec4	ec2	135	3,383	58,371
16 (19)	3,13	ec6	en8	129	3,233	61,604
17 (20)	3,11	ec3	s3	126	3,158	64,762
18 (21)	3,06	ec9	ec4	126	3,158	67,920
19 (22)	3,03	s11	ec6	125	3,133	71,053
20 (23)	3,01	s9	ec3	124	3,108	74,160
21 (24)	2,98	ec5	ec9	122	3,058	77,218
22 (26)	2,88	s8; ec7	s11	121	3,033	80,251
23 (27)	2,78	s6	s9	120	3,008	83,258
24 (28)	2,73	s1	ec5	119	2,982	86,241
25 (29)	2,48	ec8	s8	115	2,882	89,123
			ec7	115	2,882	92,005
			s6	111	2,782	94,787
			s1	109	2,732	97,519
			ec8	99	2,481	100,000

As a result of this sorting, 2 units of Technical characteristics which are the first priority, were identified with a value of 4.31 percent; The Second priority Technical characteristic includes 1 units of Technical characteristics which were identified with a value of 4.26 percent, the third priority Technical characteristic involves 1 unit of Technical characteristics which were identified with a value of 4.21 percent, so on.

3.2. Pareto Analysis

A Pareto Diagram (PA) is a diagram which sorts the classifications, thus they are rank-sorted from the highest total occurrences to the lowest. In prioritizing the Technical requirements, PA technique supports to determine the top 20% of causes that requirements to be addressed to resolve the 80% of the problems (Sanders, 1987). The pareto diagram is used to demonstrate processions of problems or necessities in decreasing order. The AbsoluteWeights (AW) variables of the Technical requirements which are evaluated for each Technical characteristics acquired that eliminate in the biggest weight classified. While assessing the greatest-priority absolute weights verified requirements between the values of these requirements in PA, conformity with 80% threshold risk variable, the initial 21 requirement-failure point sources prominence (see Figure 4).

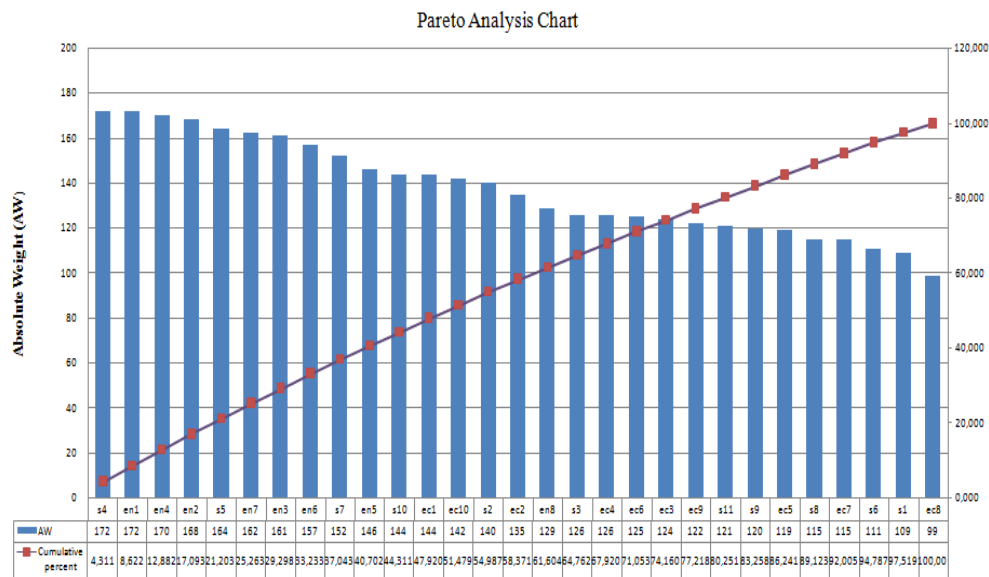


Figure 4: Pareto Analysis for the Prioritization of Technical Requirements

The values of AW can be arranged into a Pareto diagram to demonstrate which technical requirements are most important and the risk prioritization of characteristics in meeting customer requirements. While evaluating the high-priority absolute weights supported requirements point sources between the values of these criteria in PA, conformity with 80% threshold risk variable, the initial 21 failure point sources prominence. The values of absolute weight can be organized into a Pareto diagram to show which technical characteristics are most important and the risk prioritization of requirements in meeting customer requirements. These are labelled and sorted with AW (the values of absolute weights) that are symbolised s4; en1; en4; en2; s5; en7; s4; en3; en6; s7; en5; s10; ec1; ec10; s2; ec2; en8; s3; ec4; ec6; ec3; and ec9 respectively (see Figure 4).

4. Evaluation and Conclusion

When the Technical requirements are compared the results of the Quality Function Deployment and Pareto Analysis methods, the general contested Technical requirements should have the initial prioritization to find the solution and suggestion. For instance, s4; en1; en4; en2; s5; en7; s4; en3; en6; s7; en5; s10; ec1; ec10; s2; ec2; en8; s3; ec4; ec6; ec3; and ec9 (as TRs-Technical requirements) might be taken the initial prioritization according to concluding the risk prioritization of requirements kinds. This condition is required and desired to make recommendations to improve the technical, requirement. For example, the basic assumptions of the CRM approach. For each assumption, counter arguments and/or limitations are also presented.

A basic idea of CRM is that the future behavior of customer is determined by or similar to their previous behavior. This assumption is partially right and partially wrong. As time goes by, behavior patterns change. Therefore, the important thing is the prediction model of future behavior. By predicting future behavior, a company can better serve its customers' changing demands and preferences. CRM is not a strategy but a tool to help and modify the marketing strategies of a company. Before it achieves a viable CRM system, a company needs the right value propositions and strategies to implement the customer centric philosophy of the CRM.

Current customer information is always correct. This is important to maintain the quality of customer demographic and behavioral information. The right decision requires correct data and information. Can we believe or trust the customer data in the database or in the data warehouse? The customer database comes from a variety of sources and is obtained by different input methods. Considerable attention (and expense) is required for cleaning the data periodically to make it useful

for CRM. The firm must update as customer information changes. For example, people move; income levels change; marriages, births, and deaths occur. Admittedly, the correct decision is sometimes made accidentally from incorrect data; however, that is a rare event. CRM requires a large centralized database with complete customer data.

Consumers want individual, differentiated treatment, services and products: The basic assumption of CRM is that the customer wants individualized Products and services. However, this assumption cannot always be satisfied because a company cannot always deliver all of the required products and services. Furthermore, instead of individualization, customer-buying decisions for products and services often follow fashion or trends. Technology developments are also important in the decision process. To Sum Up, the present is an era of company loyalty to the customer in order to obtain customer loyalty to the company. Consumers are more knowledgeable than ever before and, because the customer is more knowledgeable, companies must be faster, more agile, and more creative than a few years ago. CRM is very hard to implement throughout a company. Logistic-Shipping (Cargo) industry is a growing industry in Turkey. By the legal regulations, acceptance of the global service standards and fair competition that will be stated simultaneously European Union Participation Process, the sector is going to have more attractive opportunities for educated people. This will also realize the deployment of the corporate culture understanding. This Cargo-Shipping Company can be considered as a new/growing company in the sector. It can be easily anticipated that the company will face every kind of difficulties about growing. The CRM process plays a very critical role in this growth. The specific and concentrated profile of the customers allows the managers work with a small area. The advantage of this situation is the easy ability to focus and create more approvable customizations. If the customer centric solutions are going to be implemented successfully and motivation for Change Management can be caught, the company can have the chance to survive in the wild competitive market.

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