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OF GRADUATE OF ACADEMIC DEGREE
«MASTER»

THEME: **«Formation of complex logistics customer service in the digital environment»**

Speciality 073 «Management»

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NATIONAL AVIATION UNIVERSITY
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Academic degree Master

Speciality 073 «Management»

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TASK

FOR COMPLETION THE MASTER THESIS OF GRADUATE

Anton G. Ostapchuk
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1. Theme of the master thesis: «Formation of complex logistics customer service in the digital environment» was approved by the Rector Directive №2051/CT of September 29, 2021.
2. Term performance of thesis: from October 04, 2021 to January 02, 2022.
3. Date of submission work to graduation department: December 13, 2021.
4. Initial data required for writing the thesis: general and statistical information about furniture market in Ukraine, information of the company LLC «Moidodyr», production and financial indicators of the company LLC «Moidodyr», literary sources on logistics and customer service, Internet source.
5. Content of the explanatory notes: introduction, the essence logistics customer services; Research of basic elements of the customer service; Importance of logistics customer service; Analysis of the Ukrainian furniture market; Analysis of the activity of LLC «Moidodyr» in the Ukrainian market; identification the main problems and prospects for the development of the furniture market in Ukraine; develop the conceptual model of digital transformation of furniture enterprises; develop recommendations for digital transformation of logistics customer services for the company «Moidodyr»; calculation of the economic effect of the proposed measures; conclusions and appendix.
6. List of obligatory graphic matters: tables, charts, graphs, diagrams illustrating the current state of problems and methods of their solution.

7. Calendar schedule:

№	Assignment	Deadline for completion	Mark on completion
1	2	3	4
1.	Study and analysis of scientific articles, literary sources, normative legal documents, preparation of the first version of the introduction and the theoretical chapter	04.10.21-28.10.21	Done
2.	Collection of statistical data, timing, detection of weaknesses, preparation of the first version of the analytical chapter	29.10.21-15.11.21	Done
3.	Development of project proposals and their organizational and economic substantiation, preparation of the first version of the project chapter and conclusions. Editing the first versions of maser thesis	16.11.21-03.12.21	Done
4.	Preparing the final version of the master thesis, checking by standards inspector	04.12.21-09.12.21	Done
5.	Approval for a work with supervisor, getting of the report of the supervisor, getting internal and external reviews, transcript of academic record	10.12.21-12.12.21	Done
6.	Submission work to Logistics Department	13.12.21	Done

Graduate _____
(signature)

Supervisor of the master thesis _____
(signature)

8. Consultants of difference chapters of work:

Chapter	Consultant (position, surname and name)	Date, signature	
		The task was given	The task was accepted
Chapter 1	Associate Professor, Karpun O.V.	04.10.21	04.10.21
Chapter 2	Associate Professor, Karpun O.V.	29.10.21	29.10.21
Chapter 3	Associate Professor, Karpun O.V.	16.11.21	16.11.21

9. Given date of the task October 04, 2021.

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Task accepted for completion: _____
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ABSTRACT

The explanatory notes to the master thesis «Formation of complex logistics customer service in the digital environment» comprises of 120 pages, 38 figures, 7 tables, 3 appendixes, 92 references.

KEY WORDS: CUSTOMER SERVICE, COMPLEX LOGISTICS CUSTOMER SERVICE, FURNITURE COMPANY, FURNITURE MARKET, DIGITAL TRANSFORMATION, CUSTOMER RELATIONSHIP MANAGEMENT, SOCIAL CRM

The purpose of the research is to study the theoretical foundations and problems of customer service in the digital environment and develop recommendations about formation of complex logistics customer service in the digital environment.

The subject of the investigation is the forming the digital transformation of logistics customer services for the company «Moidodyr», taking into account the implementation of Social CRM.

The object of the research is the Ukrainian furniture market, as well as the process of customer service of the furniture company «Moidodyr».

Methods of research are scientific inquiry, empirical, analysis and synthesis, modeling, expert assessments, extrapolation of time series.

Materials of the thesis are recommended for use during scientific research, in the educational process and in the practical work of specialists of logistics departments.

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NOTATION

- BPMN – Business Process Model and Notation;
- CRM – Customer Relationship Management;
- CSCM – Customer Service Chain Management;
- DCSP – Distributed Constraints Satisfaction Problem;
- ERP – Enterprise Resource Planning;
- IVR – Interactive Voice Response;
- IT – Information Technology;
- GIS – Geographical Information System;
- GPS – Global Positioning System;
- KPI – Key Performance Indicators;
- LLC – Limited Liability Company;
- NPV – Net Present Value;
- PDPTW – Pickup and Delivery Problem with Time Windows;
- SCM – Supply Chain Management.

INTRODUCTION

In a market economy, the furniture industry, as well as companies in other industries, feels its severe external influence. However, it should be emphasized that the domestic economy has competitive products of domestic industrial enterprises. High-quality upholstered and cabinet furniture has long been appreciated abroad. The current period can be described as a period of accumulation of threats, so it is advisable to identify features of both macro and microenvironment, which have a significant impact on the activities of the furniture industry.

Today, furniture production is an industry that is developing, gradually reaching the European level of quality and design. Therefore, it is extremely attractive to operators and, accordingly, has a dynamic to increase the number of competitors.

Today, the Ukrainian furniture market is estimated at 330 million US dollars. The analysis of the furniture market shows that consumers increasingly prefer domestic manufacturers in their choice. The decline in interest in imported furniture is primarily due to declining purchasing power. It is also worth noting that the Ukrainian furniture market is not deprived of shadow production, which is focused on the middle and cheap segment. Today the shadow furniture market in Ukraine is 35%.

More than 3,000 furniture manufacturers are engaged in furniture production in Ukraine. Among them: large furniture factories that produce furniture in series, medium-sized enterprises working on individual orders and small, of which about 30% – micro-enterprises.

Globalization and the new internet-based capabilities of ready informational networking among companies impose and enable new value-added structures known as bot-tom-up economy. The structure and process related nature of the bottom-up economy is dramatically different from the top-down economy of the past in that it follows a logic of cooperation among smaller, locally based value-added units flexibly combining to form larger structures to generate complex products and

services. This is referred to as open production by production managers and suggests that new technical opportunities might give rise to structural changes also in the logistics sector in future.

From the angle of small and medium-size furniture companies the challenge is to be able to forge ties of cooperation with other service providers quickly and with as little input of resources as possible in a situation in which the cooperative business processes must be handled efficiently with the aim of providing joint services in the market. The present stock of software used by small and medium-size furniture companies systematically supports isolated internal functions and is not made for easy and quick integration with the software applications of complementary partners in the value-added process.

Innovative, co-operation-supporting and multitenant cooperation-enabling cloud services, resp. hold out the promise of new opportunities for the short-term establishment and termination of ties of cooperation without the need or risk of investment associated with conventional software applications. Meanwhile the integration issue between cooperation partners on the IT level can essentially be cleared up by the usage of the same cloud software installation.

The problem at present is less that of the availability of the suitable cloud services than the introduction of new approaches for the shared use of software

Some of furniture enterprises would be able to cooperate at lower costs and in a shorter time by using multi-tenant cooperation-enabling cloud services. However, a part of furniture enterprises does not know about the advantages and capabilities of cloud services. They need an external suggestion to get know about cloud computing and an external support for the implementation of cloud services in their own companies.

The digital age is disrupting traditional customer service models – new customer touchpoints are appearing the world over at breakneck speed and against a backdrop of rising expectations.

In this thesis, we outline our perspective on the formation of complex logistics customer service of the furniture companies in the digital environment.

A few years ago, digital customer service for Ukrainian businesses was at an early stage of study and research. At the same time, most businesses lack qualified digital customer service professionals who can use it practically effectively. They had only the information and practical skills targeted at social networks, as well as the techniques for choosing the right e-commerce sales channel.

In recent years, most companies have started to increase their digital applications. Businesses began to view digital customer service as a lever of growth and a source of competitive advantage.

Digital customer service (or digital marketing) is marketing that engages with customers and business partners using digital information and communication technologies and electronic devices.

There is a view that digital customer service is a type of marketing activity that, through digital channels, allows digital methods to interact with target market segments in virtual and real environments. In other words, it is modern marketing, which is characterized by a duality because of its hybrid nature: some of the functions are performed online and some are offline.

The digital marketing system must fulfill the same goals, objectives and functions as the traditional marketing system, while at the same time, the methodological basis and means of achieving marketing tactical and strategic goals are fundamentally changing.

Digital marketing promotes [82]:

- increasing of conversion – when the image accompanies advertising;
- increasing the number of visitors to website of a company – existing and potential consumer users, when there is a video or animated video on the homepage;
- enhancing the company's image and reputation – when it offers free photo and video sharing services;
- increasing sales of specific products and sales in general – when the company is present on social networks and has blogs that are run by company executives and its best professionals.

Digital marketing uses Internet marketing technologies, mobile technologies, cloud technologies, business analytics based on digital technologies, social media, namely [82]:

- contextual advertising;
- Big Data technologies – large volumes of data;
- retargeting;
- mobile marketing;
- Email;
- viral marketing;
- real-time bidding (RTB),
- social media marketing (SMM);
- social media optimization (SMO);
- search engine optimization (SEO)
- and all kinds of online media resources.

Among recent trends in digital marketing, it is advisable to highlight those that have been actively used in recent years in Ukraine [57].

1. Online video is a great way to stand out from the crowd. According to The Wall Street Journal, online video consumption has increased tenfold between 2011 and 2016, and this rapid growth will not slow.

2. Native (natural) advertising. Organic content ads are more likely to be read by the user because it seems more natural to them. It should be noted that native advertising is especially effective on smart devices that continue to replace traditional desktops and laptops. Today, digital marketers need to focus on creating natural advertising for consumer interest.

3. Personalized content. Content is a way to attract more visitors to your site and turn them into customers. This is why Google's algorithms should value and submit high-ranking content on the web.

4. Reasonable advertising with big data. Big data has always been instrumental in advertising since its inception, but the development of big data has allowed more advertisers to take advantage of insights about potential buyers that weren't available

before. Big data allows advertisers to define their audience more precisely, to spend less money on advertising aimed at those consumers who do not respond to it. Big data provides a thorough analysis that helps advertisers more closely track conversion rates and other factors.

5. Community development. Internet users create more content than ever before, and their words, photos, videos, and other content can make a big difference in your brand and your sales growth. People can create content without encouragement, but support will help build a team of thought leaders. Another strategy is to pay bloggers and other thought leaders to discuss a product or service.

Therefore, the use of digital marketing in modern conditions is becoming necessary and effective. According to [57] the main advantages of using digital marketing are that:

- a wider target audience is aware of the brand, which is buyers willing to pay money for the product; attracting their attention through communication and networking;
- buyers find out the information about a product in a very short time, and the sooner they find out, the sooner they will buy;
- through the use of various channels to disseminate information about your brand that will literally "blindfold" and crash into the memory of the audience, the chances of choosing your products at the time of purchase increase;
- begin to learn about the product, study it more closely, look at it, advise it to friends;
- digital marketing costs less than regular advertising;
- the results of a marketing campaign can be measured, analyzed, then concluded and corrected.

A customer service reformation is taking place. It's radical, it's far-reaching and it's being driven by customers. The digital age has transformed the way customers shop and share their experiences. Today, customers are driving the buying process using websites, blogs, vlogs and social platforms. By the time they enter a store or become visible in the sales funnel, they know what they want to buy and how much

they want to pay. It doesn't stop there. Once the sale is closed, customers use those same channels to join forces and name and shame those that disappoint.

On the face of it, it seems a concerning development for businesses. But there's a bright side to these changes. New channels and technologies open up fresh opportunities that can make a company stand out from the rest of the crowd. Opportunities to build an ongoing dialogue with customers. Opportunities to learn from customers and to increase the relevance of products and services. So it's time for every business to start seeking and fostering enduring relationships with their customers – a relationship that goes far beyond the initial sale.

All this determines the relevance of the chosen topic of the research.

Thus, the purpose of the research is to study and generalize theoretical approaches, as well as to develop practical recommendations for the formation of complex logistics customer service in the digital environment.

The object of the research is the Ukrainian furniture market, as well as the process of customer service of the furniture company «Moidodyr».

The subject of the investigation is the forming the digital transformation of logistics customer services for the company «Moidodyr», taking into account the implementation of Social CRM.

Scientific innovations:

- conceptual model of digital transformation of furniture enterprises;
- forming the digital transformation of logistics customer services for the furniture company;
- implementation of Social CRM as a basic of complex logistics customer service of the furniture company.

To achieve this goal, the following tasks were set:

- to explore the essence of logistics customer services;
- to research the basic elements of the customer service;
- to research the importance of logistics customer service;
- to consider the communication with customers in a digital environment;
- to analyze the Ukrainian furniture market;

- to analyze the activity of LLC «Moidodyr» in the Ukrainian market;
- to identify the main problems and prospects for the development of the furniture market in Ukraine;
- to develop the conceptual model of digital transformation of furniture enterprises;
- to provide recommendations for digital transformation of logistics customer services for the company «Moidodyr»;
- to provide implementation of Social CRM as a basic of complex logistics customer service of the company «Moidodyr»;
- to calculate the economic effect of the proposed solutions.

During the writing the thesis were used the materials of internal reporting of the enterprise, data of statistical directories and materials of practicing specialists in the field of logistics and management, placed in periodicals, monographs, textbooks and electronic sources, etc.

CHAPTER 1

THEORETICAL PRINCIPLES OF LOGISTICS CUSTOMER SERVICE FORMATION IN THE DIGITAL ENVIRONMENT

1.1 The essence of logistics customer services

An important concept within logistics systems operations is logistics customer service. This concept is based on the overall scope of the supply chain. Traditionally it has been difficult for components of the supply chain to define their role in the overall customer service delivered to end-users. However, the growing trend is for a larger awareness of «their role not only with reference to trading partners but also to the end customer and at the point to the fact that logistics customer service in the supply chain functions as communicating vessels» [11]. This is difficult when you consider that companies within the supply chain serve a dual role. They function as customers of the preceding entity within the supply chain then in turn serve as suppliers for the next link in the supply chain. This has resulted in companies planning strategically with the end-user in mind. «It is the end customer who decides whether the creation and functioning of the entire supply chain are justified» [11]. The design of the supply chain is justified by customer sales.

This concept becomes more critical in times of economic difficulty. This can complicate logistics operations for all entities within the supply chain. «Today, shippers expect their logistics providers to take a ‘cradle-to-grave’ approach to customer service, providing, insight, strategic guidance, and a wide range of capabilities from the very beginning to the very end of the supply chain» [45].

Customer service is a broad term that holds many elements ranging from product availability to after-sale maintenance. Looking at logistics perspective, customer service is the outcome of all logistics activities or supply chain processes. Corresponding costs for the logistics system and revenue created from logistics

services determine the profits for the company. Those profits widely depend on the customer service offered by the company.

There are some strategies involved in the operation of logistics process that include inventory strategies such as forecasting, inventory decisions, purchasing and supply scheduling decisions, storage decisions, etc., the transport strategies such as transport planning, scheduling, and modal selection. There are also strategies involving location analysis and the networking planning. All these strategies are critical for an effective logistics customer service (Fig. 1.1) [33].

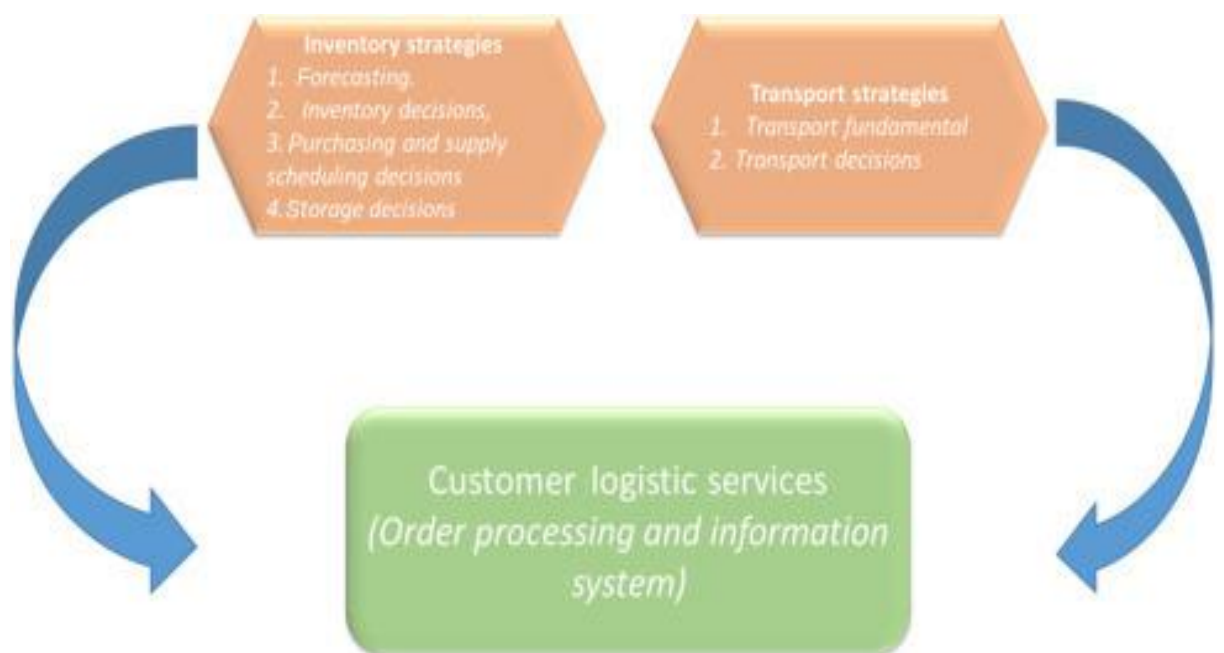


Figure 1.1 – Planning of logistics customer service

Logistics planners need to focus on certain approaches and features to ensure a good customer service experience. Such approaches include building up a strategic process to provide highly valued services to the customers, on-time deliveries, ensuring trade-off between costs and services, maintaining a harmonious relationship among all supply chain partners, continuously improving customer loyalty, and customer satisfaction as well as bringing the competitive environment in the market (Fig. 1.2) [33].



Figure 1.2 – Features of customer services

Logistics customer service is a part of a firm's overall customer service offering, customer service elements that are specific to logistics operations including fulfillment, speed, quality, and cost. The term fulfillment process has been described as the entire process of filling the customer's order. The process includes the receipt of the order, managing the payment, picking and packing the goods, shipping the package, delivering the package, providing customer service for the end-user, and handling the possible return of the goods.

The term «customer service» needs clear explanation in order to relate with logistics. For example, manufacturers' first concern always is with how efficiently the cargo reaches its destination without any delay or any sort of complication. This is important because of the reputation of the company, which solely depends on customer perception. Businesses flourish based on the manufacturer's capability of meeting these customer expectations. One approach to maintaining good logistical

support and cutting costs is to concentrate on communication solutions such as tracking shipment, status update, and accommodating last minute change request. With the advancement of technology, many services are available to the customer by limiting confusion, ambiguity, and inefficiency. As a result, these services such as shipment tracking helps not only pushes away unnecessary expenses out of the manufacturer's existing operational exercises, but also increase the overall customer experience and helps improve financial aspects. Some technology driven service goals are described as follows [33]:

- automate timing/location updates, rate quotes, pick-up scheduling, current transit times, or proof of delivery with interactive voice response (IVR) self-service;
- provide inquiries about updates regarding service and measures the needs of service calls within the system;
- generate and deliver notifications, such as weather alerts, changes in schedules, and more with campaign management tools to alert the respective personnel;
- provide security of overall customer information and payment transactions and minimize fraud;
- empower customers by providing information regarding the purchased products so that they can express and communicate better their expectations;
- identify and predict customer interest to make every smooth interaction between the customer service provider and the customer;
- show efficiency with shorter response time by improving contact center visibility to the customer;
- meet and interact with clients and employees on mobile devices;
- continuously enhance policies and approaches through gathered customer feedback data and analyze and make reports for executing better business strategies;
- ensure customer reliability and a consistent experience for clients by avoiding unnecessary costs and improving workforce development.

Logistics planners must understand all logistics services offered by the firm so that they can articulate the benefits to the customer. If articulate properly, customer

service could add significant value to create demand for the products and improve customer loyalty. Customer service starts with order entry of the product from the inventory to the transport of the final product to the desired destination. Well-organized customer service logistics focuses on providing technical support as well as required equipment service maintenance. As mentioned earlier that customer satisfaction depends on the speed and efficiency of ensuring the availability of the product ordered and delivered. The following sections describe the different elements of customer service.

1.2 Research of basic elements of the customer service

Customer service has several integral parts, which are interconnected with each other, such as price, product quality, and speed of service. For instance, the price goes up with higher speed of service and vice versa. There are four valuable marketing mixes such as product, price, promotion, and place, which are combinedly elaborated as four Ps. The «place» is associated with physical distribution, which means it involves customer service. A study on customer service by the National Council of Physical Distribution Management identified these elements of customer service according to when the transaction between the supplier and customer take place. These elements are categorized as pretransaction, transection and posttransaction.

According to [28, 33], there are three elements to customer service. The first one is the pretransaction element. This element establishes the business relationship climate. Ideally, all terms of customer service policy are identified prior to shipment of goods that establishes an expected level of customer service in the transaction. The pretransaction element consists of returns policies, expected delivery time, and contingency plans for problems that may occur during shipment. The expectations are established during the pretransection stage, but it is important for companies to adhere to established policies. The second element of customer service occurs during

the transaction stage. This element is very simple. Companies must deliver the right product to the correct location in the prescribed delivery time. Also, the product received must be in good condition. LaLonde and Zinszer identified the third element of customer service as posttransaction activities. These are the services provided to customers following receiving their goods. These activities must be planned in the pretransaction and transaction stages [2]. These elements are shown graphically in Fig. 1.3 [33].

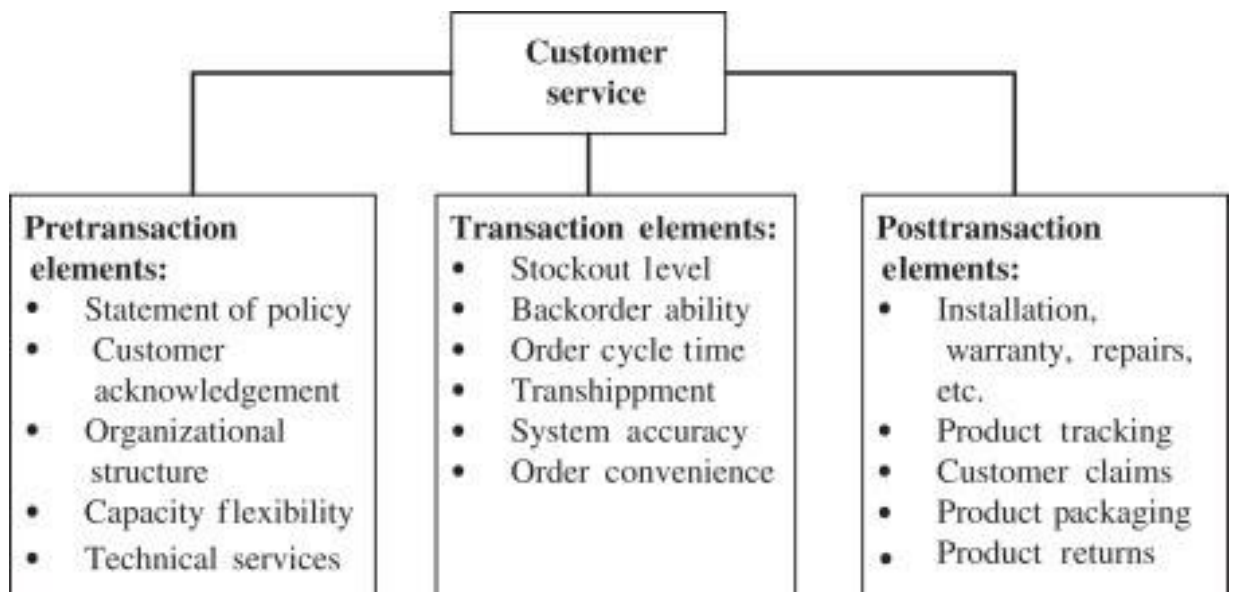


Figure 1.3 – Elements of customer service

In the corporate business climate, all these elements are considered individual components of the larger overall customer service. There have been several studies, such as the works of Innis and LaLonde or Sterling–Lambert, which indicate that while all these individual elements do make up the overall customer service, some elements are considered more important than others. Innis and LaLonde concluded that as much as 60% of desirable customer service attributes can be directly attributed to logistics [28]. These include fill rates, frequency of delivery, and supply chain visibility [28]. Researchers have consistently discovered that customer service is highly dependent on logistics. Fig. 1.3 summarizes the most important customer service elements as on-time delivery, order fill rate, product condition, and accurate documentation.

Pretransaction elements

Pretransaction elements of customer service mean to establish a climate for good customer service. Which is basically a nonroutine activity. This element of services deals with the service level and related activities in qualitative and quantitative terms. Pretransaction elements provide the roadmap to the operating personnel regarding the tactical and operational aspects of customer service activities of the company. For the reverse logistics process, this phase is essential because it helps to shape the firm to focus on customer such way to create influence the perception of the firm into the customer's mind.

Transaction elements

Transaction elements include everything between a order is received and delivered to the customer. During the transaction phase of customer service, a firm focusses on retrieving, packing, and delivering the order to the customer in a timely and cost effective manner. This phase also includes scheduling of shipment, communication with the customer, delivery tracking, and delivery confirmation.

Posttransaction elements

This phase represents the array of services needed to support the product in the field; to protect consumers from defective products; to provide for the return of packages; and to handle claims, complaints, and returns. Corporate customer service is the sum of all these elements because customers react to the overall experience.

According to studies, most of the industries show that buyers, customers, and influencers of purchases of related industries mainly focus on variables including product, price, promotion, physical distribution, and speed of delivery among others.

Sterling and Lambert clearly showed in their research that logistics customer service is the critical factor for the office systems as well as plastic and furniture factories. Factors such as high fill rate, frequent delivery, detailed inventory visibility, estimated shipping date, and expected delivery time from the time of order placement and order received are very important to the retail customers.

In the surveys of purchasing and distributing suppliers, presented by Shycon Associates, there are several common service failures including late delivery, faulty

products, damaged goods, and discontinued products. Late delivery is the most critical issue, as it represents 44% of the entire customer complaints. Again, faulty products fall around one-third of the total complaints. Fig. 1.4 shows some of the most common customer service complaints noted by industrial surveys [33].

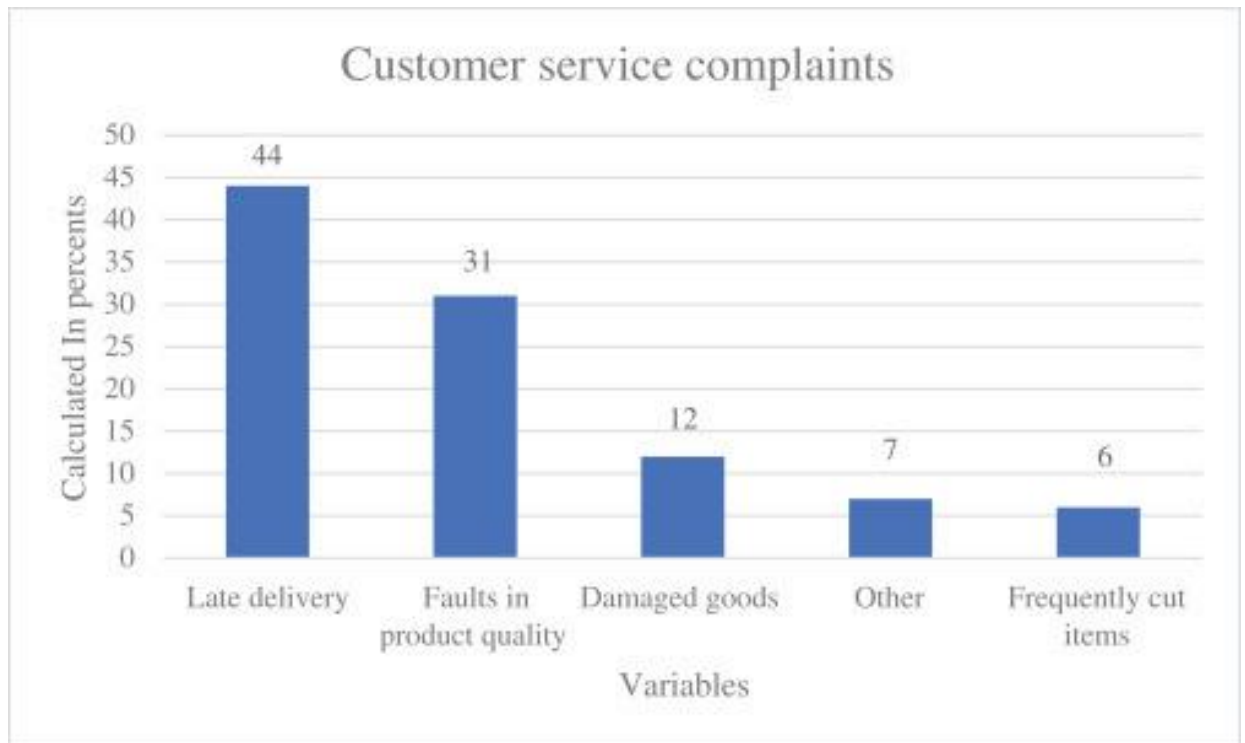


Figure 1.4 – Common customer complaints

The following are considered the most important logistics customer service elements:

- on-time delivery;
- order fill rate;
- product condition;
- accurate documentation.

In logistics, it is said that nothing happens until somebody orders something. «Order Cycle Time is defined as the elapsed time between when a customer order, purchase order, or service request is placed and when the product or service is received by the customer» [2].

Logisticians can affect the overall customer service level through efficient management of operations. The cycle time of each order must be carefully monitored to properly judge the efficiency within each cycle. Therefore order cycle time is considered all the processes that must occur prior to the customer receiving their product or service. Total order cycle time includes order transmittal time, order processing and receiving time, stock acquisition time, and delivery time. Order processing and receiving time includes the bill of lading preparation, credit clearance, and order assembly times. However, the delivery time has three basic components: shipping time from the plant, shipping time from the warehouse, and customer shipment process. Fig. 1.5 shows the various components of a typical customer order cycle [33].

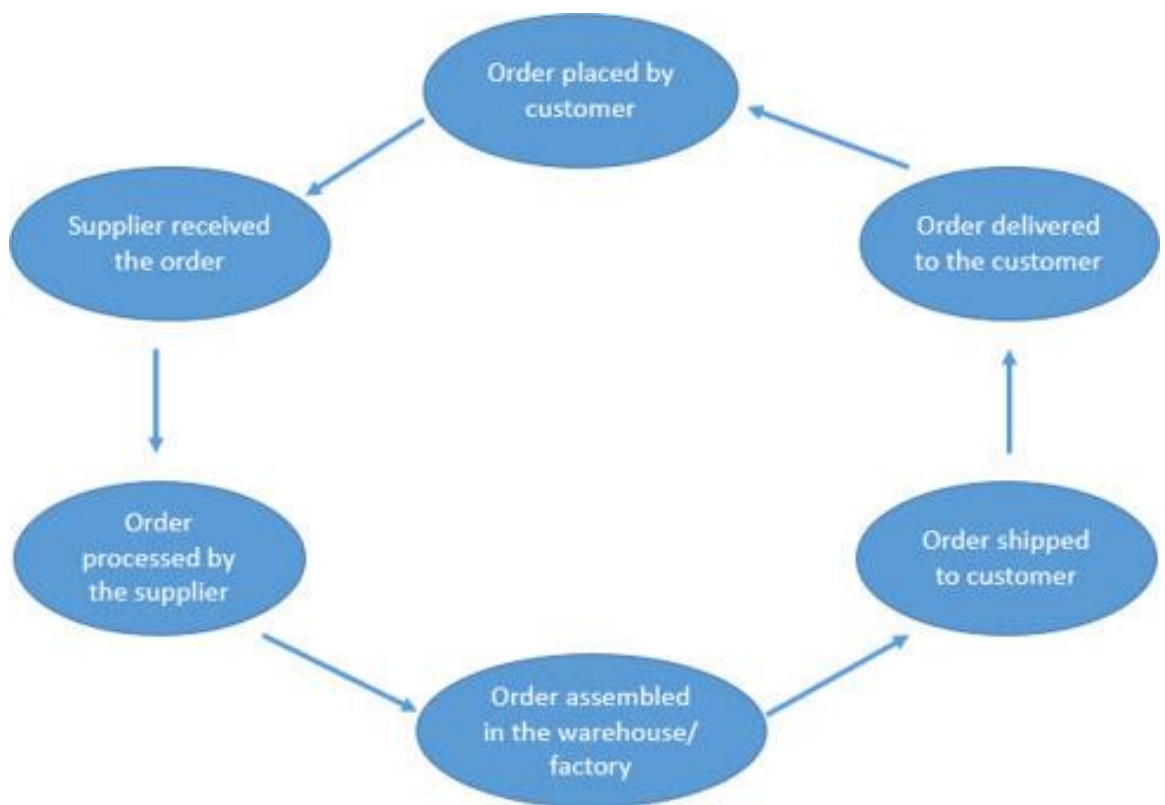


Figure 1.5 – Components of a typical customer order cycle

Depending on the system used for communicating orders, the transmittal time varies. The transmittal time includes transferring the order request from the origin to the entry of the order for further processing. Order entry may be handled manually

such as physically carrying the order or electronically via toll-free number, satellite communication or via the internet. The manual processing is slow but inexpensive, while the electronic methods are most reliable, accurate and fast but expensive.

The next important element of an order cycle is the steps required for order processing and order assembly. These processes are involved steps like send notifications to the buyer/supplier, updating inventory records, preparing and scheduling shipping details for delivery, and communicating with customers as priorities can affect or change the speed of order processing for delivery. To some extent, order processing and assembly occurs concurrently to save time for both of these operations. Unavailability of stock has a significant negative effect on total order cycle time, as it takes searching for the stock items, reconciling missing items, and delays in order assembly. The final primary element in the order cycle over which the logistician has direct control is the delivery time, the time required to move the order from the stocking point to the customer location.

Order cycle time can be adjusted for various reasons including the changes in customer needs, order priorities, shipping capacities, promotions, among others. A customer may choose to change the order delivery time by paying for an expedited service any time after placing the order. It is normally assumed that the elements of the order cycle have remain unaffected, but customer service policies and disruptions may distort the normal order cycle time patterns. Such as priorities of order processing, condition of the order, size of the order, natural disaster, etc.

Priorities of order processing are determined by factors including delivery time and window, premiums paid by the customers, urgency of on time delivery, consequence of late delivery, customer reputation, and many others. When backlogs in the order cycle occur, it is required to distinguish orders from each other. An individual customer may vary greatly from the company standard, depending on the priority rules, or lack of them, that have been established for processing incoming orders.

Typical order cycle time may change significantly for the goods delivered in their destinations as damaged or unusable. In that situation order cycle time

significantly increase as reorder, replacement, or repair has to happen. Depending on the factors for setting standards for the packaged goods including design, returning and replacing processes if needed for the incorrect, damaged goods, the cycle of order time may vary. Also, there are specific standards established in any business to monitor the quality of order and check the average order time and keep it steady.

Order constraints are preset expectations or requirements that prevent flexibility in order processing and delivery. Due to the order constraints, the cost of order processing and delivery can increase. The example of order constraints includes minimum order size, fixed days for receiving order, maintained specifications for order, etc. Order constraints also help with the order planning as the restrictions are known ahead of time. According to the logistic planners, presetting the delivery schedule, order conditions, packaging, etc. help the business to impose a organized processing of order and improve the delivery to the customer on time in a great extent. Presetting specifications also help low volume markets serve reliable and efficiently in a continuous manner.

1.3 Importance of logistics customer service

Customer service is extremely important in the logistics world because of the highly synchronized and detailed planning and execution that is required when operating on a global scale. Multiple factors are critical in delivering high levels of customer service and they include high rates of order fulfillment, speed and frequency of delivery, inventory visibility, on-time delivery, condition of product on delivery, and accurate documentation on PO's and bill of lading. It is a multi-faceted concept of gaining and maintaining differentiation in the market-place. The customer service must meet the needs of different customers. 'Perfect order' should form the basis for measuring service performance and to develop new service standards. Logistics management plays a vital role in enhancing the customer lifetime value by

increasing customer satisfaction and enhanced customer retention. In any business, especially in the transportation business, good customer service is a top priority. This is because customer satisfaction helps the business survive and grow simultaneously. In any sort of logistics operation, providing good customer service for example, monitoring shipments periodically from the warehouse until destination and notifying customers if their orders are facing delay for any circumstances will elevate customer satisfaction. Monitoring deliveries at every point and communicating with respective personnel in need and sending notifications to the customer to brief them regarding the issue and arranging adjustments increases the customer's loyalty and thus sets the business in a unique position compared to other competitors in the market.

Poor customer service will drive customers away from the brand. Customers usually shares with others regarding product quality. If the product is good and they are satisfied by the customer care service, they recommend the brand to others but if they feel unsatisfied due to low quality or poor service, they tend to alert others, which negatively affects the reputation of the company or brand. A negative reputation could be very hard to erase and tends to degrade the share value of the company. The relationship between customer service and sales is symbiotic. After having a positive experience with a business, most of the customers are actually willing to refer that company to another person. A positive experience in customer service not only help retain customers, but also help with the acquisition of new customers. Retained and loyal customers can help increase incremental growth of a business. When comparing, retaining customers costs 4 to 10 times less than the cost of acquiring new customers.

It is obvious that low-quality customer service has tremendous side effects in any sort of business. Additionally, a business could lose the loyalty of the valued customers and there are risks of losing the best employees because whenever companies have a customer service problem. The best employees are obliged to fill up the slack for other employees, so they search for better opportunities for their talents. An industry survey revealed many penalties of bad customer service and their significance on businesses. For instance, reduction of the business volume

contributed to almost one-third of the entire customer service related failures. Other penalties include called in manager/salesman, cut-off of all purchases with suppliers, significant number of items discontinued, deny of purchasing new items and refusal to invest in promotion. Fig. 1.5 shows some significant customer service penalties noted from an industry survey.

So how can businesses go about fixing bad customer service experiences? It is very critical that business identify the root causes of bad customer service and address them before it is too late. Before doing anything, business need to be more informed about the situation and underlying causes. They can connect with the employees and customers involved to identify the problems. Once root causes are identified, business need to focus on addressing them applying various methods including training employees, reviewing business practices and strategic partnership, involving high level leadership, fixing the system, and compensating customer losses. In short, there are several ways to fix a bad customer service situation but arguably the best way is to prevent them from happening altogether. Make sure the businesses have the right customer support infrastructure and consistently improve their customer experiences.

To look at the importance of customer service is through the costs associated with customer retention. Logistics customer service plays a critical role in maintaining customer patronage and must be carefully set and consistently provided if customers are to remain loyal to their supplier. On the average it is approximately six times more expensive to develop a new customer than it is to keep a current customer. Thus, from a financial point of view, resources invested in customer service activities provide a substantially higher return than resources invested in promotion and other customer development activities.

It is not always clear how important logistics customer service is until we understand how logistics decision making would be enhanced if we knew more precisely how sales change with changes in logistics customer service levels. Business sales are related to customer experience and customer satisfaction. The exact relationship between sales and customer service varies by industry and specific

business. Generally, when customer service is poor, sales decline. As services increase above the level offered by the competition, sales gain can be expected as superior customer service increases the retention of existing customers and attract new customers. When a firm's customer service level reaches this threshold (level offered by the competition), further service improvement relative to competition can show good sales stimulation. It is possible that service improvements can be carried too far, resulting in no substantial increase of sales.

Efficiency in customer service can result from the combined impact of improving the elements of customer service, which has a quantitative effect on sales for a company. This is referred to as the sales-service relationship. There are several theories that conclude that if price and quality are equal a company must offer customer service to approximately the same degree as their competitors in order to maintain competitive advantage in a given market. The service level offering that is offered by the competition in a market is considered the threshold service level. This threshold service level assumes that a company cannot sustain themselves in any market if they do not offer a base level of customer service greater than or equal to their competitors. Once a company has reached the threshold service level, any improvements above the threshold are expected to stimulate sales. These sales can come from new and unexplored markets or customers converted from other companies.

There are various models that formulate the theoretical relationship between sales/revenues and services. Usually, better service generates more sales. In some cases, sales-service relationship for a given product may deviate from the theoretical relationship. Following methods for modeling the actual relationship could be used in those specific cases.

1. Two-point method

The two-point method involves establishing two points on the diminishing return portion of the sales-service relationship through straight lines. The method is based on the notion that multiple data points to accurately define the sales-service curve would be expensive or unrealistic to obtain, and if data were available, it is not

usually possible to describe the relationship with a great deal of accuracy. First, set logistics customer service at a high level for a particular product and observing the sales that can be achieved. Then the level is reduced to a low level and sales are again noted. These limitations suggest that a careful selection of the situation to which it is to be applied must be made if reasonable results are to be obtained. Fig. 1.6 shows how the two-point method is used to correlate sales-service relations by establishing two points and the area covered based on the relationship of product sales and logistic customer service offered [33].

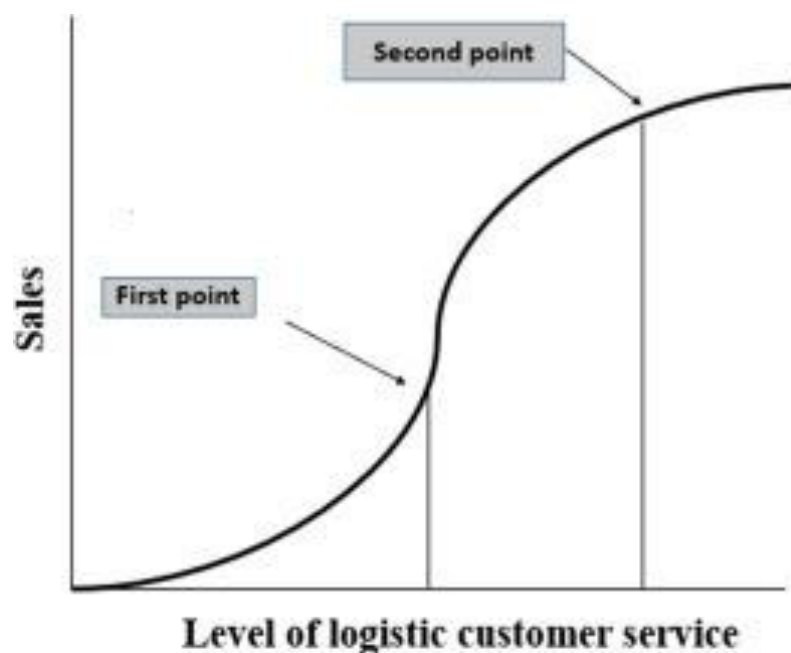


Figure 1.6 – Two-point method

2. Before/after experiments

The impact on sales/revenues to a change in service level may be all that is needed to evaluate the effect on costs. The sales-service relationship over a wide range of service choices may be unnecessary and impractical. Sales response is determined either by inducing a service level change and monitoring the change in sales. These experiments are easier to implement because the current service level serves as the before data point. Before and after experiments of this type are subject to the same methodological problems as the two points method described earlier.

3. Game playing

One problem in measuring the sales response to service changes is controlling the business environment so that only the effect of the logistics customer service level is measured. One approach is to set up a laboratory simulation, or gaming situation, where the participants make their decisions within a controlled environment. This environment attempts to replicate the elements of demand uncertainty, competition, logistics strategy, and others that are relevant to the situation. Game involves decisions about logistics activity levels and hence service levels. By monitoring the overall time period of game playing, extensive data is obtained to generate a sales-service curve. The artificiality of the gaming environment will always lead to questions about the relevance of the results to a particular firm or product situation. Predictive value of the gaming process is established through validation procedures.

4. Buyer surveys

One of the popular methods for gathering customer service information is surveying buyers or other people who influence purchases. Mail questionnaires and personal interviews are frequently used because a large sample of information can be obtained at a relatively low cost. Survey methods must be used with caution because biases can occur. The questions must be carefully designed so as not to lead the respondents or to bias their answers and yet capture the essence of service that the buyers find important. The finding of survey can be used to model the relationship between the cost and the customer service level.

There is a cost associated with providing the logistics customer services. As the level of customer service goes up, the cost associated with providing that service also goes up. For example, a business has to spend more money to improve order fulfillment rate from 90% to 95%. The most critical question for a logistics manager is where they choose to be in relation to cost and customer service levels. As activity levels are increased to meet higher customer service levels, costs increase at an increasing rate. This is a general phenomenon observed in most economic activities as they are forced beyond their point of maximum efficiency. The diminishing returns in the sales-service relationship and the increasing cost-service curve results in a

profit curve. The profit contribution curve results from the difference between revenue and costs at various service levels. Because there is a point on the profit contribution curve where profit is maximized, it is this ideal service level that is sought in planning the logistics system.

1.4 Communication with customers in a digital environment

Technology and innovation has changed customer expectations and the way that companies communicate. While businesses have become more accessible by having a digital presence, the need is to successfully communicate with customers to meet their needs. Various online mediums are also being used by businesses to market their products and services.

We'll describe different scenarios for the redesign of a company's internal IT landscape due to the use of digital environment. The scenarios of using cloud services most frequently cited include the following [3, 41]:

1. Higher flexibility of software use by the faster and simpler provision of software applications via the internet (on-demand) or outsourcing of software applications so far used internally, e.g., order management, enterprise resource planning (ERP), supply chain management (SCM) and customer relationship management (CRM) systems.

2. Improvement of the cost variability of software use by more flexible accounting models (pay-per-use).

3. Further development and augmentation of the internal business model by the ability of offering complementary IT services to available company services (e.g., easier IT integration of customers and value-added partners by linking them to the cloud service).

4. Protection of critical business processes, business applications and business data by shifting them to a cloud environment with very high security requirements.

Many of the application scenarios of digital services discussed so far aim at providing internal/company-focused advantages of cloud usage. In contrast with that, explicitly cooperation focused application scenarios are discussed much less frequently today. The benefits of the multitenant capability of SaaS applications (e.g., cost sharing, risk sharing, internet-based access, and constant availability) are in the focus of attention whereas multitenant cooperation by means of SaaS applications has received less attention. The joint use of multitenant cooperation logistics cloud services could mean that logistics willing to cooperate develop a higher degree of ability to work together than with the applications they have been using so far.

Unlike local integration of all with all applications («mesh networking») among all network partners, the investment in IT for integration and interface development in the case of a central SaaS application with shared use is limited to the number of applications needing integration («hub and-spoke network»).

The approach model comprises of totally six main activities each with three or four intermediate activities which, in turn, are divided into sub-tasks. Fig. 1.7 shows the main activities of the process model using the business process model and notation (BPMN).

The process model combines, in its activities, a multitude of procedures, techniques and methods of other engineering disciplines, e.g. business engineering, systems, engineering, software engineering, service engineering, integration engineering, and requirements engineering.

The assignment of roles, results and techniques to the activities is described in detail in reference [41] as well as the techniques and results of all activities and their sub-activities.

The transport requirements in modern society are becoming more and more important. The transport services need to be more and more advanced and better designed to meet the needs of users. A significant part of costs of many goods are transport costs. The size of the market of transport services as well as the sales volume and derived profits intensify competition.

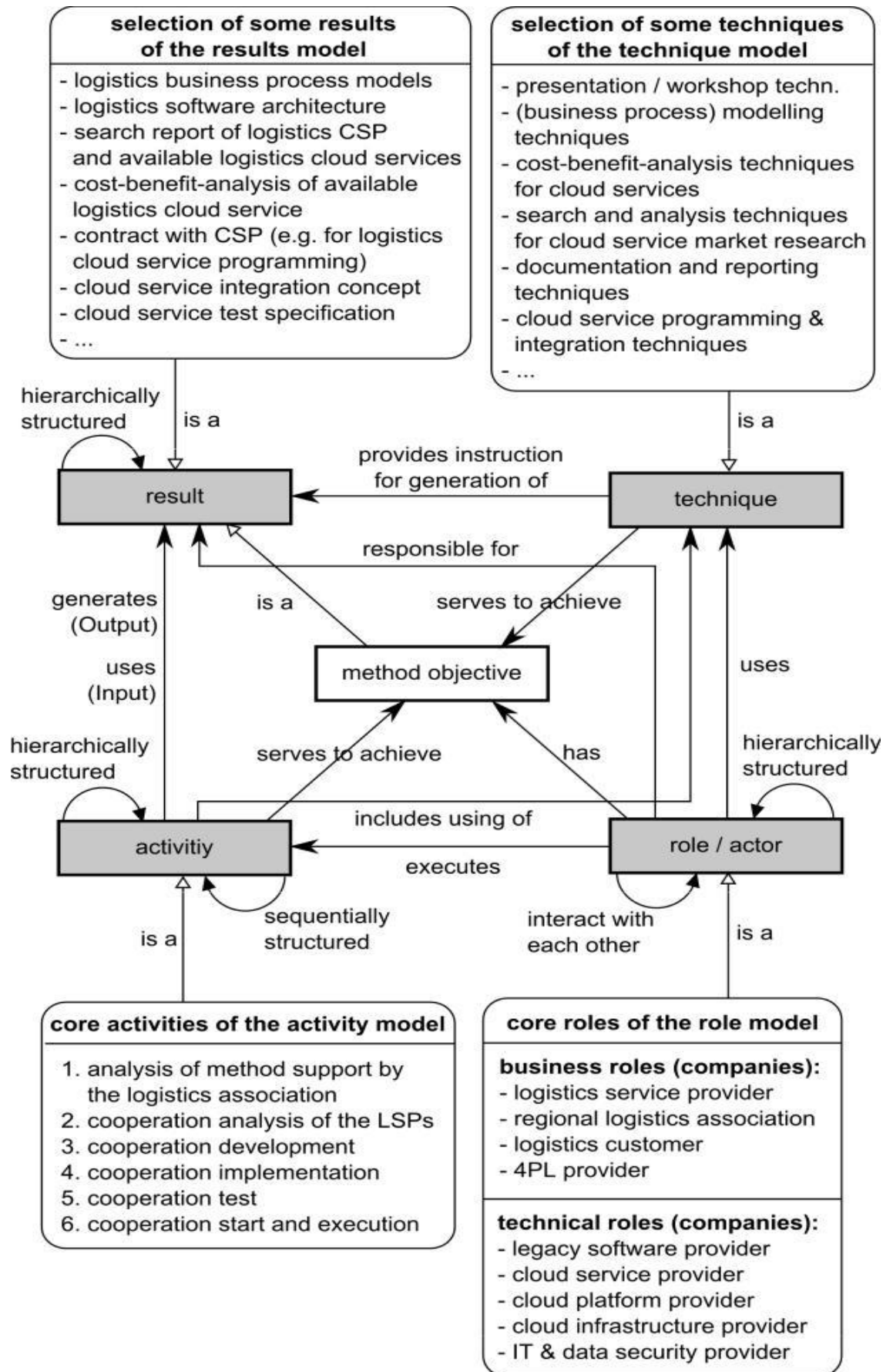


Figure 1.7 – Model of digital Logistics Cooperation Development [41]

Therefore, a reduction of costs and better adaptation of strategies to the demand require better planning and scheduling tools for available resources of transport companies. Computer systems can be a useful tool for transport companies. They may support a rapid creation of effective transport plans and schedules or enable simulation research leading to the correct selection of company organization, vehicles and capacities or locations of depots.

The dynamic Pickup and Delivery problem with Time Windows and capacity constraints (PDPTW).

PDPTW is defined as follows: there is a set of transport requests, which should be performed by a fleet of vehicles at the lowest possible cost expressed by the number of vehicles, total travel distance and total travel time. Each request is described by two locations: pickup and delivery, and two time windows, the time window for the pickup operation and the one for the delivery operation. Both the request pickup and delivery places should be visited by the same vehicle in the proper order. The time window is a period of time, when the service may be started. The time window is described by the start time and due time. A vehicle has to arrive at some location before the due time, and must wait if it arrives before the start time, then it performs its services. Each request has a load and each vehicle has a maximum capacity which cannot be exceeded by the total load of goods transported. In the dynamic PDPTW, the difference with the static case is that the request input set now vary dynamically and that the optimization process has to take place in real time as new input requests arrive.

The nature of the problem, which involves distributed entities as vehicles in communication with the company controllers dealing with environment uncertainty and random demands, leads us to use a multi agent approach. A multi agent system following the RIO (Roles, Interactions, Organization) [18] methodology allows to specify the system at the level of role, interaction and organization, and by using the Contract Net Protocol [48] as an interaction schema. The aim is to exploit the physical distribution among vehicles and a central company in order to distribute

computations and solve collectively the optimization problem. Another advantage of the proposed approach is its flexibility that is its capacity to be easily extended.

The multi agent approach concerns the development of systems consisting of many autonomous entities which are able to create plans and choose actions to reach their goals [31]. Because of different locations of vehicles, the transport planning and scheduling problem may be considered as a typical example of a problem with a distributed domain, which are very suitable for a multi agent methodology. The multi agent approach allows autonomous, goal driven agents, which represent company or vehicles, to be taken into consideration. Each agent vehicle manages its route. An agent estimates a request taking into consideration its feasibility, the payment it obtains and the expenses. Thus, in multi agent approaches, the natural distribution between physical entities (vehicles and company) is exploited in order to achieve distributed computations and optimization.

In the literature, the multi agent approach to transport problems focuses mostly on complex cargo shipping problems, sometimes taking into consideration trans shipments and transport multimodality as the MARS (Modeling Autonomous CoopeRating Shipping Companies) platform [13] or TeleTruck system [4]. TeleTruck is an extended implementation of the MARS system. While agents of MARS represent homogenous trucks, the TeleTruck approach models the basic physical objects (drivers, trucks, trailers, containers) by basic agents which join together and form holonic agents that act in a corporated way. Some multi agent systems are specifically targeted for vehicle routing problems and very few on transport on demand problems [15].

Apart from the approaches based on Contract Net protocol and simulated trading, there are also solutions used which take advantage of the algorithms solving the DCSP (Distributed Constraints Satisfaction Problem) which has been widely researched in the domain of the multi agent research problem [39]. Among recent results related to the application of multi agent approaches in solving transport problems, it is worth mentioning the AS/ATN (Living Systems Adaptive Transportation Networks) system [40].

A model of a multi agent system or transport planning is composed of the following main entities (Fig 1.8):

- environment: it is a transport network, a graph describing road connections;
- agents: customer agent responsible for the generation of transport requests, agent company, representing a transport company, and agent vehicles, representing single vehicles like minibuses.

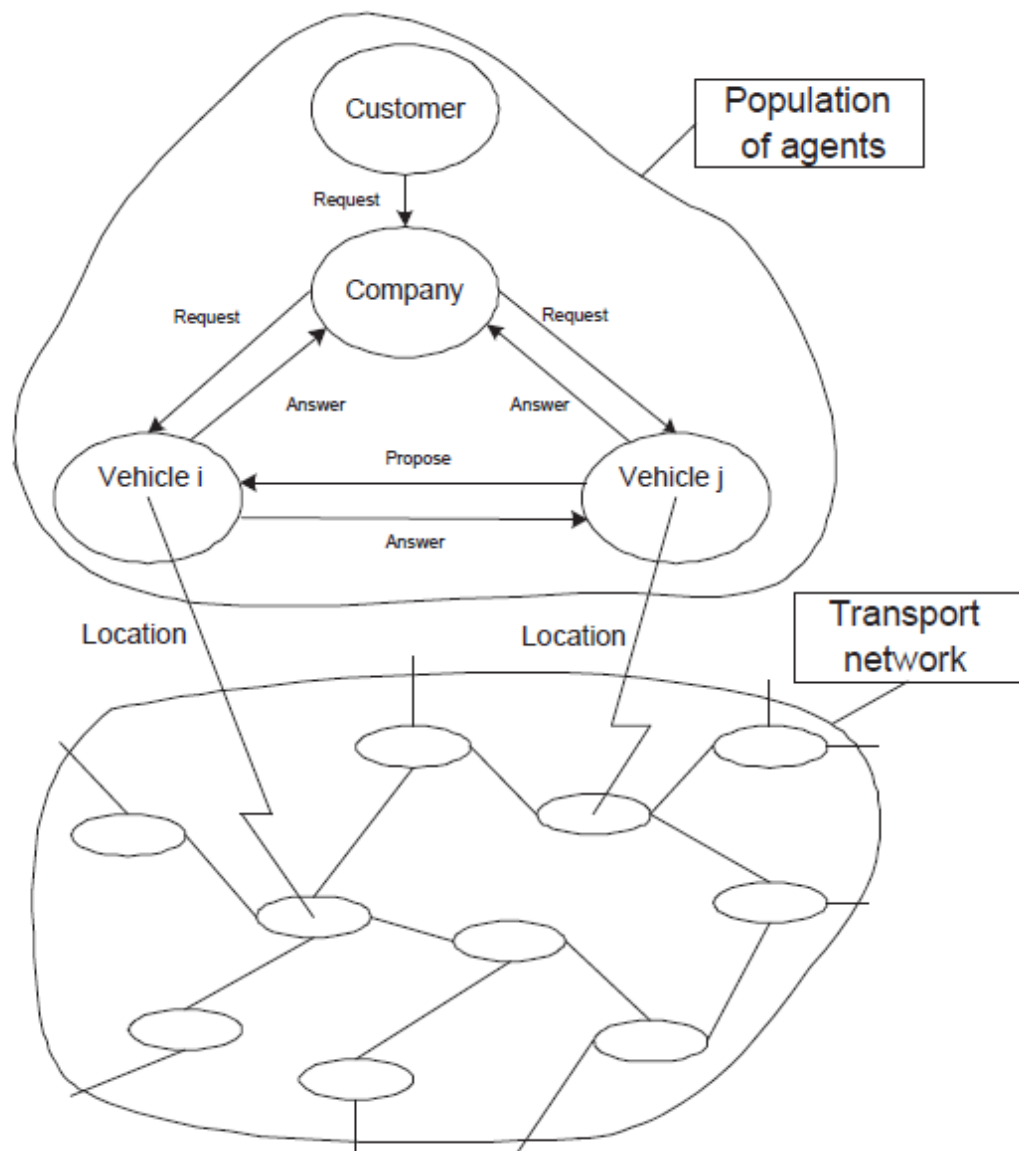


Figure 1.8 – Multi-agent system model: structure and main interactions [31]

Each agent vehicle has a representation of the transport network and of its successive positions on roads assuming, that a vehicle uses a geographical

information system (GIS) and geolocalizes itself using satellite positioning as GPS (Global Positioning System) system. The agents vehicle communicate with the agent company or directly one to each other. The system organization is described using the RIO framework previously defined in [18]. This framework is based on three interrelated concepts: role, interaction and organization. Roles are generic behaviors. These behaviors can interact mutually according to interaction pattern. Such a pattern groups generic behaviors and their interactions into an organization. Organizations are thus descriptions of coordination structures. In this context, an agent is an active communicative entity which plays roles.

Fig. 1.9 describes the organizations of the system.

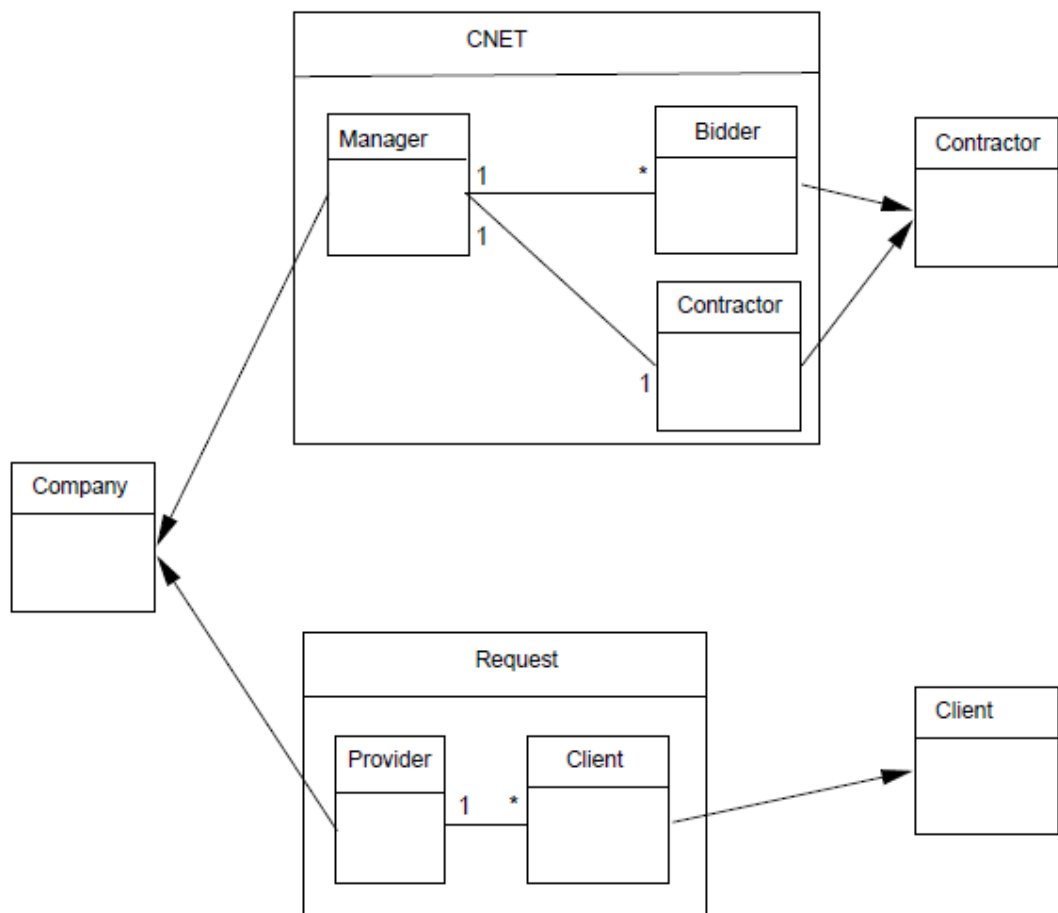


Figure 1.9 – System organization [31]

There are two organizations, one specifying the Contract Net protocol and one specifying the interactions between clients and pickup and delivery service providers.

The former organization is composed of three roles: Manager, Bidder and Contractor. This organization specifies a Contract Net based negotiation between a Manager which proposes pick up and delivery requests, some Bidders which are able to realize these requests and among these Bidders a Contractor who eventually realizes this request. The Manager role is played by the agent company and the Bidder and Contractor roles are played by agents vehicles. The latter organization specifies two roles: Provider and Client. The Client role represents virtual clients that send a request of pickup and delivery to a virtual Provider that accepts these requests and answers with an offer. The Provider role is played by the agent company. Agents instantiate organizations (roles and interactions). They always exhibit behaviors defined by the organization's roles. Each time they play one or more roles and they act executing predefined associated protocols. The different protocols coordinate actions in order to favor distributed optimization. Conversely, a role may be instantiated by one or more agents. Furthermore, roles are basic protocol components that are assigned or deleted in a dynamic way, depending on events received and actions performed.

Following are some additional ideas for effective communication with online customers [25].

1. Communicating Through Social Networking Websites

Social media has grown with time and is now being used as an information sharing medium by customers as well as businesses. There are 2.03 billion active social media users and the figures would increase in the coming years.

2. Facebook

Facebook provides a powerful yet systematic way to increase sales which gives businesses the ability to reach targeted customers. Anyone can sign up and start promoting their products but if the aim is to establish the company as a reliable brand and increase your engagement with followers, you need to approach things differently. You have to know the importance of quality content, how and when to present it. Facebook's page insights can help companies establish strategies as to how and when to engage with fans and followers and can also help in experimenting what

works best for the business. While communicating with customers on Facebook, understand who your target audience is and what they would want.

3. Twitter

This social media platform is used by businesses to constantly update customers and engage with them in one-to-one conversations. Twitter allows business to be precise and responsive at the same. It can also be used as a platform to advertise as it caters to an average of 236 million active members per month. Companies can make the most of this by engaging with customers regularly and responding to them in a timely manner. This would enhance the brand image and the company will also come across as responsible and reliable.

4. Instagram

After Twitter and Facebook, Instagram is appearing to be the next big platform for customer engagement. Engagement rate on Instagram is 15 times higher than Facebook and the videos are twice as popular as compared to pictures.

Businesses can not only use this platform to create hype for their products and services but, can also post behind the scenes footage, create catchy hashtags or come up with brilliant captions to get their customer's attention. Companies can engage with customers through the comments section and answer any queries they might have.

5. Communicating with Live Chat

Live chat service has seen a lot of growth and popularity in recent years. It is being integrated on websites of various companies because businesses have begun to understand the importance of customer engagement in real time. According to a survey conducted by EConsultancy, 73% of the customers experience a higher level of satisfaction using live chat as compared to email and phone. For getting the most out of your live chat it is vital to respond in a timely manner, understand the needs of your customer and provide the service 24/7 in multiple languages. Live chat technology is also a great way to assess customer satisfaction and gather feedback about products and services.

6. Webinars and Videos

ClickMeeting created an infographic which explained that 68% businesses run at least one webinar a month. Webinars are seminars which are arranged online. Executives, today, are signing up for creating webinars because it means instant access to the public and if the people like what you say, you become an instant success. Webinars can be used to promote the ideology of the company and this can also help the company create a positive image for itself by helping and guiding customers. According to the Content Marketing Institute, more than 60% marketers are using webinars as part of their marketing content.

Videos are another great way to engage customers. For example, YouTube has more than 1 billion users and millions of views are being generated every day. A large number of people use YouTube to research and discover services/products that they're interested in purchasing. Businesses can create «how-to» videos, product reviews, etc. to attract new customers while effectively serving existing customers. This would help them gain popularity and the company would also be able to reinforce itself in a subtle manner.

These practices help businesses improve customer engagement via digital channels. It is essential to keep in mind that the digital environment is constantly expanding and businesses need to keep up with the latest trends and innovations in order to facilitate their customers.

1.5 Chapter summary

This chapter deals with the theoretical principles of logistics customer service formation in the digital environment.

Customer service is a broad term that holds many elements ranging from product availability to after-sale maintenance. Looking at logistics perspective, customer service is the outcome of all logistics activities or supply chain processes. Corresponding costs for the logistics system and revenue created from logistics

services determine the profits for the company. Those profits widely depend on the customer service offered by the company.

Logistics customer service is a part of a firm's overall customer service offering, customer service elements that are specific to logistics operations including fulfillment, speed, quality, and cost. The term fulfillment process has been described as the entire process of filling the customer's order. The process includes the receipt of the order, managing the payment, picking and packing the goods, shipping the package, delivering the package, providing customer service for the end-user, and handling the possible return of the goods.

Logistics planners must understand all logistics services offered by the firm so that they can articulate the benefits to the customer. If articulate properly, customer service could add significant value to create demand for the products and improve customer loyalty.

We considered process model for logistics collaboration development based on logistics digital services.

We also noticed that the transport requirements in modern society are becoming more and more important. The transport services need to be more and more advanced and better designed to meet the needs of users. A significant part of costs of many goods are transport costs. The size of the market of transport services as well as the sales volume and derived profits intensify competition. Therefore, a reduction of costs and better adaptation of strategies to the demand require better planning and scheduling tools for available resources of transport companies. Computer systems can be a useful tool for transport companies. They may support a rapid creation of effective transport plans and schedules or enable simulation research leading to the correct selection of company organization, vehicles and capacities or locations of depots.

So we can say that technology and innovation has changed customer expectations and the way that companies communicate.

CHAPTER 2

ANALYSIS OF THE UKRAINIAN FURNITURE MARKET AND IDENTIFICATION OF THE MAIN TRENDS OF ITS DEVELOPMENT

2.1 Analysis of the Ukrainian furniture market

Today, furniture production is an industry that is developing, gradually reaching the European level of quality and design. Therefore, it is extremely attractive to operators and, accordingly, has a dynamic to increase the number of competitors.

The furniture market is showing positive growth and this is largely due to the increase in domestic production. One of the main trends today is the focus of mostly buyers on furniture from Ukrainian manufacturers, which reflects the fact of increasing consumer confidence in domestic products. The increase in the share of sales in the middle and lower price segments and the refusal of most consumers to buy imported furniture is primarily due to a decrease in the purchasing power of the population and the orientation of most furniture manufacturers to the demands of the domestic market.

Today, the Ukrainian furniture market is estimated at 330 million US dollars.

The analysis of the furniture market shows that consumers increasingly prefer domestic manufacturers in their choice. The decline in interest in imported furniture is primarily due to declining purchasing power. It is also worth noting that the Ukrainian furniture market is not deprived of shadow production, which is focused on the middle and cheap segment. Today the shadow furniture market in Ukraine is about 35%.

More than 3,000 furniture manufacturers are engaged in furniture production in Ukraine. Among them: large furniture factories that produce furniture in series, medium-sized enterprises working on individual orders and small, among which about 30% – micro-enterprises.

We will analyze the dynamics and structure of the number of business entities in terms of large, medium, small and micro-enterprises in the field of furniture production to fully understand the situation as a whole. For this purpose, the data of the State Statistics Service in Ukraine [62] on the number of business entities, by size, are grouped in Table 2.1.

Table 2.1 – Number of large, medium, small and micro-enterprises by industry «Furniture manufacturing» [based on 56]

№	Years	Total, units	Large, units	Medium, units	Small, units	From them micro, units
1	2	3	4	5	6	7
1	2010	11228	1	137	11090	10624
2	2011	8399	1	135	8263	7787
3	2012	9124	2	138	8984	8527
4	2013	9462	2	128	9332	8897
5	2014	10534	2	120	10412	10033
6	2015	10625	1	113	10501	10226
7	2016	9759	1	108	9650	9356
8	2017	9066	1	116	8949	8633
9	2018	8937	1	120	8816	8440
10	2019	9243	1	124	9118	8762

The dynamics of the total number of enterprises by industry «Furniture manufacturing» is presented in Fig. 2.1.

Large manufacturers have better equipment, which provides them with large, compared to medium and small enterprises, production volumes. At the same time, large manufacturers have less production flexibility and cannot respond quickly to changing tastes, styles and design trends. To a lesser extent, such manufacturers can satisfy individual requests, which are successfully carried out by medium and small businesses in the furniture industry.

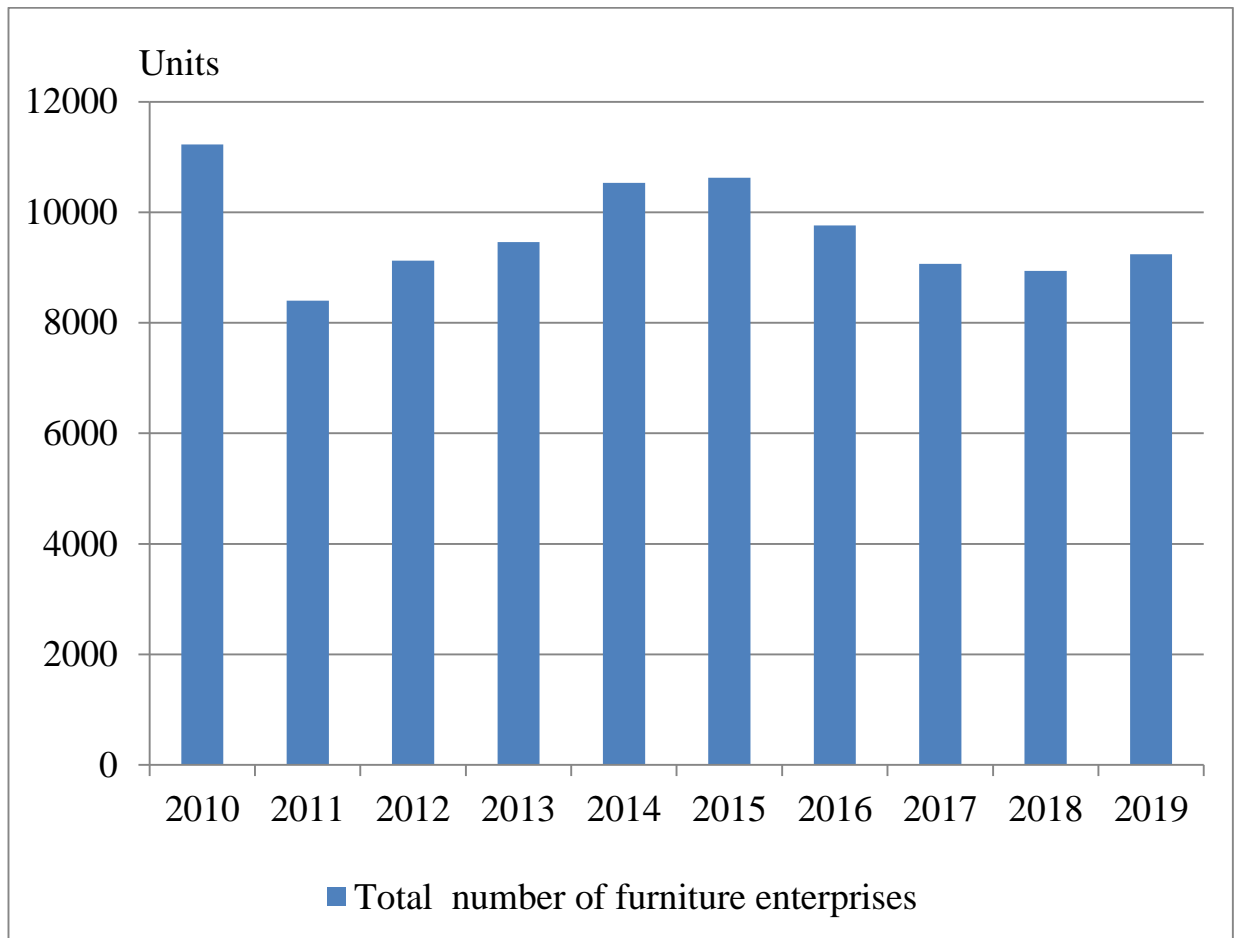


Figure 2.1 – Dynamics of the total number of the furniture enterprises in Ukraine

To enter the more expensive segment of luxury furniture, some Ukrainian manufacturers assemble products using imported components, which, accordingly, affects the price.

The main players in the Ukrainian furniture market were formed from 1991 to 2000. A significant market share is occupied by Enran, MERX, Sterkh, LIVS, Gerbor, Kukhni Ukrainy, Ekmi-mebli and others.

Today, the furniture market in Ukraine has its leaders (Fig. 2.2) [based on 73]. A significant market share is occupied by such companies as: "Enran", MERX, "Sterkh", LIVS, "Gerbor", "Kitchens of Ukraine", "Ekmi-mebel" and others.

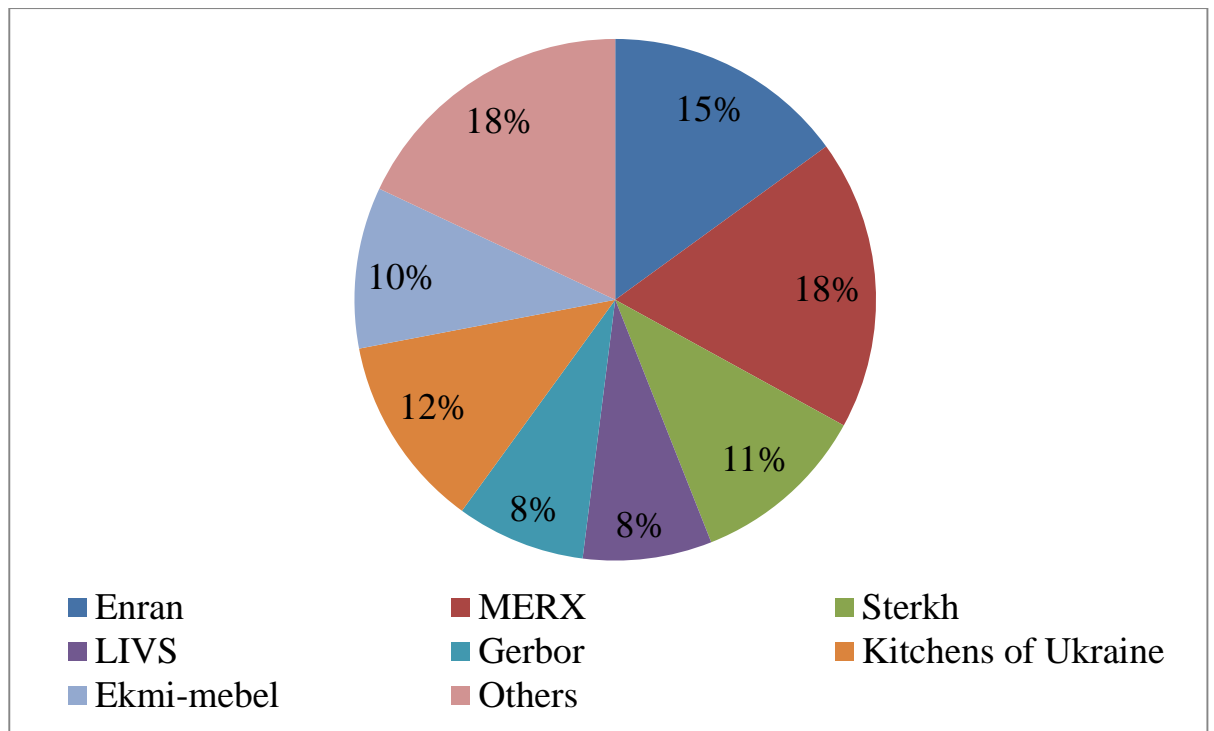


Figure 2.2 – Positions of furniture companies in the Ukrainian market

The main competitive advantages are possessed by the enterprises – leaders of the branch which work not only in the Ukrainian market, but also abroad. Small furniture stores and small industries are trying to resist large networks. The highest level of competition is observed among medium and small businesses in the furniture industry, which focus on the economy segment.

There is also growing competition among online furniture stores. The most popular among them are: "Sofas for nirvana", "Fine furniture", "Furniture", "Oak", "Sofine", "Furniture", "Stool", etc. Among the ways of competition – improving the quality of products and services, different designs, lower prices, flexible system of discounts, as well as convenient production times.

Table 2.2 groups the data on the volume of sales in terms of enterprises according to their size in the period 2010-2019 [based on 56].

As we can see from Table 2.2, medium-sized businesses account for about 60% of sales, although they account for only 1% of the total number of enterprises in the furniture industry.

Table 2.2 – The volume of sold products of large, medium and small enterprises in the field of «Furniture manufacturing»

№	Years	Subjects of large business, thousand UAH	In % to the total	Subjects of medium business, thousand UAH	In % to the total	Subjects of small business, thousand UAH	In % to the total	From them subjects of micro-entrepreneurship, thousand UAH	In % to the total	Total, thousand UAH
1	2	3	4	5	6	7	8	9	10	11
1	2010	928749,3	14,84	3595584,9	57,44	1735650,3	27,73	1418662,7	22,70	6259984,5
2	2011	821337,5	10,50	4927323,3	63,00	2073601,0	26,50	1358692,3	17,40	7822261,8
3	2012	1386647,8	14,50	5193697,8	54,20	2982742,9	31,30	1976998,9	20,70	9563088,5
4	2013	1410330,6	14,80	4883515,2	51,20	3235415,0	34,00	2114233,5	22,20	9529260,8
5	2014	1808777,3	16,00	6248529,0	55,30	3247551,7	28,70	2006802,4	17,80	11304858,0
6	2015	1122170,4	8,20	8553459,9	62,50	4009375,0	29,30	2506118,4	18,30	13685005,3
7	2016	1443819,7	8,90	9845636,9	60,70	4933236,2	30,40	3144865,9	19,40	16222692,8
8	2017	1737566,0	8,50	12964415,5	63,40	5739971,4	28,10	3633016,6	17,80	20441952,9
9	2018	2075240,0	8,20	15441066,6	61,00	7791498,2	30,80	4657115,0	18,40	25307804,8
10	2019	2389577,6	8,45	17150855,0	60,67	8726478,0	30,87	5264805,1	18,60	28266910,6

On average, one medium-sized business generates about 138,313,000 hryvnias. the volume of sales per year (for example, 2019). At the same time, 40% of the volume of sold products is accounted for by small and micro enterprises, which also include natural persons-entrepreneurs. Accordingly, one small business entity generates an average of UAH 883 thousand, and one micro-business entity – UAH 600 thousand. per year.

The dynamics of the volume of sold products in the field of «Furniture manufacturing» is presented in Fig. 2.3.

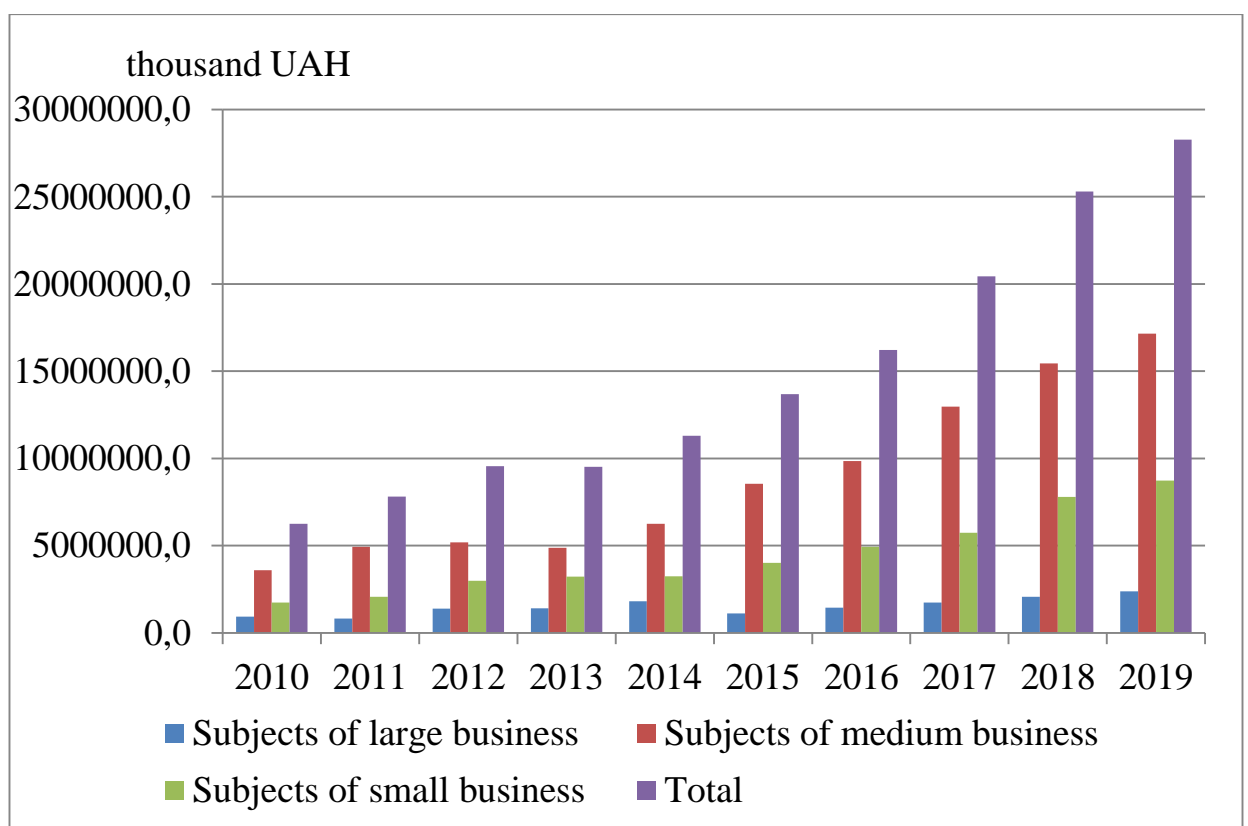


Figure 2.3 – Dynamics of the volume of sold products in the field of «Furniture manufacturing»

As we can see from the Fig. 2.5, the dynamics of sales of the furniture industry has a rapidly growing character in the period from 2015 to 2019, which coincides with the period of the moratorium. For example, in 2016 there is an increase of 15% compared to last year, in 2017 such an increase is already 32%, in 2018 – an increase

of about 19%, and in 2019 about 11%. That is, in general, there is an increase of 2 times compared to the volume of sales in 2015.

According to the State Statistics Service, in the period 2013-2017, furniture production in Ukraine was characterized by unstable dynamics. Indicators of sales of furniture in physical terms tended to decrease, while in monetary terms, since 2016, there has been some growth, which rather indicates the impact of rising prices for furniture.

After analyzing the dynamics of sales of furniture products in Ukraine, it is advisable to study the direction of sales of such products in terms of domestic or foreign markets. Graphically, this distribution is shown in Fig. 2.4 (data are given in UAH million, excluding VAT and excise duty) [based on 56].

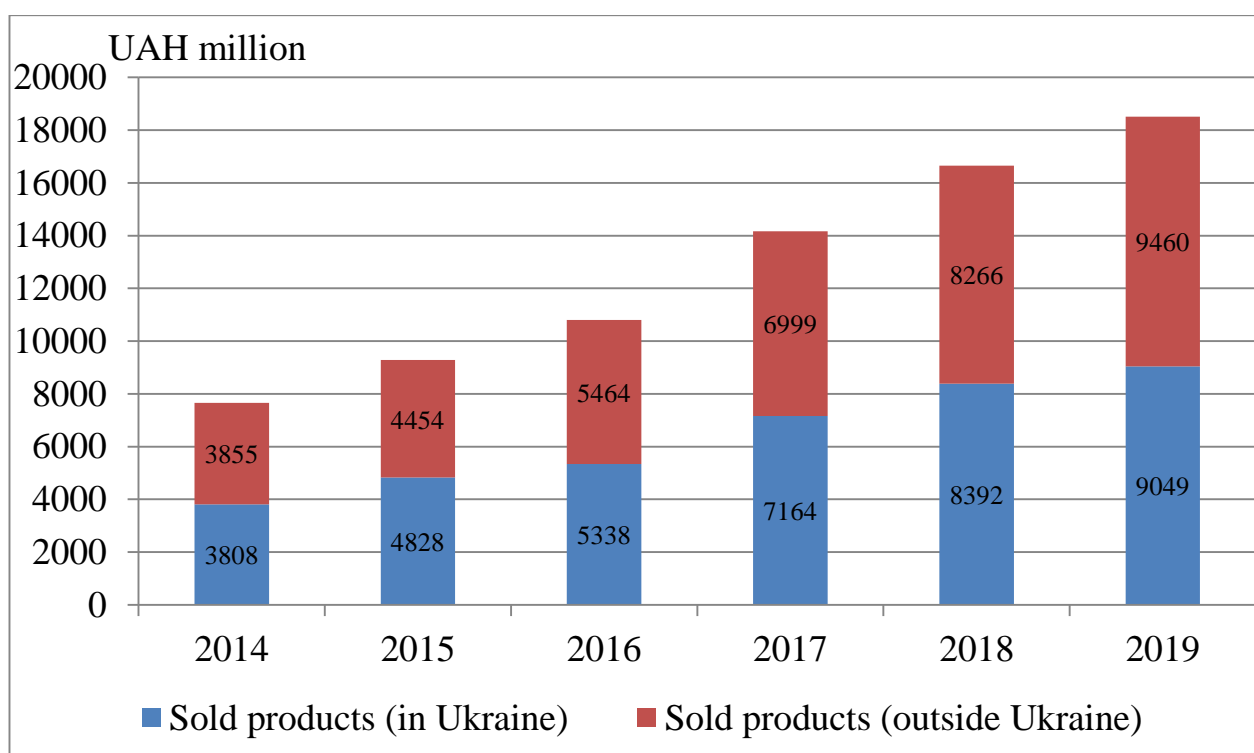


Figure 2.4 – Dynamics of sold products of furniture industry in Ukraine and abroad

As can be seen from Fig. 2.4 in the field of furniture production during 2014-2019, exports accounted for about half of sales. In 2019, furniture companies sold industrial products worth UAH 9.4 billion outside the country, which was 51.1% of

total sales. Accordingly, it can be concluded that the size of exports of the furniture industry increased in proportion to the total volume of sold products and amounted to almost half of it. However, it should be borne in mind that a significant share of local furniture production is not included in official statistics, so the real share of exports is smaller. For example, neighboring Slovakia and Lithuania, where the furniture industry is about the same size as in Ukraine, exports four times more.

For a long time, Ukraine was a net importer of furniture, but since 2014-2015 due to a significant devaluation of the local currency, which, in turn, has made furniture imports more expensive for Ukrainian consumers and Ukrainian exports cheaper for foreign buyers, the trade balance in the furniture sector is positive. Graphically, the dynamics of exports and imports of furniture is shown in Fig. 2.5.

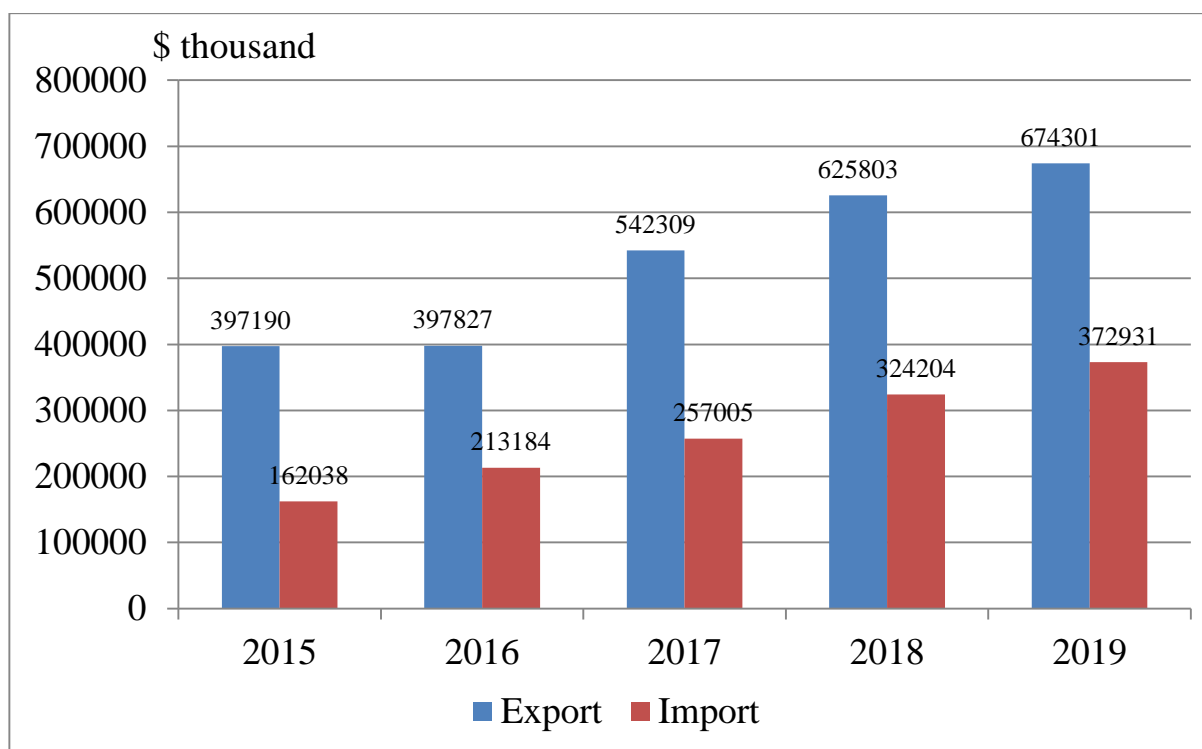


Figure 2.5 – Dynamics of exports and imports of furniture products
[based on 56]

It should be noted that the growth of exports of furniture products is also accompanied by a fairly low import of these products. If in 2015 the value of imports of such furniture amounted to 162.1 million US dollars, in 2019 this figure was about

372.9 million US dollars. Thus, the value of furniture exports exceeded the value of imports in 2015 by 145%, in 2016 – 87%, and in 2019 – 81%.

The maximum volumes of furniture sales in 2017 fall on Odessa, Dnipropetrovsk, L'viv, Kharkiv, Kyiv regions and the city of Kyiv (about 64.2%). Demand for furniture in Kiev is higher than in other cities, as 60% of all new buildings in Ukraine are located in the capital [73].

In the structure of the furniture market, the largest share is occupied by the segment of furniture for dining rooms and living rooms, as well as kitchen furniture.

In general, 48% of home furniture consists of cabinet furniture. Upholstered furniture accounts for 29% of the total, kitchen – 25% [79].

Demand for business furniture depends on the growth of existing businesses and the opening of new ones. It should be noted that in the period 2013-2017, the number of business entities in Ukraine increased by 8.3%, which was mainly due to an increase in the number of small entrepreneurs. Also, the production of office furniture in 2017 increased by 6.3% compared to 2016, and furniture for trade enterprises – by 52%. This indicates the interest of Ukrainian business in the use of domestic furniture [73].

Fashion trends and world trends are a significant factor that has a significant impact on the level of demand in the furniture market. One of the global trends in the furniture industry is an increase in demand for home offices, libraries, desks, shelves and cabinets, which is associated with an increase in the number of people working remotely. Analysts forecast a 5-7% increase in global sales of the home office furniture segment by 2019 [79].

Another global trend in the furniture industry is trends in the real estate market (small apartments) and demographic trends (small families of 2-3 people). As a result, there is an increase in demand for multifunctional, transformed furniture of small size.

According to market analysts, by 2019 online furniture sales will grow to 17-20%. Already today, furniture companies seek to establish a service that allows you to deliver and assemble furniture when buying online on the day of ordering.

Another global trend is the growth of sales in the segment of luxury furniture (both for home and office), the largest market of which is European.

It is also worth noting the growing global demand for environmentally friendly furniture, despite the fact that its cost is higher than conventional.

In the structure of the cost of furniture, the main components are raw materials, as well as the cost of development and implementation of models, wages, energy resources, logistics, advertising and overhead costs.

Until 2014, the main market for Ukrainian furniture was Russia and the post-Soviet world adjacent to it. The so-called countries of the former CIS consumed 69% of all modest Ukrainian furniture exports [65].

After the start of Russia's military campaign, a systemic rift occurred in Ukraine. However, Ukrainian producers have found a replacement for the traditional post-Soviet market. Found where previously not very much and searched. And in 2020, Russia accounted for about 3% of Ukrainian furniture exports, while Poland – 35%, Germany – 19% [65].

A powerful player in the e-commerce market, the German company Oscar now sells Ukrainian furniture via e-bay at a rate of 40 trucks per month. The average cost of such cargo is \$ 25 thousand, and these volumes are growing rapidly. And here is the result: since 2014, for the first time in the recent history of Ukraine, furniture exports have exceeded furniture imports. The trade surplus is growing year by year, and this process seems inevitable. Commodity structure of furniture exports of Ukraine is presented in Fig. 2.6.

And in 2021 the so-called free trade zone of Ukraine with Israel started working, which means either zeroing or partial reduction of fiscal barriers. For example, now you do not have to pay 12% import duty on furniture, and this is a decent concession. Israel is a small but insatiable country: consumer markets there do not know the word "enough". The population is four times lower than in Ukraine, and GDP is almost three times higher.

Today we see the following situation, when a significant part of the national and world economy has not just shrunk in quantitative terms, but "paused for a long time"

or "shutdown". In the situation of "shutdown" was the furniture industry of Ukraine since March 2020.

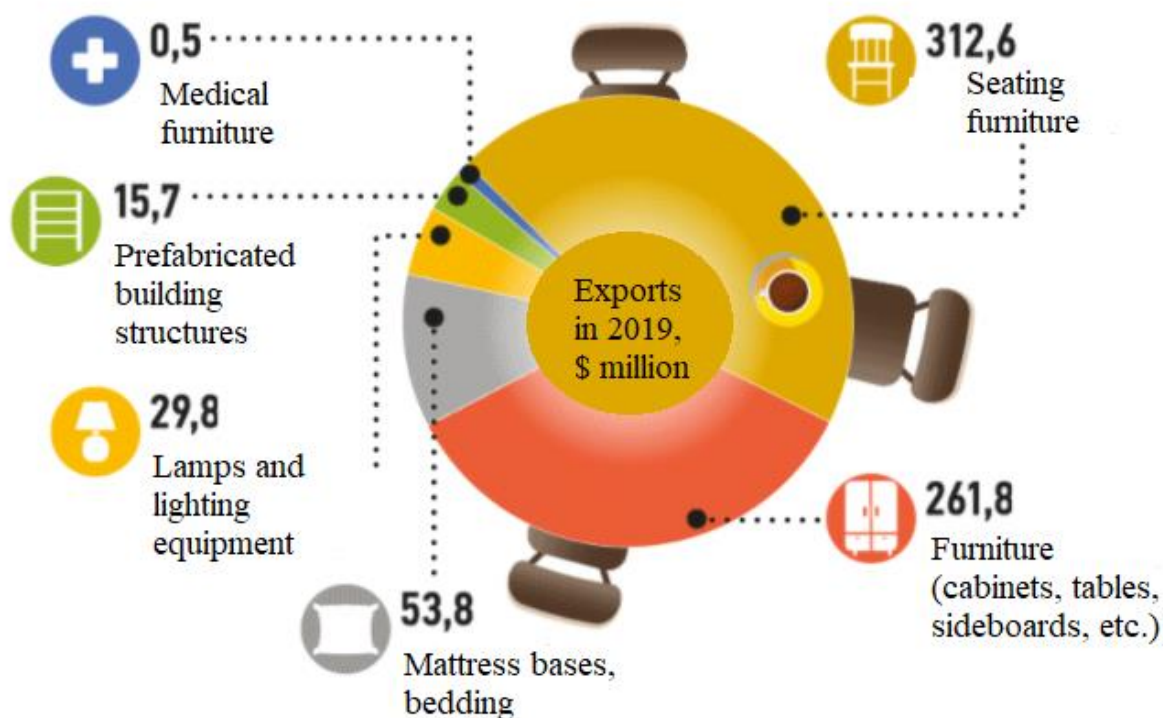


Figure 2.6 – Commodity structure of furniture exports of Ukraine [65]

Consumption of products in various segments of furniture decreased from 30% to 70%. In some segments such as HORECA and the entertainment industry, which have been hit by the most severe quarantine measures, furniture consumption has fallen to 90%.

The kitchen and residential furniture sector of the cheap and medium segments, where the population planned purchases and was forced to postpone them until a calmer period, also suffered significantly.

This is due not only to the quarantine situation in Ukraine, but also to the consequences of the domestic political crisis and unprofessional economic policy.

Which in the period from September 2019 to the current period 2020 hit hard on the profitable part of the population and forced many households to review and redistribute their family budgets.

Foreign business also did not stay aside and continued to curtail assets and exit the Ukrainian economy.

The main market that affects the production of furniture and wooden decorative components is the market of wood processing and production of wood products.

The main problems of the woodworking industry analysts include the reduction of logging in Ukraine (by 2.5% in 2017) and rising prices for major types of unprocessed wood. According to the Ukrainian Universal Exchange, the cost of plywood raw materials from alder ranged from 1260 UAH. / M3 up to UAH 1320. / M3, and from birch – from 1280 UAH. / M3 up to UAH 1,400. / M3. Raw materials for chipboard from pine are on sale for 380-500 UAH. / M3, and from birch for 460-470 UAH. / M3 [65].

According to experts, in the near future interruptions in the supply of lumber and other wood products are expected, due to the lack of effective organization of the purchase of raw wood at auction.

The real estate market plays a significant role in the development of the Ukrainian furniture market. According to the State Statistics Service, in Ukraine the rate of housing commissioning in 2017 increased by 9% compared to 2016 and amounted to 10.2 million m². There is a direct link between real estate growth and furniture production, so demand for both residential and business furniture should also be expected to increase.

The growth rate of construction is associated with an increase in demand for design services. The most capacious segment is the market of services for design and interior design of residential buildings and the public environment. The peculiarity of this market is that professional contacts between the designer, the client and the performer are carried out through the so-called "sundress radio", on the recommendation of relatives or acquaintances.

In the Ukrainian market, interior design services are provided by design studios or private designers. Many of them provide a range of services, from architectural design to decoration, furniture design and landscaping, with the idea of a weak aesthetic level of the majority of designers.

An important direction in the development of the market of design services in Ukraine is the establishment of partnerships between designers and companies that provide furniture services. The characteristic feature is the regional specifics of the work, as well as the clients themselves. The spread of prices for the same services is quite large.

2.2 Analysis of the activity of LLC «Moidodyr» in the Ukrainian market

LLC «Moidodyr» is a factory which has been producing bathroom furniture since 1999. «Moidodyr» furniture is made on the modern European equipment. The factory products have high quality and modern design. Moidodyr cooperates with the Italian design bureau Soniboninidesign. Due to this, Moidodir bathroom furniture has a high level of functionality and comfort. Bathroom furniture «Moidodyr» is made with high precision cutting, reliable gluing of an edge, qualitative coloring and a first coat. High-quality materials from European manufacturers are used for furniture production.

- facades – laminated MDF "Kronospan" (Slovakia);
- facade coating – waterproof paints "SIRCA" and "SAYERLACK" (Italy);
- case – moisture-resistant bilateral chipboard "Egger" (Romania);
- mirrors – moisture-resistant cloth with silver amalgam "GLAVERBEL" (Belgium);
- accessories – "Hafele" (Germany) and "Blum" (Austria);
- washbasins – "VITRA" (Turkey), Colombo (Ukraine), Cersanit (Poland), Vidima (Bulgaria Keramin (Belarus), "UNISAN" (Spain);

«Moidodyr» is a distributor in Russia, Kazakhstan, Lithuania and Georgia. As for Ukraine, there is a widely developed distribution network. Production is provided with the latest equipment of European brands, which allows to provide excellent quality, timely and fast production of orders.

In Fig. 2.7 shows the organizational structure of the company «Moidodyr».

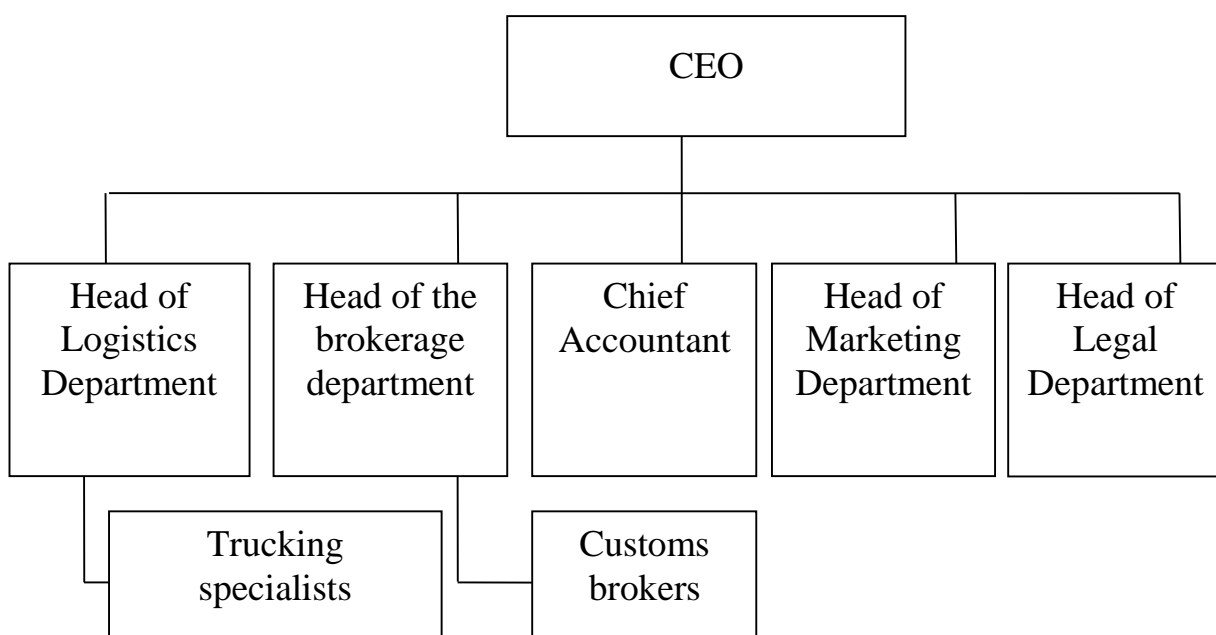


Figure 2.7 – Organizational structure of LLC «Moidodyr»

Today LLC «Moidodyr» is at the stage of the life cycle – "growth stage". Because the company is rapidly gaining momentum in its activities, constantly improving relationships and expanding relationships with customers, suppliers, enters the international market.

Distribution of goods to stores is carried out by road. This method of transportation is the most flexible and allows you to easily prescribe the routes of freight flows of the enterprise and calculate traffic schedules.

Reputation is the basis of the philosophy of LLC «Moidodyr». For the company, the reputation is associated primarily with customer satisfaction from cooperation. That is why the work relies primarily on professionalism and quality of services provided. Moidodyr's activity is based on building long-term relationships with its customers, providing the full range of services at all stages of product sales. Reputation directly depends on customer satisfaction, which is why the company strives to be as flexible as possible in working with customers, constantly changing and adapting to their requests.

LLC «Moidodyr» builds its business processes and relationships with customers taking into account their needs and expectations, both now and taking into account the growth of their business in the future. As a customer-oriented company, the company adheres to the following principles: analysis, a clear understanding of the tasks and needs of the client and an individual approach.

Based on the above, the company «Moidodyr» improves its range to meet customer needs.

The percentage of regular customers is quite low, so it is necessary to pay considerable attention to establishing long-term relationships with existing customers by improving the level of logistics services, as it is known from the theory and practice of logistics that attracting new customers requires more costs than maintaining existing ones.

When assessing the financial and economic condition of the enterprise analyzed the relevant information base of the enterprise, namely: report on financial performance and balance sheet – the final synthetic document on the composition of the enterprise (organization) and sources of their formation in cash on certain date (end of quarter, year) (Table 2.3).

Table 2.3 – The main performance indicators of LLC «Moidodyr»

№	Years	Total revenues, thousand UAH	Total expenses, thousand UAH	Operation profit, thousand UAH
1	2	3	4	5
1	2015	365,76	312,46	53,30
2	2016	807,60	740,40	67,20
3	2017	1466,40	1265,76	200,64
4	2018	2492,88	2088,50	404,38
5	2019	4611,83	3968,16	643,67
6	2020	3689,46	3372,93	316,53

It is possible to trace dynamics of development of the enterprise for the last three years on Fig. 2.8. Profit expresses the absolute effect without taking into account the resources used.

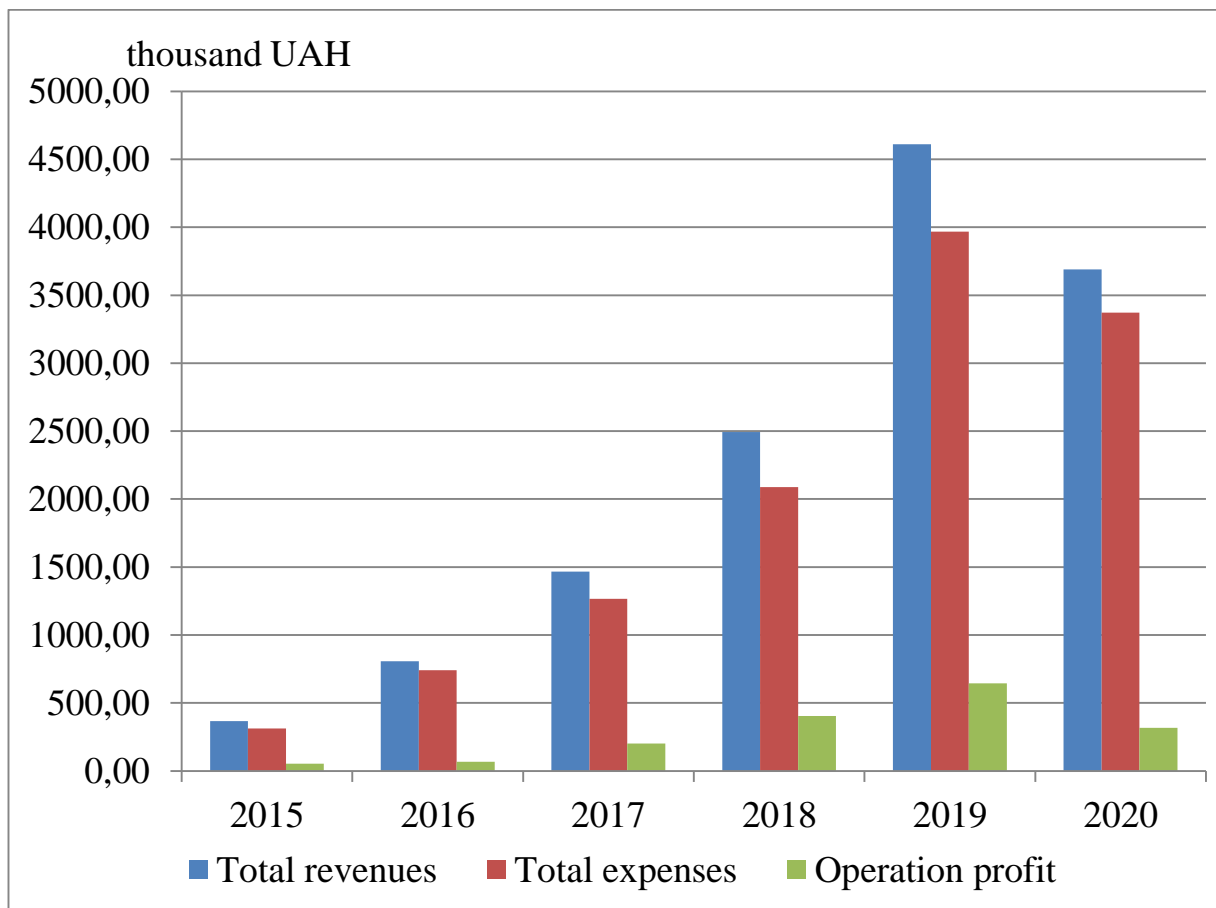


Figure 2.8 – Diagram of the dynamics of revenues, expenses and profit of LLC «Moidodyr»

We can see that the dynamics of the company's performance coincides with the general Ukrainian dynamics.

In any organization there are both basic and auxiliary processes. The main processes are the processes of the company's current activity, the result of which is the production of services required by an external client. Auxiliary processes ensure the existence of primary processes. In Fig. 2.9 shows a diagram of business processes of the company "Moidodyr".

As the company provides two types of services (online ordering and transportation of goods to stores), each service has its own cycle of logistics services.

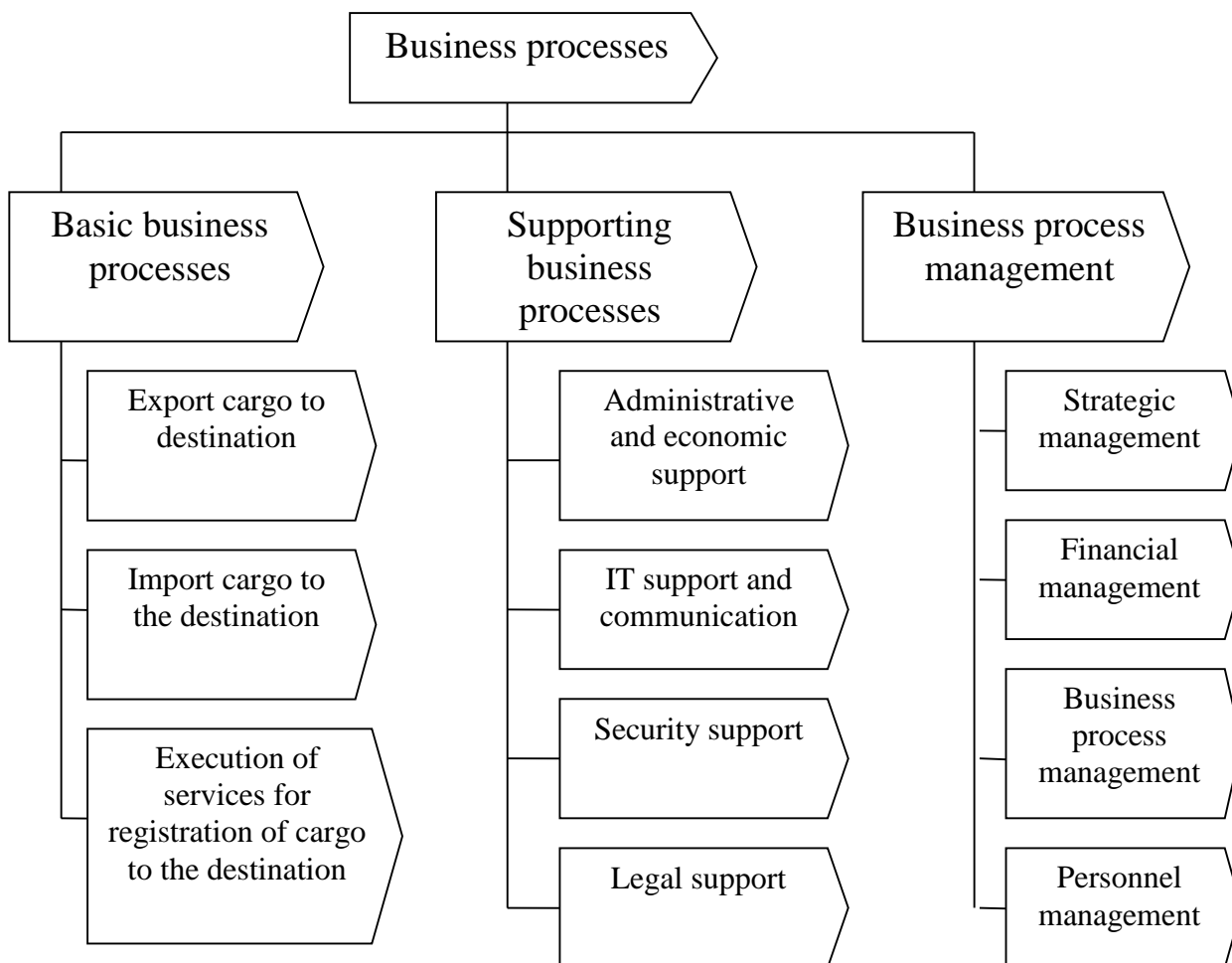


Figure 2.9 – Scheme of business processes of LLC «Moidodyr»

Logistics service is related to the execution of the order from its receipt to the receipt of the ordered product or service by the consumer. Logistics service process – a systematic set of repetitive actions or operations that convert initial resources into the final product or service in accordance with established rules and requirements of consumers.

Moidodyr strives to be as flexible as possible in working with customers, constantly changing and adapting to their requests. Moidodyr builds its business processes and relationships with customers taking into account their needs and expectations, both now and taking into account the growth of their business in the future. As a customer-oriented company, it adheres to the following principles: in-depth analysis of the customer's business processes, a clear understanding of its tasks and needs, an individual approach.

Order planning is carried out in order to smooth out irregularities in the receipt of orders from consumers, because the presence of peak times can lead to delays in the processing of consumer orders. The result can be an increase in order execution time and a decrease in the level of service. To smooth out irregularities in the receipt of orders, the company uses its own sales managers.

Order transfer is a procedure that takes place in the period from the moment the consumer sends the order to the moment the company receives the order. At the stage of order transfer, the company receives orders from its customers depending on their needs.

Then the order is processed, clarified, checked for completeness and accuracy, entering the order into the service system. The necessary vehicle is searched, a flight is formed and in case of mutually beneficial conditions of transportation for all parties the company signs all necessary contracts. In particular: where all the conditions of the expedition, forms of payment, obligations, rights, terms of delivery, conditions of delay in the execution of the order, the responsibility of the parties, etc. are stipulated.

Delivery of the order to the final recipient. After delivery of the goods there are mutual settlements between the parties to the agreements. Payments must be made by non-cash payments within no more than 2 banking days.

In Fig. 2.10 schematically shows a diagram of the process of processing customer orders.

Therefore, as can be seen from the diagram, the organization of interaction with customers and ensuring customer retention and loyalty are key elements in effective work on order processing, such elements are both at the beginning of the request and at the end, to further analyze, plan and improve service delivery.

In modern conditions, the company must pay great attention to ensuring a high level of service quality. The quality of logistics service is to meet the needs of customers and is expressed in the proper execution of orders, avoidance of errors, failures, inconsistencies, efficient provision of services and providing the required level of service in accordance with the standards and conditions of contracts.

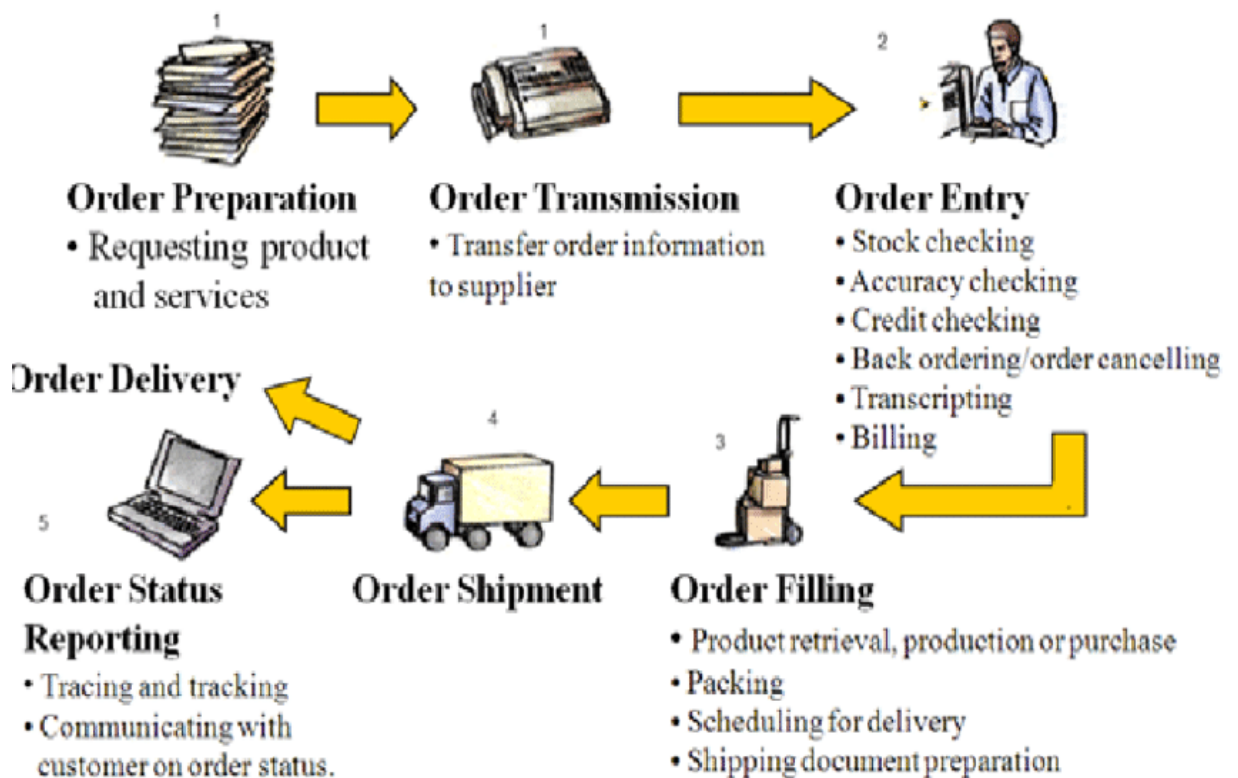


Figure 2.10 – Scheme of the customer order processing

The competitiveness of the company depends on the quality of delivery. Service quality management should be based on a systems approach. To implement a systematic approach, it is proposed to build in the organization of such a quality management system, which would cover all activities of the organization and would provide quality management at all stages of the service life cycle.

In order to assess the quality of services of the company «Moidodyr» we will highlight a certain system of criteria, which are an integral part of the activity.

The first is the availability of information about the company providing services, and consequently the availability of prices for services.

The second criterion is the ability of the company's employee to enter the position of the client, to speak his language, ie the so-called communicativeness.

The next important criterion is the reliability of the company, ie clear fulfillment of obligations undertaken for this transportation of goods (deliver the goods on time), taking into account all customer requirements.

It is very important that all employees are competent in their work, i.e. be able to professionally offer a certain package of services, choose the best information about the product and delivery.

And last, in modern conditions the most important criterion is the automation of processes aimed at attracting and retaining the most profitable customers, personalization of customer relationships, which minimizes operational, administrative and other costs, as well as information support that makes the company more competitive.

2.3 The main problems and prospects for the development of the furniture market in Ukraine

Furniture market experts highlight the following trends in its development in Ukraine in 2019 [79]:

- the production of home furniture is developing at the most active pace, while in the economy segment the leading sales positions are occupied by Ukrainian manufacturers;
- the production of office furniture is developing rapidly, which contributes to the growing popularity of the use of office design;
- the emergence of multi-brand furniture hypermarkets;
- active growth in the popularity of online sales among most manufacturers;
- reorientation of domestic manufacturers from the same type of furniture to create unique offers.

Experts are among the main restraining factors in the development of furniture production in Ukraine [79]:

- increasing the cost of raw materials and components;
- lack of qualified personnel;
- growth in the share of unsold products;

- additional costs in the form of storage and logistics costs;
- lack of financial and credit resources, as well as lack of investment.

The global economic crisis and the COVID-19 epidemic began in the winter of 2020 in the world and in Ukraine to sever all ties and interactions in the ecosystems of global consumer, corporate and commodity markets [84].

A clear interdependence of the chain has come to the surface: raw materials / logistics / production / sales / consumption.

"Small ecosystems" depend on "global ecosystems" and, conversely, "global ecosystems" are interdependent on "small ecosystems".

Repeated breaks in the ecosystems of various scales caused by quarantine restrictions have stopped more than just individual companies or sectors of the economy in individual countries.

Such global gaps in "economic ecosystems" have led to the shutdown of the world's largest industries and a series of bankruptcies or the preservation of the world's largest companies. With this in mind, we can say that the Ukrainian furniture business has approached the point of "zeroing". Which essentially means a complete restart of the furniture industry and the creation of new values and rules of the game in domestic and foreign markets.

Ukrainian furniture companies have lost more than 80% of their solvent customer base due to a three-month quarantine lockdown. Demand for furniture in most sales channels has become zero or close to it [84].

The cost of maintaining a viable production is not covered by the volume and margin of the remaining orders.

The practical shutdown of the HORECA sector, the RETAIL sector and the Office sector has significantly affected most Ukrainian system furniture companies producing serial or contract furniture.

Orders decreased significantly in the B2G sector, where the state of Ukraine purchased from furniture companies for kindergartens, schools and educational institutions.

Exports of furniture to foreign markets have also stopped, many foreign retail chains and shops are closed, it is just as difficult to make contactless delivery of a sofa or kitchen to the end consumer in the EU market.

Temporary restrictions on transportation, mass layoffs, pay cuts and the closure of other businesses in various segments have reduced the already not very large base of private furniture consumers for the Home Furniture segment in the B2C and E-commerce channels.

A small surge in active furniture purchases was observed only in the segment "Home Office Furniture" and Sofas.

We will briefly walk through the points to understand what the current situation is in the Ukrainian furniture business.

External factors World market.

Rich countries are beginning to rebuild their economies, using the method of direct and indirect financial assistance to businesses and the public.

The USA, EC countries, England, Australia, Israel are actively looking for opportunities to import substitute products from China.

There are several ways these countries will follow:

- resumption of own production;
- procurement from nearby neighbors;
- search for new supplier countries.

Internal factors Ukrainian market:

- temporary reduction of furniture consumers even after the quarantine restrictions are eased;
- long-term recovery of economic sectors that are drivers of growth for the furniture business in Ukraine;
- deterioration of the legal framework, economic climate and prolonged political crisis that significantly affect the recovery of the consumer market and the economy of Ukraine in general and the Furniture Business in particular.

How did the crisis affect furniture companies:

1. Microbusiness 1-5 people (such companies in Ukraine are about 5000-7000):

- the most stable format in the conditions of global uncertainty and any crises;
- lots of small work that medium and large firms can't afford;
- there is no large load of rent and loans; everything fits in 2-3 shipping containers and a backpack;

- high competition and dumping;
- lack of a "financial cushion";
- it's just "wolf feet fed" work is, but it does not pay much.

2. Small business 5-50 people (such companies in Ukraine are about 2500-3000):

- risky format as not all companies own production space;
- high dependence on the receipt of orders and relatively weak "commercial communication" and the system all under the customer's order makes such a business model very risky in a shortage of solvent customers;

- high dependence on the "quality of staff", which greatly affects the crisis;

- no modern effective "digital sales channels" and "boxed versions of products";

- "financial pillow" in a very small number of companies and it will be enough for a maximum of 1-2 months;

- the situation is very different for everyone, someone does not work completely, works 2-3 days a week.

3. The average business of 50-350 people (such companies in Ukraine are about 300-500):

- the most risky format in it is already capitalization, but the credit load is also present. there are also rents for retail locations;

- relatively large staff that is difficult to maintain with a rapid reduction in orders;

- high dependence on the efficiency of the sales department and personal managers. dependence on efficiency and "quality" of trade locations and showrooms;

- many non-productive and production losses due to "archaic management" and not "high culture of production";

- lack of understanding of marketing 4.0 in digital sales channels and not built truly "working" digital sales channels;

- most owners have a personal "financial cushion", but on the scale of the enterprise it does not significantly affect;

- this format is also complex and everything is similar to the previous one.

4. Big business 350-5000 people (such companies in Ukraine are about 20-30):

- the format is the least risky as the fixed capitalization and fixed assets are owned for a long time;

- the credit load is there, but it is controlled and the bank will restructure it for a valuable customer with a long history;

- the scale of business and multichannel works where the loss of even 60% of all employees will not stop production and sales;

- such companies have a lot of staff, even with a small insurance reserve for turnover, but their salaries are not very high;

- a product portfolio and structured sales channels have been formed, including 2.0-3.0 digital sales channels with built-in online stores;

- high risks of business closure due to insufficient orders to maintain the planned level of cost recovery and profitability;

- risks in the supply chains of raw materials and components as the main supplier is China or the countries of Southeast Asia;

- the owners have formed a personal "financial cushion" and have a small reserve fund, just in case which is usually enough for 2-3 months;

- some companies have temporarily suspended their quarantine;

- long annual supply contracts in DIY retail chains are very helpful.

We will also analyze other players in the furniture market:

1. Furniture retail.

Represented by large players, medium and small.

Almost all shopping malls throughout Ukraine where there were small and medium-sized shops of furniture companies were closed for quarantine.

Only the Epicenter worked in quarantine, which led to a kind of "accidental monopoly" and, on the one hand, continued sales and movement of money for furniture products, which for some companies was a "breath of fresh air."

On the other hand, most market players and furniture retailers were in "not equal to market conditions."

Furniture retail, in general, despite the "features of a single operator", as well as all market participants in non-food products suffered significantly during the quarantine period.

In the future, the issue of resuming consumer traffic to shopping centers in the next 6-18 months will be acute.

The question of the number of customers who have the opportunity and desire to buy furniture in a physical store or DIY supermarket will be acute.

In our opinion, the quantitative reduction of furniture retail is inevitable, and the areas of existing furniture stores and sections in DIY supermarkets will also be revised to some extent.

We understand that with the reduction of the number of outlets, in theory, the quality of retail space and exposure in furniture retail should increase "but this is not true."

Unequivocally, we will see in the near future and the change of outdated model lines of most trading companies and branded retail retailers of furniture manufacturers.

And in this matter we can not do without interaction with Ukrainian Subject Designers.

2. Furniture e-commerce.

In this segment there are many operators of different scales and specializations. From national marketplaces to specialized niche online stores.

The main struggle for the consumer and his money was conducted on the Internet and it is clear that the main winner is the market leader ROZETKA.

Although the furniture does not rank in the top sales, but some categories have really given a significant short-term increase it, computer desks and chairs for Home Office and Sofas, bed group.

The explanations are quite simple; consumers urgently organized jobs at home and moved with their families to dachas and country houses.

When the first wave of excitement subsided, the sales curve began to subside and decrease.

Demanding customer with high income did not ignore domestic producers in the upper price segment.

Realizing that Italian upholstered furniture and kitchens will be unavailable in the next 3 months, and the apartment must be entered urgently, they placed orders for the complete set of objects from Ukrainian furniture companies.

In general, we can say that the persistent struggle for the consumer on the Internet is just beginning and this channel is waiting for big and dynamic transformations in a very short time.

Now let's perform an express SWOT (Fig. 2.11).

Based on the above, we can draw the following conclusions about the current state of the Furniture Business in Ukraine.

1. Significant reduction of consumers in B2B channels | B2G | B2C has put most Ukrainian furniture companies on the brink of extinction and has essentially "zeroed the market".

2. The Ukrainian consumer market will recover for a long time, even to the level of the end of 2019, it may take from 9 to 24 months.

3. External factors occurring in the world market and economy will significantly affect Ukraine and the speed of its recovery.

4. There are hidden reserves even now, but many companies are in a state of "frozen" and buried their heads in the sand.

5. The active position of the company and its leader significantly affects the survival "in an era of total change" this time of new leaders, strategic alliances and collaboration.

6. Digital communication channels and Marketing 4.0 are our everything, but we must also remember that the consumer already wants a "New Socially Oriented

Product" that takes into account the reality of living and working in a dynamically changing environment. Develop and test the product now.

Strengths	Weaknesses
<ol style="list-style-type: none"> 1. The furniture industry in Ukraine is not overloaded with consumer orders production capacity, which can significantly load Export products. 2. There is a great untapped potential of Ukrainian Subject Designers, who have long been successfully creating a "commercial product" for foreign manufacturers and their own "personal product line" enter the international markets. 3. Geographical position of Ukraine, developed transport network and proximity to the large European Market, which we do not use 100%. 4. The human potential of workers and engineers in Ukraine is high enough to fight for a place in the TOP-5 world furniture manufacturers. 5. There is an opportunity for potential growth of the Furniture Industrial Cluster of Ukraine as one of the drivers of Ukraine's economy on a national scale. Availability of natural resources, free territories, developed urban infrastructure, energy capacity. 	<ol style="list-style-type: none"> 1. The level of "business culture and modern management systems" does not allow to reach new horizons of thinking and building modern business models relevant to the hyper-competitive World Market and INDUSTRY 4.0. 2. Management human resources at the level of C-level and M-level on the principle of "easier and cheaper" does not allow companies to reach a qualitatively new level of management decisions and business transformation. 3. There are no available financial and credit resources for the furniture sector for a long time. 4. Worn out and obsolete equipment park of most furniture factories which is at the stage of INDUSTRY 2.5 resulting in a lag behind the main competitors in the world market to implement the production of INDUSTRY 4.0. 5. Restrictions on raw materials in the cheap and medium price segment in Ukraine there is no developed production cluster of furniture accessories and components. 6. Ukrainian production capacities in board materials from wood fibers and shavings, as well as plywood are also limited.
Opportunities	Threats
<ol style="list-style-type: none"> 1. Opportunities to enter foreign markets and take their place in the World Market and the World Ranking of Furniture Manufacturers. "European Design and Quality at an Affordable Price". 2. Promotion of the umbrella national brand "Made in Ukraine" as an element with greater confidence in reliability and quality in addition to the personal "Brand" of the manufacturer. 3. The emergence of a pronounced "Ukrainian Furniture Design" as a competitive advantage and distinctive feature in the international furniture market. 	<ol style="list-style-type: none"> 1. "Uncertainty of transformation" of world consumer and raw materials markets. 2. Political and, as a consequence, external political crisis in Ukraine. 3. Government economic policy in the next 4 years. 4. Declining domestic consumer demand and very slow growth. 5. The closure of foreign markets by protectionist and restrictive laws. 6. Increasing the cost of delivery of goods due to risks.

Figure 2.11 – Express SWOT analysis of the Ukrainian furniture market

7. "Personnel decide everything" It should be understood that AI will make a "new product" for you tomorrow and will not conduct "Analysis and Research" of the opened niche and foreign market.

Identify the core of professionals who make up "the very essence of your company and business." They need to be supported by an adequate salary fund with another can and should be said goodbye.

8. Solve business problems in several scenarios at once, this will allow you to quickly adapt to change by applying and modifying ready-made developments.

9. It is already necessary to prepare for export to the US and the EU, "tomorrow, the day after tomorrow" it will be too late to go there.

Our competitors can take the place of Ukrainian furniture companies: Poland, Vietnam, Malaysia, Mexico, Brazil.

Tomorrow we need to sell "a new product to new markets" and there will simply be no time to "wash down a new product in a year."

Studies of the behavior of furniture buyers have revealed some features of consumer preferences. Buyers of furniture in the economy segment, choosing furniture, first interested in its price, then pay attention to quality, appearance, and only then – on its origin.

Buyers with high income, when choosing furniture are based not so much on their own aesthetic preferences, but on what furniture, which company or country of manufacture is prestigious in their social environment. Therefore, the priority in the structure of consumer preferences is, to a greater extent, the origin of furniture products, then equally design and quality, and finally – the price.

There is also a tendency to increase buyers' interest in furniture made of natural materials, including solid wood. This material becomes the basis for various design solutions, which allows you to expand the possibilities of providing services and meet different complexity of requests.

Most consumers already have some idea of what furniture should be in terms of its design, quality of materials and fittings, construction, convenience, etc. All this forms in the minds of consumers a certain style of furniture. Today, the buyer, having

studied the furniture market on the Internet, is able without the help of sellers, in appearance to determine the stylistic affiliation of the furniture. Most buyers in Ukraine on equal terms will prefer furniture of imported origin, as there is no clear, branded style of domestic.

The following trends are revealed in the behavior of furniture buyers (Fig. 2.12).

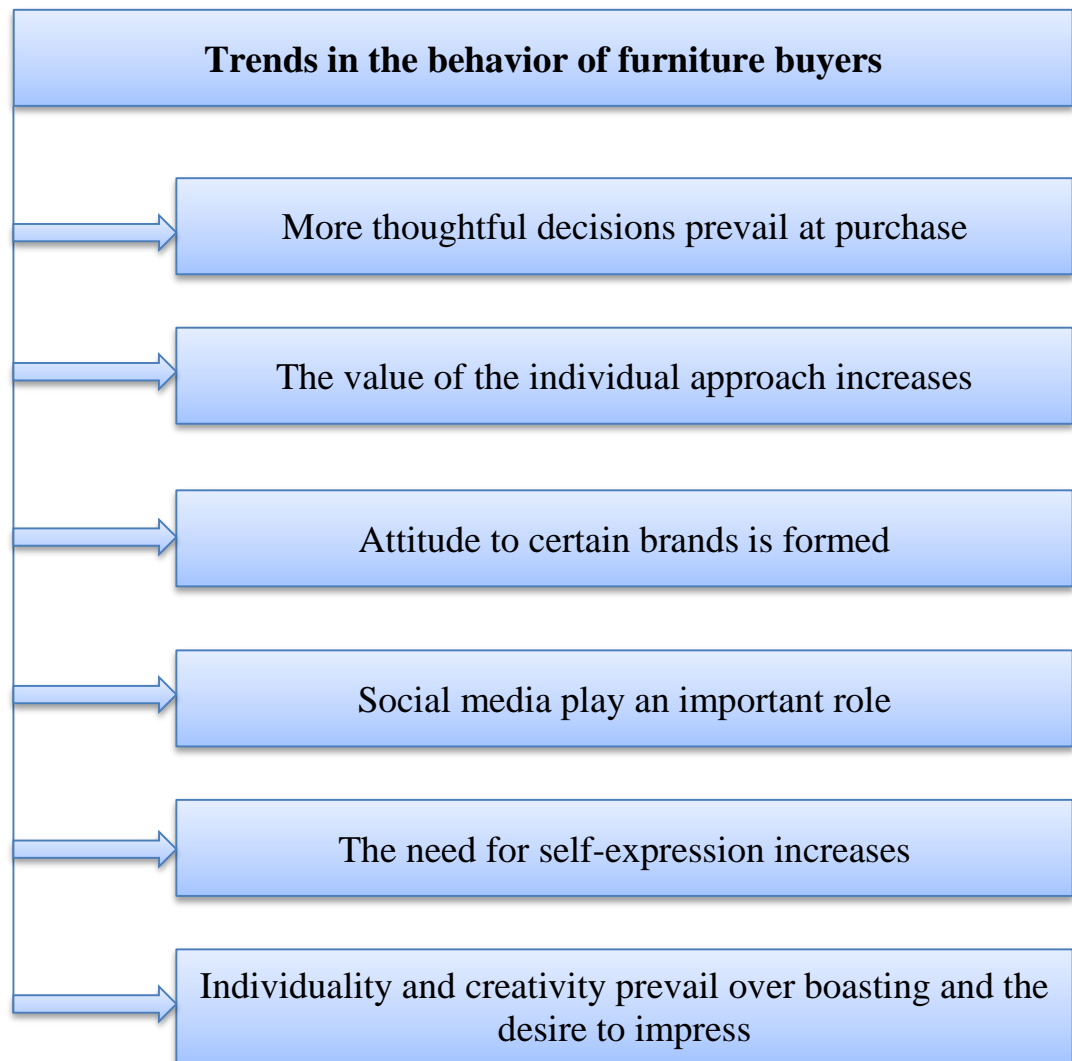


Figure 2.12 – Trends in the behavior of furniture buyers

A significant factor influencing the purchasing decision is also the availability of service and additional services.

The main trend of consumer preferences for both homeowners and public space is the growing need to attract the services of designers for interior design. This is due to the following factors:

- features of the premises that do not allow the use of models available on the market;
- the desire to individualize the space, make it different from the interiors of acquaintances, relatives, etc.;
- the need or desire to use furniture that has design features other than standard;
- lack of time to search for information about fashion styles and furniture manufacturers;
- desire to make more rational use of space and financial resources for its design;
- ignorance of the features and characteristics of the materials from which the furniture is made;
- recommendations of acquaintances and relatives who used the services of designers and were approved.

The designer, as a rule, works "in connection" with the architect and the designer, quality of performance of works which influences results. In working with customers, the designer, first of all, focuses on the wishes of the end user. However, there are frequent cases of imposing the designer's idea on the client, careless attitude to the customer's needs, unwillingness to take into account psychological aspects when working with the client, neglect of details that contribute to maximum customer comfort. At the same time, customer dissatisfaction is often directed at the furniture manufacturer, which "undermines" its image.

Summing up, we can talk about the significant potential of the Ukrainian furniture market today and in the future. The development and differentiation of various spheres of human life, the introduction of new technologies in the global furniture industry will open new opportunities for domestic furniture manufacturers and promote the formation of new "niches". Strengthening the interest of Western consumers in Ukrainian furniture will expand the possibilities of sales channels and will strengthen the position of domestic manufacturers in foreign markets.

2.4 Chapter summary

This chapter deals with the analysis of the Ukrainian furniture market and identification of the main trends of its development.

The furniture market is showing positive growth and this is largely due to the increase in domestic production. One of the main trends today is the focus of mostly buyers on furniture from Ukrainian manufacturers, which reflects the fact of increasing consumer confidence in domestic products. More than 3,000 furniture manufacturers are engaged in furniture production in Ukraine. Among them: large furniture factories that produce furniture in series, medium-sized enterprises working on individual orders and small, among which about 30% – micro-enterprises.

The main competitive advantages are possessed by the enterprises – leaders of the branch which work not only in the Ukrainian market, but also abroad. Small furniture stores and small industries are trying to resist large networks. The highest level of competition is observed among medium and small businesses in the furniture industry, which focus on the economy segment.

Next, an analysis of production, economic and logistics activities of the company «Moidodyr» was conducted. The «Moidodyr» factory has been producing bathroom furniture since 1999. «Moidodyr» furniture is made on the modern European equipment. The factory products have high quality and modern design.

All research was focused on finding bottlenecks in the operation of the enterprise, identifying problem situations through a comprehensive analysis of both internal and external environment of the company.

It was concluded, that in modern conditions the most important criterion is the automation of processes aimed at attracting and retaining the most profitable customers, personalization of customer relationships, which minimizes operational, administrative and other costs, as well as information support that makes the company more competitive.

CHAPTER 3

**DEVELOPMENT RECOMMENDATIONS FOR THE FORMATION OF
COMPLEX LOGISTICS CUSTOMER SERVICE FOR THE COMPANY
«MOIDODYR» IN THE DIGITAL ENVIRONMENT**

3.1 Conceptual model of digital transformation of furniture enterprises

The market today is very dynamic. At the same time, the requirements of customers are growing more and more every day. Previous models and business processes become ineffective, old communication methods do not work. Consumption patterns for products and services are changing. In such conditions, communication begins to become one of the most important factors.

Today, almost everyone, to one degree or another, uses gadgets and modern digital services, ranging from social networks, television and entertainment, to government services. It is not surprising that in this new digital economy, business will not be able to operate according to the old model, with traditional processes and with the same efficiency. The driver of change is the modern consumer and his changes in the preferences and form of consumption of goods and services. And the furniture market is no exception.

Digital transformation today, in fact, is one of the most important fundamental topics for business development.

The main driver of change is the modern consumer – business is changing under the influence of new factors. That is why digital transformation is not a service of consulting companies, but an inevitable process that global business is going through, adapting to the new conditions and preferences of the digital economy society.

In general, digital transformation is not so much about technology as about changing thinking in the new conditions of the new digital economy.

Our methodology for developing a digital transformation strategy is built on several modules (arears) that are present in the business of every modern company (Fig. 3.1) [based on 78].

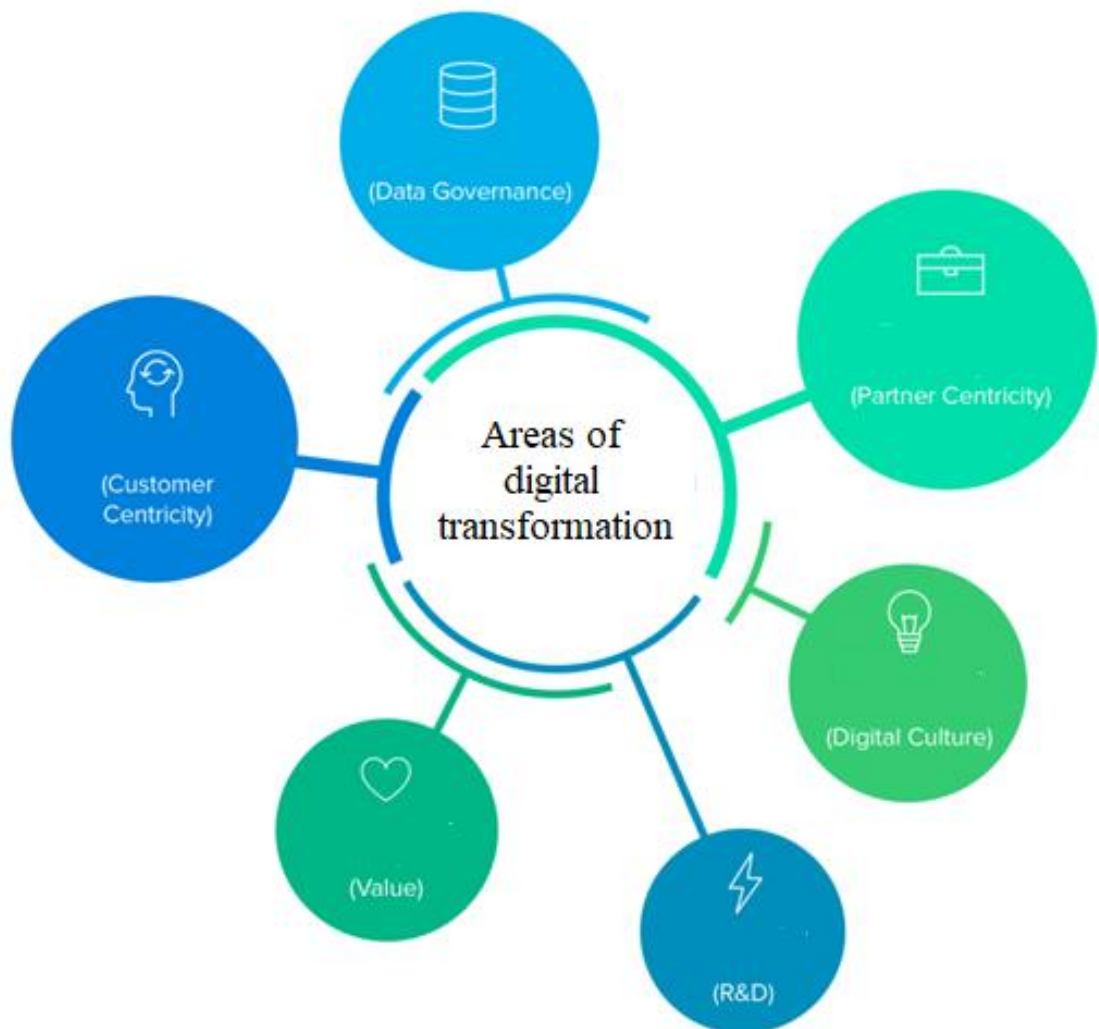


Figure 3.1 – The main areas of digital transformation of the furniture business

Let's take a closer look at these areas.

1. Customer Service (Customer Centricity).

It is to understand your consumer in the furniture business that you need to implement omni-channel tools, analytics, variability, scoring, adaptability and forecasting. Only with this approach can one be effective tomorrow, react to tectonic and reactive changes in the market. The client today is where he will be provided with a product or service in time, conveniently, comfortably and quickly.

Accordingly, business needs all the tools and the ability to adapt to the rapidly changing culture of consumption and communication.

If in the traditional communication model furniture companies used communication channels as a broadcasting tool to a wide audience, today furniture companies should become a part of the consumer communication system, a content provider, an interactive element.

2. Partnerships and Collaborations (Partner Centricity).

Digital transformation is based on the principle of developing infrastructure as a platform or the whole eco-system of a company. An important component in this concept is the principle of open API and flexible integration. This will allow furniture companies to find new non-standard breakthrough solutions in the development of their products and services through collaborations and integrations with other services and partner companies. Today it becomes ineffective and takes a long time to develop on its basis any heavy service, it is enough to have the ability to integrate and the strategy of a joint product.

Digital partnership is becoming one of the important factors of scaling, which allows companies, regardless of the geography of their presence, to conduct business anywhere in the world.

3. Working with data (Data Governance).

Big Data is no longer just a trend, but a working tool, without which it is impossible to imagine the work of a modern company. Based on the data, today it models customer behavior, predicts demand, forms preferences, and even adapts products and services.

Major stages in the evolution of data are three main strategic periods in the development of the IT infrastructure of a furniture company:

- collection and sorting of melons;
- analysis and evaluation of data for decision-making;
- use of data and implementation in the daily activities of the company.

All three stages are quite laborious and important, therefore, they can take some time, which is important to consider when forming a digital transformation strategy.

4. Implementation of innovations (Research and Development – R&D).

The word "innovation" today sounds from everywhere – everyone wants to get a ready-made successful case that will solve all problems. But few people think about the nature of these very innovations. Thanks to digital technology, businesses are experiencing a transition from a pre-design model to a model of continuous experimentation. Whereas previously the product was the result of a lot of preliminary marketing research and expert formulation, today the possibilities of digital technologies and the speed of changes in the markets force businesses to constantly try and test their solutions. Thanks to modern methods of project management and analytics, companies can form innovation centers (research & development), the essence of which is to regularly search and test new directions for business development, products and solutions.

5. Value

Using digital will transform the customer value of your product. Everyone can see how the way of consuming services is changing. It becomes fundamentally important for the client to purchase products and services fully and remotely, to receive operational support around the clock and without visiting offices.

Along with this, the economic model, business structure and scaling model are changing. The furniture business now has access to new opportunities for rapid development without building regional offices and points of sale.

For the modern client, digital is becoming a value.

6. HR strategy and culture of innovation (Digital culture).

The main obstacle on the way to successful business transformation is the team's lack of readiness – lack of motivation and lack of expertise. In the process of transformation in business, fundamental things change:

- the approach to business is changing;
- companies are moving from a projected marketing model to a customer-centric system;
- there is a need for continuous development, education and professional development of employees.

The basis for the digital transformation strategy of a furniture company should be developed, the implementation of which involves the development of these six areas (Fig. 3.2).



Figure 3.2 – Strategy for digital transformation of the furniture business

The digital transformation strategy of the furniture business can look different. It is necessary to take into account both typical approaches to developing IT strategies and approaches to developing business strategies.

That is, digital transformation of business processes and accounting for new IT technologies must be added to the IT strategy. And if we proceed from business strategies, then we must add to them the digital transformation of business processes and the main elements of IT. Since it is planned to introduce new IT technologies, they must be integrated with existing information systems, IT infrastructure, IT management.

Based on the studied theoretical material, the structure of digital transformation was developed (Fig. 3.3).

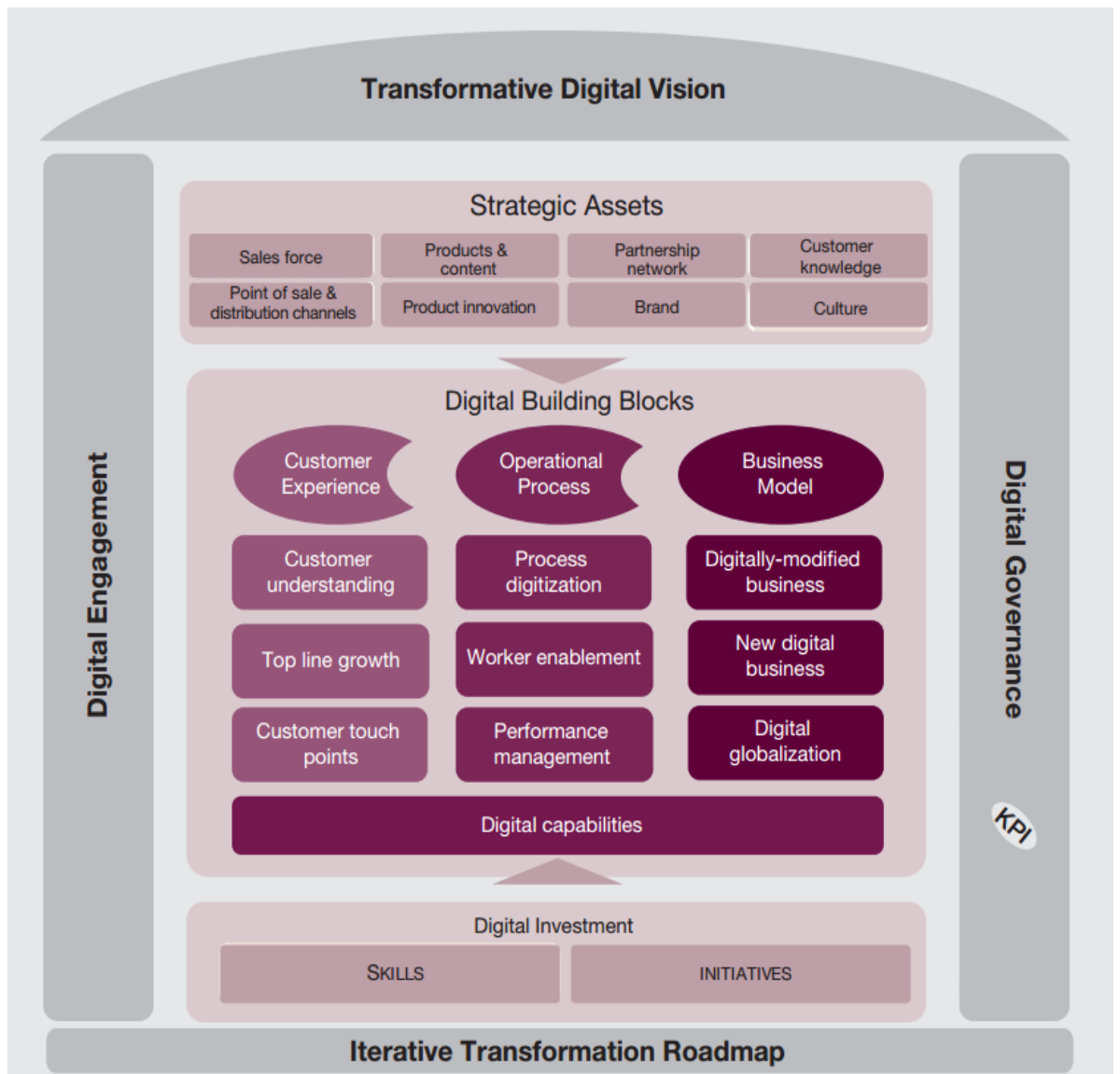


Figure 3.3 – Digital transformation framework

This structure consists of three main blocks:

1. Transforming the customer experience:
 - understanding of customers;
 - revenue growth;
 - points of contact with the client.
2. Transformation of operational processes:
 - digitalization process;
 - realization of the employee's capabilities;
 - performance management.

3. Business model transformation:

- new digital companies;
- digital globalization;
- digital modified companies.

Analyzing the individual elements of this Framework, we can single out those components that are more in demand for furniture companies, and those that have not yet found their application in companies.

First of all, the focus of furniture companies in terms of digital transformation should be aimed at transforming operational processes (block 2), in order to reduce existing costs. Information systems are used to automate routine procedures (digitalization process); as well as transfer employees to remote forms of work and use collaboration tools (realization of employee capabilities).

There are many examples where companies are moving to a virtual office as part of their operations. Employees work from home, while the efficiency of business processes does not deteriorate.

An additional trend in digital transformation is the use of technologies to improve operational efficiency (performance management), for example, in the sales process of many furniture companies, automated systems for monitoring the effectiveness of sales managers with detailed reporting for managers are being introduced, which allows increasing operational efficiency.

Secondly, furniture companies should strive to transform the customer experience (block 1). This is primarily an analysis of customer activities in social networks (customer understanding). There are examples when companies, by switching from using paper documents to electronic documents, not only minimized the costs of printing, but also ensured an increase in sales (revenue growth).

Recently, many furniture companies have already found new channels of contact with the client, in social networks or through expert communities (point of contact with the client).

But with the transformation of the business model (block 3), most likely, there will be a hitch.

To date, there are still no large-scale techniques for a digital modified company, new digital companies and digital globalization.

The main difficulties of digital transformation of the furniture business are presented in Table 3.1 [based on 61].

Table 3.1 – The main difficulties of digital business transformation

No	The name	Description
1	2	3
1	Critical shortage of competent specialists	The main skill of digital transformation specialists is the constant updating of knowledge and tools, lifelong learning. No technology, let alone digital, lives forever. Up-to-date fundamental education plus the ability to quickly relearn are the main success factors in the digital era.
2	Conversion Rate Limitations	The organization does not transform overnight, and for some time digital products exist in parallel with analog ones. The operating model of the organization should allow work in both classic and innovative modes, so that changes will take place with minimal risks. Competition often arises between the digital and traditional departments of a company. The responsibility for solving the problem lies with professional management.
3	Top management conservatism	Digital transformation involves additional spending of time, effort and money, and not everyone is ready for this. And the main KPIs, on which bonuses also depend, are often aimed at achieving immediate financial results. The key to success is leadership flexibility and a willingness to empower those employees who have the required digital competencies. And it is very important, real, and not in words, understanding of the potential of disruptive technologies and the inevitability of transformation.

Thus, we see that the digital transformation of the furniture business is a long, complex and expensive process. But its effect on productivity and business efficiency can justify all the costs. Up-to-date skills and tools, coupled with professional and flexible leadership, are the keys to a successful market transformation. The main thing is to remember that it is always easier to invest in the development of a company when there are still resources for this.

3.2 Recommendations for digital transformation of logistics customer services for the company «Moidodyr»

According to the analysis, not all companies are ready or able to work in the digital transformation, namely in digital sales and communication channels. Therefore, the management of Moidodyr, first of all, needs to prepare to solve possible problems in communication with customers. General recommendations:

1. Choose the product or service that will be necessary, useful and high quality, even in this difficult time.
2. Make content that "sells" your products (product + content = product).
3. Make a site that is set up to sell a product that has a quality image and infographics, description, features, price, availability or delivery time.
4. Go with the product in the partner e-commerce ROZETKA and others.
5. Promote Website, Company, Brand, Products by all possible and impossible means in the Internet channels Google, Facebook, Instagram, LinkedIn, You Tube, Pinterest constantly every day.
6. Communicate with your partners and customers; offer, enter into a dialogue find a solution.
7. Create new products and show them to the consumer.
8. After you have completed the first five steps, you need to prepare the product for export.
9. Take into account past "mistakes" of building production on the basis of mass cheap labor and invest in automation.
10. Improve processes, product and service even during this difficult period.

Recommendations for digital transformation of logistics services for Moidodyr customers are presented in Fig. 3.4.

In order to implement the above recommendations, the furniture company Moidodyr cannot do without narrowly special outsourcing companies.

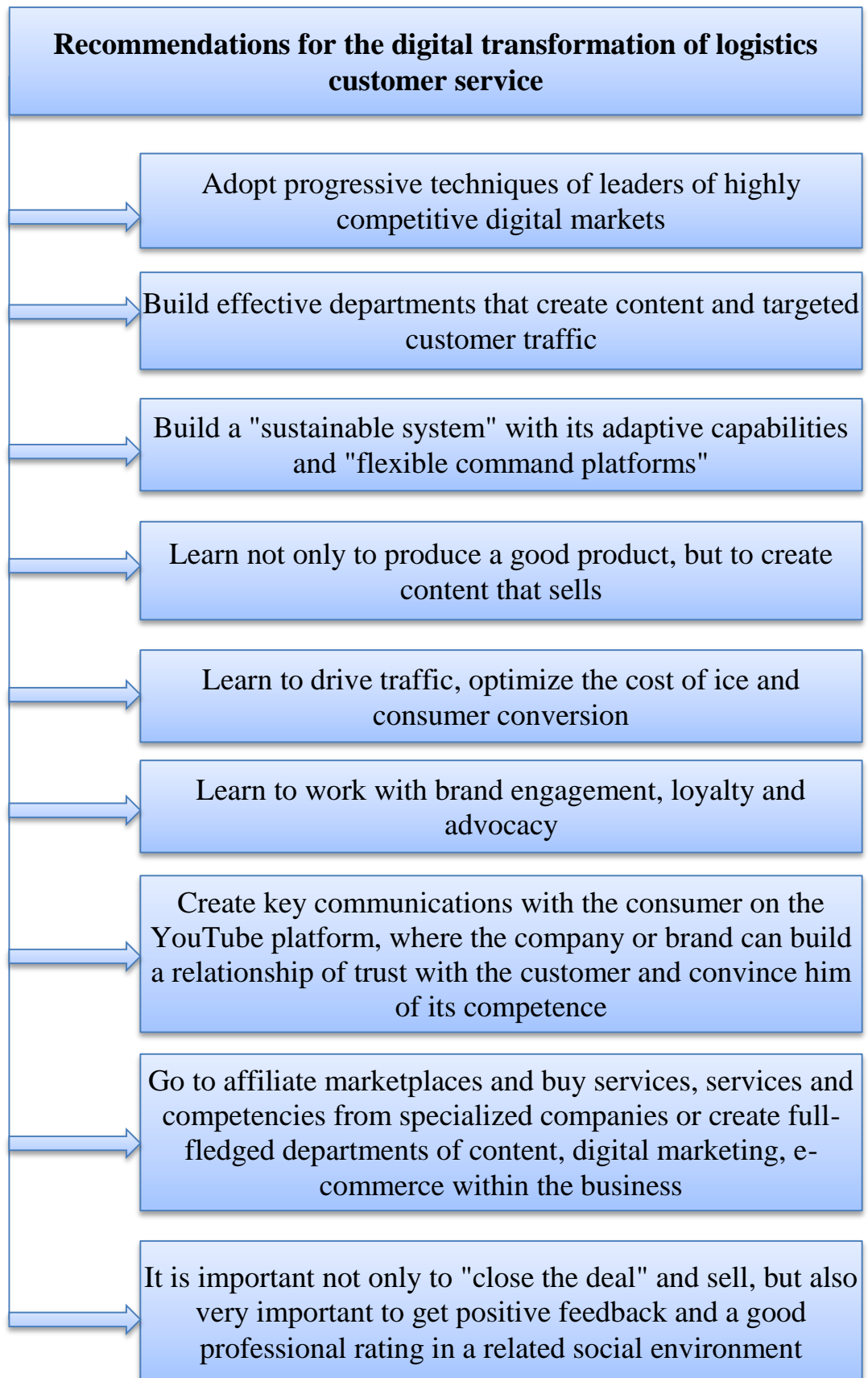


Figure 3.4 – Recommendations for digital transformation of logistics services for Moidodyr’s customers

The furniture market is evolving as demographics shift and consumers' buying habits change. Having great products and stellar service isn't enough to compete. You need to be top of mind at the right time and provide a buying experience that compels shoppers to complete the sale.

There are 5 steps which will help the company "Moidodyr" to carry out digital transformation of the customer service process (Fig. 3.5).

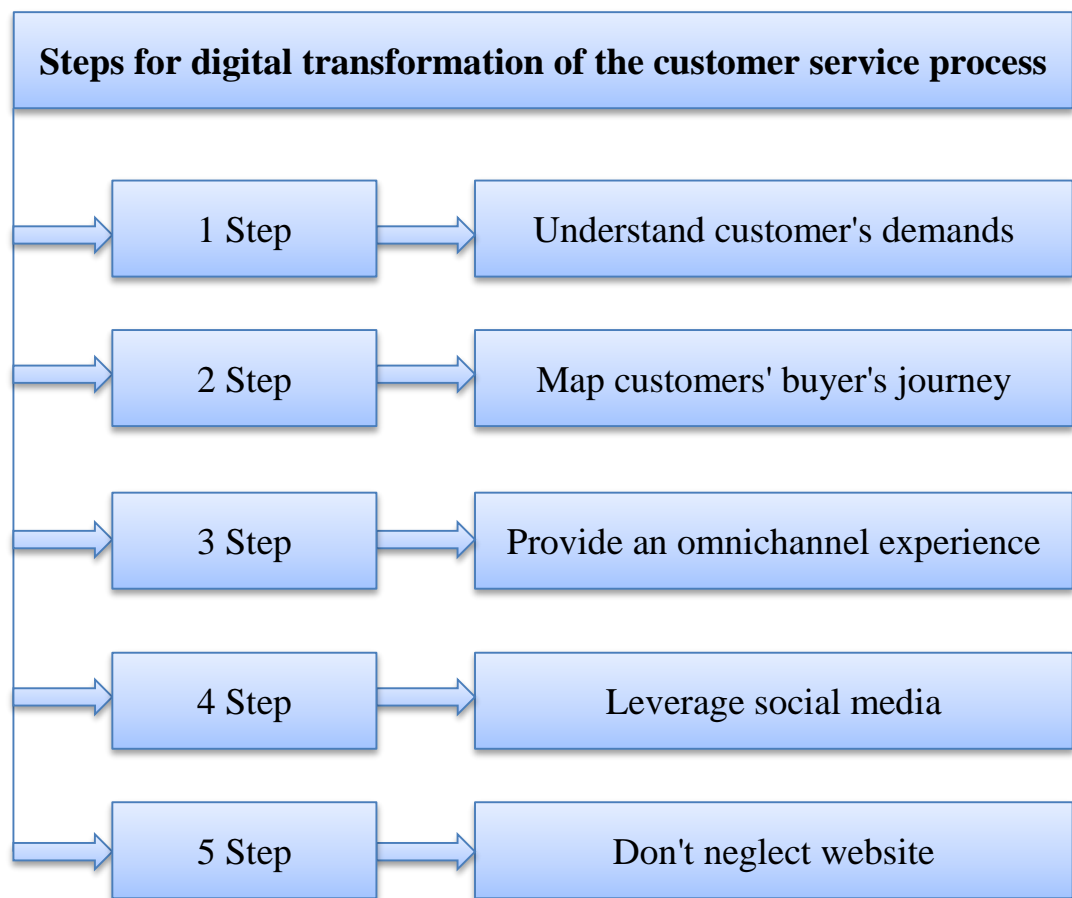


Figure 3.5 – Steps for digital transformation of the customer service process

It doesn't matter if the company focusing on furniture shop display ideas, furniture store advertising, creative ways to increase retail sales, or product display strategies – each component of digital transformation should find a way to solve a customer pain point and meet their demands.

So, the first and most important step in building your business strategy is to know the company's customers.

According to the analytics of search engines, the average age of an active user of Internet resources is 25 – 34 years. The audience of Internet sites is growing daily. A new culture of searching for services and purchasing goods is being formed by a viral effect. It becomes difficult and expensive to attract a client to a store, a salon, an exhibition pavilion (rent, renovation, salaries, exhibition goods, advertising, etc.). But 90% of consumers will first of all look for an answer to their question on the Internet. Without leaving home, you can find goods and services, find out the cost, get answers. The time of markets, small retail outlets is passing away. Customers are well aware of all the disadvantages of going to shops and markets, they are increasingly moving to orders and purchases via the Internet and social networks.

We suggest using Strategyzer's Value Proposition Canvas [24] to map out your customers' jobs-to-be-done, pains, and gains first and then matching your products' with those findings (Fig. 3.6).

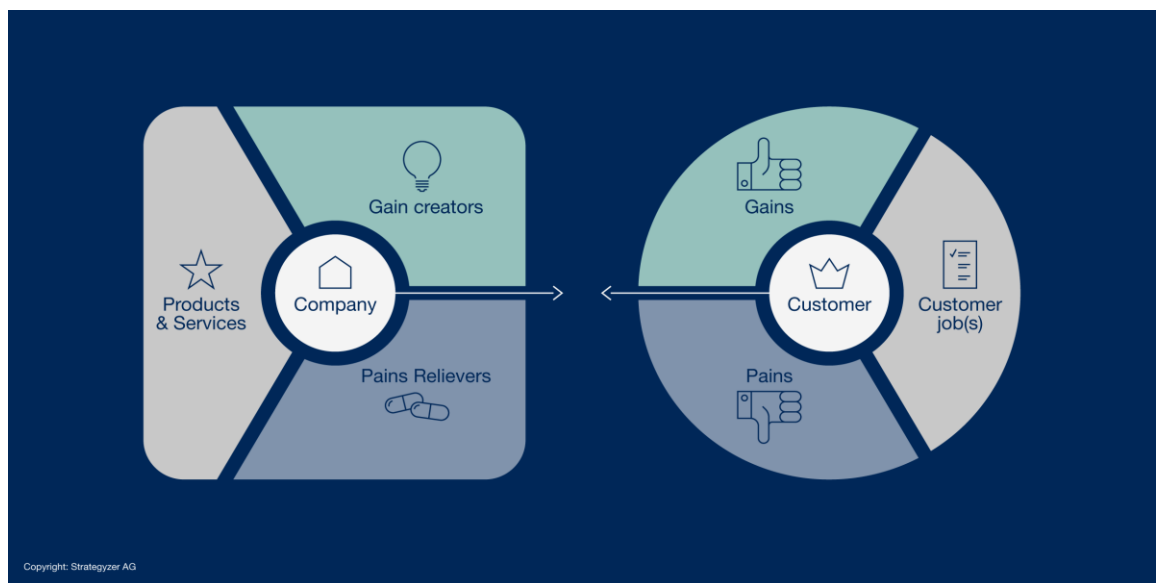


Figure 3.6 – Understanding the customer's demands

The point that the customer first discovers, searches for a product of the company is the beginning of the customer buyer journey. Throughout the buyer journey, the customer will arrive at various touchpoints relevant to the product and brand of the company. This can consist of website, a Google review, a social media page, furniture showroom, a chat with a customer service representative, etc.

All together, these touchpoints form the customer journey map (Fig. 3.7). This map should be designed as part of digital transformation of the customer service process, with each touchpoint focusing on providing a positive customer experience and providing information or a solution to a customer pain point. This is what keeps the customer actively pursuing product and moving along the map, until at such point they make their purchase decision.



Figure 3.7 – Map customers' buyer's journey

If, at any touchpoint, they receive a poor experience, such as not finding the information they seek or having an unsatisfactory conversation with a sales rep, they may leave your customer journey map and instead begin a new journey on a competitor’s map.

Online is the entry point for almost half of those who want to buy furniture. Only a quarter of people trust their friends or shop assistant when buying furniture. The rest learn about products on the web (search, brand sites, videos), while online advertising and TV account for only 3%.

Every 5-6th customer begins to get acquainted with a new product through a search or the website of a brand or retailer. Therefore, when planning your advertising campaign budget, you should first focus on search engine optimization

(and search advertising), then on adapting the site to all platforms and good content, and then look at social media, video and online advertising.

First of all, searching for and buying furniture on the Internet helps to save time. Less than half said it was convenient for them to buy online. And almost the same number of respondents noted that it is convenient for them to compare prices online.

It is important for only a third of buyers to compare the parameters of goods on the network. A quarter of the surveyed users are looking for information on the Internet, so they prefer to make a purchase on the site. The same number of people noted that only online they can get a product that is not in stores, but which they can bring from another city or warehouse.

The main disadvantage of online, which was noted by more than half of the respondents, is that they cannot see and touch the product before buying.

In order to understand which tools are best to use at each stage of the buyer's journey, we will depict them in the form of Fig. 3.8.

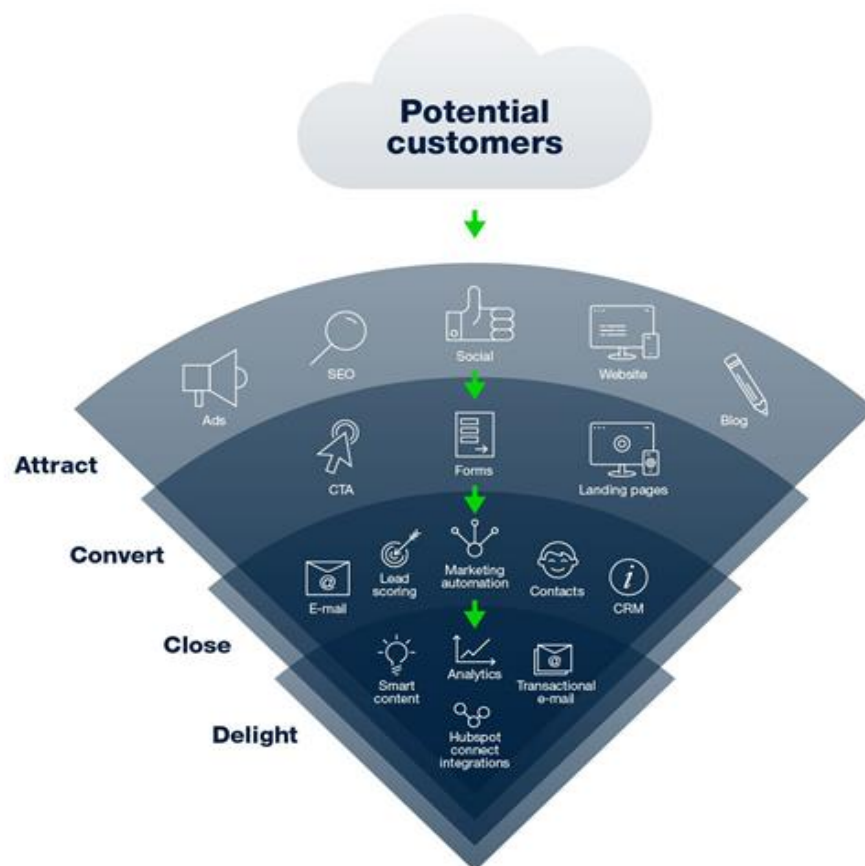


Figure 3.8 – Using tools at each stage of the buyer's journey

An important component of the customer buyer journey is being sure that the customer can find you, wherever they might be looking. This can be done through omnichannels (Fig. 3.9).

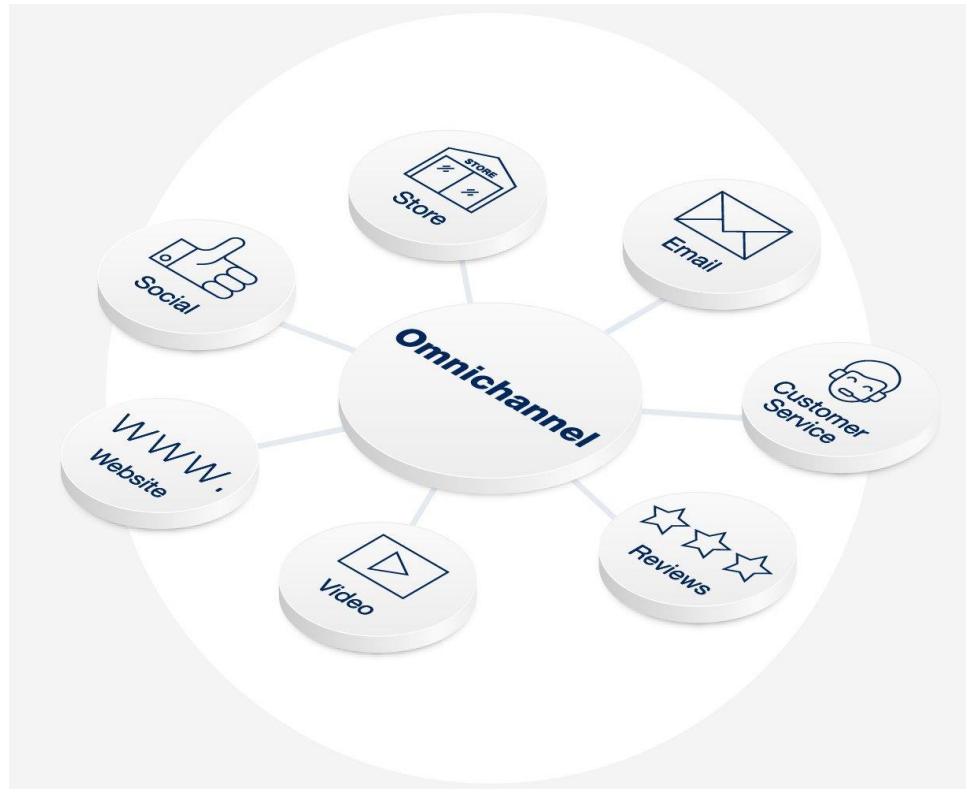


Figure 3.9 – Providing an omnichannel experience

Having a comprehensive strategy for furniture business will help the company "Moidodyr" determine who its ideal customers are and how to provide the experiences they crave where they crave them. Also it will help to understand how to cultivate relationships that lead to long-term customer engagement, and how to do all of the above while managing its business.

This guide will show how to build a digital strategy that will help the company "Moidodyr" increase furniture sales (Fig 3.10).

Build a strong brand of the company "Moidodyr" identity that makes your furniture – and the spaces they create – easy to remember. To really make a stand-out impression, use 3D, augmented reality, and virtual reality tools to help prospective customers get up close and personal with your products.

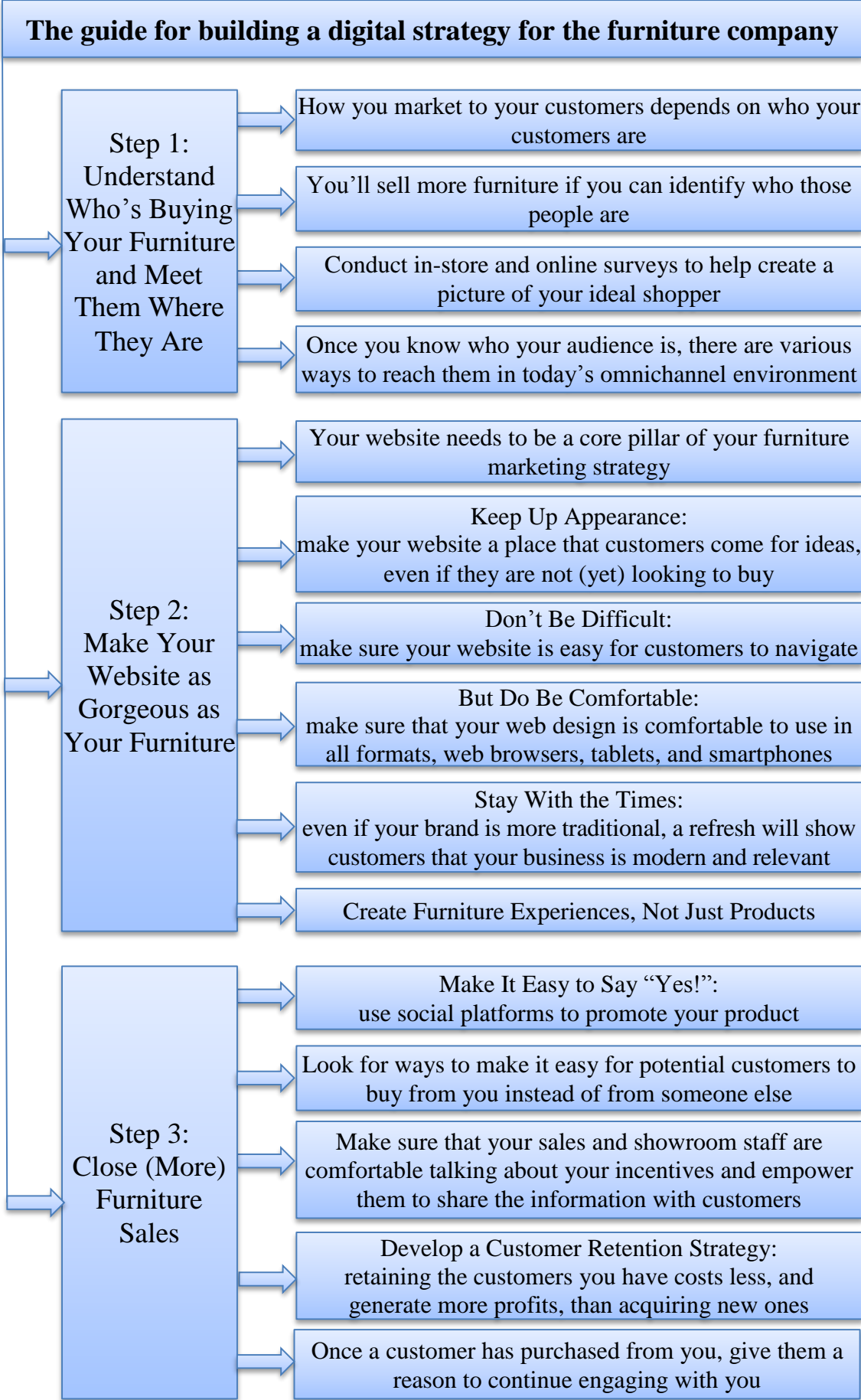


Figure 3.10 – The guide for building a digital strategy for the furniture company

Nothing makes a connection better than seeing how a sleek new table would look in your own dining room (Fig. 3.11 and 3.12).

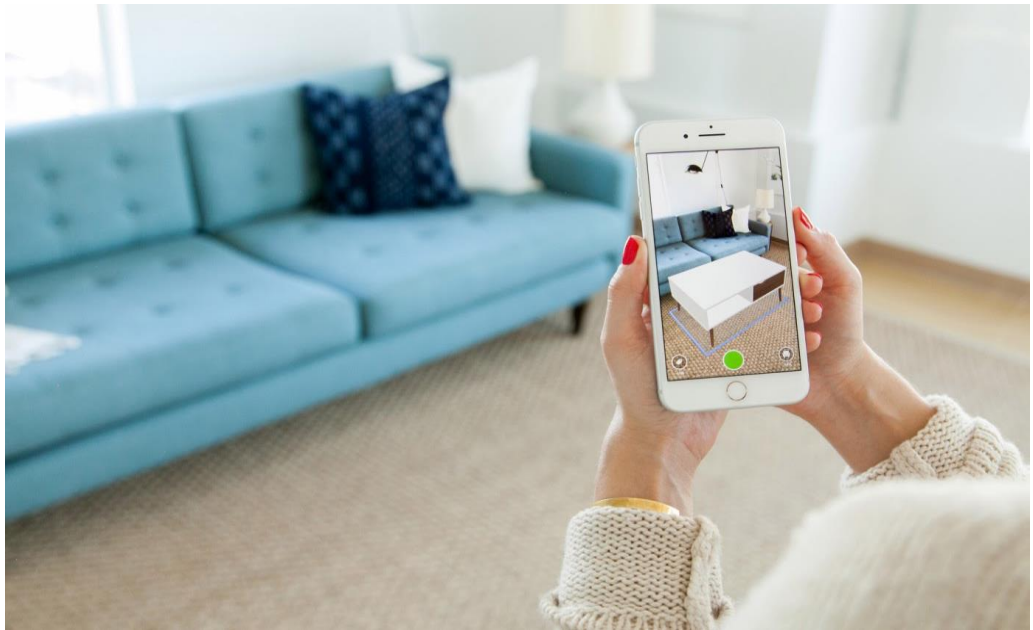


Figure 3.11 – Example of using 3D and virtual reality tools to help customers get up close and personal with products [14]

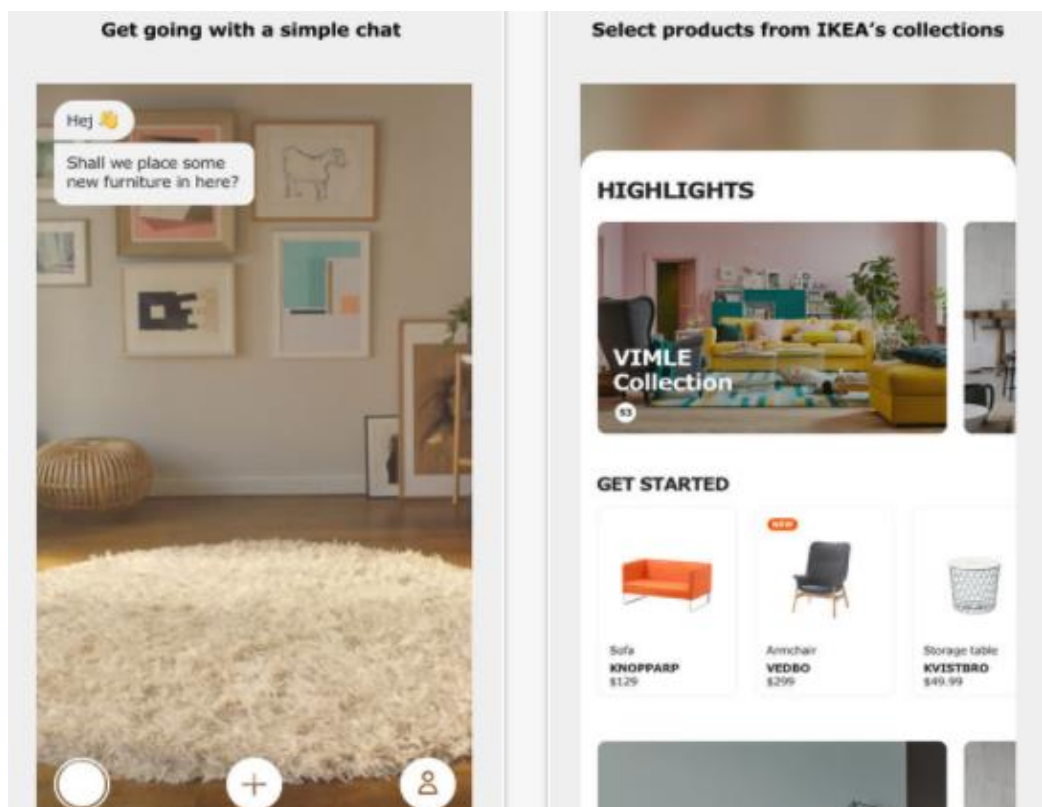


Figure 3.12 – Example of using virtual in IKEA [27]

Thus, we can offer the company «Moidodyr» to leverage its social media platforms. Invite customers to participate in surveys or to share their favorite photos showcasing your products in their homes. Consider offering personalized discounts or promotional offers as a perk of being connected to company "Moidodyr".

3.3 Implementation of Social CRM as a basic of complex logistics customer service of the company «Moidodyr»

Websites, social media, email lists – all promoting dozens or even hundreds of products and variants across multiple product lines. That's a lot of information to collect, store, and distribute. The best way to manage all that data while still having time to manage business of the company "Moidodyr" is to adopt a product information management platform. It can be done during integration of CRM and social media, named Social CRM.

Social CRM or social customer relationship management is the integration of social media channels into Customer Relationship Management (CRM) platforms [54]. Increasingly, CRM platforms support social media alongside traditional channels so customers can interact with businesses via their preferred channels. This means better customer service and greater marketing insight gathered from customer social media data.

The difference between Traditional CRM and Social CRM is presented in Fig. 3.13 [50].

The Social Media phenomenon is forcing organizations to build a more customer-centered focus. The use of Social Media tools is driving organizations to leverage Social Media information. Social Media information is being used extensively for organizations' CRM efforts.

Traditional CRM



Enter Social CRM



- Converting **content** into **conversations**
- Extending **conversations** into collaborative **experiences**
- Transforming **experiences** into meaningful **relationships**

Figure 3.13 – Difference between Traditional CRM and Social CRM

Social CRM Process is presented in Fig. 3.14.

Integration of CRM with social media allows preventing the loss of leads and processing all incoming requests. View detailed reports on company processes in real time. Correct the work of managers and optimize the internal processes of the enterprise.

Social CRM Process

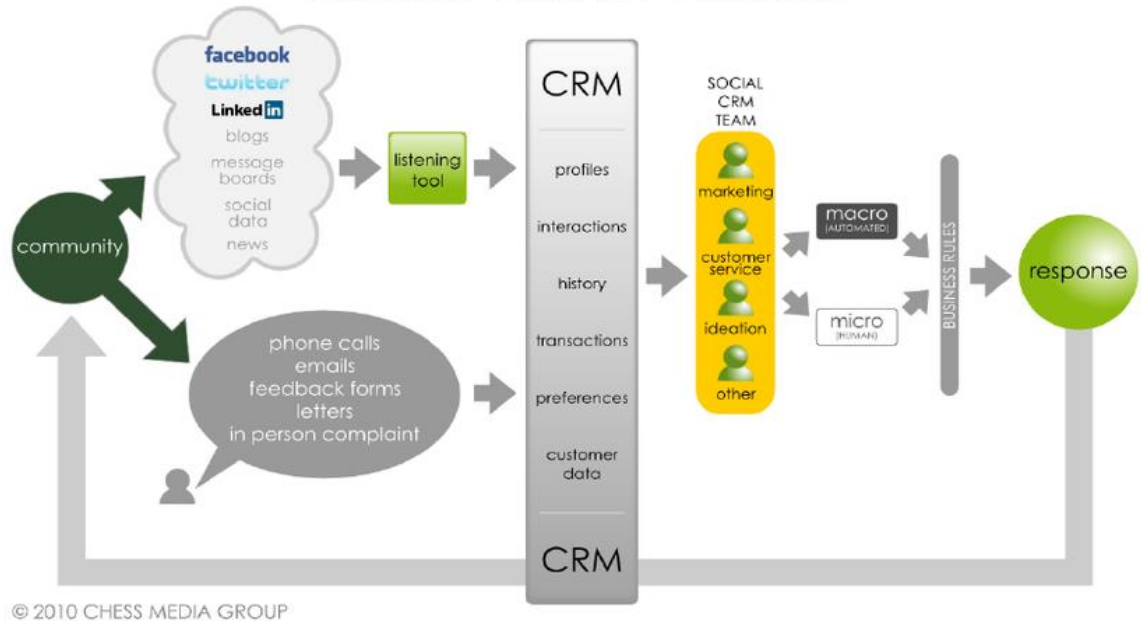


Figure 3.14 – Social CRM Process [17]

A detailed analysis of possible suppliers of the CRM system showed that there are not so many social CRM systems. Therefore, we have chosen and offered to cooperate with the company "Moidodyr" is the company Qsystem and its QsystemCRM [43].

CRM Qsystem is a system for working in a small or medium-sized online store of any profile.

It allows to automate all processes of the manager's operational work, work remotely, and monitor sales. The implementation of CRM will make the order fulfillment process as short as possible in terms of time and actions: received the order – confirmed – registered – sent, while most of the actions are carried out in one click of the mouse (Fig. 3.15) [43].

Leaders will be able not only to monitor the work of subordinates, but also to receive statistical and financial information about the work of the online store for any period of time.

Cooperation with suppliers is also simplified as much as possible. CRM will automatically inform customers about completed orders, or convey other information using SMS and email notifications.

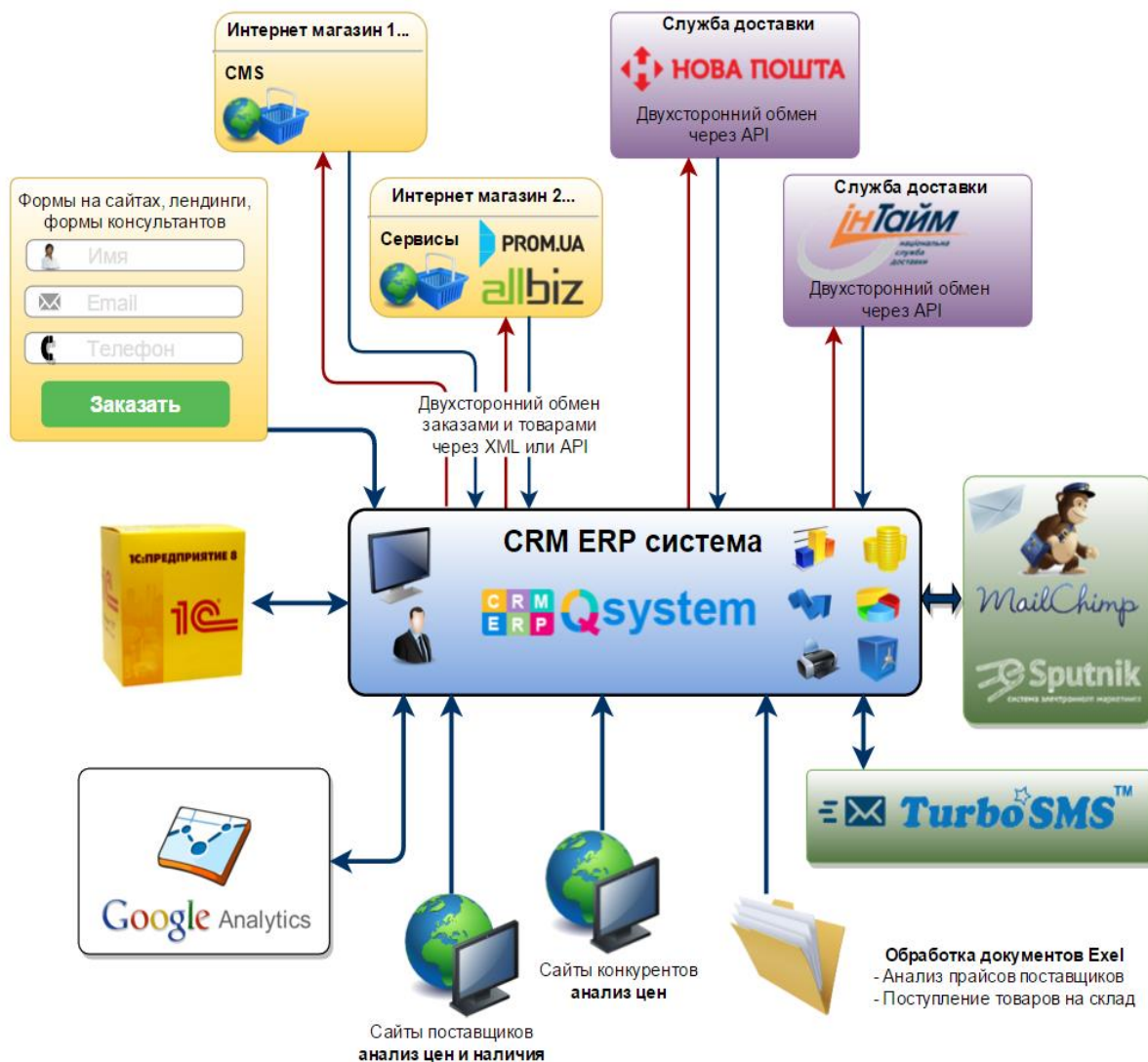


Figure 3.15 – Social CRM from QsystemCRM

The structure of CRM Qsystem includes several modules, each of which is responsible for automating certain processes in the work of a manager or head of an online store.

The Standard module is the main element of the CRM. Maintaining orders, customer base, processing applications to the online store, bringing each application to the completed order, tracking sent parcels, accounting for the range and control of the product range.

"Delivery Services" – an integrated module with the popular delivery services "Nova Poshta" and "Ukrpochna", allows you to register and print courier declarations directly from the order, as well as monitor the status of shipments.

"Work with customers" – thanks to this module, the history of all customer relationships with the online store, all orders and requests are saved.

"Supplier order creation" – receiving in one click of the mouse the generated application to suppliers under the specified conditions.

"Organizer" – a built-in task manager that allows you to plan things, perform tasks, monitor progress. The manager will be able to identify the effectiveness of employees. The manager can perform all customer orders and other tasks, promptly informing the system about the progress.

"Multilevel access" – a module that allows you to connect to the system more than 3 employees with different rights and access to information in the CRM system.

"SMS mailing" – a function that automatically informs customers about the specified events in the CRM (declaration number, bank details, etc.).

"Warehouse accounting" – a module that allows you to organize quantitative accounting of the nomenclature and control settlements with suppliers. Processing and accounting of incoming invoices, automatic change of balances, convenient sorting and segmentation. Full accounting of all transactions of arrival from suppliers with automatic accounting of mutual settlements.

Qsystem CRM integration is carried out with most of the well-known and popular engines (CMS) used in online stores in the CIS countries.

This system has the following peculiarities:

1. Orders are taken from all sources.

Orders can be collected from different online stores (if the company has several of them), from the Prom.ua and All.biz services, from different forms on the website, from landing pages, from online consultants.

Integration with online stores and trading platforms.

The ability to exchange product catalogs, prices, availability and orders.

You can download the catalog of an online store or trading platform with prices and availability in the CRM system, and then accept and process all incoming orders from different places in one window of the CRM system (app. A).

2. All work and processes in one window.

All the work of managers in one window of the CRM system – ordering, availability and prices of goods in stock, sending SMS, integration with delivery services.

Integration with a warehouse or your own ERP. The ability to integrate with 1C for the exchange of the catalog of goods, prices, balances and orders. Or work with an embedded ERP system (app. A).

Dropshipping for suppliers and sellers.

Now there is no need to puzzle over how to take into account all transactions and settlements. The problem of settlements with suppliers and delivery of orders to customers is completely resolved, all interactions are thought out to the smallest detail in the new Dropshipping module (app. B).

3. Integration with delivery services.

You can issue delivery declarations at the touch of a button. Getting information about the delivery status and invoice number on the order monitor. The New Mail API is connected.

Integration with delivery services and SMS sending.

All delivery declarations are generated directly in QsystemCRM, you can also immediately send SMS with a notification (app. C).

With QsystemCRM the company «Moidodyr» will not need to make declarations for the shipment of goods in separate programs and send SMS from a third-party website or phone. QsystemCRM allows you to do all this in one window. In addition, the Moidodyr company receives the functionality of tracking the status of cargo delivery and sending SMS.

The advantages of implementing QsystemCRM are presented in the Table 3.2.

Speaking about the economic effect of the implementation of the QsystemCRM in the activities of the company "Moidodyr", it can be calculated as a reduction in the time of certain operations carried out by employees of the company during the day.

As a possible saving of time per day, we take the following values: 10, 15, 20, etc. up to 45 minutes a day.

Table 3.2 – Benefits of implementing QsystemCRM

№	Benefits	Description
1	2	3
1	Flexible and easy automation	Ease of implementation in your business system and ease of use. Fast staff training and customization for business processes. Full automation of online trading.
2	Improving customer loyalty	Managers will be able to very quickly respond to incoming calls, wishes and complaints from customers. Not a single client and his wishes will be forgotten.
3	All communications are connected into one whole	Phone calls, sending and receiving mail, sending notifications and promotions via SMS are now managed and work in one system.
4	Increase in productivity	Employees will be able to significantly increase productivity by reducing many routine operations when working with clients.
5	Conversion growth	Thanks to the increased productivity and quality of service, the conversion grows from 30% to 100% of the initial one.
6	Sales growth	Thanks to the control of the implementation of contacts with clients, we get the opportunity to offer each client exactly what he needs on time.

To convert these minutes into annual time savings, you need to divide the daily savings in minutes by 60 (this is the number of minutes per hour), and then multiply the value by 22 (this is the number of working days per month) and 12 (this is the number of months per year).

Assume that the average salary of 1 employee of the company "Moidodyr" is 18,000 UAH per month.

In the calculations, we assume that in one month are 22 working days, and during one day the company's employees work for about 8 hours.

Thus, the cost of 1 hour of working time of 1 employee is:

$$18000/22/8 = 102.3 \text{ UAH / hour.}$$

Now we can calculate the possible cost savings from the implementation of the QsystemCRM. The results of the calculation of the total possible cost savings of the company "Moidodyr" are presented in Table 3.3.

Table 3.3 – Calculations of possible cost savings from the implementation of the QsystemCRM

№	Indicators	Possible values of saving time during the day, minutes							
		10	15	20	25	30	35	40	45
1	2	3	4	5	6	7	8	9	10
1	Possible values of saving time during the year, hours	46,0	69,0	92,0	115,0	138,0	161,0	184,0	207,0
2	Cost of 1 hour of 1 employee, UAH	102,3	102,3	102,3	102,3	102,3	102,3	102,3	102,3
3	Number of employees, persons	30	30	30	30	30	30	30	30
4	Total possible savings costs per year, UAH	141136	211705	282273	352841	423409	493977	564545	635114

Let us now consider the components of the costs for the implementation of the QsystemCRM (Table 3.4).

Table 3.4 – Costs of QsystemCRM implementation

№	Cost components	Years		
		2022	2023	2024
1	2	3	4	5
1	Expenses for the preparatory process, UAH	20 000	-	-
2	Costs for system development, UAH	150 000	-	-
3	Costs for system implementation, UAH	150 000	-	-
4	User training, UAH	75 000	-	-
5	Costs for technical support, UAH	0	72 000	72 000
6	Total expenses for the year, UAH	395 000	72 000	72 000

Next, we calculate the NPV of the project for different discount rates (10% and 15%), as well as for three possible forecasts:

1. For a pessimistic forecast, we'll take the possible cost savings by saving 15 minutes per day (see Table 3.3).

2. For a realistic forecast, we'll take the possible cost savings by saving 25 minutes per day (see Table 3.3).

3. For an optimistic forecast, we'll take the possible cost savings while saving 40 minutes per day (see Table 3.3).

Net present value (NPV) is the sum of discounted values of the flow of payments reduced to the date [52]. The NPV is the difference between all cash inflows and outflows brought to the current point in time (the moment of evaluation of the investment project). It shows the amount of money that the investor expects to receive from the project, after the cash inflows pay off its initial investment costs and periodic cash outflows associated with the project. Because cash payments are valued based on their time value and risks, NPVs can be interpreted as the value added by the project. It can also be interpreted as the total profit of the investor.

Calculation of the project NPV for a pessimistic forecast is presented in Table 3.5.

Table 3.5 – NPV of the project for pessimistic forecast

№	Year	№ of the year	Discount rate at a rate of 10%	Discount rate at a rate of 15%	Total project implementation costs, UAH	Total costs at a discount rate of 10%, UAH	Total costs at a discount rate of 15%, UAH	Projected income (savings), UAH	Projected income at a discount rate of 10%, UAH	Projected income at a discount rate of 15%, UAH	Projected profit, UAH	Net profit at a discount rate of 10%, UAH	Net profit at a discount rate of 15%, UAH
1	2	3	4	5	6	7	8	9	10	11	12	13	14
2	2022	0	1,00	1,00	395000	395000	395000	211705	211705	211705	-183295	-183295	-183295
3	2023	1	0,91	0,87	72000	65455	62609	211705	192459	184091	139705	127004	121482
4	2024	2	0,83	0,76	72000	59504	54442	211705	174962	160079	139705	115458	105637
5	Total				539000	519959	512051	635114	579126	555875	96114	59167	43823
6	NPV											59167	43823

Calculation of the project NPV for a realistic forecast is presented in Table 3.6.

Table 3.6 – NPV of the project for realistic forecast

№	Year	№ of the year	Discount rate at a rate of 10%		Total project implementation costs, UAH	Total costs at a discount rate of 10%, UAH	Total costs at a discount rate of 15%, UAH	Projected income (savings), UAH	Projected income at a discount rate of 10%, UAH	Projected income at a discount rate of 15%, UAH	Projected profit, UAH	Net profit at a discount rate of 10%, UAH	Net profit at a discount rate of 15%, UAH
1	2	3	4	5	6	7	8	9	10	11	12	13	14
2	2022	0	1,00	1,00	395000	395000	395000	352841	352841	352841	-42159	-42159	-42159
3	2023	1	0,91	0,87	72000	65455	62609	352841	320764	306818	280841	255310	244209
4	2024	2	0,83	0,76	72000	59504	54442	352841	291604	266798	280841	232100	212356
5	Total				539000	519959	512051	1058523	965209	926458	519523	445251	414406
6	NPV											445251	414406

Calculation of the project NPV for an optimistic forecast is shown in Table 3.7.

Table 3.7 – NPV of the project for optimistic forecast

№	Year	№ of the year	Discount rate at a rate of 10%		Total project implementation costs, UAH	Total costs at a discount rate of 10%, UAH	Total costs at a discount rate of 15%, UAH	Projected income (savings), UAH	Projected income at a discount rate of 10%, UAH	Projected income at a discount rate of 15%, UAH	Projected profit, UAH	Net profit at a discount rate of 10%, UAH	Net profit at a discount rate of 15%, UAH
1	2	3	4	5	6	7	8	9	10	11	12	13	14
2	2022	0	1,00	1,00	395000	395000	395000	564545	564545	564545	169545	169545	169545
3	2023	1	0,91	0,87	72000	65455	62609	564545	513223	490909	492545	447769	428300
4	2024	2	0,83	0,76	72000	59504	54442	564545	466566	426877	492545	407062	372435
5	Total				539000	519959	512051	1693636	1544335	1482332	1154636	1024376	970281
6	NPV											1024376	970281

According to our calculations, the NPV of the project is positive at two discount rates and three forecasts. Thus, this project is cost-effective and can be recommended for implementation.

Now let's calculate the payback period of investment in the project. To do this, it is necessary to summarize the net benefits of the project for the entire period under review at different discount rates (Fig. 3.16 and 3.17).

As can be seen from figures:

- according to the pessimistic forecast, the payback period of the project is 1.5 year;
- according to the realistic forecast, the payback period of the project is 1.1 year;
- according to the optimistic forecast, the payback period of the project is less than 1 year.

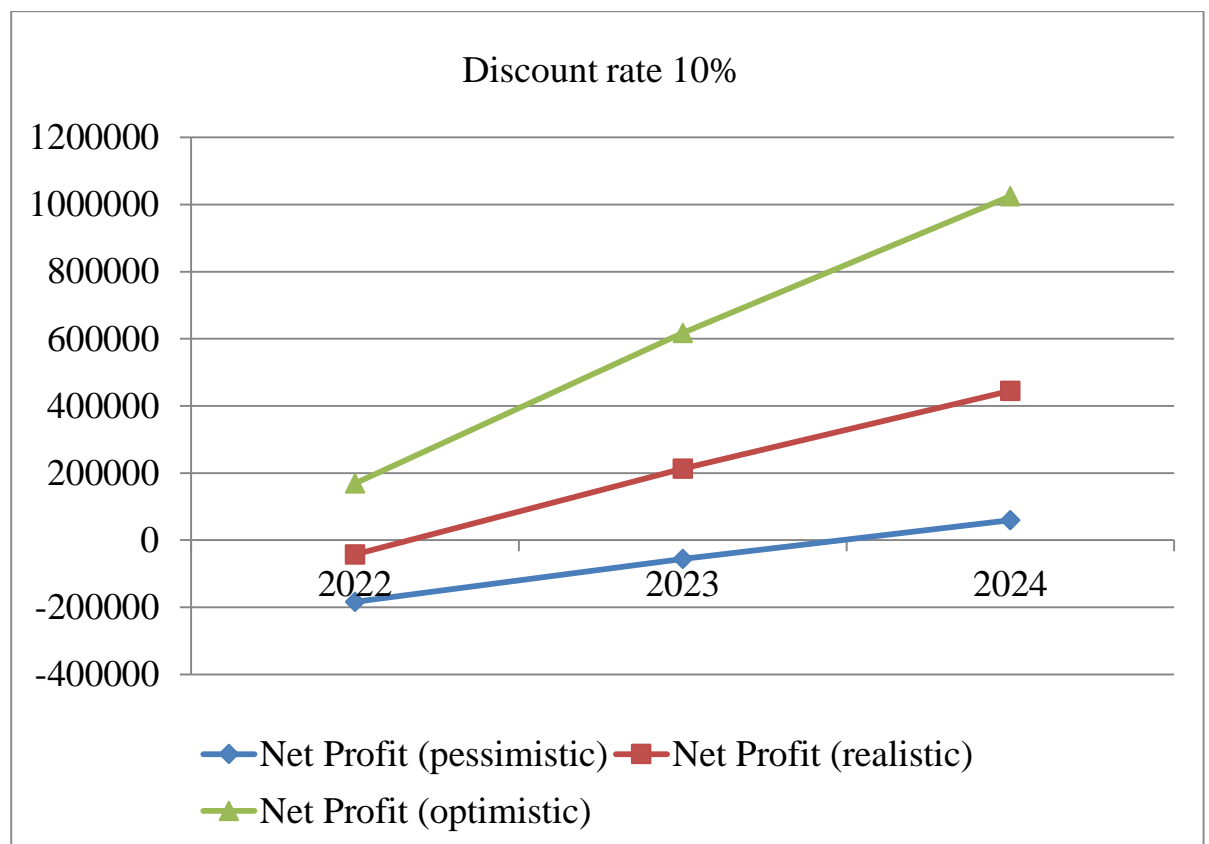


Figure 3.16 – Finding the payback period of the project (at discount rate 10%)

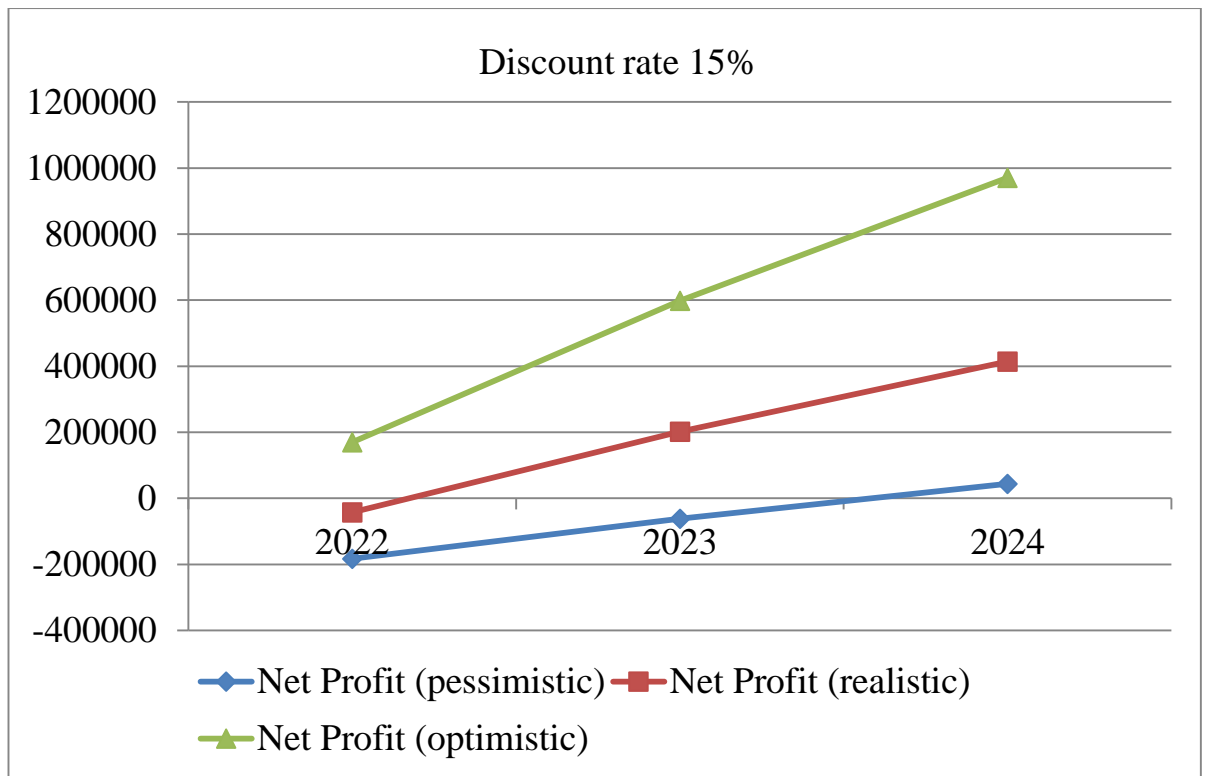


Figure 3.17 – Finding the payback period of the project (at discount rate 15%)

Given the fact that the Social CRM system cannot be implemented in one single company, we consider it appropriate that the partners of Moidodyr also take part in its implementation. So, this will be a network solution. On the one hand, this will increase the number of participants, which will increase the total cost. However, on the other hand, investment in the project can also be shared among all stakeholders and will pay off much faster.

3.4 Chapter summary

This chapter deals with the development recommendations for the formation of complex logistics customer service for the company «Moidodyr» in the digital environment. It was noticed that the market today is very dynamic. At the same time, the requirements of customers are growing more and more every day. Previous models and business processes become ineffective, old communication methods do

not work. Consumption patterns for products and services are changing. In such conditions, communication begins to become one of the most important factors.

The driver of change is the modern consumer and his changes in the preferences and form of consumption of goods and services. And the furniture market is no exception. Digital transformation today, in fact, is one of the most important fundamental topics for business development.

Our methodology for developing a digital transformation strategy was built on several modules that are present in the business of every modern company. The basis for the digital transformation strategy of a furniture company was developed, the implementation of which involves the development of these six modules.

There are 5 steps which will help the company «Moidodyr» to carry out digital transformation of the customer service process.

Thus, we offered the company «Moidodyr» to leverage its social media platforms. Websites, social media, email lists – all promoting dozens or even hundreds of products and variants across multiple product lines. That's a lot of information to collect, store, and distribute. The best way to manage all that data of the company «Moidodyr» is to adopt a product information management platform. It can be done during integration of CRM and social media, named Social CRM.

Social CRM or social customer relationship management is the integration of social media channels into Customer Relationship Management (CRM) platforms. Increasingly, CRM platforms support social media alongside traditional channels so customers can interact with businesses via their preferred channels. This means better customer service and greater marketing insight gathered from customer social media data. Integration of CRM with social media allows preventing the loss of leads and processing all incoming requests. View detailed reports on company processes in real time. Correct the work of managers and optimize the internal processes of the enterprise.

CONCLUSIONS AND RECOMMENDATIONS

The first chapter deals with the theoretical principles of logistics customer service formation in the digital environment.

Customer service is a broad term that holds many elements ranging from product availability to after-sale maintenance. Looking at logistics perspective, customer service is the outcome of all logistics activities or supply chain processes. Corresponding costs for the logistics system and revenue created from logistics services determine the profits for the company. Those profits widely depend on the customer service offered by the company.

Logistics customer service is a part of a firm's overall customer service offering, customer service elements that are specific to logistics operations including fulfillment, speed, quality, and cost. The term fulfillment process has been described as the entire process of filling the customer's order. The process includes the receipt of the order, managing the payment, picking and packing the goods, shipping the package, delivering the package, providing customer service for the end-user, and handling the possible return of the goods.

Logistics planners must understand all logistics services offered by the firm so that they can articulate the benefits to the customer. If articulate properly, customer service could add significant value to create demand for the products and improve customer loyalty.

We considered process model for logistics collaboration development based on logistics digital services.

We also noticed that the transport requirements in modern society are becoming more and more important. The transport services need to be more and more advanced and better designed to meet the needs of users. A significant part of costs of many goods are transport costs. The size of the market of transport services as well as the sales volume and derived profits intensify competition. Therefore, a reduction of costs and better adaptation of strategies to the demand require better planning and scheduling

tools for available resources of transport companies. Computer systems can be a useful tool for transport companies. They may support a rapid creation of effective transport plans and schedules or enable simulation research leading to the correct selection of company organization, vehicles and capacities or locations of depots.

So we can say that technology and innovation has changed customer expectations and the way that companies communicate.

The second chapter deals with the analysis of the Ukrainian furniture market and identification of the main trends of its development.

The furniture market is showing positive growth and this is largely due to the increase in domestic production. One of the main trends today is the focus of mostly buyers on furniture from Ukrainian manufacturers, which reflects the fact of increasing consumer confidence in domestic products. More than 3,000 furniture manufacturers are engaged in furniture production in Ukraine. Among them: large furniture factories that produce furniture in series, medium-sized enterprises working on individual orders and small, among which about 30% – micro-enterprises.

The main competitive advantages are possessed by the enterprises – leaders of the branch which work not only in the Ukrainian market, but also abroad. Small furniture stores and small industries are trying to resist large networks. The highest level of competition is observed among medium and small businesses in the furniture industry, which focus on the economy segment.

Next, an analysis of production, economic and logistics activities of the company «Moidodyr» was conducted. The «Moidodyr» factory has been producing bathroom furniture since 1999. «Moidodyr» furniture is made on the modern European equipment. The factory products have high quality and modern design.

All research was focused on finding bottlenecks in the operation of the enterprise, identifying problem situations through a comprehensive analysis of both internal and external environment of the company.

It was concluded, that in modern conditions the most important criterion is the automation of processes aimed at attracting and retaining the most profitable customers, personalization of customer relationships, which minimizes operational,

administrative and other costs, as well as information support that makes the company more competitive.

The third chapter deals with the development recommendations for the formation of complex logistics customer service for the company «Moidodyr» in the digital environment.

It was noticed that the market today is very dynamic. At the same time, the requirements of customers are growing more and more every day. Previous models and business processes become ineffective, old communication methods do not work. Consumption patterns for products and services are changing. In such conditions, communication begins to become one of the most important factors.

The driver of change is the modern consumer and his changes in the preferences and form of consumption of goods and services. And the furniture market is no exception. Digital transformation today, in fact, is one of the most important fundamental topics for business development.

Our methodology for developing a digital transformation strategy was built on several modules that are present in the business of every modern company. The basis for the digital transformation strategy of a furniture company was developed, the implementation of which involves the development of these six modules.

The digital transformation strategy of the furniture business can look different. It is necessary to take into account both typical approaches to developing IT strategies and approaches to developing business strategies.

Based on the studied theoretical material, the structure of digital transformation was developed. This structure consists of three main blocks:

1. Transforming the customer experience:
 - understanding of customers;
 - revenue growth;
 - points of contact with the client.
2. Transformation of operational processes:
 - digitalization process;
 - realization of the employee's capabilities;

- performance management.
3. Business model transformation:
- new digital companies;
 - digital globalization;
 - digital modified companies.

The main difficulties of digital transformation of the furniture business were presented.

Thus, we see that the digital transformation of the furniture business is a long, complex and expensive process. But its effect on productivity and business efficiency can justify all the costs. Up-to-date skills and tools, coupled with professional and flexible leadership, are the keys to a successful market transformation. The main thing is to remember that it is always easier to invest in the development of a company when there are still resources for this.

According to the analysis, not all companies are ready or able to work in the digital transformation, namely in digital sales and communication channels. Therefore, the management of «Moidodyr», first of all, needs to prepare to solve possible problems in communication with customers.

Recommendations for digital transformation of logistics services for «Moidodyr» customers were made.

The furniture market is evolving as demographics shift and consumers' buying habits change. Having great products and stellar service isn't enough to compete. You need to be top of mind at the right time and provide a buying experience that compels shoppers to complete the sale.

There are 5 steps which will help the company «Moidodyr» to carry out digital transformation of the customer service process.

According to the analytics of search engines, the average age of an active user of Internet resources is 25 – 34 years. The audience of Internet sites is growing daily. A new culture of searching for services and purchasing goods is being formed by a viral effect. It becomes difficult and expensive to attract a client to a store, a salon, an exhibition pavilion (rent, renovation, salaries, exhibition goods, advertising, etc.). But

90% of consumers will first of all look for an answer to their question on the Internet. Without leaving home, you can find goods and services, find out the cost, get answers. The time of markets, small retail outlets is passing away. Customers are well aware of all the disadvantages of going to shops and markets, they are increasingly moving to orders and purchases via the Internet and social networks.

It was proposed the guide which would show how to build a digital strategy that will help the company «Moidodyr» increase furniture sales. It was proposed to build a strong brand of the company «Moidodyr» identity that makes its furniture – and the spaces they create – easy to remember. To really make a stand-out impression, they need to use 3D, augmented reality, and virtual reality tools to help prospective customers get up close and personal with products.

Thus, we offered the company «Moidodyr» to leverage its social media platforms. Invite customers to participate in surveys or to share their favorite photos showcasing your products in their homes. Consider offering personalized discounts or promotional offers as a perk of being connected to company "Moidodyr".

Websites, social media, email lists – all promoting dozens or even hundreds of products and variants across multiple product lines. That's a lot of information to collect, store, and distribute. The best way to manage all that data of the company "Moidodyr" is to adopt a product information management platform. It can be done during integration of CRM and social media, named Social CRM.

Social CRM or social customer relationship management is the integration of social media channels into Customer Relationship Management (CRM) platforms. Increasingly, CRM platforms support social media alongside traditional channels so customers can interact with businesses via their preferred channels. This means better customer service and greater marketing insight gathered from customer social media data.

The Social Media phenomenon is forcing organizations to build a more customer-centered focus. The use of Social Media tools is driving organizations to leverage Social Media information. Social Media information is being used extensively for organizations' CRM efforts.

Integration of CRM with social media allows preventing the loss of leads and processing all incoming requests. View detailed reports on company processes in real time. Correct the work of managers and optimize the internal processes of the enterprise.

A detailed analysis of possible suppliers of the CRM system showed that there are not so many social CRM systems. Therefore, we have chosen and offered to cooperate with the company «Moidodyr» is the company Qsystem and its QsystemCRM.

This system has the following peculiarities:

1. Orders are taken from all sources.
2. All work and processes in one window.
3. Integration with delivery services.

According to our calculations, the NPV of the project is positive at two discount rates and three forecasts. According to the pessimistic forecast, the payback period of the project is 1.5 year. According to the realistic forecast, the payback period of the project is 1.1 year. According to the optimistic forecast, the payback period of the project is less than 1 year. Thus, this project is cost-effective and can be recommended for implementation.

REFERENCES

1. A winning operating model for digital strategy. URL: <https://www.mckinsey.com/business-functions/mckinsey-digital/our-insights/a-winning-operating-model-for-digital-strategy>.
2. Ballou R. Business logistics/supply chain management. fifth ed. Pearson Education, Inc; Upper Saddle River, NJ: 2004. [Google Scholar]. URL: https://scholar.google.com/scholar_lookup?title=Business+logistics/supply+chain+management&author=R.+Ballou&publication_year=2004&.
3. Bitkom: Cloud Computing: Evolution of Technology, Revolution of Business, 2009. URL: http://www.bitkom.org/files/documents/BITKOM-Leitfaden-CloudComputing_Web.pdf.
4. Burckert, H. J. Fischer, K. Vierke, G. TeleTruck: A Holonic Fleet Management System. URL: <http://citeseer.ist.psu.edu/76560.html>.
5. Cichosz M., Wallenburg C.M., Knemeyer A.M. Digital transformation at logistics service providers: barriers, success factors and leading practices. URL: <https://www.emerald.com/insight/content/doi/10.1108/IJLM-08-2019-0229/full/html>.
6. CRM for Logistics – First Freight CRM. URL: <https://www.slideshare.net/FirstFreightCRM/introducing-first-freight-crm-for-2019>.
7. Customer Lifetime Value (CLV or LTV). URL: <https://www.klipfolio.com/resources/kpi-examples/saas-metrics/customer-lifetime-value>.
8. Data Management Platform – важнейший инструмент современного digital-маркетинга. URL: <http://www.cossa.ru/152/57721/>.
9. Digital-marketing-framework. URL: <https://fiskerconsulting.com/see-think-do-eller-race-sostac/digital-marketing-framework/>.
10. Digitization of the Furniture Industry – Walk towards future. URL: <https://www.iamdave.ai/blog/transition-of-the-furniture-industry-towards-the-digital-era/>.

11. Długosz, J., 2010. Strategic nature of the logistics customer service in the supply chain. *LogForum* 6, 1, 2. URL: <http://www.logforum.net/vol6/issue1/no2>.
12. Felix R., Rauschnabel P.A.; Hinsch C. Elements of Strategic Social Media Marketing: A Holistic Framework". *Journal of Business Research*. 70: 118–126. URL: <https://www.sciencedirect.com/science/article/abs/pii/S0148296316302843?via%3Dihub>.
13. Fischer, K. Muller, J. P. Pischel, M.: Cooperative Transportation Scheduling: An Application Domain for DAI. *Applied Artificial Intelligence*, Vol. 10, 1996, pp. 1-33.
14. Furniture Marketing Strategy: How to Increase Sales & Revenue. URL: <https://www.plytix.com/blog/furniture-marketing-strategy>.
15. Gruer, P. Hilaire, V. Kozlak, J. Koukam, A.: A Multi-Agent Approach to Modelling and Simulation of Transport on Demand Problem. In: J. Soldek, L. Drobiazgiewicz (Eds.): *Artificial Intelligence and Security in Computing Systems*, The Kluwer International Series In Engineering And Computer Science 752, 2003.
16. Harrison A., van Hoek R. *Logistics management [Zarządzanie logistyką]*, PWE, Warszawa, 2010. 303 p.
17. Hart S. Social customer relationship management – from customer to friend. URL: https://www.researchgate.net/figure/Social-CRM-Process-from-Jacob-Morgan-Morgan-Chan-and-Mackenzie-2011_fig4_267266211.
18. Hilaire, V.: *Vers Une Approche de Spécification. De Prototypage et de Vérification de Systèmes Multi-Agents*. Ph. D. thesis, UTBM, 2000.
19. Holweg M., Disney S., Holmstrom J., Smaros H. Supply chain collaboration: making sense of the strategy continuum, *European Management Journal*, 2005, 23(2). P. 170-181.
20. How can logistics and supply chain benefit from social media? URL: <https://www.morethanshipping.com/can-logistics-supply-chain-benefit-social-media/>.
21. How customer behaviour is driving digital transformation. URL: <https://www.furniturenews.net/resources/articles/2018/11/1528981154-how-customer-behaviour-driving-digital-transformation>.

22. How is Digitalization Restoring the Furniture Industry? URL: <https://blog.enomyc.com/en/how-is-digitalization-restoring-the-furniture-industry-joerg-balz>.

23. How to Build a Great Customer Experience & Double Your Sales. URL: <https://articles.cyzerg.com/how-to-build-a-great-customer-experience/>.

24. How to build a marketing strategy for furniture businesses [2021 edition]. URL: <https://www.cadesignform.com/blog/furniture-marketing-strategy>.

25. How to Communicate With Customers in a Digital Environment. URL: <https://www.liveadmins.com/blog/how-to-communicate-with-customers-in-a-digital-environment/>.

26. How to create a super-optimized supply chain. URL: <https://abcsoftwork.blog/how-to-create-a-super-optimized-supply-chain/>.

27. How the furniture trade is moving into the digital age. URL: <https://www.lead-innovation.com/english-blog/furniture-trade>.

28. Innis D.E., LaLonde B.J. Customer service: the key to customer satisfaction, customer loyalty, and marketshare. *Journal of Business Logistics*. 1994;15(1) [Google Scholar]. URL: https://scholar.google.com/scholar_lookup?journal=Journal+of+Business+Logistics&title=Customer+service:+the+key+to+customer+satisfaction,+customer+loyalty,+and+marketshare&author=D.E.+Innis&author=B.J.+LaLonde&volume=15&issue=1&publication_year=1994&.

29. Jonkers H. Bridging BPM and MDE: On the Integration of BiZZdesigner and OptimalJ. URL: https://www.researchgate.net/publication/228528544_Bridging_BPM_and_MDE_On_the_Integration_of_BiZZdesigner_and_OptimalJ.

30. Kocaoğlu B. Process development in customer order information systems to gain competitive advantage: A SME case study. URL: https://www.researchgate.net/publication/288992657_Process_development_in_customer_order_information_systems_to_gain_competitive_advantage_A_SME_case_study.

31. Kozlak J., Créput J.-C., Hilaire V., Koukam A. Multi-Agent Environment for Modelling and Solving Dynamic Transport Problems. URL:

https://www.researchgate.net/figure/Multi-agent-system-model-structure-and-main-interactions_fig1_220106271.

32. Leverage Social Media Information to Advance Your Social CRM Efforts. URL: <https://ismguide.com/leverage-social-media-information-to-advance-your-social-crm-efforts/>.

33. Logistics customer services. URL: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7563975/>.

34. Lund J. How Digital Transformation is Driving Customer Experience. URL: <https://www.superoffice.com/blog/digital-transformation/>.

35. Lytvyn A.V., Karpun O.V. Increasing efficiency of relations with company's customers on the basis of logistics // Проблеми підготовки професійних кадрів з логістики в умовах глобального конкурентного середовища: 16 міжнародна науково-практична конференція, 267-27 жовтня 2018 р.: тези доп. К.: НАУ, 2018. С. 248-250.

36. Malthouse E. Managing Customer Relationships in the Social Media Era: Introducing the Social CRM House. URL: https://www.researchgate.net/publication/259143426_Managing_Customer_Relationships_in_the_Social_Media_Era_Introducing_the_Social_CRM_House.

37. Managing the customer service chain and CRM. URL: <http://cdn.ttgtmedia.com/searchCRM/downloads/chapter-CRM2-6-16.pdf>.

38. McQuitty, S., Hyman, M., Oliver, R., Sautter, P., & Stratemeyer, A., 2004. Service variability and its effect on consumer perceptions and intentions. Working Paper. URL: https://www.researchgate.net/publication/258935375_Service_variability_and_its_effect_on_consumer_perceptions_and_intentions_Working_Paper.

39. Neagu, N. Dorer, K. Calisti, M.: Solving Distributed Delivery Problems with Agent-Based Technologies and Constraint Satisfaction Techniques. Dist. Plan and Schedule Management, 2006 AAAI Spring Symp., The AAAI Press, USA.

40. Neagu, N. Dorer, K. Greenwood, D. Calisti, M.: LS/ATN: Reporting on a Successful Agent-Based Solution for Transport Logistics Optimization. Proceedings

of IEEE 2006 Workshop on Distributed Intelligent Systems (WDIS), June 15–16, 2006, Prague, Czech Republic.

41. Oberländer J., Franczyk B. Cloud-based Cooperation of Logistics Service Providers in Logistics Cluster Organisations. URL: https://pdfs.semanticscholar.org/62c9/679bd4af7ac30f30e8c356b603c52ea537eb.pdf?_ga=2.29017404.1067456801.1588775252-2026700440.1588775252.

42. Official website of the company Moidodyr. URL: <https://Moidodyr.com.ua/sale-products/>.

43. Official website of the company Qsystem. URL: <https://qsystem.com.ua/>.

44. Official website of the State Statistics Service of Ukraine. URL: <http://www.ukrstat.gov.ua/>.

45. Partridge A. Managing a customer-driven supply chain, inbound logistics. December. 2010;15:2010. URL: <https://www.inboundlogistics.com/cms/article/managing-a-customer-driven-supply-chain/>.

46. Polo F. Social Business: the SMM evolution. URL: <https://www.slideshare.net/abladias/social-business-the-smm-evolution-sao-paulo-eshow>.

47. Pulizzi J, Barrett N. Get Content Get Customers"-Turn Prospects into Buyers with Content Marketing. NSB Management Review. 2 (2): 98–100. URL: https://www.researchgate.net/publication/301224579_The_Art_of_Feedback_An_Int_erpersional_Transaction.

48. Smith, R. G.: The Contract Net Protocol: High-Level Communication and Control in a Distributed Problem Solver. IEEE Transactions on Computer, Vol. C-29, December, 1980, pp. 1104-1113.

49. SMM для проектов с узконаправленной тематикой. URL: <https://www.seonews.ru/analytics/smm-dlya-proektov-s-uzkonapravlennoy-tematikoy/>.

50. Social CRM in Pictures....and Words. URL: https://crm2.typepad.com/brents_blog/2008/07/social-crm-in-p.html.

51. The digital transformation of customer services. URL: <https://www2.deloitte.com/content/dam/Deloitte/nl/Documents/technology/deloitte-nl-paper-digital-transformation-of-customer-services.pdf>.

52. The Free Electronic Encyclopedia Wikipedia. URL: <https://en.wikipedia.org/wiki>.

53. The Role of CRM in Logistics Companies' IT Strategies. URL: <https://www.crmbuyer.com/story/73997.html>.

54. What is Social CRM? URL: <https://www.salesforce.com/eu/learning-centre/crm/social-crm/>.

55. What is a Social CRM Strategy. URL: <https://doblegroup.com/what-is-a-social-crm-strategy/>.

56. Бондаренко Н., Удалих Д. Дослідження стану розвитку меблевої промисловості України в сучасних умовах господарювання. URL: <https://galicianvisnyk.tntu.edu.ua/pdf/68/948.pdf>.

57. Васильців Н.М., Рожко Н.Я. Сучасні тренди digital-маркетингу. URL: http://economyandsociety.in.ua/journal/15_ukr/36.pdf

58. Вплив COVID-19 та карантинних обмежень на економіку України. URL: <https://www.kas.de/documents/270026/8703904>.

59. Гайда С.В. Основи формування класифікатора вторинних деревинних ресурсів / С.В. Гайда // Наукові праці Лісівничої академії наук України. 2013. Вип. 11. с. 209-216.

60. Гращенко І.С., Делікатна Л.М. Стратегія забезпечення інноваційно-інвестиційного розвитку підприємства в умовах невизначеності. URL: http://journals.khnu.km.ua/vestnik/pdf/ekon/2010_6_3/031-034.pdf.

61. Григорьев М. Цифровая трансформация бизнеса: как и зачем меняются в digital-эру. URL: <https://vc.ru/flood/42092-cifrovaya-transformaciya-biznesa-kak-i-zachem-menyatsya-v-digital-eru>.

62. Дані Державної служби статистики в Україні про кількість суб'єктів господарювання за видами економічної діяльності. URL:

http://www.ukrstat.gov.ua/operativ/operativ2018/fin/pssg/pssg_u/ksg_ek_2010_2019_ue.xlsx.

63. Дані Державної служби статистики в Україні про обсяг промислової продукції, реалізованої за межі країни, за видами діяльності. URL: http://www.ukrstat.gov.ua/operativ/operativ2013/pr/orp/orp_u/orp0619_u.htm.

64. Дані Державної служби статистики в Україні про обсяг реалізованої продукції (товарів, послуг) суб'єктів господарювання за видами економічної діяльності. URL: http://www.ukrstat.gov.ua/operativ/operativ2018/fin/pssg/pssg_u/orpsg_ek_2010_2019_ue.xlsx.

65. Дерев'яні іграшки. Як українські меблі підкорюють ринки Європи і не тільки. URL: <https://biz.nv.ua/ukr/markets/ukrajinski-mebli-viyshli-na-svitovi-rinki-yak-i-zavdyaki-chomu-novini-ukrajini-50141104.html>.

66. Дорожня карта конкурентоспроможного розвитку української меблевої промисловості. Європейський банк реконструкції та розвитку. Травень 2018. URL: <https://uafm.com.ua/wp-content/uploads/2018/07/dorozhnya-karta-dlya-rozvytku-meblevogo-sektoru-ukrayiny.pdf>.

67. Журавлев А. Цифровая трансформация-2019: основные факты и тренды. URL: <https://www.itweek.ru/digitalization/article/detail.php?ID=203643>.

68. Интеграция CRM и Google Analytics. URL: <https://odesseo.com.ua/service/integraciya-crm-i-google-analytics/>.

69. Интеграция CRM с сайтом – как сделать и зачем. URL: <https://crm.ru/blog/integratsiya-crm-s-saytom/>.

70. Исследование спроса на мебель в 2019-2020. URL: <https://sostav.ua/publication/issledovanie-sprosa-na-mebel-v-2019-2020-gg-88227.html>

71. Как интернет влияет на продажу мебели и фурнитуры. URL: <https://www.thinkwithgoogle.com/intl/ru-ru/marketing-strategies/search/online-furniture/>.

72. Карпунь, О.В. Підвищення ефективності відносин з клієнтами компаній на засадах логістики / О.В. Карпунь // International Scientific-Practical Conference

from Baltic to Black Sea: National Models of Economic Systems: Conference Proceedings, March 25, 2016. Riga: Baltija Publishing. P.108-111.

73. Керімова Л.Р. Аналіз ринку меблів України та виявлення основних тенденцій його розвитку. URL: <https://cdn.hneu.edu.ua/rozvitok19/thesis02-22.html>.

74. Кійко О.А. У пошуках принца або три історії про виробництво меблів в Україні / О.А. Кійко // Мебельное дело. 2017. № 1. с. 16-19.

75. Костюк Г. В. Розвиток підприємницької діяльності на ринку меблів України. Ефективна економіка. 2013. № 12. URL: <http://www.economy.nauka.com.ua/?op=1&z=2616>.

76. Меблевий бізнес в Україні. Особливості національного ринку. URL: <https://gordonua.com/ukr/news/business/-meblevij-biznes-v-ukrajini-osoblivosti-natsionalnogo-rinku-196595.html>.

77. Михайлов А. Стратегия цифровой трансформации бизнеса. Что может сделать ИТ-директор? URL: <https://globalcio.ru/discussion/10292/>.

78. Никоноров С. Что такое цифровая трансформация? URL: <http://it.uray.ru/chto-takoe-cifrovaja-transformacija/>.

79. Огляд ринку меблів в Україні: тенденції розвитку. URL: <https://rubarbs.com/ua/article/oglyad-rinku-mebliv-v-ukraini-tendentsii-rozvitku>.

80. Остапчук А.Г., Карпунь О.В. Формування електронної системи комплексного логістичного обслуговування клієнтів // Професійний менеджмент у сучасних умовах розвитку ринку: X науково-практична конференція з міжнародною участю, 1 листопада 2021 р.: тези доп. X.: Вид-во Іванченка І. С. 2021. С. 389-392.

81. Пять рекомендаций для омниканального контент-маркетинга. URL: <https://lpgenerator.ru/blog/2019/08/22/5-rekomendacij-dlya-omnikanalnogo-kontent-marketinga/>.

82. Романенко О.О. Використання системи цифрового маркетингу для ефективного впровадження маркетингових стратегій підприємствами харчової

промисловості / О. О. Романенко // Науковий вісник Херсонського державного університету. Сер. : Економічні науки. 2016. Вип. 21(2). С. 98-103.

83. Россети представили целевую модель цифровой трансформации компании: подробности проекта. URL: <http://integral-russia.ru/2019/12/17/rosseti-predstavili-tselevuyu-model-tsifrovoj-transformatsii-kompanii-podrobnosti-proekta/>.

84. Сухицький В. Меблева індустрія України та Світова економічна криза 2020. URL: <https://svdesign.com.ua/3200-2>.

85. Сухицький В. «Точка обнулення» Український Меблевий Бізнес 2020. URL: <https://svdesign.com.ua/tochka-obnulennja-ukrainskij-meblevij-biznes-2020>.

86. Сухицький В. «Фактор зростання» меблевого бізнесу України в 2020-2025 рр. URL: <https://svdesign.com.ua/faktor-zrostannja-meblevogo-biznesu-ukraini-v-2020-2025-rr>.

87. Уварова Г. Эффективная работа с клиентами – стратегический фактор развития компании. URL: <https://www.eg-online.ru/article/191165/>.

88. Федак М. 5 элементов цифровой трансформации. URL: <https://industry4-0-ukraine.com.ua/2019/08/20/5-elements-of-digital-transformation/>.

89. Хитров С. Рынок мебели. URL: <https://hooglink.com/rynok-mebeli/>.

90. Цифровая трансформация – реальность мебельного бизнеса. URL: <https://handler.by/blog/mebel-tekhnologii/tsifrovaya-transformatsiya-realnost-mebelnogo-biznesa-32/>.

91. Цифровая трансформация – российская специфика. URL: <https://koptelov.info/digital-transformation/>.

92. Что такое цифровая трансформация? (Модное словечко или необходимое зло?). URL: <https://www.affde.com/ru/digital-transformation-8.html>.

APPENDIX A

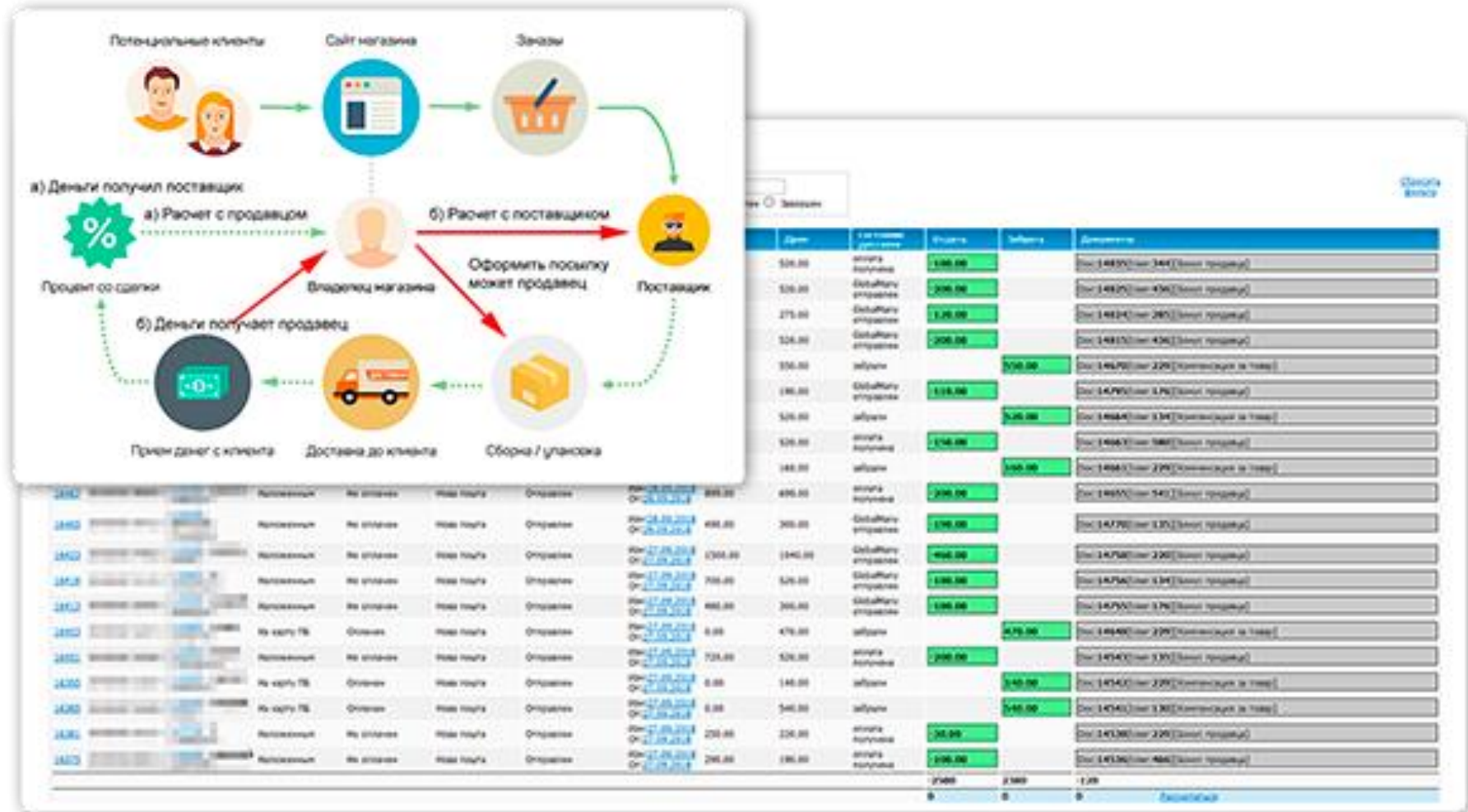
An example of collecting orders from different sources in CRM Qsystem

The image displays a CRM Qsystem interface with a sidebar of e-commerce platform logos and a main window showing a list of orders. The sidebar includes logos for 1С-БИТРИКС, Shop-Script, WooCommerce, opencart, and albiz. The main window shows a table of orders with columns for ID, Description, Date, Status, Amount, and Date. A red watermark 'Обмен товарами и заказами' is overlaid on the table.

ID	Описание	Дата	Статус	Сумма	Дата	Сумма	Состояние заказа	Состояние
7123456	На карту ГП	Новая посылка [Магас]	Предварительный Новый	1341.00	Имя: 25.11.2015 От: 03.11.2015	3164.00	позачей-2	С- SMS- неизвестно
7123456	На карту ГП	Новая посылка [Магас]	Предварительный Новый	3164.00	Имя: 10.10.2015 От: 03.11.2015	6036.00	позачей-5	С- SMS- неизвестно
8414079	На карту ГП	Новая посылка [Магас]	В накладе	903.00	Имя: 20.08.2015 От: 10.08.2015	4065.00	позачей-3	С- SMS- неизвестно
8414079	На карту ГП	Новая посылка [Магас]	Закрыт	4065.00	Имя: 20.08.2015 От: 10.08.2015	4425.00	позачей-3	С- SMS- неизвестно
8414079	На карту ГП	Новая посылка [Магас]	Исполнен	4065.00	Имя: 20.08.2015 От: 10.08.2015	4270.00	позачей-3	С- SMS- неизвестно
8495826	На карту ГП	Курьером	Заказ	4270.00	Имя: 12.11.2015 От: 10.04.2015		позачей-3	С- SMS- неизвестно

APPENDIX B

An example of dropshipping in CRM Qsystem



APPENDIX C

An example of integration with delivery services in CRM Qsystem

НОВА ПОШТА

УКРПОШТА

ІНТАЙМ
національна служба доставки
В розробці

TurboSMS™

Статусы Новой почты

Статусы создания декларации и отправка sms клиенту

Номер декларации

Дата	Сума	Статус	Комментарий
Июн 25 11 2015 От 25.11.2015	2511.00	Отправлен	Службный
Июн 25 11 2015 От 25.11.2015	345.00	Отправлен	Службный
Июн 25 11 2015 От 25.11.2015	229.00	Отменен	Службный телефон
Июн 25 11 2015 От 25.11.2015		Отправлен	Службный На карту ГЕ 00450006773054
Июн 25 11 2015 От 25.11.2015	67.00	Укомплектован	Службный
Июн 25 11 2015 От 25.11.2015	205.00	Отправлен	ком подарок Службный ком