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MASTER THESIS

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Київ 2023

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

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1. Theme of the master thesis: «Strategic management of automobile dealership center distribution channels» was approved by the Rector Directive №1952/CT. of September 27, 2023.

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3. Date of submission work to graduation department: December 10, 2023.

4. Initial data required for writing the thesis: general and statistical information about car distribution market in Ukraine, information of the company «Toyota Center Kyiv Avtosamit», production and financial indicators of the company «Toyota Center Kyiv Avtosamit», literary sources on logistics and customer service process, Internet source.

5. Content of the explanatory notes: introduction, the essence of the distribution channels; the specifics of logistics in the car dealership distribution; macroeconomic conditions in the Ukrainian Toyota dealerships market; analysis the activity of the company «Toyota Center Kyiv Avtosamit»; identification of weaknesses in the distribution channels; application of automation of distribution processes in the car dealership company; construction of the strategic development process; implementation of the automation system as part of the dealership channels in spare parts supply; 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	02.10.23-18.10.23	Done
2.	Collection of statistical data, timing, detection of weaknesses, preparation of the first version of the analytical chapter	19.10.23-09.11.23	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	10.11.23-30.11.23	Done
4.	Preparing the final version of the master thesis, checking by standards inspector	01.12.23-08.12.23	Done
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6.	Submission work to Logistics Department	10.12.23	Done

Graduate _____
(signature)

Supervisor of the master thesis _____
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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, Molchanova K.M.	02.10.23	02.10.23
Chapter 2	Associate Professor, Molchanova K.M.	19.10.23	19.10.23
Chapter 3	Associate Professor, Molchanova K.M.	10.11.23	10.11.23

9. Given date of the task October 02, 2023.

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Task accepted for completion: _____
(signature of graduate)

Onisimchuk M.V.
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ABSTRACT

The explanatory notes to the master thesis «Strategic management of automobile dealership center distribution channels» comprises of 103 pages, 21 figures, 21 tables, 1 appendix, 63 references.

KEY WORDS: LOGISTICS, DISTRIBUTION CHANNELS, CAR DEALERSHIP, CHANNEL MANAGEMENT, AUTOMATION OF DISTRIBUTION.

The basic principles of distribution channels in dealership centers are considered in the master thesis.

The purpose of the research is to study the theoretical foundations and problems of managing distribution channels in car dealership companies and to develop project recommendations for strategic management of spare parts procurement system in the logistics channels of the car dealership.

The subject of the investigation is the reengineering of logistics processes in distribution chains of the car dealership company «Toyota Center Kyiv Avtosamit ».

The object of the research is the logistics processes in distribution chains of the car dealership company «Toyota Center Kyiv Avtosamit ».

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

ADP	– Automation of Distribution Processes
CCI	– Consumer Confidence Index;
CRM	– Customer Relationship Management
CSR	– Corporate Social Responsibility;
DMS	– Dealership Management System
EOQ	– Economic Order Quantity;
GDP	– Gross Domestic Product;
IRR	– Internal Rate of Return
LCV	– Light Commercial Vehicles
MIS	– Marketing Information System
MRP	– Material Resource Planning
NPV	– Net Present Value
NSC	– National Sales Company
OEM	– Original Equipment Manufacturer
PC	– Private Cars
PPI	– Producer Price Index;
RDC	– Regional Distribution Center;
RFID	– Radio Frequency Identification;
ROA	– Return On Assets
ROE	– Return On Equity
ROS	– Return On Sales
SBU	– Strategic Business Unit
TASS	– Toyota Authorized Service Station
TPS	– Toyota Production System
VMS	– Vertical Management System

INTRODUCTION

In wartime, preserving and rebuilding infrastructure can be crucial, as it is required for the operation of businesses and the state as a whole. Under the influence of the COVID-19 coronavirus pandemic, and in February 2022, in the conditions of military aggression, reformatting of intercompany relations of enterprises, management, and their marketing strategy will undergo significant changes.

COVID-19 gave impulse to the further digitization of the economy of Ukraine and caused the turbulent and innovative nature of its development, which was reflected in the production and sales and marketing activities of enterprises, the basis for which also became powerful technological changes in the creation of a digital space for information storage, processing and transmission; innovations in the field of mobile Internet, collection and processing of large data sets (automation of information processing), cloud technology, Internet of Things and robotics. The mentioned changes had a powerful impact on the economic environment, requiring business entities to be more flexible, to form new inter-firm relationships, and to take proactive and adaptive measures for further collaboration.

The state of a country's infrastructure determines its ability to offer services and sustain economic success. Infrastructure is linked to developing nations' productivity and future development. Overcoming the inefficiencies and cost burdens imposed by inefficient infrastructure is a difficulty for developing countries and countries in transition when a lack of suitable infrastructure has become a barrier to overall economic development. However, if infrastructure development is not connected with a country's economic, industrial, social, and environmental interests, it will not contribute to sustainability and future growth.

In the conditions of a modern market economy, the efficiency of a company's activity largely depends on the level of development of its material and technical infrastructure. In order for the company to earn more profit and maintain a competitive position in the market of goods and services, it needs a well-developed

logistics infrastructure as the basis for all necessary logistics processes and operations related to material and other related flows.

Businesses operating internationally face unique challenges in effectively managing their operations. Strategic management of this activity involves the development and implementation of plans that ensure the achievement of the company's goals, taking into account the unique cultural, political and economic environment in which it operates.

Another challenge for Ukrainian enterprises was the organization of work in conditions of active hostilities, relocation or creation of a new business. The issue of setting up effective logistics to recreate supply chains and physical distribution was on the agenda. Under the influence of these challenges, the transformation of marketing as a strategic tool of market business, as well as management tools, took place. This process is natural, taking into account the fact that most business transactions take place in the online space or using it. It is important that the digitalization of marketing and business in general helped our Ukrainian enterprises to quickly adapt and adjust their work in the conditions of martial law.

Therefore, the topic of improving logistics infrastructure and distribution channels of enterprises is relevant and has the potential to improve the overall efficiency of the enterprise and its contribution to the country's economy.

The degree of complexity of the topic in the scientific literature. The topic of managing the logistics infrastructure of enterprises is very relevant in scientific sources. The level of research on the organization of distribution systems is currently under development in both theory and practice. Research in this area is focused on the method and implementation of strategies, methods and instruments for the effective management of distribution channels with the aim of ensuring the efficiency of logistics processes in the fields of the following scientists: Hryhorak M.Y., Kostyuchenko L.V., Jay Heizer. (2017), F. V. Cespedes (1990), McCammon, B. (1975), Morgan, R. M. (1999), Hunt, Shelby and John Nevin (1974), Julian Dent (2008), Charles A. Ingene. (2019), John Burnett (2011) and others.

Today there are many scientists who study the topic of coordination in the enterprise, such as: Spyra Z (2007), Christopher M. (1999), Levy M., Womack J., Jones D. (1996), Garbarski L., Rutkowski I. (2001), Wrzosek W. However, the issue directly related to the problems of distribution in the automotive market was considered only by few foreign researchers and only partially. Given that the distribution process is extremely relevant for any company, including logistics department, this topic was chosen as the topic of the bachelor's thesis.

Strategic management of distribution channels in the modern business environment is an integral element of the innovative model of any effective business organization. The use of marketing strategies in practical activities is a long-term prerequisite. In general, the study of the implementation of innovative activities as a factor in the simplification of logistics operations and the post-war recovery of Ukraine may be useful for the development of strategies to support innovative enterprises and state policy in the future. Innovations can become a key factor in the recovery of Ukraine's economy after the war. It is the development of new technologies, products and services that will help enterprises to increase productivity, restore supply chains and increase competitiveness, which in turn will lead to the growth of distribution channels and increased company profits. Innovative activity could become an incentive for the development of entrepreneurship and attracting investments to Ukraine. New technologies and products will attract the attention of foreign investors and become a factor in attracting new investments to the country's economy. Innovative projects can become a tool for strengthening distribution channels and strategic development of dealer companies.

However, it should be noted that the topic is still developing, and it is possible that some aspects have not yet been properly investigated. For a full evaluation of the degree of research on the topic, it is recommended to conduct a detailed search and analysis of scientific journals, such as scientific articles, confessional reports, dissertations and other publications dedicated to this topic.

The goal and task of the qualification work is to review the theoretical provisions and generalize practical recommendations regarding the management of

the distribution channels of the automobile distribution enterprise, taking into account the current conditions.

The object of the thesis is the distribution process between the divisions in the supply chain of the car dealership Toyota Center Kyiv “Avtosamit”.

The subject of research is the choosing, organization and control of the distribution channel system.

Methods of research in the work are SWOT analysis of internal and external factors influencing the company, financial analysis of the company and their operational indicators, comparison with competitors in the Ukrainian market. This paper uses expert evaluation method, and weighted-factor rating method.

CHAPTER 1

STUDY OF THE THEORETICAL FOUNDATIONS OF DISTRIBUTION ACTIVITY

1.1 Theoretical foundations of the organization of product distribution

Significant progress has been achieved in our comprehension of behavioural linkages within distribution channels subsequent to the initial significant empirical research released in this field in the early 1970s (El-Ansary and Stern 1972; Hunt and Nevin 1974; Lusch 1976; Rosenberg and Stern 1971 [39-42]). The amassed understanding regarding the origin and utilization of inter-firm power, the facilitation of control within the channel relationship, and the foundation of intrachannel conflict and channel member satisfaction is commendable. Recent endeavours to enhance our comprehension of the development of robust, enduring channel relationships—embracing the influence of trust, commitment, and relational norms on channel interaction — merit attention. (Anderson and Narus 1990; Anderson and Weitz 1992; Heide and John 1992; Morgan and Hunt 1999 [43-46]). In addition, some progress has been made in understanding of organizational decisions related to vertical integration, the use of multichannels, distribution complex, and bureaucratic structure (John and Weitz 1988; Dwyer and Welsh 1985; Frazier and Lassar 1996; Fein and Anderson 1997 [47-50]).

Numerous significant managerial concerns related to the organization and administration of distribution channels remain unexplored in empirical channel research. Some of the most crucial issues include:

- 1) determining resource allocation to channels in global product markets;
- 2) delineating how functions are divided among channel members;
- 3) identifying the appropriate blend of push and pull strategies for firms utilizing indirect channels;

- 4) establishing the timing and methods for utilizing the Internet as a sales-distribution channel;
- 5) addressing how coordination is achieved among distributors within integrated supply networks;
- 6) examining how goals are established, plans are formulated, and performance is evaluated among channel members; and
- 7) defining the operational strategies for distributors.

Global business trends, such as market fragmentation, diminishing barriers to competition, one-stop shopping programs in consumer and business markets, industry consolidation, and the rapid adoption of new technologies, are amplifying the significance of these management concerns and the imperative for their investigation. Any business trend affecting customer preferences for products and services, as well as the ability of channel members to effectively serve end customers, will invariably impact the organization and management of distribution channels. In the 19th century, there was clear evidence of vertical integration in marketing as large-scale dry goods wholesalers emerged and department stores began to rise. These department stores were engaged not only in wholesaling, but also in the production of many of the goods they offered, operating in both retail and wholesale. Remarkably, they were practicing vertical integration even prior to manufacturers.

The issue of "make or buy" in production has been extensively analyzed in the field of economics [6,55,56]. The integration of marketing functions within the vertical channel poses a more intricate aspect of decision-making. When it comes to mergers and acquisitions, corporate restructuring plays a significant role in the process of vertical integration within distribution channels [57]. The company's decisions on the type of distribution channel are considered in two structural systems: vertical and horizontal. In the vertical structure, there are a number of dependencies between the companies involved and decisions are made on the number of different levels of flows. The horizontal structure determines the number and type of intermediaries at specific levels.

In distribution channel a number of intermediaries is important who participate in the transfer of goods and property rights to it from the producer to the final client. Each of these participants becomes another level in the distribution channel and their number determines the length of the channel. The vertical structure of distribution channels and its length was defined by Z. Spyra (2007) in his work as the following determinants:

- expectations of final customer;
- features of a product;
- the financial capacity of an enterprise that is making the decision;
- organizational and legal conditions for distribution. [23]

The company that cooperates with intermediaries is faced with the choice of one of the three systems with different levels of authority, shown in Figure 1.1.

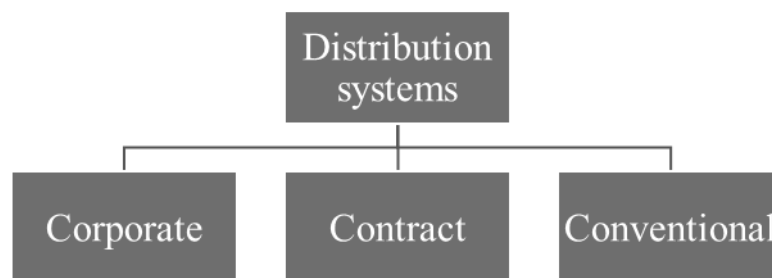


Figure 1.1 – Levels of distribution systems

At the stages of creation and development of organizational units of the company uses the corporate system. In this structure, the manufacturer is the owner of the channel system, which relies only on him. In this vertically-oriented system, the manufacturer must provide financial and human capital. The contract system is a fairly new concept in Ukraine. Its most popular form is called franchising, which is one of the fastest growing distribution sectors. According to M. Christopher, the contract system can be divided into:

- franchising of product names;
- franchising business format. [24]

The first approach is mostly focused on distribution of a product where a given company is given rights to sale goods or services in a particular segment of a market using trade name (e.g. car dealers). The second type of franchising is based on the right to offer products under contract on a particular market with proper commercial forms, including sales, service and quality control. In this system all the time franchiser has control over the entire distribution channel.

In an economy with a high level of mass distribution, markets become less dependent on the “supply-demand” forces. Nowadays markets are more cooperative and organized. Highly developed distribution channels expand in various sectors like grocery stores, electronics, fast-food, automobile production. Such channels require high levels of cooperation and coordination between links to organize proper in time delivery of the product.

Each channel member needs to deal with company’s policies to be in accordance with control indexes and in order to increase performance and reduce waste of the production. The prior goal of the distribution channel is simplification. It is necessary to eliminate unnecessary agreements, daily transactions that require approval and create long term relations between links.

McCammon in his works (1970,1975 [51,52]) defined the main principles of marketing in the distribution channels. He defined channel as an interorganizational system which is capable of better managing, planning, controlling and capital intensive processes. These channels were called vertical marketing system (VMS). McCammon integrated this term in 1960s (McCammon and Bates 1965 [53]). In their work VMS was indicated as the main force of distribution and can change the economy in general

Despite the contributions of other pioneering leaders in presenting marketing from a systems perspective (e.g., Alderson, 1957 [54]), he was the first to articulate the need to study channels. From a systemic point of view, he proposed a taxonomy of vertical marketing systems. These vertical arrangements, called corporate, contractual, and managed interorganizational channels, have proven conceptually sound and attractive to distribution channel researchers. Establishing regular

transactions is one of the tasks of the channel, especially within a vertical marketing system (presented in Figure 1.2).

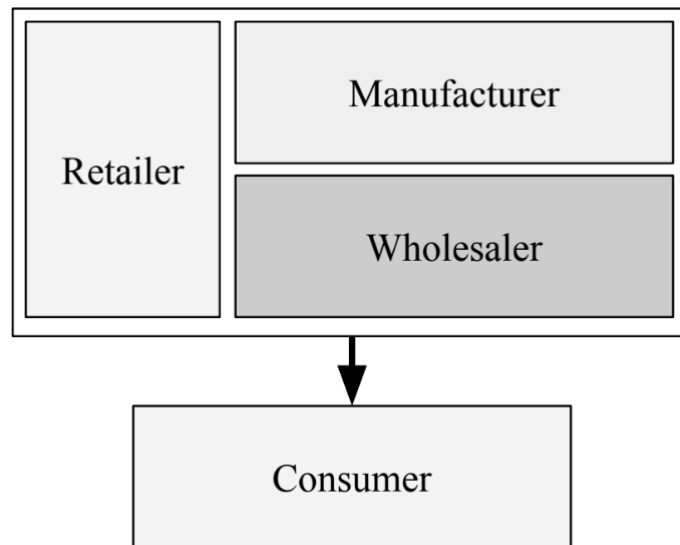


Figure 1.2 - Vertical marketing system scheme

McCammon's perspective on VMS incorporates the "principle of total least cost," a fundamental concept that originated in the operations research field in the late 1950s. This principle serves as a pivotal element in integrated logistics, radically revolutionizing the realm of logistics and becoming a significant focal point for corporations during the 1960s. Fundamentally, the principle of total least cost posits that a higher-cost activity, when executed by the same distribution level, can effectively reduce total channel costs through cost interdependence and trade-off. As an illustration, one channel member, possessing the requisite expertise and superior position within the channel, can undertake display advertising at a lower cost compared to numerous other members involved in the task.

Distribution channels can be defined as marketing channels or market channels. The basic definition of the logistics distribution is given in the Cambridge dictionary as the process of giving things out to several people or spreading or supplying something [8]. A distribution channel is a group of dependent on each other organization units, which are taking part in process of flow of products or services form producers to buyers.

The functional aspect of the distribution channel is seen as a way to connecting and ordering of agencies and intermediaries through which one or more streams are flowing. Garbarski, Rutkowski and Wrzosek, in their works authors works outlined the most important streams in distribution channels [25]:

- physical movement of completed products or services;
- actual transfer of ownership laws among participants of the channel;
- information about potential buyers, competition and demand;
- promotion;
- payments of invoices;
- negotiations;
- realization of orders;
- risk taking;
- shipping, transportation and storage of goods.

Some of these streams (the ownership rights, promotion, negotiation, risk, product) flow to buyers, other (market information, payments, negotiations and contracts) to the producers. All of these flows are inevitable and the responsibility for each of them lies upon at least one organizational unit.

The usual system, which is based on working with independent intermediaries (agents, brokers, retailers and wholesalers) is more popular in Ukraine. The main advantage of the contract system is the orientation of manufacturers and dealers in narrow sectors of the market chain. Companies operating in this system offer several services and trade support to other members of the channel. These companies are the third party (intermediary) in the supply chain. However, in this case a company might lose full control over distribution channel.

Among the vertically integrated channels, it is possible to highlight the managed channel. In this decision, all organizational units that create the channel remain independent in their activities, but one particular company retains a regulatory function for all departments. In a vertically integrated system, channels can be classified by type of interaction, which involves the interaction of sales, movement of products from producers to end users, as well as operations related to logistics. The

other channels may be classified as the negotiation channel, the flow of property rights channel, the channel of physical movement of goods and the cash flow channel. [26]

Channel width is the number of intermediaries and institutions located at different levels of the channel as a result of the decision to reach the market with products and services. It depends on the intensity strategy chosen by the company. As a result of this distribution, marketing channels can be divided into narrow, with a small number of intermediaries, or wide, in which products or services are offered by the maximum possible number of agents at each level. Channel width depends on many factors. The focus is on product characteristics, customer behaviour, and brand loyalty. Supervision of the chosen channel and marketing strategy is also appropriate.

The section by type of participants distinguishes between direct channels (levelless) and indirect channels. Direct channel consists of two levels: producer and end consumer. The manufacturer contacts customers through its own employees, commercial services or the media, without intermediaries. This type of channel is applicable to the market of goods, capital goods, consumer goods, the use of mass media and the distribution of services. [27]

This area is still being expanded. Manufacturers who use such channels retain full control over the disposal of products, prices and services. This creates an organized flow of information about customer expectations, which automatically adjusts the offers. As a result, manufacturers pay any distribution costs and risk of selling with a relatively low penetration capacity.

In direct distribution there are no intermediaries. Exchange of information between customer and producer are made via e-mail, phone, computer or polls. The creation of order is made via mail or telephone. Orders are executed by mail or door-to-door courier deliveries. Any addition of a department or auxiliary link to the distribution channel turns a direct channel into an indirect one. Such intermediaries may be natural or legal persons who have ownership of the goods or services from the manufacturer and transfer them to the final customer.

Participants in the transfer of ownership of intermediaries can be divided into dealers and agents. The first type is divided into wholesalers, retailers and other organizational units. They are the owners of the products. Agents, in turn, consist of agents and brokers who do not own them and do not buy these products. They are involved in the transfer of ownership from the producer to the final buyer, conducting sales transactions. The algorithm of a direct distribution is shown in Figure 1.3.

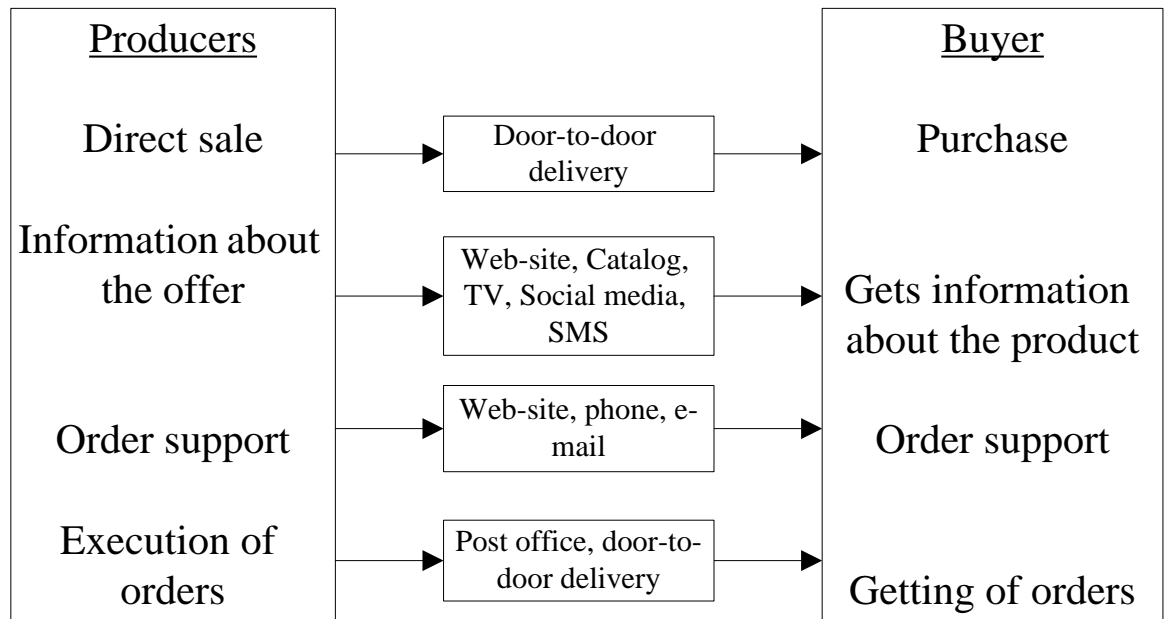


Figure 1.3 - Direct Distribution

(Updated from: [26])

In the distribution channel, the intermediary is responsible for transactional functions such as contracting, sales, transfer of ownership, the risk of takeover [8]. Also for logistics functions: procurement, supply, warehousing and transportation. The intermediary also has ancillary functions (collecting information about a specific market segment, demand analysis, finance transactions). This type of channel is used in the consumer goods market and services market. For industrial commodities raw materials or investment products are not usually used.

Intermediate distribution should also include network sales (network marketing, network). [26] This form of sales is used in Ukraine by foreign companies

that sell their products to distributors, and they attract more distributors who in turn receive a percentage of commission sales as well as information.

Adding an intermediary in a distribution channel brings both benefits and losses to the manufacturer. For manufacturers, the most important factor is the ability to penetrate the market, capture new markets and reduce distribution costs. For the manufacturer it is important to be exempt from adapting the product to the expectations of end users (bottling, packaging) and from building their own sales network. However, this solution has a number of disadvantages: the possibility of losing direct control over the channel, failure of the intermediary to fulfil its responsibilities, prolongation of payment period for products and the risk of various conflicts in the channel. The relationship between producer and final consumer in the intermediate distribution is shown in Figure 1.4.

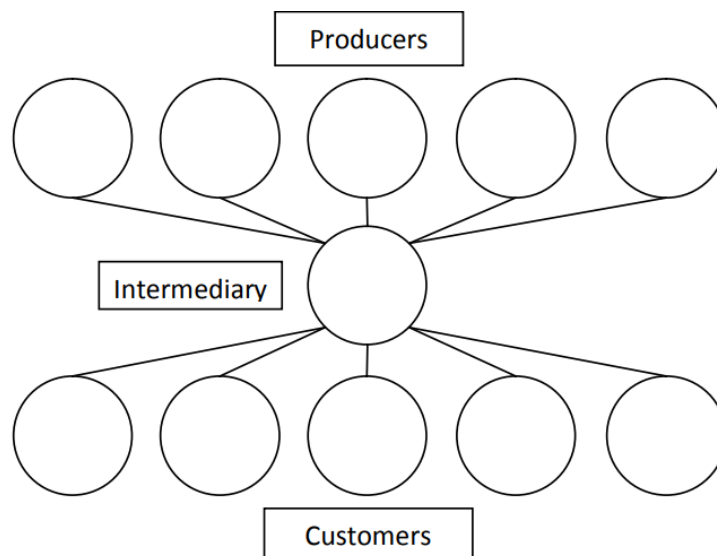


Figure 1.4 – Intermediate distribution

Macroeconomic conditions affect the choice of sales channel of the enterprise. The main conditions are the purchasing power of customers, the ability to exchange currency, the number and culture of the population, the economic situation in the country and the maximum size of the market [28]. Technological trends and legal norms, obligations, laws and prohibitions also influence the choice of distribution channel.

A retailer is sometimes referred to as a Dealer Center. This is very similar to distribution, except that the supplier usually sells only to the public. Unlike different types of franchises, including multiple distributors, a vendor does not include a single product line. Even in the automotive industry, a large dealer will transport competing goods, often in one place, but they will be different in that each in its own building.

Multi-channel retailing can be defined as the set of activities involved in selling merchandise or services to consumers through more than one channel [29]. A multi-channel system is a format of a combination of different distribution channels that are used to sell a product range that are connected to each other. A multi-channel system allows to increase market coverage, lower channel cost by selling for example direct over the internet to smaller segments as well as to offer a more customized selling approach [30].

The usage of the terms related to multi-channel retailing and/or marketing is inconsistent. The following approach is based on the definition of Merlin Stone [7] who define multi-channel retailing “as a distribution strategy to serve customer more than one selling channel or medium such as the internet, televisions and retail outlets”.

Regarding current approaches in the multi-channel research four steps of development could be identified by their different main purposes:

1. Studies regarding the definition and increasing relevance of multi-channel systems. They are mainly outlined by G. Mallen [37] and Weigand [31].
2. Researchers Cespedes and Corey [38] as well as Rangan [32] analyse these topics regarding the management of channel conflicts, channel integration and the division of functions by different case studies.
3. The main area is the evaluation of online channels. The research studies focus on the effective and efficient integration between traditional and new channels and their key performance indicators [33].

1.2 Peculiarities of the organization of the distribution of automotive products

Since the era of Henry Ford's assembly line, the automotive sector has operated under a "supply-push" ideology, demonstrating a significant inclination toward "filling the factories" to offset substantial fixed expenses. Dealer networks were established as rational expansions of the "supply-push" principle. These networks were formulated to stock inventory, utilize private funding (while not jeopardizing the manufacturers' authority), and cater to the needs of what was at that time a less dependable and more upkeep-intensive product.

The networks were typically established by entrepreneurs with a specific focus on a particular geographical region, retailing one or, at most, two brands. This distribution strategy has proven to be remarkably steadfast against changes [58]. Over time, dealer networks have become deeply established and shielded by a complex network of customs, agreements, regulations, and legislation. State franchise laws in the United States serve to restrict manufacturers' unilateral actions in revoking or consolidating franchises. Meanwhile, in Europe, robust national distribution laws and other regulations play a role in safeguarding the established distribution channel. The dealer networks established by the Saturn division of General Motors Corporation and the Lexus division of Toyota Motor Corporation, despite the fanfare surrounding their creation over the past decade, have ultimately embraced the fundamental model. Their dominance in channel-driven customer service has been established through the avoidance of errors, such as the clustering of an excessive number of dealers in close proximity, and the formal incorporation of superior customer care practices.

Even though the traditional dealer channel has been around for a considerable amount of time, it still manages to disappoint many customers. Dealers are compelled to convert store visitors into paying customers by resorting to aggressive sales tactics. This is because their customer acquisition costs are high, and they try to extract differential margins based on a customer's willingness to pay. Despite the decrease in

dealer margins, customers are not necessarily satisfied. Nearly 80% of customers admit that they are unhappy with the car buying process, and a significant amount leave with feelings of being deceived and mistreated. This negative sentiment is a key factor in the rise of internet-based services that provide alternative methods for obtaining information about cars, requesting price quotes, and sometimes even completing transactions.

Due to the decrease in profits from the sale of new cars, dealerships have had to shift their focus to other areas of business that were previously viewed as supplementary, such as parts and service, used cars, financing and insurance, and fleet management. The issue is that these businesses have varying economic factors, competitive bases, and consumer purchasing patterns, which may be incompatible with the traditional dealership model. Some dealerships have attempted to compete with independent quick-lube services like "Toyota Deals" and "Kyiv Avtosamit" by dedicating specific bays for oil changes with no appointment necessary.

However, the optimal retail density and overhead structure for oil changes differ greatly from those of new car sales. Even if dealerships can overcome consumer mistrust, the physical constraints of brick-and-mortar locations and real estate may make it challenging for them to offer truly competitive services in all areas of business. The opportunities for optimization of business processes in car dealership centers presented in Figure 1.5.

The automotive distribution is dominated by indirect channel formats; cars are sold and serviced by the same, independently owned franchised dealer. In the last years several studies consider the multi-channel environment of the automotive industry. Typically, distribution channels in the automotive industry include such variants: Original Equipment Manufacturer (OEM) to Dealer or National Sales Company (NSC), OEM to Aftermarket and Dealer to Consumer. Online Retail One area is focused on the development and implication of new channels, especially with the consideration of the internet. Even if they emphasize the impact on the purchase process, these studies are inconsistent in evaluation this channel regarding the

potential for the automotive distribution. Additionally, only less implications on the design of a multi-channel system are outlined.

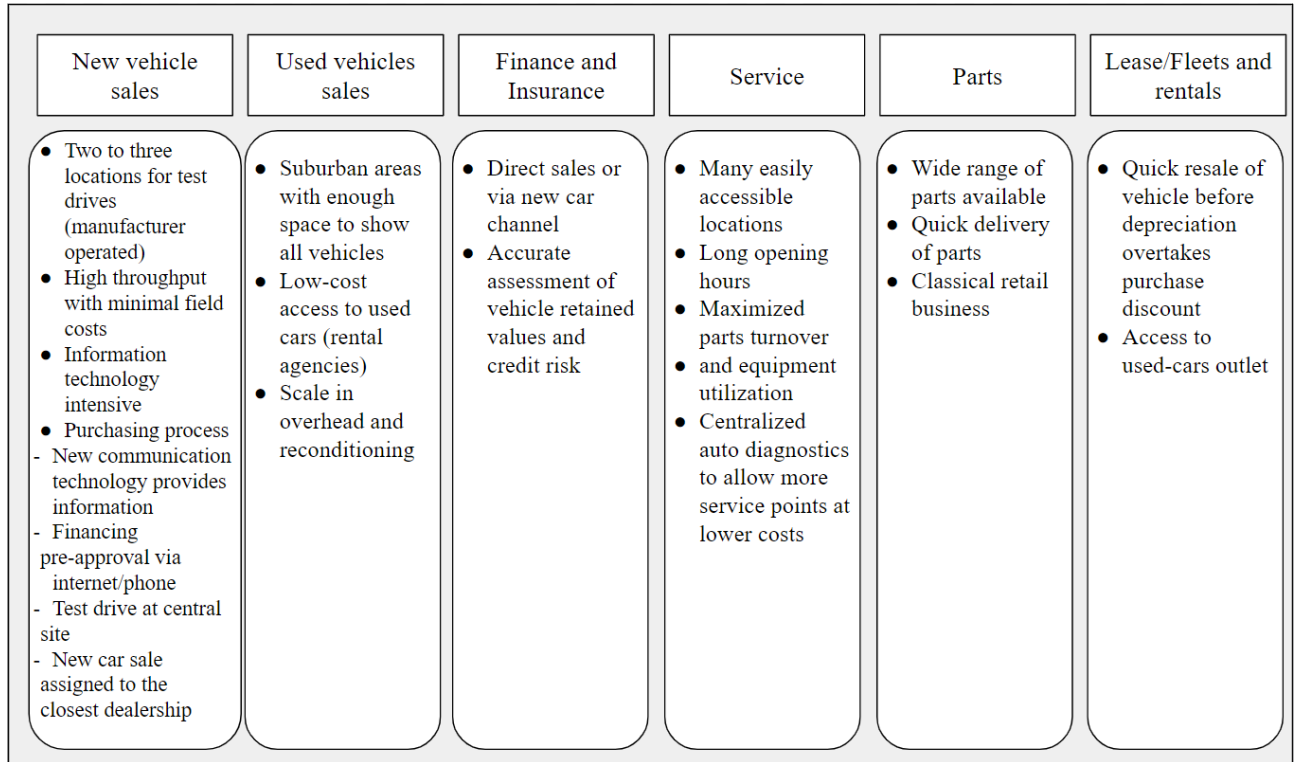


Figure 1.5 - Opportunities to optimize business around customer requirements

It is not uncommon to find that OEMs/NSCs and dealers have misaligned understandings about what their activity scope actually looks like. This leads to difficulty understanding the true operational and financial situation for the participants. A number of activities and cost/revenue sources must be considered (Figure 1.6):

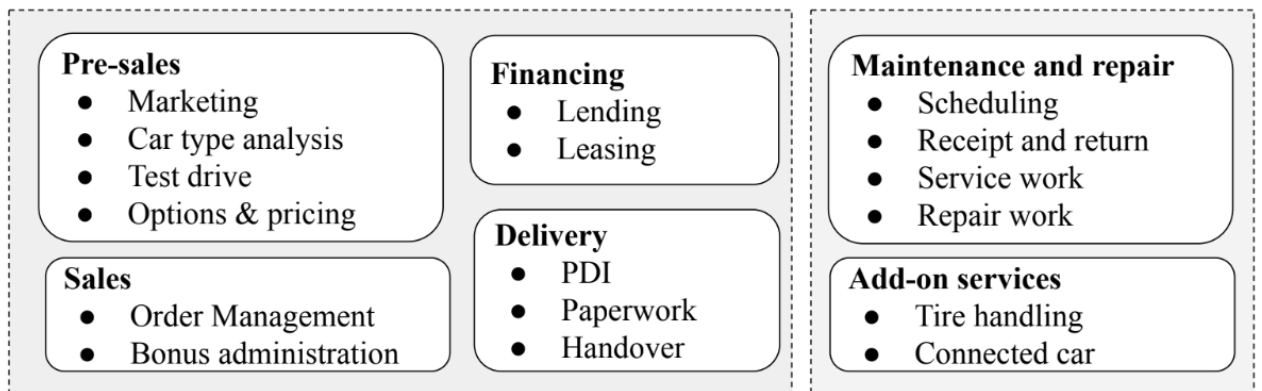


Figure 1.6 - Car dealership activities

Half of the industry's profits are generated by the aftermarket. The remaining fifty percent of sales are attributed to cars, which are roughly divided equally between dealers and NSCs, with the majority originating from new vehicles rather than used ones. Financing is starting to matter, contributing up to 10% of industry profits. The aftermarket plays a critical role in generating profits, without which the automobile sales business would face significant challenges to its survival. It can be seen that NSCs and dealers both play a role in covering the costs of marketing, pre-sales, and delivery. The slim gross margins of vehicles suggest that the activities in question are supported by the aftermarket service business, without which they would lack sustainability.

Regarding the design of channels Schoegel & Sauer [33], Smend [34] developed strategic implications and requirements for the coordination and configuration of multi-channel systems in the automotive distribution. Important is the study from Smend [34] which shows the following success factors for the development and the management of a multi-channel system:

- high integration of channels;
- uniform design of the marketing mix, and
- central and systematic coordination and management with a cooperative character.

As a result, Bauer and Smend [33,34] recommend the usage of innovative, low-cost channels for emerging brands (like Toyota, Hyundai or Kia). Value brands (e.g. Volkswagen or Volvo) should be sold carefully over new channels, without eliminating the system leadership of the manufacturer, by an exclusive presentation of the brand at the point of sales. For premium brands (e.g. Jaguar or Mercedes) the contact to the customer has to be brand exclusive at any time and any customer touch point. A strategic forward integration is recommended.

As a rule, manufacturers distribute their sales channels by region. For example, Toyota has three main regions, consisting of Japan, North America, Europe and a fourth region, which is classified as "other", which includes all smaller markets. Customer segments can vary from governments to distributors and end users. Since

the 1990s, Toyota has used the distribution scheme shown in Appendix A [11] in its distribution activities.

Compared to the previous system, this system significantly reduces the lead time or delivery time by approximately 40%; reduces delivery times for spare parts from the current 50 to 30 days. The system also allows to change the placement of orders for spare parts on a daily basis, thus improving the uniformity of the flow of orders. The system allows to integrate delivery of spare parts, packing and loading of containers to the foreign center of supply of spare parts that considerably reduces time of execution of the order in Japan (from current 22 to 8 days). Since the beginning of the 21st century, the company has gradually changed the use of barcodes to RFID technologies to provide greater efficiency along the entire supply chain [12]. All Toyota dealerships in Ukraine order and pay for delivery separately. The consolidation of orders from Toyota dealership centers in Kyiv can reduce the cost of delivery and order processing.

1.3 Approaches to the organization of distribution channels of the automotive sector

In the traditional supply chain structure for the automotive industry, car dealerships are vertically integrating suppliers. Often, vendors bid against each other to create a specific system (first-tier suppliers) or part (second-tier suppliers). The tier supplier system in the automotive industry refers to the hierarchical structure of suppliers who provide various components and systems to automobile manufacturers. Tier 1 suppliers are directly contracted by the original equipment manufacturers (OEMs) and provide major systems or modules, while tier 2 and tier 3 suppliers provide components and subcomponents to tier 1 suppliers. The supplier with the lowest bid received a production order. Because suppliers were bidding with each other, they did not share information on advances in production technology.

Moreover, manufacturers were unsure whether suppliers would be able to reduce production costs with new technologies. The day-to-day coordination of the flow of parts throughout the supply chain has created problems. Due to the volatile nature of orders, first- and second-tier suppliers often have large stocks in stock, so that the installer never has a reason to complain or terminate the contract due to delayed delivery [36].

Distribution channels in the automotive industry can be depicted using Figure 1.7. The distribution structure from the manufacturer to customer consists of 3 levels. The first level is the headquarter or manufacturing plant. On this stage company produce cars and ready to distribute it. The next level is wholesaler (importer company) which is operating company selling cars domestically or internationally depending on the market orientation. As an example, Toyota Motor Company has its representatives in each country (except Monaco and Andorra, which size and closeness to other countries do not justify the separate wholesale department of Toyota).

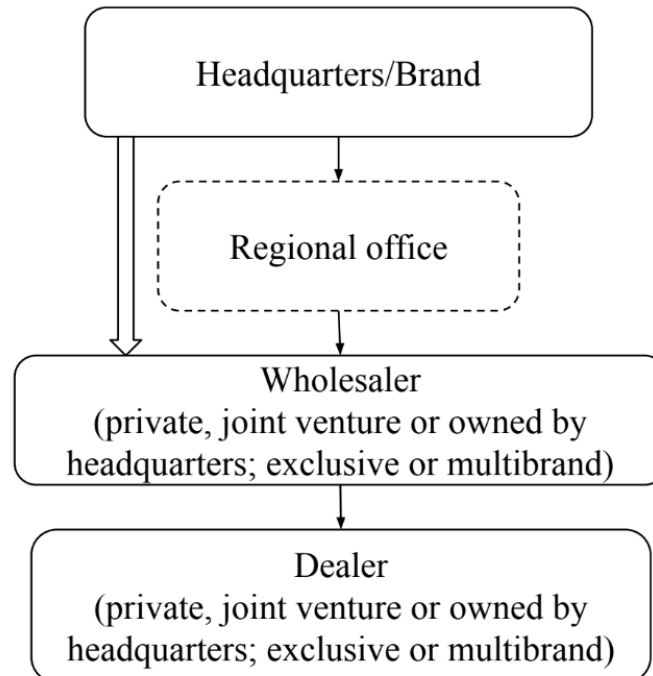


Figure 1.7 - Structure of distribution and sales channel in the automobile industry. *Source: [created by author]*

Independent of ownership or country of operation, a wholesaler invariably assumes several functions and responsibilities. Firstly, they are tasked with establishing and expanding a robust retailer or dealer network. Secondly, wholesalers are responsible for executing the manufacturer's designated pricing, product, marketing, and service strategies. Additionally, wholesalers must prioritize customer and dealer satisfaction. They are also expected to maintain consistent communication with local government and authorities, acting as the representative of the manufacturer or headquarters within the respective country. Moreover, wholesalers must ensure compliance with all applicable local laws and regulations, including legal tax and homologation requirements. In alignment with the "headquarters philosophy," wholesale companies must be managed effectively, with a focus on achieving predetermined targets such as sales volume, market share, profitability, and customer, dealer, and employee satisfaction. Local management and talent development are essential aspects of their role, as is providing regular updates to the headquarters regarding local market conditions, product demands, customer preferences, and legal obligations. Furthermore, wholesalers must meticulously oversee the logistics of product and spare parts deliveries, ensuring promptness, required quantities, and impeccable quality.

The distribution process of car dealership consists of 3 focuses: the product, the supply chain, the flow of value creation. This is called a "value stream" - a new and more useful unit of analysis than a supply chain or a single firm. Supply chain for car distribution consists of functional tiers, which are interrelated and form unified chain which incorporated in material flow, product flow and information flow in Figure 1.8.

Product definition is a development of concept from detailed design and engineering to production launch. It also includes analyzing of target market of the company, their desires and needs. Information management describes the information flow from order taking through detailed scheduling to delivery. The physical transportation includes material flows from raw material to a finished product (including spare parts) to customers.

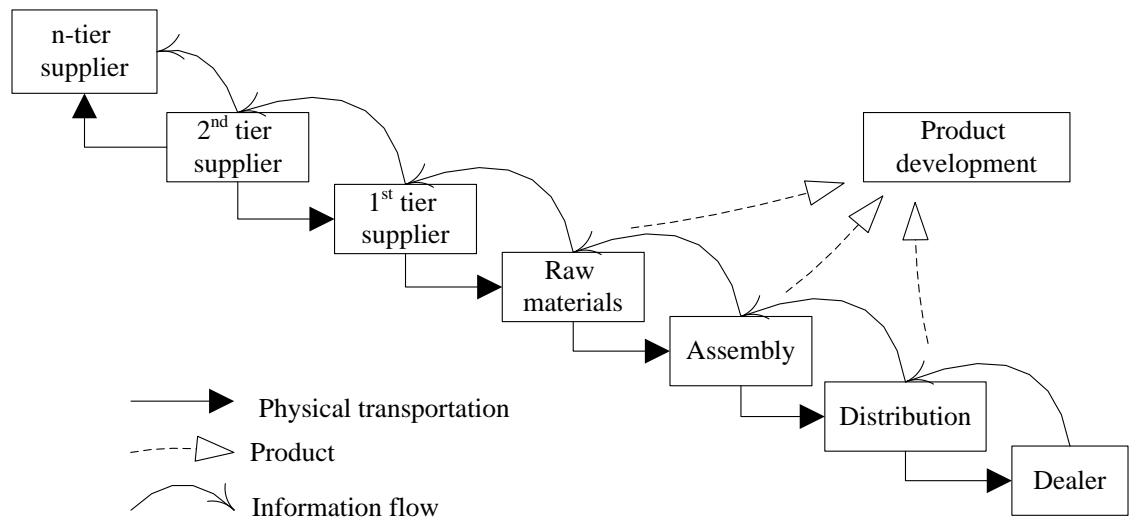


Figure 1.8 – Logistics chain of car dealership center

One of the parts of a product development team that is responsible for development is first-tier suppliers. Typically, manufacturer asks suppliers to develop a prototype steering, braking, or electrical system. This request will be accompanied by a performance specification. For example, Toyota makes inquiries to various suppliers for the brake system. These suppliers also provide information on other systems within this model, the size (s) of the prototype and the cost that Toyota is willing to pay for the kit. If the prototype worked, this particular supplier received a production order and became a first-tier supplier. Toyota does not specify what the brakes should be made of and how they should work. Toyota leaves these decisions to the discretion of the supplier's engineers. Finally, Toyota encourages its first-tier suppliers to communicate with each other to ensure a horizontal flow of information between first-tier suppliers. As a result of information exchange, suppliers can reduce production costs by improving organization and innovation processes. This eliminates waste at the level of first tier suppliers. The 2nd tier of suppliers has direct influence on the product flow. These type of suppliers produces spare parts or other components for the product manufacturer by the 1st tier suppliers.

Every supplier of the first tier forms under itself the second level of suppliers. Second-tier companies were tasked with making individual parts. For example, if 1st tier supplier is responsible for the production of AC generators, it would need the

spare parts and components in order to create the generator produced by the 1st tier of supplier. Tier 1 suppliers bring their Tier 2 suppliers together in a supplier association so that they can also share information on progress in production methods.

Chapter 1 summary

Continuous development of marketing and logistics is a key factor in the success of the company. With the successful cooperation of these departments, the company has the opportunity to plan a network of transportation and warehouses, using reports and data from the marketing department. The strategies involve successful internal and external communication within departments and along the entire supply chain.

The distribution has three systems with different level of authorities: operational, corporate and conventional. The distribution structure of the enterprise is mainly divided into vertical and horizontal. In the vertical structure, all organizational units that create the distribution channel remain partially independent in their activities, but there is a main department that creates a regulatory function. This system involves the creation of channels that will be responsible for moving products from manufacturer to customer, as well as operations related to logistics. While the horizontal structure determines the number and type of intermediaries at specific levels. Intermediaries in the transfer of ownership can be divided into dealers and agents. The first type is the owner of the product and is divided into wholesale, retail and other organizational units. Agents involved in the transfer of ownership from the manufacturer to the final buyer, conducting sales transactions and do not own or purchase these products.

Among the distributions in the field of car sales, indirect channel formats are most often used. The franchise dealer provides car service and is also an intermediary between the manufacturer and the customer. A multi-channel car sales environment is

also used. It includes methods of online and offline car sales, the ability to buy a car to order, including all the necessary customer characteristics, as well as service and warranty repairs in the showroom. Use of online services such as early appointment registration significantly reduced clients waiting time. The supply chain for car distribution consists of functional levels that are interconnected and form a single chain, which is combined into material flow, product flow and information flow.

The “supply-push” principle which was basic in the automotive industry was changed. Toyota Motor Corporation and General Motors introduced new channel-driven customer service where company excludes excessive errors, such as the clustering of an large number of dealers in close proximity and the formal incorporation of superior customer care practices. The value stream is base of distribution process in car dealership. It consists of functional tiers which help to coordinate material, information and product flows. The tier-production system consists of three tiers. The first one usually responsible for the supply of car details. The second one tier produce raw materials and other small parts of the cars. These tiers communicate between within horizontal and vertical structure of all Toyota suppliers to provide in time delivery and supply of necessary parts.

CHAPTER 2

STUDY OF APPROACHES TO THE ORGANIZATION OF MANAGEMENT OF DISTRIBUTION CHANNELS OF AN AUTOMOTIVE PRODUCT DEALER

2.1 Analysis of the automotive market in Ukraine

The automotive market in Ukraine has become very competitive in recent years. Toyota Center Kyiv is an official distributor of Toyota Motor Corporation. The company's business includes distribution of Toyota cars and service. Honda, Ford, Volkswagen, BMW, Hyundai, are some of the major competitors. These companies have official distributors on the territory of Ukraine. In the field of car maintenance, the company has the same competitors, as each official dealer has its own platform for service and warranty service of cars. The high level of competition is financially impacting the sale of the automotive brand. Today there are four Toyota dealerships in Kyiv. A comparison of the data of official dealerships is presented in Table 2.1.

Table 2.1 – Major competitors of Avtosamit

Dealership Indicator	Toyota Center Kyiv Avtosamit	Toyota City Plaza	Toyota Center Kyiv VID Avtostrada	Toyota on Stolychne
Year of establishment	1992	2010	1997	2008
Geographical coverage	Kharkivskiy district	Pochaina metro station	Sofiivska Borshchahivka	Slotychne highway

“Toyota Center Kyiv Avtosamit” is the oldest representative of Toyota dealerships in Kyiv. It was founded in 1992 and is located in the residential area of

Kharkivsky district of Kyiv, unlike the Toyota City Plaza, which is located near Pochayna metro station [19]. There is a cluster of automobile dealerships in this subway area which is represented by Ford, Volkswagen, Mercedes, Toyota and Mazda. “Toyota Center Kyiv ViDi Avtostrada” is located on the Slotychne highway in Sofiyivska Borshchahivka in Kyiv outskirts. The center is a large dealership which offers a range of car service. “Toyota on Stolychne” dealership is focused on selling used cars and cars from Europe. Among the features of these car centers can be determined approximately the same price for all. For example, Toyota Corolla Active in Toyota Center Kyiv ViDi Avtostrada car dealership is almost 100,000 UAH more than competitors, this may be due to the fact that currently the car is not available, it will need to be delivered from a warehouse in Belgium, so the price is too high. The situation is the same at the Toyota Camry Prestige+ at the “Toyota on Stolychne”. Its price is more than 70,000 UAH more than its competitors, which is also due to the fact that the model is currently unavailable. Toyota RAV4 price is about the same in all dealerships. Table 2.2 summarizes the information of the prices on specific models from the data taken from the official websites of Toyota dealerships in Kyiv. [15-18]

Table 2.2– Comparison of prices with competitors, UAH

Dealership Type of cars	Toyota Center Kyiv Avtosamit	Toyota City Plaza	Toyota Center Kyiv VIDI Avtostrada	Toyota on Stolychne
Toyota Corolla Active 1.6L	930,527.00	931,141.00	1,033,230.00	1,016,800.00
Toyota Camry Prestige+ Hybrid 2.5L	1,456,678.00	1,499,728.00	1,503,762.00	1,522,770.00
Toyota RAV4 Adventure Hybrid 2.5L	1,583,316.00	1,583,268.00	1,585,240.00	1,572,098.00

“Toyota Center Kyiv Avtosamit” provides their customers with both tangible and intangible products ranging from cars to warranties. A product of high quality is usually self-marketed, and this is what makes Toyota vehicles so desirable. “Avtosamit” also offers vehicle parts including gears. As far as the intangible services are considered, they offer financial services, warranties, road assistance, car services and extended warranties. Their extended warranties have various mileage coverage options ranging from 60,000 to 160,00 km.

Toyota Corporation has extended distribution chain through dealerships which, in term work with end consumer on the face-to-face basis and therefore Toyota corporation customer database has been developed to keep its customers’ profiles. Changing the marketing complex will not greatly affect the company’s activities. Toyota currently has a sufficient customer base. Changing marketing or pricing policies can have a small effect on a company’s performance, as a large amount of investment goes to researching customer behaviour and understanding their desires. Changes in marketing policy can lead to a sharp increase in competition in the market. This can result in aggressive marketing and misunderstandings between corporations.

For the past twenty years, Toyota Motor Corp. has been highly focused on appealing to younger buyers, going as far as creating a whole new division – Scion – aimed exclusively at attracting Generation Y consumers, the youngest car-buying demographic [20]. But in reality, the younger generation chooses used cars, because of their availability and greater range. There is a certain category of people who buy cars from car dealerships, but every year fewer and fewer people choose new cars. Therefore, the purchasing power of potential customers is quite low.

Since the car is a fairly long-term purchase, customers do not often change the car for a new one. As for dealer maintenance, it is becoming more and more every year, as a significant part of customers are on dealer warranty service, and at any time may need one or another service. One of the most popular is the seasonal change of rubber, or change of oil.

The next point of the company's analysis is Ethical issues and customer relationships. Toyota Motor Corporation is an international automobile and financial company, respected for its quality and reliable products; to remain competitive; the company's management makes timely decisions. In all operations, the company aims to be ethical; it also extends a hand of appreciation to the public through corporate social responsibilities (CSRs). When determining the operation base and the CSRs to undertake, the company considers different issues likely to influence the direction of the projects or decisions.

Toyota is one that suffered ethical crisis caused by its vehicle recall. For example, in early 2010, Toyota Company was faced by a problem when some fault vehicles got their way to the market and lead to deaths particularly in the United States of America. It attaches much more importance to economic benefits than Corporate Social Responsibility, and also focus on shareholders but not stakeholders.

Toyota being in the automobile industry has been blamed for environmental damage; the damage has been attributed to the company's products, vehicles, which use fossil fuels to run. However, despite the moves and criticism gotten from environmental conservativisms, the company has continued to improve its products and has innovated battery vehicles (electronic vehicles) and hydrogen vehicles.

In today's reality, it is very difficult to determine the economic condition of the country. It was caused by unstable political situation in the country and coronavirus pandemic in the world. Many factors affect the economy and the situation is changing every day. Currently, the situation is not stable enough, so it is difficult to determine customer potential. It is possible to say that most customers are quite pessimistic when it comes to the economy. Pandemic disruptions rising COVID-19 cases in some major economies have contributed to financial and commodity market volatility, and could ultimately weigh on global growth prospects. The war has also raised the likelihood of a destabilizing wave of refugees, widespread financial stresses among some emerging and developing economies, a de-anchoring of inflation expectations, and food insecurity. A protracted conflict is likely to heighten policy uncertainty and fragment global trade and investment networks.

Among the economic indicators important for the company are the following: Gross Domestic Product (GDP), Inflation level, Unemployment Rate, Consumer Confidence Index (CCI), Producer Price Index (PPI). The available values for economic indicators Ukraine are listed in Table 2.3.

Table 2.3 – Economic indicators of Ukraine 2020-2022

Economic indicator	2021	2022	2023 (1-3 quarter)
Inflation Level	110.0%	126.6%	110.6%
Interest rate	9%	25%	22%
External Debt	125 billions \$	131 billion \$	132,92 billions \$
GDP	200 billions \$	161 billion \$	165, 67 billions \$
Unemployment Rate	9.10 %	25%	19%
Consumer Confidence Index (CCI)	71.3	83.9%	80.1%
Producer Price Index (PPI)	162.3	153.5%	153.31%

Ukraine's economy faced significant changes in 2022 year, as evidenced by GDP decline of over 20% compared to 2021 data, which affects the consumers buying behavior. At the end of 2022, inflation was declining due to record harvests and adjustments to some world prices for food, oil and raw materials. In the last quarters of 2023, the inflation rate fell to 110.6% after huge increase in 2022.

During 2023, the interest rate in Ukraine decreased from 25% to 22%. The Board of the National Bank of Ukraine has decided to change the interest rate to 22% in the last quarter of 2023 [3].

In the end of 2021, the Ukrainian external debt amounted to 132.92 billion USD (47,24% of the total amount of state and state-guaranteed debt). Consumer

Confidence Index (CCI) is a forecast indicator of potential changes in consumer demand in the coming periods for November of 2022, this indicator decreased by 3,8 points. This indicator directly affects the market economy, as it helps to clearly understand the demand for the future [4]. Reducing the unemployment rate by 6% compared to 2022 data may increase the number of purchasing power, and as a consequence increase the number of potential customers.

2.2 Study of Toyota's company activities on the Ukrainian market

Toyota Center Kyiv "Autosammit" is part of the Ukrainian Automobile Corporation. Toyota Center Kyiv "Avtosamit" has the status of TASS (Toyota Authorized Service Station), and more than fifteen years of experience in maintenance and repair of Toyota cars. The company was founded in 1992 and in 2004 received the status of official dealer of Toyota [13]. The official dealer of Toyota Center Kyiv "Avtosamit" is a company with 100% Japanese investment and is led by managers from Japan, which helps to implement and maintain international standards of service. The main requirements for the organization: comfortable conditions for customers, high professionalism of staff, spacious and modern showroom, special equipment service area and warehouse.

Toyota Center Kyiv "Avtosamit" offers its customers a wide range of services including online services and on-side services. Among online services there are

- conducting an online assessment;
- pre-registering for maintenance, repairing or test drive;
- providing expert advice [13].

The function of the car dealership goes beyond the sale of cars. And include repairs, a variety of services for companies, and maintenance. The dealership uses original spare parts and technical fluids recommended by the manufacturer for all types of work. Among on-side services the dealership offers the following:

- maintenance and repair of the car;
- delivery of any spare parts;
- exchange of old cars for new ones;
- sale of used Toyota cars.

The additional services of the car dealership include:

- Preparing the car for the new season;
- Execution of a protective coating (body and glass);
- Tire fitting and seasonal storage of tires;
- Toyota C-HR Hybrid replacement car
- Free taxi in Kyiv
- Operational diagnostics (checkpoint, motor, suspension).

In order to achieve a high level of service, the company implements dealer principles, including training for staff. Personnel of the dealership includes 12 service consultants, 20 mechanics, 10 washers and polishers, 6 master repairmen and a warranty engineer. The management of this dealership is constantly working on personnel to improve communication skills knowledge about the product. The company is not independent, it stands in the distribution chain and obeys its strategies and principles, such as development of the dealer network - to increase sales of each dealer, maximize profits and move from the principle of one-time agreement to long-term cooperation "for life", when the customer receives a full range of services related to the operation of the car [13].

The Toyota Center Kyiv Avtosamit company operates mainly in Ukraine. The economy of Ukraine is open, non-diversified and is considered a market economy with signs of transition, has a critical dependence on world commodity prices and low liquidity on the international capital market. In 2021, Ukraine faced significant repayments of the national debt, which required mobilization of significant internal and external financing in increasingly difficult conditions a more challenging financial environment for emerging markets. During 2022, the armed conflict that began in the spring of 2014 continued in all territory of Ukraine. In connection with this conflict, the Ukrainian authorities did not have the opportunity to fully ensure the

application of Ukrainian legislation on the territory of the Republic of Crimea, part of the Donetsk, Kherson, Mykolaiv and Luhansk oblasts. As a result, doing business in the country was associated with risks that are not typical for other countries.

The company manages its capital to ensure uninterrupted operations in the foreseeable future and simultaneously maximize shareholder profits by optimizing the ratio of borrowed and own funds. Toyota Center Kyiv Avtosamit management regularly reviews its capital structure. Based on the results of such a review, the Company takes measures to balance the overall capital structure by paying dividends/distributing profits, issuing new shares/attracting new contributions to the authorized capital, as well as obtaining new loans or repaying existing debt. The Company's capital structure consists of debt, which includes loans and accounts payable, cash, as well as equity owned by shareholders, which consists of authorized capital and retained earnings.

Toyota Center Kyiv Avtosamit liquidity position is carefully monitored and managed. The Company uses a detailed budgeting and cash forecasting process to ensure adequate funds are available to meet its payment obligations. Most of the Company's costs are variable and depend on the volume of finished products sold. The Company's main financial liabilities include trade and other payables, as well as other long-term liabilities. The main purpose of these financial data tools is to attract financing for the Company's operational activities. Toyota Center Kyiv Avtosamit has various financial assets, such as investments at fair value through profit and loss, trade and other receivables, cash and cash equivalents.

Toyota Center Kyiv Avtosamit main financial liabilities include loans, trade, and other payables, as well as other long-term liabilities. The main purpose of these financial instruments is to attract financing for the Company's operational activities. The company has financial assets such as trade and other receivables, as well as cash and cash equivalents Table 2.4.

Table 2.4 – Financial liabilities of Toyota Center Kyiv Avtosamit

№	Indicators	2022	2021	2020	Deviation	
					2022/2021	
1	Accounts receivable and other receivables	96,045	12,651	10,526	83,394	86,8%
2	Trade and other payables	49,857	25,414	18,623	24,443	49,0%
3	Cash and cash equivalents	35,063	25,063	27,848	10	28,5%
4	Current financial assets	131,108	37,714	57,274	93,394	71,2%

The Company significantly increased their accounts and other receivables by 86,8% in 2022. They indicate the amounts charged to the enterprise from customers for goods or services sold on credit. Also, the company has an increase by 49% in trade and other payables in 2022 compared to 2021 data. This means that the company is left with more cash on hand. As those trade payables are paid down, the company has less cash, or cash equivalents, to spend in other areas of the business. But, at the same time the Avtosamit company has greater amount of accounts receivables. In 2022 the company increased their cash and cash equivalents by 28,5% which gives an opportunity for the company to invest more capital for the business development. The current financial assets of the company increased by 71,2% in 2022 compared to 2021. The main risks inherent in the Company's operational activities include: credit risk, liquidity risk, currency risk, interest rate risk. Currency risk is the risk that changes in currency exchange rates will have a negative impact on the Company's financial results. The company does not carry out operations in foreign currencies. The company does not use any derivative financial instruments to manage the risk of changes in currency rates. On February 24, 2022, the Russian Federation launched a full-scale military invasion of Ukraine. The official exchange rate of the United States was recorded at UAH 36.5686 per US dollar and the

purchase of currency is allowed for a limited list of types of goods and services, including the purchase of cars and spare parts for them [14].

Due to the financial analysis, Avtosamit has an asset light model. The company's activities are entirely related to the sale of Toyota cars on the Ukrainian market. The main assets of the company and the largest source of income is the vehicle inventory. Almost 95% of the company's profits come from sales of brand new cars. If a company has a higher fixed asset turnover ratio than its competitors, it shows the company is using its fixed assets to generate sales better than its competitors. "Avtosamit" company has an increase in this indicator during 2021/2022 years.

Absolute liquidity ratio takes into account cash in hand, cash at the bank, and marketable securities or temporary investments. In 2022 this indicator is 0,84, which means, company doesn't have bottleneck in this indicator. The quick ratio measures the dollar amount of liquid assets available against the dollar amount of current liabilities of a company. During the 2022 company has increased this indicator on 0,24 points. Working capital ratio is useful in assessing a company's liquidity and operational efficiency. Toyota "Avtosamit" company has high working capital ratio, which means the company's assets are keeping well ahead of its short-term debts. Comparison of the profitability, liquidity and quick ratios of Toyota Center Kyiv "Avtosamit" presented in Table 2.5.

Table 2.5 – Indicators of efficiency use of Toyota Center Kyiv "Avtosamit" company

№	Indicators	2022	2021	2020	2022/2021
1	Fixed assets turnover ratio	0,13	0,12	0,10	0,01
2	Depreciation trend	0,02	0,01	0,01	0,01
3	Absolute liquidity ratio	0,84	0,81	0,81	0,03
4	Quick ratio	1,19	0,94	0,96	0,24
5	Working capital ratio	2,60	1,97	2,03	0,63

Low debts and good sales of products can largely cover all costs of the company. The company has relatively low liquidity ratios, so they cannot quickly convert their assets into money, but despite this, the growth of these indicators is detected. Table 2.6 summarizes the indicators of financial stability of Toyota Center Kyiv “Avtosamit”.

Table 2.6 – Indicators of Financial stability of Toyota Center Kyiv “Avtosamit”

№	Indicators	2022	2021	2020	2022/2021
1	Equity ratio	0,80	0,77	0,81	0,03
2	Debt to equity ratio	0,25	0,30	0,32	-0,05
3	Asset coverage ratio	6,25	10,35	8,64	-4,10
4	Debt ratio	0,20	0,23	0,22	-0,03
	Working Capital to Current Assets Ratio	0,84	0,71	0,75	0,14

The main bottlenecks of the company are the costs of assets that do not have time to be covered by investment. Such may be investments in the opening of new warehouses and branches. Table 2.7 summarizes the information on profitability indicator of the Toyota Center Kyiv “Avtosamit” company.

Table 2.7 – Profitability indicators of Toyota Center Kyiv “Avtosamit”

№	Indicators	2020	2021	2022
1	Return on Sales (ROS)	27,30	20,34	47,40
2	Return on Assets (ROA)	16,27	16,12	16,86
3	Return on Equity (ROE)	0,17	0,20	0,22
4	EBITDA Margin	8,94	5,81	11,90

Return on sales (ROS) is a ratio used to evaluate the company’s operational efficiency. Increasing of this indicator in 2022 is a positive trend. An increasing ROS indicates that a company develops their efficiency. This may be due to increase in

brand new cars sold after the global pandemic year. Return on equity (ROE) is a measure of financial performance calculated by dividing net income by shareholders' equity. ROE is considered a gauge of a corporation's profitability and how efficient it is in generating profits. Increasing of this indicator has a positive trend. The EBITDA margin is a measure of a company's operating profit as a percentage of its revenue. Increasing of this indicator has a positive trend. In this group of indicators, there are no "bottlenecks".

The Toyota brand continues to occupy a leading position in the segment of sales of new passenger cars. The loyal pricing system makes it possible to maintain the fleet of out-of-warranty cars as much as possible, and to expand the active customer base due to sales of new cars. The year 2021 was marked by the continuation of the global pandemic. Compared to 2020, in 2021 the company increased sales of spare parts, accessories and auto goods for the Toyota brand by 24%, and Lexus by 6%. Also, due to our active position in sales promotion, sales of goods and spare parts through retail and wholesale increased by 19%. In 2022, these figures increased significantly due to a full-scale invasion. A much larger number of cars need spare parts or complete car repair.

As "Toyota Center Kyiv Avtosamit" belongs to the broad distribution system established by Toyota Motor Corporation it is necessary to explain the implementation of Toyota production system throughout the supply chain. Some of the components of Toyota's production system go beyond its production walls into every link in its supply chain. For example, Toyota extends its practice of production principles "just in time" to its suppliers. As a result, all participants in the supply chain exchange information on available stocks and work in progress. This practice also helps reduce overproduction. This makes it possible to reduce costs along the entire supply chain.

Unlike most automakers, who only focus on reducing their inventory by putting pressure on suppliers to keep excess inventory, this practice allows them to transfer additional inventory to other parts of the supply chain. At Toyota, production schedules (when to produce and how much to produce, when to order and how much

to order) run throughout the supply chain, eliminating coordination problems. Toyota forces suppliers to share information (vertically and horizontally) to reduce garbage throughout the supply chain to reduce costs. At the same time, suppliers can improve their production technologies by learning from each other. By adhering to the principles established in its production system, Toyota can add value to each member of its supply chain.

Toyota company has developed its Toyota production system (TPS) in the late 1940s in its engine shop. It was fully developed and applied across Toyota's manufacturing operations by the late 1960s. Then, for the first time, it was written down and group was formed to teach it to Toyota's first-tier suppliers, who were all members of the Toyota Group. By the mid-1970s the TPS perspective had spread to its other first- and second-tier suppliers in Japan primarily through their *kyoryoku kai* or supplier associations. After the merger of Toyota's manufacturing and sales companies in 1982 they began to apply the same logic to the aftermarket parts operation in Japan. This took from 1984 to 1990, after which the logic began to be spread to overseas parts suppliers (of original and replacement parts), and to the aftermarket distribution systems abroad. Womack and Jones [35] studied the transformation of Toyota's parts distribution system (illustrated in Figure 2.1).

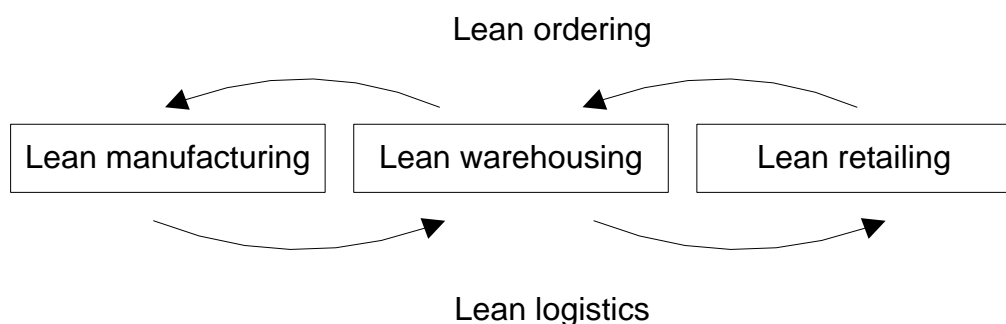


Figure 2.1 – Downstream lean value stream

Source: [35]

A six step approach to improvement was enacted on the factory shop floor involving:

1. establishing target set-up times to make every product every day;
2. reducing set-up times;
3. changing the layout of machines to create single-piece flow of parts through the process;
4. moving from monthly to weekly and then daily orders;
5. stopping the use of MRP systems for production control;
6. teaching the chroming subcontractor to process parts in a single-piece flow.

The result of these actions was that throughput time was reduced from six weeks to 48 hours, with zero defects and big cost reductions.

To improve the company's distribution system, in the order area it is necessary to switch to the system of daily ordering from suppliers. For example, in the secondary spare parts market, this is done on a "one-on-one" basis, rather than the traditional standard re-order quantities with long lead times. These orders are then delivered to Toyota at the estimated time of arrival at the warehouse, avoiding delays for both trucks and warehouse staff. At the same time, there is a need to move from monthly orders from dealers to daily ones in order to introduce a constant and relatively even flow of demand into the Toyota system. Standard frequent deliveries of goods to dealers eliminate the need for emergency orders for off-road vehicles, peaks and falls in orders, as well as the requirement to unload surplus stocks at reduced prices common in Europe.

As for the scheme of management of warehousing operations. Warehouses use a principle similar to that used in the factory, which includes:

- reduced container sizes
- storage by type of parts with frequently used parts at the front or end of the aisle
- standard assembly and assembly routes for each type of part
- division of the working day and tasks into standard work cycles
- synchronized ordering-selection-packaging-shipping and delivery steps for each delivery route to a group of local dealers

- stepped delivery routes
- monitoring progress and irregularities by collecting or selecting ticket packages for each cycle (preventing further work) and visual control panels.

As a result of improved warehouse and order management, inventories at Toyota's Regional Distribution Center (RDC) have shrunk from 24 to four weeks, and service and productivity have tripled. Daily delivery allows the dealer to reduce the overall level of stock by more than half, while transporting a wider range of parts. It also improves waiting tariffs and eliminates delays in assembling parts, as well as reducing the time spent walking and waiting for mechanics to assemble parts. Free space can be used to generate income.

2.3 Analysis of “bottlenecks” in the management of the company’s distribution channels

As one of the offered services is repairmen and it creates synergies in marketing and logistic activity of the company, it is necessary to consider how there is a purchase of spare parts for cars in the Toyota Center Kyiv “Avtosamit”. Toyota “Avtosamit” company is not independently engaged in research and innovation of automotive products, but as the main leader of the Ukrainian automotive market participates in various conferences and meetings aimed at positive change for consumers in the Ukrainian market.

The current routing goes to through the following steps: the first step in transporting cars to the Toyota Kyiv Distribution Center is to load cars on a Ro-Ro ship in the port of Osaka, Japan. Cars are delivered there immediately after checking with documents. Then there is transportation by sea along the route: The Indian Sea, the Suez Canal, the Strait of Gibraltar, the English Channel, Bruges (Belgium). The port of Bruges is adapted for car delivery and equipped with parking spaces for more than 200,000 cars. Toyota Motor Marketing Europe is also located in the port. It is

responsible for the distribution of cars in Europe. The current routing showed on the scheme presented in Figure 2.2.

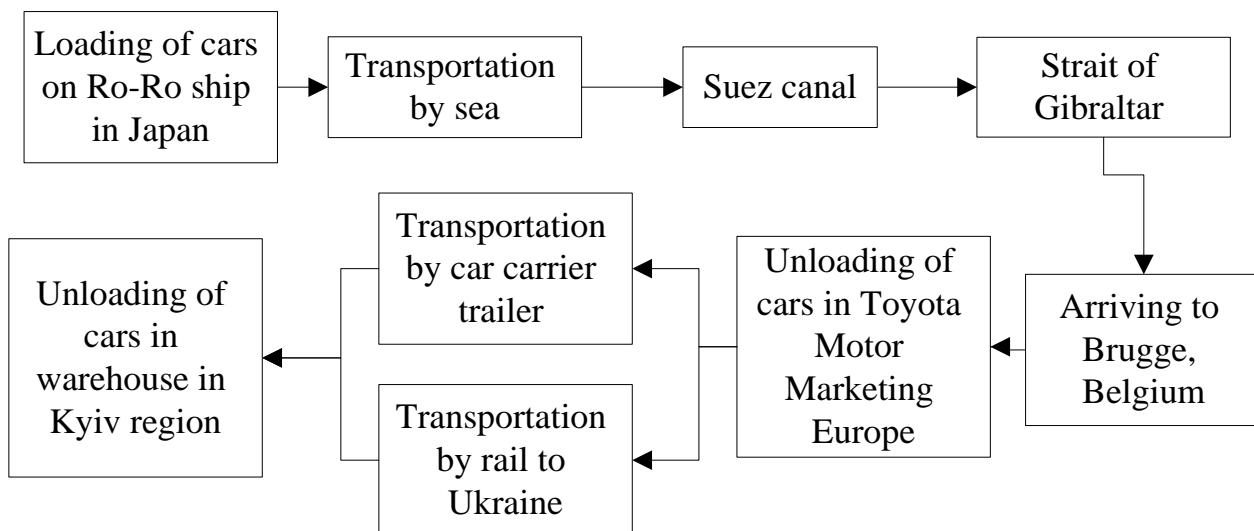


Figure 2.2– Current cars distribution system scheme. *Source: [created by author]*

The next step is to transport some models for further implementation in dealerships in Ukraine. There are currently two modes of transportation, rail, or car carrier trailer. On the territory of Ukraine, the warehouse of Toyota cars is located on the territory of the cargo terminal of “Автологістика” in Pylypovychi (Kyiv region). Then transportation is carried out with the help of a car carrier trailer at dealerships throughout Ukraine. Most of the cars sold to customers can be found in stock at this warehouse. If customers order a specific color or configuration, then the dealership makes a request to Toyota Motor Marketing Europe in Bruges. In this case, the delivery of the car will take 1-3 months. If this car is not available in the European main center, then it is possible to make an individual order for a factory in Japan, then delivery will be 4-5 months.

In 2020, 94,713 new cars were sold, 84,572 of which were passenger cars and 10,141 were commercial vehicles, which is 89% and 11%, respectively. In 2020, there was a decline in the market of new cars compared to 2019 by 1,475 cars, which is 1.53% [14]. According to this chart, there is a significant decline in the car market in sales of new cars compared to 2012-2013. This may be due to a significant reduction in sales of new models, and the addition of a small number of new

available cars to the market. To understand the trend of consumption the time series technique has been applied (Figure 2.3).

In 2022, 70,628 new cars were sold, including 62,859 passenger cars and 7,769 commercial vehicles, which is 89% and 11%, respectively. But in 2022 the company faced problems with delivery and sales, as the full invasion started in February. In 2022, there was a decrease in the market of new passenger cars compared to 2021 by 45,701 cars, which is -39.9%.

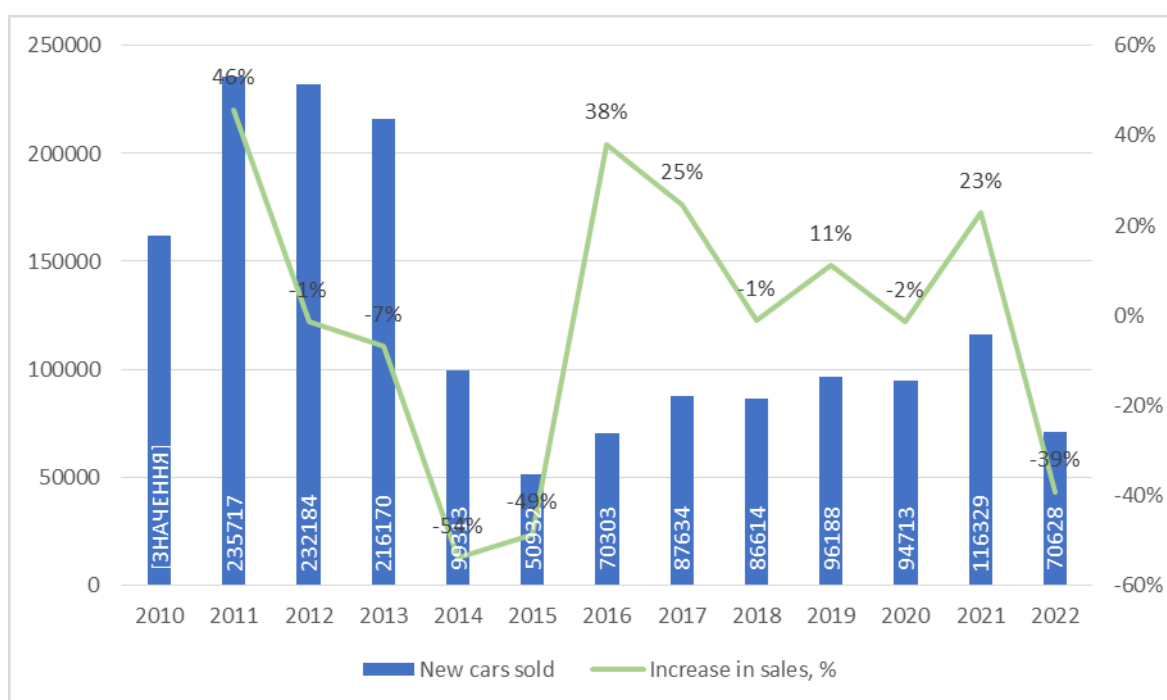


Figure 2.3 – Brand new cars sales report

With the general trend of the new car market, the sale of the Toyota brand in Ukraine has increased both in quantitative terms in relation to last year, and as a share in the overall market new cars. As of the end of 2022, the share of the Toyota brand was 14.67% (Fig. 2.4). Despite the significant decline in the number of cars sold, the company has a sufficient base of loyal customers, which allows “Toyota Center Kyiv Avtosamit” to remain the leader in the Ukrainian market.

Since 2015, the Toyota brand has been the automotive market leader among passenger cars, and in 2021 it regained the top spot in commercial and passenger car sales (overtaking Renault, which was the market leader in 2020). The dynamics of the

sale of Toyota cars by the dealer “Toyota Center Kyiv Avtosamit” is directly proportional to the volume of sales of Toyota brand cars. The share of the dealer “Toyota Center Kyiv Avtosamit” in the total sales of Toyota in Ukraine during 2010-2022 was from 8.37% to 10.78%.

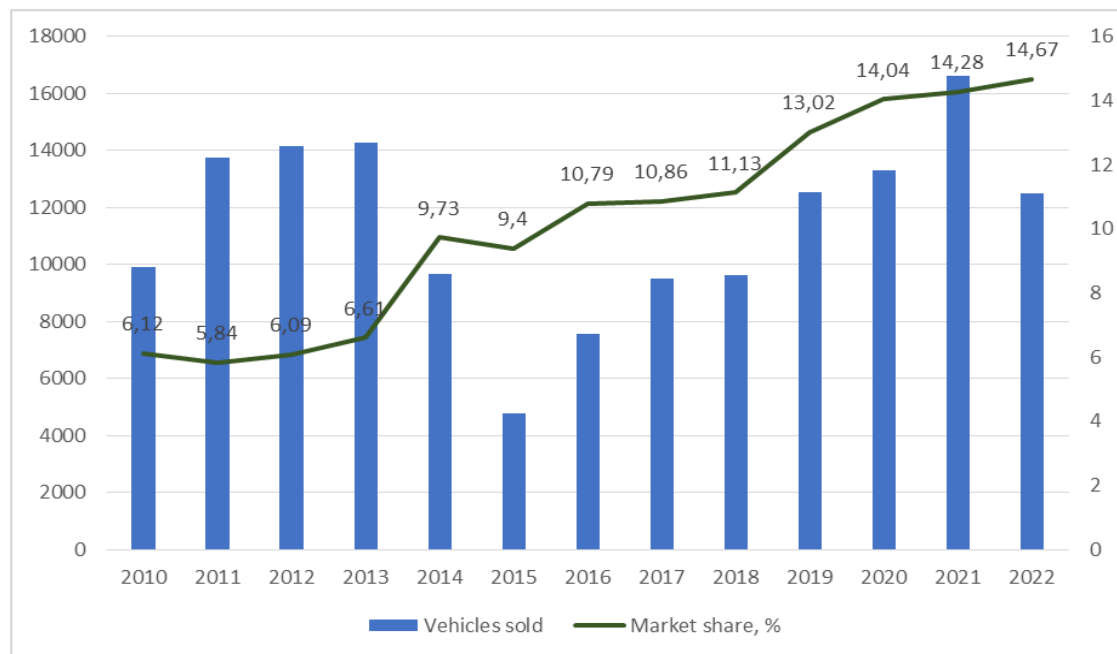


Figure 2.4 – Toyota Center Kyiv "Avtosamit" market share

In 2022, the share increased slightly and amounted to 10.78% (0.28), while the increase in relation to sales in 2022 was -30.41% (-530 cars) (Fig. 2.5).

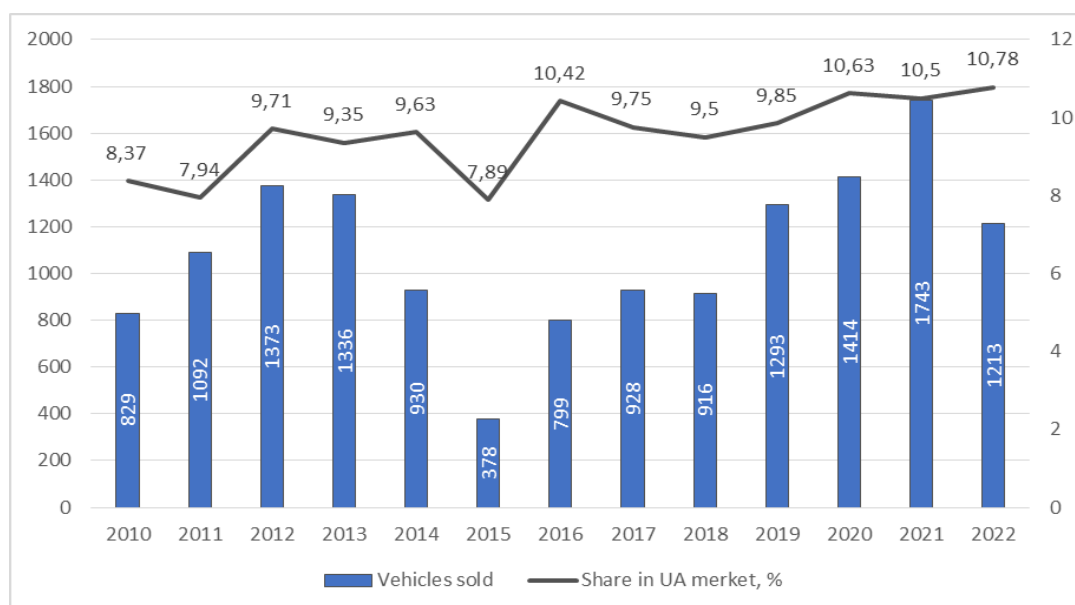


Figure 2.5 – Commercial vehicles sold by Toyota Center Kyiv "Avtosamit"

The growing demand for commercial vehicles allows dealer center to buy cars in large batches, and with the same characteristics (Table 2.9).

Table 2.9 - Number of cars sold in 2020 in Toyota Center Kyiv "Avtosamit"

Indicators	2020	2021	2022	2022/2021	2021/2020
Brand new private cars (PC)	1365	1665	1172	-29,61%	21,98%
Brand new commercial vehicle (LCV)	46	78	43	-44,87%	69,57%
Pre-used cars	3	43	24	-44,19%	1333,33%
Total	1414	1786	1239	-30,63%	26,31%

In order to understand it is necessary to make a classification. The company uses three main sales channels in its work:

- implementation and installation of spare parts through the service department
- sale of spare parts and accessories to wholesale buyers
- sales of spare parts by retail buyers

The main task of the company is to provide a full range of services to the customer, including the sale of spare parts, installation of qualified personnel on modern equipment in compliance with the technological process in accordance with the recommendations of Toyota standards and support guarantees.

The war on the Ukrainian territory has affected normal life. Dealership hasn't worked for 3 months and unexpected damage of cars with missiles and other stuff increased the warranty repair of cars by 99,46%, which significantly reduced the need to repair and maintain cars. At the same time, the supply of necessary spare parts was significantly reduced and the work in the service center was stopped for months. As a result, the number of serviced cars at the "Toyota Center Kyiv Avtosamit" is negative (Table 2.10).

Table 2.10 – Departments for sale of spare parts

Type of repair	Number of serviced cars in 2021	Number of serviced cars in 2022	Dynamics of car service compared to 2021, %
Maintenance	7 862	6 017	-23,47%
Current repair	5 945	5 485	-7,74%
Restorative repair	1 850	1 413	-23,62%
Additional equipment	1 422	1 434	0,84%
Warranty repair	595	1 188	99,66%

Considering the change in the distribution of the order of orders by type of repair according to the Table 3.1 the following trends should be noted:

1) decrease in maintenance of cars with oil change (maintenance) by 23.47%, current repairs by 7.84% and restorative repairs by 23.62% due to the war and damage of supply chains;

2) expansion of the line of accessories to increase car sales and customer flow allowed to increase the number of orders with additional equipment by 0.84%;

3) concerns about customer safety by 99.66% increased warranty repairs at Toyota service companies. The data in the table can be visualized graphically using a pie chart presented in Figure 2.7.

The a full-scale invasion of the territory of Ukraine has had a profound effect on the company's operations, with particular disruptions to its distribution and logistics systems. One of the problems that could be noticed during this period is a significant shortage of spare parts for car repairs. Frequently used spare parts, as already mentioned, are stored in the showroom and can be delivered from a regional warehouse in Poland. The polish suppliers may delay the delivery of the spare parts as they are located outside of Ukraine and need to cross the borders. The delays in spare parts delivery cause significant delay in service performance Opening another warehouse on the territory of Ukraine could solve this problem.

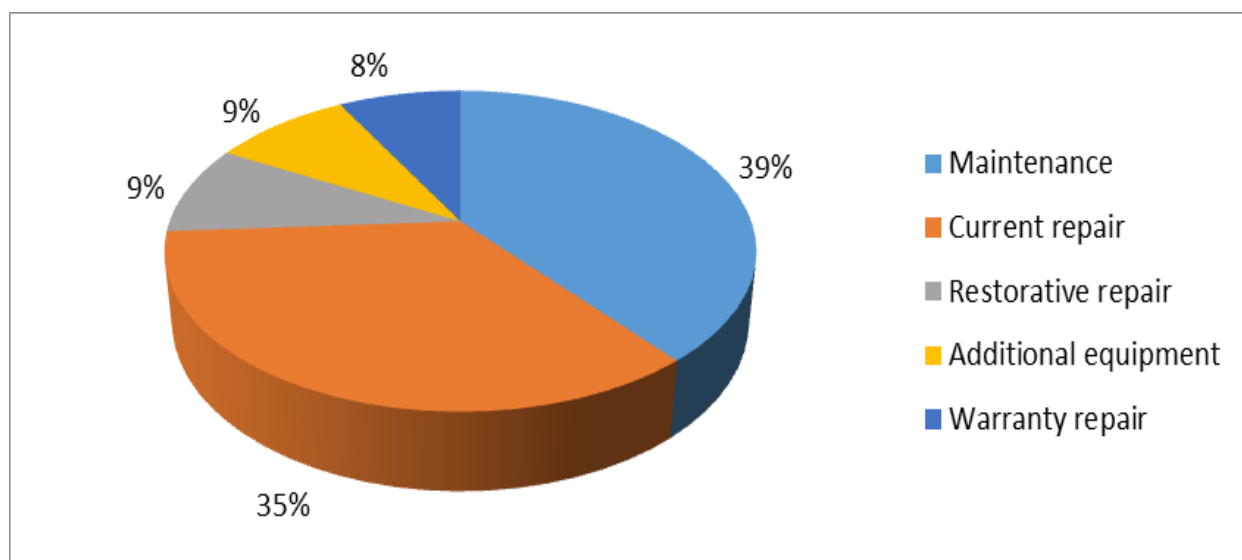


Figure 2.7 - Structure of the distribution of orders by type of repairs in 2022

The Toyota brand continues to occupy a leading position in the segment of sales of new passenger cars. The loyal pricing system makes it possible to maintain the fleet of out-of-warranty cars as much as possible, and to expand the active customer base due to sales of new cars. The summary of the sales results is outlined in Table 2.11.

Table 2.11 – Sales of spare parts

Brand/ way of distribution	2020 year, UAH without VAT	2021 year, UAH without VAT	2021 compared to 2020
Toyota	88 946 510	116 575 830	24%
Lexus	3 808 685	4 059 826	6%
Other brands in auto salon	658 390	929 124	29%
Retail and wholesale	15 739 148	23 305 265	32%
Warranty for spare parts	3 705 164	4 065 406	9%
Total	112 857 897	148 935 451	24%

The data in the table can be visualized graphically using a pie chart presented in Figure 2.8.

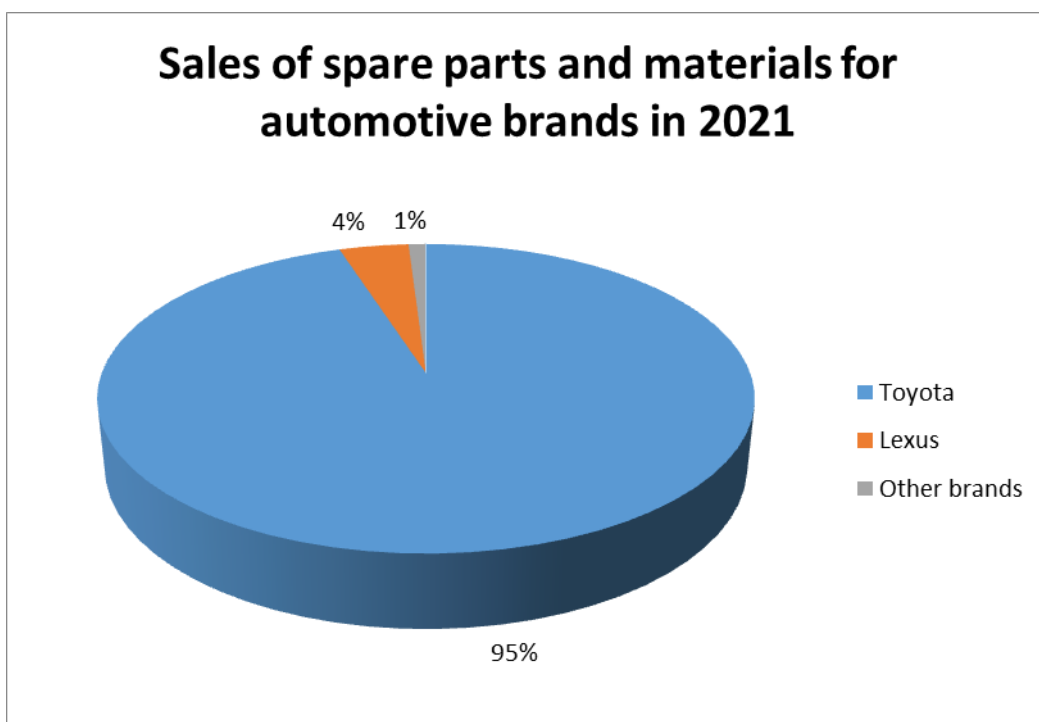


Figure 2.8 – Sales of spare parts and materials for automotive brands in 2021

Compared to 2020, in 2021 the company increased sales of spare parts, accessories and auto goods for the Toyota brand by 24%, and Lexus by 6%. Also, due to active position in sales promotion, sales of goods and spare parts through retail and wholesale increased by 19%.

The next option for the analysis of Toyota Center Kyiv "Avtosamit" is SWOT analysis. It is used to analyze the internal and external factors of the enterprise, which can both help and create adverse conditions and obstacles for the company. Since the company has a long-term presence in Ukrainian market (more than 20 years) "Avtosamit" has created a large database of loyal customers and has established a strong reputation in the market. The company sells Toyota cars that are known around the world. This adds to the reputation of a well-developed business and customer trust. Toyota Center Kyiv "Avtosamit" creates special training programs for its employees in order to meet quality standards and have qualified staff. Also a strength of the company is the seven-day work week. This allows to capture

customers who have full-time busy workweek and are available only on weekend. Toyota Center Kyiv "Avtosamit" has a flexible insurance program for different types of cars and customers. The company also has quality certificates from Toyota and a certified diploma from Toyota Motor Corporation. With use of Lean management techniques, the company can quickly adapt to customer requirements and perform services at the highest level. Toyota was the founder of this concept, which is used in many companies today. Since the service center is the direct official representative of Toyota in Ukraine, the dealer receives all new models first on the market. Also, new parts and technological firmware for cars arrive at the dealership immediately after the world presentations, or even earlier to ensure smooth operation and quality customer service. The warranty and dealer support programs slightly reduce the price of the service in the repairment facilities of the "Avtosamit". For all service work, Toyota Center Kyiv "Avtosamit" provides warranty and certification documents.

Although the company the following weaknesses: high cost of repairment and maintenance of personnel, high service cost for customers, high danger of car recalls, delays in spare parts procurement, limited orientation to the clients in Kyiv, shortage of spare parts in stock. Since the company supply the parts directly from the manufacturer in order to ensure high quality of the components the clients have to pay a high price for it. Therefore, the cost of repairs for customers are high, compared to private service centers. One of the company's weaknesses is the recall of cars due to a high rate of defects coming from the manufacturer [21]. Some models are not very successful, or the whole batch of cars comes out with a defect. Therefore, the company is forced to make recalls or full service and replacement of parts in a large number of cars. Replacing parts will take a lot of labor time, so it's easier to just recall the whole batch of cars. This recall weakens the firm because it leads to consuming of business capacity that could instead be used to distribute products. Such situations devalue human trust and reduce loyalty to the company. Toyota and dealerships need to respond quickly to such incidents and, as soon as possible, offer their customers a car replacement or a decent alternative. The delays in spare parts delivery and high operational and transportation cost for them are challenge for the "Avtosamit"

company. The delivery time of spare parts coming from the manufacture is long and instable and may cause delays with the service in dealership centers.

The external environment for the company gives several opportunities: increasing income level in Kyiv, growing demand for private cars, increase in the number of parking spaces in Kyiv. Through the analysis of economic indicators of Ukraine, it can be identified that the income level of population is increased [5]. As a result, this gives Toyota “Avtosamit” an opportunity to an increase in solvent buyers. According to statistics, in recent years, the demand for brand new cars has decreased, mainly in big Ukrainian cities such as Kyiv, Lviv and Dnipro [9]. Also in the last quarter, the concentration of Toyota Center Kyiv “Avtosamit” customers in the western regions of Ukraine has significantly increased. This factor gives the company an opportunity to open a new branch of dealership center in Lviv. According to statistics, by 2030, 60% of the population will live in large cities and metropolitan areas, which will result in sharp increase of urban population [10]. As a consequence, the local governments develops regulatory system which will simplify the movement by private cars [1]. These activities result in creating more and more parking lots and building new residential complexes with parking spaces [2].

Due to the growing customer needs in using private vehicles as means of transportation, there is an opportunity to expand the range of new services provided by the dealership. Currently, the dealership center is focused on the maintenance of the engine and internal mechanisms of the car. One of the potential ways to increase the service can be maintenance and care of the car interior, dry cleaning, car wash and exterior cleaning. These services are becoming increasingly popular with customers and have good potential for development. Among the customers there is a demand for Subaru and other cars produced by Toyota Corporation, and then there will be an opportunity to add new brands of cars to its range.

The threat of Toyota Center Kyiv “Avtosamit” come from the growth of private service stations with cheaper service. It promotes the outflow of customers and reduces the number of potential customers. Often, private centers offer the same services, at a lower price, though the quality doesn't meet the customer's

expectations. According to the analysis the strong tendency in decline of basic economic indicators of Ukraine creates the threat to Toyota "Avtosamit". The decrease in consumer confidence index (CCI) leads to lowering of brand new car sales in Ukraine. Due to the decline in many economic indicators of Ukraine, it is necessary to expect the possible sudden drop of income in future. As a result of recent months, the company has faced the problem of outflow of customers in the Western region of Ukraine. More than two million residents of Kyiv and Kyiv region have moved to temporary residence in the western regions, especially Lviv and Ivano-Frankivsk. The global pandemic has been a threat to almost all companies over the past few years. The pandemic affected absolutely all areas of the company's activities and changed many operations and procedures. Due to the global quarantine, there were significant delays in the delivery of parts and spare parts for car repairs. Some customers received repairs of their cars with a delay or at an inflated price. This affected loyal customers and reduced their number.

The identified strengths of the Toyota Center Kyiv "Avtosamit" company are: long-term presence in the market (20+ years), well develop reputation of the business, distribution of reputable brands (Toyota), well-developed training program for employees, 7 day working week, flexible insurance program, business owned repairment facilities, quality certificate from Toyota, reliable warranty program. The main opportunities for the company are: Increasing income level in Kyiv, growing demand for private cars, increase in the number of parking spaces in Kyiv, growing customer's needs on 7%. As weaknesses for the company were identified, high cost of repairment and maintenance personnel, high service cost for customers, high danger of car recalls, delays and high costs of spare parts procurement, limitation to the market in Kyiv, shortage of spare parts in stock. Increase in private service centers, strong tendency in decline of basic economic indicators, decrease in customer confidence, penetration of other players, expected sudden drop future incomes in future, outflow of clients to the Western parts of Ukraine due to the geo-political situation and destruction of the established supply chain channels were

identified as threats of the company. Toyota Center Kyiv "Avtosamit" SWOT analysis presented in Table 2.8.

Table 2.8- Toyota Center Kyiv "Avtosamit" SWOT analysis

Strengths	Opportunities
Long-term presence in the market (20+ years) Well develop reputation of the business Distribution of reputable brands (Toyota) Well-developed training program for employees 7 day working week Flexible insurance program Business owned repairment facilities Quality certificate from Toyota Reliable warranty program	Increasing income level in Kyiv Growing demand for private cars Increase in the number of parking spaces in Kyiv Growing customer's needs on 7%
Weaknesses	Threats
High cost of repairment and maintenance personnel High service cost for customers High danger of car recalls Delays and high costs of spare parts procurement Limitation to the market in Kyiv Shortage of spare parts in stock	Increase in private service centers A strong tendency in decline of basic economic indicators Decrease in customer confidence Penetration of other players Expected sudden drop future incomes in future Outflow of clients to the Western parts of Ukraine due to the geo-political situation Destruction of the established supply chain channels

Thus, the threats and weaknesses of the company "Avtosamit" were identified, which due to the use of EOQ models and location strategies can be turned out into

opportunities. To prevent the threat of a global pandemic and the lack of parts in Ukraine due to delivery delays, a Toyota dealer can implement the system for automation of distribution processes for Toyota dealerships in Kyiv, with the necessary solutions for spare parts and components ordering. As a result, less time will be spent on the delivery and operational costs.

Chapter 2 summary

Toyota Center Kyiv “Avtosamit” has been operating in Ukraine since 1992 and located in Kharkivsky district of Kyiv. During these years, “Avtosamit” created a wide database of loyal customers. The Avtosamit company operates under the licence of Toyota Authorized Service Station. Dealership center is an official representative of Toyota Motor Corporation for cars and spare parts realization in Ukraine. The company proposes such services as: sale of Toyota brand new cars, maintenance and repair services for cars, and delivery of spare parts for Toyota. The additional services for the dealership are car maintenance and repair, realization of used cars, sales of corporate vehicles, spare parts delivery and car detailing.

Toyota Center Kyiv “Avtosamit” as a branch of Toyota Motor Corporation uses in their activities Lean management techniques and the Toyota Production System. The system consists of six steps: establishing target set-up times to make every product every day, reducing set-up times, changing the layout of machines to create single-piece flow of parts through the process, moving from monthly to weekly and then daily orders, stopping the use of MRP systems for production control, teaching the chroming subcontractor to process parts in a single-piece flow.

The environmental scanning of basic indicators in Ukrainian economy showed a decline during the recent years judging by the inflation level and the producer price indexes. The major competitors of Toyota “Avtosamit” are other Toyota dealership centers in Kyiv and Kyiv region. They provide similar services such as the sale of

brand new cars from the showroom as well as service and body repair for Toyota cars. But Toyota “Avtosamit” has been on the Ukrainian market for the longest time. The company also has a fairly high brand market share on Ukrainian market.

According to the financial analysis of the company, Toyota Center Kyiv Avtosamit faced significant changes in the key indicators. The Company has increase in accounts receivables in more than 86%, increase in trade and other payables by 49% compared to 2021 data. An increase in cash and cash equivalents is 28,5% in 2022 compared to 2021 data. Toyota Center Kyiv Avtosamit has an asset light based model. The main ratio indicators fixed asset turnover ratio and absolute liquidity ratio had increased by 0,01% and 0,03% respectively. The asset coverage ratio has decreased by 4,10% in 2022 compared to 2021 data. The reason for such decline is interruption in supply chain deliveries. An increasing ROS indicator 47,40% compared to 20,34% in 2021 means company successfully develops their efficiency. Toyota Avtosamit Company is the leader in the Ukrainian market share for car distribution with relative part of 10,78% [13].

In the comparison with other Toyota dealerships in Kyiv, Toyota Center Kyiv Avtosamit has similar prices. The fluctuations are minimal, and depends on the cars availability in the autodealerships. The Toyota Center Kyiv Avtosamit uses ship-rail transportations for the delivery of cars from Japan. For the spare parts delivery dealership cooperates with Toyota warehouse in Poland. The SWOT analysis technique was used for Toyota Center Kyiv Avtosamit. Customers loyalty, long presence in market and broad scale for repairment facilities are strengths of the dealership center. Sales of brand new cars increased by 39%, as well as sales of commercial vehicles decreased significantly by 23.3%. SWOT analysis of the company showed the problem in delays in the supply of parts. The high cost of customer service is due to the cost of spare parts and logistics costs for delivery. High outflow of customers due to geo-political situation and a dependency on the clients living in Kyiv were also identified as a threat and a weakness for the “Avtosamit” company.

CHAPTER 3

DEVELOPMENT OF PROPOSALS FOR STRATEGIC MANAGEMENT OF CAR DEALER DISTRIBUTION CHANNELS

3.1 Modern trends in the organization of management of product distribution channels

With the developed popularity of e-commerce in all spheres around the globe, customers' preferences of shopping change frequently. The traditional distribution channels are becoming less frequent for everyday shopping. In the distribution process, a key challenge lies in selecting the most suitable structure. In car manufacturing industry it is possible to choose all options of the desired car in company's site with the help of online configurator. Experience shows that determining the optimal distribution channel structure is an extremely difficult task.

From the point of view of the product supplier, distribution is the formation of a management system and sales planning in various sales channels, which will bring the supplier closer to the consumer of his products. Each enterprise, regardless of the type of activity, has its own special distribution system. However, they all share common criteria that must be taken into account when forming a distribution network. The main ones are as follows:

- finding distributors and establishing agreements with them regarding the supply and sale of goods;
- construction of a logistics system, which consists in the separation of warehouses
 - the place of storage of goods stocks, as well as transportation
 - the method and terms of delivery of goods for distributors;

However, it is possible to create an effective channel structure that effectively meets the stated goals. Careful delineation and specification of evaluation criteria is

important in the marketer's tasks and facilitates the choice of a specific structure of the distribution channel. Among the indicators, it is possible to note:

1) market dynamics - the number of consumers, their concentration, purchasing behavior. Especially in the car market, as customers usually don't change cars often. On the other side of the market, the system for selling spare parts must be flexible and quickly adapt to market changes, as new cars appear in the model range every year.

2) product characteristics – size, weight, price, product novelty, durability. For car spare parts, it is important to have a clear description, stock number and car model for which the part can be used. Since the company provides not only auto repair services, but also the sale of spare parts for retail customers, the main identifier is the name and serial number of the spare part.

3) activity of the enterprise, intermediaries - financial condition, size and practical experience of the enterprise or intermediary. For the distribution of already sold cars, Toyota Motor Company chooses certified companies on the territory of Ukraine. The company Toyota Center Kyiv Avtosamit is the official representative of Toyota in Ukraine, so it will receive its spare parts directly from the factory.

4) variables in the behavior of business subjects - the ability of the structure of sales channels to reduce the probability of conflict, while maximizing the effectiveness of communications. This point is important for resolving issues in the event of delays in the delivery of finished cars or spare parts for service repair.

5) changes in the external environment - economic, social and cultural conditions, level and structure of competition, development of technology, state management and regulation. The role of distribution has evolved from a mere method of moving goods and logistical process to a potent marketing tool that is founded on the analysis and consideration of intermediary needs, consumption methods, and advantages. This makes distribution a key influencer in the process. Consequently, in marketing, distribution is a multifaceted activity that involves promoting products from manufacturers to consumers, organizing product distribution within segments and territories, and ensuring sustainable sales, pre-sales, and after-sales service.

The distribution channel management system has seen significant changes and certain trends in recent decades. The most important of them are described in the Table. 3.1.

Table 3.1 – Trends in distribution channel management systems

Changes	Characteristics
1. Increasing attention to sales development strategies.	Successful businesses understand the importance of using a sales strategy that can achieve strategic advantage. It is more and more difficult for companies to maintain competitive advantages thanks to product, price or product promotion strategies alone. Therefore, the strategy of distribution is considered as an alternative among others, and turns into a strategic tool in the competitive struggle.
2. Increasing the number of partner associations and strategic alliances.	There is an intensification of business relations between producers and participants of the distribution channel in order to achieve the energy effects of joint activities. This led to the growth of partnership associations and strategic alliances. They, unlike the traditional ones, which are poorly organized distribution channels, closely connect the manufacturer and the channel participants, while defining the mutual expectations of the parties. Such a channel functions more efficiently than individual activities of independent entrepreneurs. And as a result, there is a shift in emphasis towards the management of sales channels that apply supply chain management methods, based on long-term relationships along the length of the channel.
3. Shifting emphasis towards management based on reducing sales costs.	Industrial enterprises pay special attention to cost reduction through mergers and acquisitions. This allows you to use the effect of scale, apply reengineering - everything that is the basis of an effectively functioning organization. At the same time, organizational structures are created with a reduced number of management levels, including and management of distribution channels, or at least improved management processes based on cost reduction.

The end of the Table 3.1

4. Expanding the use of technology	The use of technologies is associated with the reduction of costs. Thanks to this, the intensity of sales and its effectiveness increases. The growing role of telecommunications, computerization, especially the use of online platforms is the basis of technology growth. From a channel management perspective, the growing role of technology is forcing marketers involved in channel management to have a deeper understanding of technology, especially how it can be leveraged to increase channel effectiveness.
5. Giving preference to behavioral methods used in sales channel management.	Until recently, distribution channels were considered mainly as economic systems, and social processes and internal organization were not given due attention. However, a behavioral approach now prevails, according to which sales channels are considered more broadly, presenting them as economic and social systems. Thus, from a behavioral point of view, such important issues as the use of power and conflict management within sales channels are increasingly considered. Those responsible for managing distribution channels should have an understanding of social systems, as this will provide an additional set of tools.

Businesses involved in the manufacturing or sale of products require a continuous flow of information with their partners. In recent times, an increasing number of companies have been embracing the automation of distribution processes (ADP). Effective information exchange plays a pivotal role in ensuring the efficiency of distribution processes; however, not all enterprises are successful in achieving this. This shortfall can be attributed to two primary factors: the use of diverse information-analytical systems and the impact of human involvement.

Implementing ADP enables enterprises to evolve dynamically and create the necessary conditions for product availability to consumers. However, this necessitates the swift collection and processing of information about the product throughout its entire journey from the manufacturer to the consumer. A marketing information

system (MIS) plays a crucial role in ensuring the availability of information at every stage from production to implementation. It facilitates centralized management from the head office by providing a suitable computer program for distribution, which enables:

- Maintaining records of warehouse balances
- Collecting sales data from branches and distributors
- Generating reports
- Analyzing the efficiency of branch operations
- Automating documentation.

This system consists of such components:

- 1) a web service, the function of which is to receive data from distributors, which are then sent to the integration database;
- 2) integration database that accumulates and processes data;
- 3) the processor of all data received in the integration database, he also exercises control over the processing of all data;
- 4) a methodical application for the administrator, thanks to which credentials are configured for the possibility of accessing and entering information of distributors into the database.

All these components facilitate access to data regarding sales offices, sales volumes, order quantities, tracking of transactions between distributors and customers, and analysis of product inventories. In the distribution management, automated services enable swift access to accurate product information and the implementation of managerial strategies for the efficient advancement of the trading network.

By utilizing the information presented through tables and images, the company can generate reports using extensive databases, perform vertical and horizontal analyses, and devise and oversee implementation of strategies. Once operational, the system will facilitate the management of secondary sales and the reception of data. Additionally, it will provide insights into sales volumes across different sales offices. Daily updates on the location and progress of products or ordered parts will also be

available. This system will aid in monitoring payment delays and undelivered spare parts, strategizing future activities, and forecasting subsequent orders.

Modern markets operate in conditions of fierce competition and are characterized by instability. Therefore, for business development and making operational changes in production, it is necessary to have objective information about fluctuations and changes in the market. The distribution management service successfully copes with this task, providing real-time control, steady sales growth and wide market coverage. Therefore, the implementation of this software will allow to optimize the activities of enterprises.

Every day Toyota plant ships thousands of parts and vehicles across the whole of Europe. The company's supply chain focuses on ensuring that spare parts needed by factories and dealers, as well as vehicles ordered by individual customers, are in the right place at the right time. Supply chain group includes a central European parts center (Belgium) that supplies regional depots and also Toyota has a series of strategically located vehicle distribution hubs that handle both our European-built models and those shipped from overseas.

Toyota Parts Center Europe (TPCE) is a central distribution center located in Diesti, Belgium. The task of this center is to obtain spare parts from suppliers and delivery to workshops and dealerships. The supply chain of the company also includes 13 regional depots in Europe. The nearest regional warehouse to Ukraine, situated in Ostrołęka, Poland. TPCE has 205,000 different items from 180 suppliers and up to 100 truck movements per day. It works around the clock, delivering goods to more than 660 delivery points. TPCE is responsible for the complete management of the supply chain - the center organizes when and how spare parts arrive at warehouses, the process of their selection, assembly and loading to fulfill orders, as well as transport logistics necessary for efficient delivery to the warehouse, the right place at the right time. The office part of the operation looks after matters such as procurement, inventory control, customer support, quality, packaging and planning. Meanwhile the team in the warehouse is responsible for receiving, sorting, storing, picking, packing and loading parts for shipment. On average, around 527,000 parts

and accessories are received and shipped each day from the Toyota Parts Center Europe [22]. Figure 3.1 shows the algorithm of spare parts distribution system.

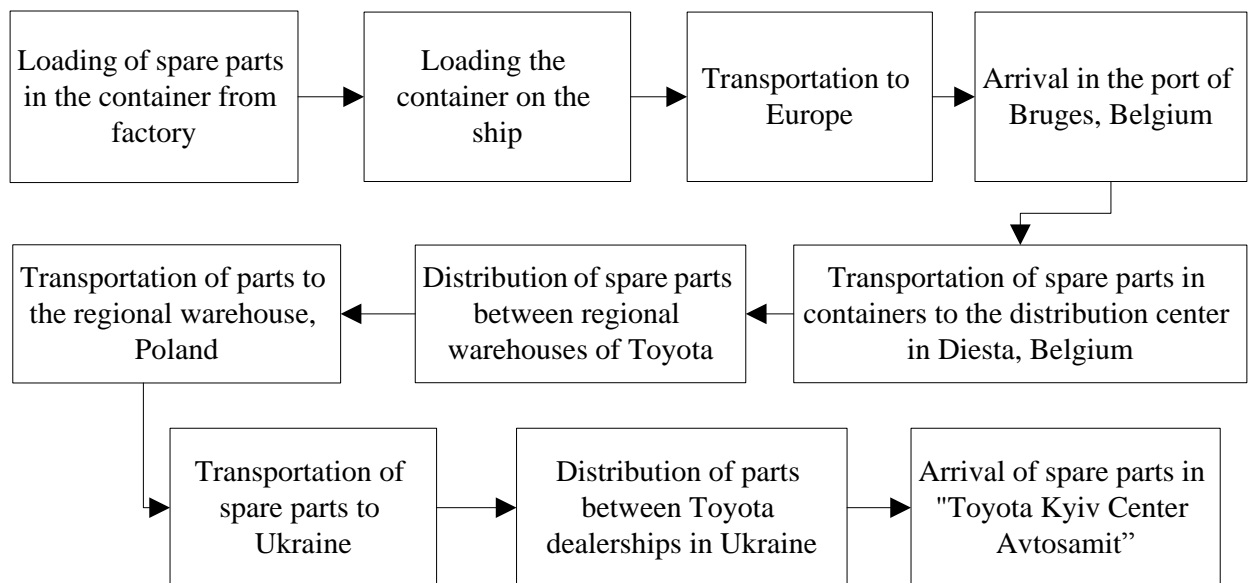


Figure 3.1– Flow chart of the spare parts distribution system

TPCE is currently the main body for the distribution of Toyota spare parts in Europe. In Ukraine, as mentioned above, there is a warehouse in Kyiv region. The distance from the regional distribution center in Poland to Kyiv is 995 km, to Lviv - 608 km. The cost of delivery of spare parts ranges from 5-8 UAH per km. Most spare parts for car repairs are located directly in the warehouses of the dealership. Among the most popular parts that Toyota Center Kyiv Auto Summit regularly orders are oil filters, engine oil, spark plugs, silencers, air conditioning filters and brake pads. These parts need to be replaced most often, so they are always available at the dealer center.

3.2 Proposals for improving the process of managing the distribution channels of an automobile dealer

The main goals of the company are the following: reduce costs and investment logistics network, maximizing income and profits, logistics outsourcing. For “Toyota Center Kyiv Avtosamit”, control over the efficient use of funds in inventories is especially important, as investments in assets are frozen funds that reduce the company's liquidity. Therefore, given the general purpose of the thesis, the purpose of this section is to critically evaluate the existing practice of distribution policy, and the updated system with use of the proposed techniques. The recommended ways to achieve those goals are listed in Table 3.2.

Table 3.2 – Strategic goals of the company and ways to achieve

№	Strategic goals	Ways to achieve
1	Minimize costs and investment logistics network	<ul style="list-style-type: none"> - reduction of total operating costs of the enterprise - improving the processes of transportation and storage of products - increase the efficiency of the company's logistics solutions - reduction of costs for warehousing services through direct delivery - optimization of logistics infrastructure - efficiency and effectiveness of product sales channels
2	Maximizing income and profits	<ul style="list-style-type: none"> - optimization of the logistics system aimed at increasing sales
3	Logistics outsourcing	<ul style="list-style-type: none"> - selection of the optimal number of intermediaries in the channels of movement of goods - optimization of the logistics system by attracting new intermediaries

The dealership's Parts Department stands out as the most profitable division due to the minimal labor costs involved and the utilization of standard retail pricing for parts on repair orders from the Service Department. The primary clients of the dealership's Parts Department comprises the dealership's Service Department, with additional customers including local mechanic shops in need of genuine OEM parts, Collision Centers, and even retail customers seeking vehicle accessories for self-installation.

The key to success within a Parts Department lies in ensuring the availability of required parts without delay. In the past, Parts Department inventories were characterized by a narrow but deep inventory strategy, with a focus on stocking standard replacement parts in large quantities to prevent shortages. This meant that if an uncommon part was required for a repair, customers would have to wait for it to be ordered and delivered, which could take weeks. Over the past 15 years, advancements in supply chain operations have led to a shift towards stocking a wider variety of parts, albeit in smaller quantities on the shelves. This shift is enabled by more efficient resupply methods, allowing for parts to be delivered within a day or even on the same day to the dealership Parts Department.

Some OEM parts distribution centers may require 2-4 business days to deliver components, while for certain Import OEMs, it could take weeks to deliver parts from the international manufacturing site if they're not readily available at the distribution center. Additionally, in some instances, parts acquired from an OEM Parts Distribution Center may not be returnable for a refund, leading the dealership to absorb the cost with the hope of future utilization through its Parts Department outlets.

The standard procedure for a Parts Department repair order from the internal dealership Service Department entails simultaneous printing in both the Service and Parts departments when the repair order is generated by the Service Advisor. After the Master Technician (Level A) has diagnosed the vehicle and confirmed the required repairs, the technician will proceed to update the repair order in the DMS system. Subsequently, a member of the Parts Department will retrieve the necessary items

from the shelves as indicated in the repair order. This compilation of parts required for a service repair order is referred to as a pick ticket. The Parts Department personnel will then either transport the necessary parts to a central location within the service area or place them at the window that provides access to the service bays for a service employee to collect and deliver to the appropriate service bay.

The designated service technician or a parts runner will retrieve the necessary parts and carry out the tasks specified in the work order for the vehicle. In the event of an unforeseen repair, the technician will submit a request to the Parts Department to check for the availability and cost of the required part. If the part is available, the technician will dispatch a parts runner to the Parts Department window located on the service-bay side of the shop to request the part, which will then be delivered to the technician. Subsequently, the technician will include the additional part(s) in the repair order pick ticket. If the needed part is not in inventory, the parts ordering process will be initiated. If the required part is not available within the desired timeframe from the dealership network, it may be obtainable at a local retail parts store.

The primary customer of a dealership's Parts Department is typically the back-counter Service Department. In transactions at the Parts Department, prices are generally set at full retail value, contributing to its status as the most profitable Strategic Business Unit (SBU) within the dealership, in addition to its low labor requirements. Normally, retail parts are marked up by 40% over the wholesale cost. When selling parts to Collision Centers on the wholesale side, there is usually a markup price of 20-36% over the wholesale cost. Therefore, this is the reason for implementing a system to improve communication between links in the distribution channel.

Distribution activity is specific in that it acts as an intermediary between the car manufacturer and the customer. And the success of the distributor's activity is influenced by the timely delivery of the necessary cars and spare parts for repair.

As a result of the conducted financial analysis of the enterprise for 2020-2022, it was clear that the reasons for the main costs and losses for the company were

untimely deliveries, as well as delays in the delivery of spare parts. These costs can be minimized or reduced by implementing an information exchange system for Toyota dealers in Ukraine for timely deliveries of spare parts, as well as creating a unified warehouse for Toyota representatives in Ukraine.

Strategic goal	Ways to achieve
Minimize cost and investment in logistics network	Reduction of Total Operating costs
	Improving transportation process
	Increase the efficiency of logistics solutions
	Reduction of warehousing costs through direct delivery
	Optimization of product sales channels
Maximize income and profits	Optimization of the logistics system aimed at increasing sales
	Implementation of ADP system
Logistics outsourcing	Selection of the optimal number of intermediaries in the channels
	Attracting new intermediaries

Figure 3.2 – Toyota Center Kyiv Avtosamit Strategic goals

Companies are encouraged to introduce ADP Dealer Service Software into their work system. This system allows companies to synchronize the data of suppliers and distributors. The key functions of the dealership management system DMS are to manage all aspects of the car inventories (both new and pre-owned), spare parts stocks, sales and service transactions (including compensation), and financial reports

created from the system's activities. In the automobile business, there are two key DMS product vendors: Reynolds & Reynolds (R&R) and CDK (previously ADP).

R&R provides dealership management system (DMS) programs such as XtreamService, a database-mining tool used to extract client data in order to identify potential candidates for vehicle upgrades. Additionally, R&R offers Elite, a customer relationship tool. Within the XtreamService DMS program, a Sales Manager with excessive new vehicle inventory nearing the monthly end to meet original equipment manufacturer (OEM) quotas can identify customers who own vehicles required in the dealership's pre-owned inventory. By inputting specific parameters into the XtreamService program, based on the local market's pre-owned vehicle demand, the Sales Manager can effectively manage their inventory.

The XtreamService program is capable of generating an amortization report to assess the current payout of the client's vehicle as well as estimating the monthly payments for a new vehicle. The comprehensive report will encompass all dealership clients who possess the necessary vehicle. Through interaction with the target clients, the Sales Manager and/or sales personnel have the ability to arrange the requisite financial details to secure a deal for the client prior to their visit to the dealership. The functionality of the XtreamService program empowers the Sales Manager to concentrate their efforts on sales opportunities with the highest likelihood of closure, rather than expending time on scenarios that are less likely to result in a sale, potentially avoid irritating dealership clients that not satisfy the clients' desires.

The CRM Tool provided by R&R, Elead, utilizes a program called Xchange to monitor dealership clients scheduled for routine maintenance or repairs in the Service Department. The application identifies target clients who are in an equity position, meaning they owe less on their current vehicle than the car is worth in the market. Clients in positive equity positions have the opportunity to transfer the equity of their current vehicle into a purchase of a new vehicle, potentially resulting in similar monthly payments for the new vehicle as for the current vehicle.

Visiting the dealership for a service appointment typically causes less stress for customers compared to when they are there to purchase a new vehicle. When a

service order is initiated for a client with positive equity status in the CRM system, the sales representative is notified. They can then approach the customer with potential sales proposals while the customer waits for their current vehicle service to be completed. Apart from R&R's Elead CRM program, there are other CRM programs such as "VinSolutions" that provide customized marketing messages targeted at clients who are not currently engaged with the dealership.

The next system is CDK Global. Their major product is a dealer management system (DMS) that helps with the sale of new and used vehicles, client financing, repair and maintenance services, as well as spare parts and stock control. Furthermore, they offer layered software services and apps on top of their DMS platform, but these applications are also available to clients who do not already implement their DMS. Among the applications are an online store, a CRM system, and a bunch of others. They offer linked store applications, which allows dealerships to sell cars via the internet.

CDK assists their customers in adapting to technological and customer preference changes. CDK customers include seven of the ten top automotive retailer groups, but some clients has represented more than 10% of revenue or accounts receivable in the past few years. Their DMS software is notoriously sticky, resulting in a client loyalty rate that exceeds 20 years on average.

Most of their customers are capital-intensive car dealerships, which results in less-than-ideal financial statements. Nevertheless, the importance of CDKs products resulted in reduced cyclical income during the recession, while there were no significant losses owing to customer degradation issues since the middle of 2010 (the start of independent financial reporting).

Based on the provide that information and examples of this system from CDK and R&R companies it was decided to propose to choose one of the systems which can help Toyota Center Kyiv Avtosamit to simplify and improve the distribution processes of spare parts.

The main criteria which will be evaluated by this system:

- Cost of the system

- speed of system implementation;
- speed of request processing;
- reviews about the ADP system
- developers rating;
- technical support quality
- simplicity of introduction into the existing structure.

ADP Software provides vital information about the amount that each customer spends on vehicles, servicing and parts, together with details of their purchases. One of the sections of the system is developed CRM system to manage the business processes that increase customer satisfaction and improve sales performance. The proposed system offers a unified customer and vehicle database to be utilized throughout the entire dealership. Any customer data recorded and modified in the CRM system will be accessible in the ADP Dealer Service Software. The primary objective is to furnish all users with a precise, current overview of client activities and vehicle background. The CRM system empowers dealers to manage contacts, queries, sales dealings, marketing initiatives, and customer contentment assessments. Recently, ADP Dealer Services has introduced ADP Telephony in the Cloud, a hosted collaboration solution that delivers voice, video, presence, desktop sharing and chat, through the cloud for all users on any device. The solution integrates with DMS and Customer Relationship Management (CRM) system in ADP Dealer Service Software.

Automatic escalation procedures help to ensure that all customer issues are successfully resolved. Avtosamit ADP system will help to implement tools to manage all aspects of vehicle sales and stock management. These include showroom operations, sales management, inventory management, and new and used vehicle accounting. The ADP “Showroom module” can be tailored to the dealer preferences, or if appropriate, the individual salesperson’s requirements, in order to support specific sales processes and levels of control.

The system makes use of vehicle specification data from the manufacturer, third parties, or manually constructed vehicles. This ensures continuity of source information for use throughout Avtosamit ADP - essential when configuring a vehicle

to a customer's exact requirements. Also, images, presentations and websites can be linked to both vehicles and accessories. These tools can be used during the sales process to make the customer buying experience more professional and visually effective.

For the dealership side the profitability of an order can be viewed throughout the sales process and maximised using flexible back-office optimisation tools. Pre-defined links can be established between specific vehicles and related accessories. This helps to ensure that every sales opportunity is accurately represented. A wide variety of finance schemes such as hire purchase and contract style leasing are all catered for within ADP. These can be adjusted within sales procedures to increase revenue and fulfill the specific needs of the customer. ADP system will help to use the back-office administration functions which are automatically updated from the vehicle sale transaction data. These remove the need for double keying of data which reduces the risk of errors and saves valuable time.

Proposed ADP system controls stock movement, inter-company transfers, stock value write-down and can provide a detailed cost/profit analysis for each vehicle. This system enables a dealer to sell more vehicles and maximise the profit from each sale. Parts sales, stock management, and purchasing can all be managed with full functionality in Avtosamit ADP. To manage the many different kinds of transactions that a parts department must deal with, the system has well-organized processes and a lot of functionality. These are undeniably guided towards offering a quality support to the client.

A combination of factors, such as franchise indicators, locations, product groups, suppliers, re-order categories, and discount codes, can be used to manage stock in Avtosamit ADP. Each part number's stock status, including orders, customer reservations, delivery information, and free stock, will be displayed in real time by the system. Avtosamit ADP runs procedures for checking stocks, such as managing perpetual inventory. The framework will give direct points of interaction to vehicle producer cost records. Avtosamit ADP will be able to handle a wide range of

transaction types, including special contracts, price levels, discounts, and optional customer and order categories.

To ensure that future stocking requirements are based on realistic demand patterns in order to maximize availability and stock turnaround, each part sale transaction must be recorded. For electronic stock order submission and receipt, Avtosamit ADP will support vehicle manufacturer interfaces. The ordering and receiving of stock between companies will be streamlined by the system. These functions aid in minimizing stock obsolescence and maximizing dealer group stock purchasing terms. Figure 3.3 depicts ADP system data exchange scheme.

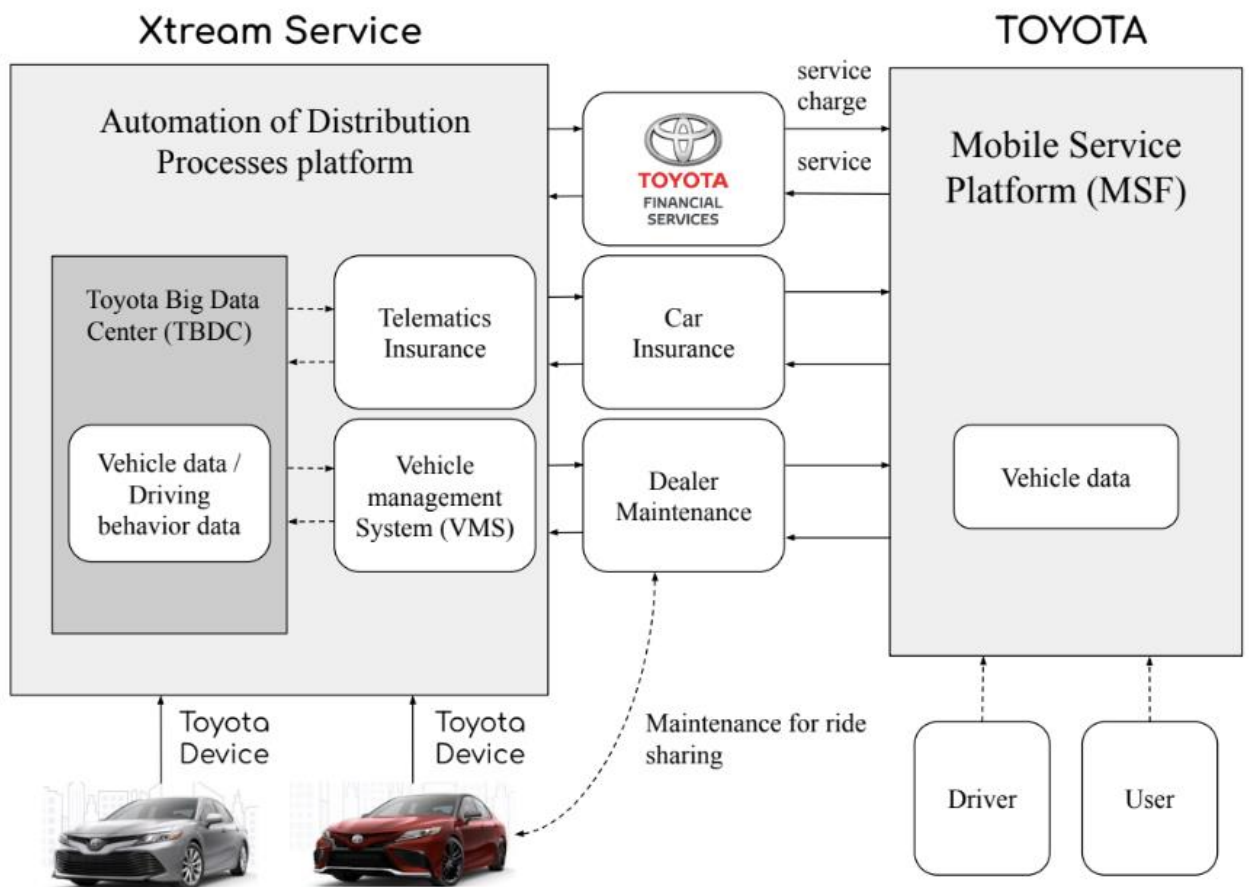


Figure 3.3 – ADP System Data Exchange Scheme

A significant percentage of the warehouse turnover of spare parts is made up of orders from private individuals and dealer companies. These are usually small orders (up to 2 spare parts) that must be delivered today. Such orders, after entering the ERP,

receive a special status and are transferred to the WMS with a note of urgency. For the fastest collection, packaging and shipment to the client by our own or subcontracted courier services. Most customers want to know an estimated or guaranteed delivery time and are willing to pay more for faster shipping. Automating distribution processes is a powerful method that is used to overcome most of the problems that a company may face when creating and delivering orders.

First, by implementing an inventory management system in the automotive center, inventory control is improved, counting inaccuracies are eliminated, and human error is minimized. Secondly, by implementing the automation of distribution processes system, the company reduces the costs associated with errors in the execution of orders and eliminates shipment delays. Third, by integrating the management system of distribution channels and data processing, the company increases the productivity of employees and reduces labour costs.

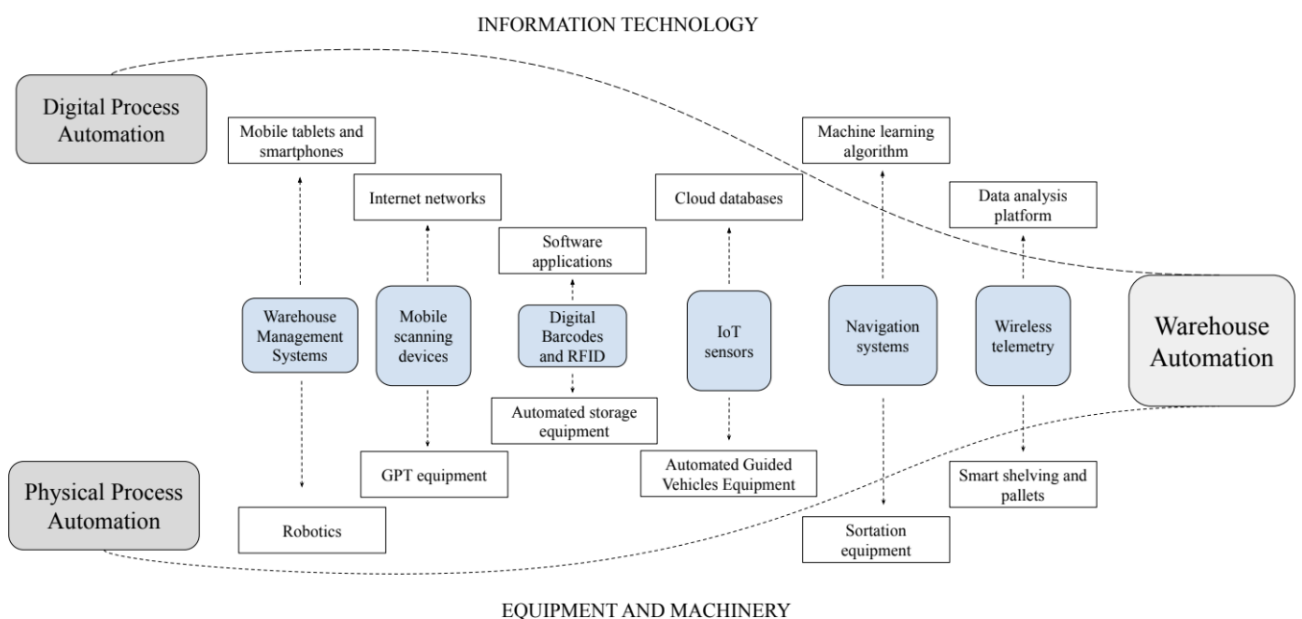


Figure 3.4 – Digital and Physical process automation scheme

The main functions that will be simplified after the implementation of the ADP system presented in Table 3.3.

Table 3.3 – ADP system

Department	Solution
Vehicle sales	Solutions technology tools and services to streamline the entire vehicle inventory sales and financing insurance (F&I) process
Fixed operations	Solutions to manage the parts and services profits profit center of dealerships including customer targeting appointment scheduling on the site workflow and billing.
Customer relationship management	Solutions software to manage interactions with current and prospective customers
Financial Management	Value added capabilities for accountable payments and payroll
Document Management	Document creation and archiving solutions to address the complex automotive retail sales process
Network Management	Wired and wireless network solutions to support dealer connectivity and security efforts
Integrated telephone Management	Integrated telephony solutions that allow automotive retailers to connect and communicate via presence instant passaging voice and video

3.3 Evaluation of the effectiveness of the developed project

The compilation of potential developers is derived from the received proposals within the market and feedback on previously executed projects. This inventory encompasses the subsequent developers. The determination of selecting a technology provider will be based on the method of expert evaluation. The methodology of this approach entails the following measures:

- Formulating a set of criteria for assessing developers;
- Assigning a ranking to each criterion by a panel of experts;
- Deriving the weight coefficient for the criteria by aggregating expert opinions;
- Evaluating each developer in accordance with the established criteria;
- Determining the weighted composite criterion.

The process of expert evaluation involves three key stages: expert selection, survey administration, and result analysis. Methods that utilize expert assessments can be classified into two categories: individual assessments, which are provided independently by each expert, and group assessments, which are formed through open discussion among a team of experts.

Of these stages, the selection of experts holds significant responsibility as the quality and reliability of the expert survey results are directly influenced by the qualifications of the participating specialists. In general, the process of selecting experts for an examination entails two main stages. Initially, the task requires identifying the experts based on the specific requirements of the examination. Subsequently, the expert group is formed from the identified experts.

It's important to consider that the resources required for the examination are directly tied to the number of experts involved. As the number of experts increases, so do the associated time and financial costs related to forming a group, conducting the examination, and processing its outcomes. While there are methods available to calculate the size of the expert group, it is generally recommended to interview a

variable number of experts, typically ranging from 10 to 20 individuals, although adjustments may be necessary in certain circumstances [59].

As a result, it is proposed that an expert group of 12 people be formed to establish the weights - specialists in the field of information technology in transportation who have a sufficient level of professionalism and inventiveness to provide their professional opinions.

Ranking is a mathematical strategy for analyzing expert views that involves organizing objects in order of increasing or decreasing their intrinsic attributes or relevance. Ranking allows company to select the most important component from a set of evaluated factors. Experts rank each of the considered signs from most significant to least significant (i.e. places 1, 2, and so on). Table 3.4 provided for results of ranking evaluation method.

Table 3.4 - Results of expert evaluations by ranking method

Criteria	Experts											
	1	2	3	4	5	6	7	8	9	10	11	12
The cost of the system	2	2	4	3	4	5	1	2	1	4	1	2
Speed of implementation	4	3	1	2	5	2	3	1	2	6	3	4
Technical support quality	1	4	2	1	6	4	6	6	4	3	2	5
Speed of request processing	3	1	6	4	1	1	2	3	3	1	4	1
Resistance of the system to load	6	6	5	6	2	6	4	5	5	5	5	6
Reputation in the market	5	5	3	5	3	3	5	4	6	2	6	3

To define the importance using weighted-ranking method, it is necessary to assign each rank a certain number of points, provided that the first rank receives the highest number of points, and the last - the lowest (1 to 6). The next step is to determine the sum of the scores for each criterion that was evaluated, according to the formula:

$$r_i = \sum_{k=1}^n r_{ki}, \quad (3.1),$$

where r_i is the sum of points according to the i -th criterion;

r_{ki} - the number of points on the i -th criterion from the n -th expert.

The calculation of the coefficients is performed directly by the formula:

$$a_i = \frac{r_i}{\sum_{i=1}^m r_i} \quad (3.2)$$

The results of the calculation of weights were summarized in the Table 3.5.

Table 3.5 - Calculation of weights by ranking method

Criteria	Experts												Sum of points	Weights
	1	2	3	4	5	6	7	8	9	10	11	12		
The cost of the system	5	5	3	4	3	2	6	5	6	3	6	5	53	0,21
Speed of implementation	3	4	6	5	2	5	4	6	5	1	4	3	48	0,19
Technical support quality	6	3	5	6	1	3	1	1	3	4	5	2	40	0,16
Speed of request processing	4	6	1	3	6	6	5	4	4	6	3	6	54	0,21
Resistance of the system to load	1	2	2	1	5	1	3	2	2	2	2	1	24	0,10
Reputation in the market	2	1	4	2	4	4	2	3	1	5	1	4	33	0,13

The next stage in the weighted ranking method is developers evaluation in accordance with criteria that were set. Evaluation is also conducted by experts based on open-source data and customers feedback ranked by scores from 1 to 10 (max).

Estimates to be given by each expert to potential developers according to certain criteria are presented in the Table 3.6.

Table 3.6 – Evaluation of potential developers by criteria

№	Criterion	Developers					
		R&R	CDK	XtreamService	Eliad	Xchange	VinSolutions
1	The cost of the system	8	8	9	8	9	10
2	Speed of implementation	10	8	10	7	8	9
3	Technical support quality	9	9	9	9	7	8
4	Speed of request processing	9	10	9	7	7	8
5	Resistance of the system to load	8	9	8	9	8	9
6	Reputation in the market	10	9	10	8	9	10

Once the estimates are determined, the weight of each criterion must be considered. The result of multiplying the estimate by its weight is shown in Table 3.7.

Table 3.7 – Combination of weighted and integrated criteria

№	Criterion	Developers					
		R&R	CDK	XtreamService	Eliad	Xchange	VinSolutions
1	2	3	4	5	6	7	
1	The cost of the offers	1,68	1,68	1,89	1,68	1,89	2,10
2	User-friendly interface	1,90	1,52	1,90	1,33	1,52	1,71
3	The developer has all the bots that cover the needs of automation	1,43	1,43	1,43	1,43	1,11	1,27
4	Flexibility to real-time data processing	1,93	2,14	1,93	1,50	1,50	1,71

The end of the Table 3.7

5	Resistance of the system to load	0,76	0,86	0,76	0,86	0,76	0,86
6	Reputation in the market	1,31	1,18	1,31	1,05	1,18	1,31
7	Comprehensive assessment	9,02	8,81	9,23	7,85	7,97	8,97
8	Relative weight in total	0,174	0,170	0,178	0,151	0,154	0,173

After the provided calculations, it is necessary to recommend for Toyota Avtosamit Company the cooperation of the developer with the highest relative weight assessment – XstreamService. Their comprehensive scores are the highest, 9,23 and 0,178 accordingly.

To calculate efficiency indicators at the first stage, it is necessary to determine what costs will accompany the project. This includes the initial investment (purchase of software, necessary equipment) and current costs for the planned period under consideration (Table 3.8).

Table 3.8 - Costs for the implementation of the ADP project, EUR

№	Cost item	1 year	2 year	3 year	4 year	5 year	Total
1	Recommendation on the development of ADP	5000	-	-	-	-	5000
2	ADP program development	40000	-	-	-	-	40000
3	Integration of software in the existing process within the company	15000	-	-	-	-	15000
4	Cost of ADP system hardware and databases	15000	-	-	-	-	15000
5	Other technical support services	4000	4000	4000	4000	4000	20000
6	Additional application tools for software handling	3500	-	-	-	-	3500
7	Staff training	1000	-	-	-	-	1000
8	Upgrading of the system according to user reviews of the software product	-	4000	2000	-	-	6000
9	Total	83500	8000	6000	4000	4000	105500

The creation of modern solutions within the organisation need to be followed by a commercial effectiveness for this selection. To prove this, company can use the criteria for the effectiveness of investment projects. The selection of a particular criterion for assessing the effectiveness of a project relies upon on positive factors

- the available market forecast;
- the availability of resource constraints to finance the project;
- fluctuations in cash flows;
- the ability to generate profits Net Present Value (NPV) [60]

This is the most famous and most used criterion. It can also be called discounted net benefits. The net present value is the difference between the future value of the expected benefit stream and the present value of the current and future costs of the project during its cycle. NPV is the present value of the project (the present value of the income or benefits of an asset) [60].

To evaluate the present value of a project, required to find the discount rate, use it to discount the cost and benefit stream, and sum the discounted benefits and costs (negative costs). In financial analysis, the discount rate is usually the company's cost of capital. In economic analysis, the discount rate is the basic cost of capital, that is, the profit that can be made by investing in the most profitable alternative projects.

If the net present value is positive, the project can be recommended for funding. If the present value is zero, then the proceeds from the project are only enough to restore the investment and the investment has been approved and the investment has been approved. If the NPV is less than zero, the project will not be accepted. The NPV is calculated using the following formula:

$$NPV = \sum_{t=1}^n \frac{I_t - O_t}{(1+r)^t} \quad (3.3)$$

where I_t , - income flows of the project in year t;

O_t , - outcome flows of the project in year t;

r - discount rate;

n - duration (life) of the project.

Calculations of the net present value of the project, benefits and costs will be presented in the form of Table. 3.9.

Table 3.9 - Calculations of project implementation efficiency, EUR

No	Year s	Income s	Outcome s	Cash Flow	Discount coefficient t r=15%	Discounte d Cash Flow	Discount coefficient t r=25%	Discounte d Cash Flow
1	1	2	3	4	5	6	7	8
2	t	I_t	O_t	CF_t	$1/(1+r)^t$		$1/(1+r)^t$	
3	1	40000	83500	-43500	0,870	-37826,1	0,800	-34800
4	2	24000	8000	16000	0,756	12098,3	0,640	10240
5	3	26000	6000	20000	0,658	13150,32	0,512	10240
6	4	28000	4000	24000	0,572	13722,08	0,410	9830,4
7	5	32000	4000	28000	0,497	13920,95	0,328	9175,04
8					NPV	15065,56	NPV	4685,44

According to the provided calculations, the difference between the present value of the future benefit stream and the present value of the future costs of project implementation is 15065,56 EUR at a discount rate of 15% and 4685,44 EUR at a 25% discount rate. From the moment the amount of discounted net worth is positive - the net present value is positive, the project will have a positive impact on the company and can be recommended for financing.

Another criterion for evaluating the effectiveness of the project is Internal Rate of Return (IRR).

The IRR of the project is equal to the discount rate at which the total discount benefits are equal to the total discounted costs, i.e. the IRR is the discount rate at which the NPV of the project is zero. The IRR is equal to the maximum interest on loans that can be paid for the use of the necessary resources, while remaining at a break-even level [61,62].

The calculation of IRR is performed by the method of successive approximations of the value of NPV to zero at different discount rates. Calculations are made according to the formula:

$$IRR = A + \frac{a(B - A)}{(a - b)} \quad (3.4)$$

where A is the value of the discount rate at which the NPV is positive;

B is the value of the discount rate at which the NPV is negative;

a is the value of the positive NPV, under discount rate A ;

b is the value of the negative NPV, under discount rate B .

At a discount rate of 32%, the NPV is negative. Substitute these values into the formula and determine the value of IRR.

$$IRR = 15\% + \left(\frac{15065,56 * (32 - 15)}{15065,56 - (-183,826)} \right) \% = 31,69\%$$

Also, the Internal Rate of Return can be found graphically. To do this, NPV values are calculated for discount rates in the selected range, for example from 5 to 35%. Based on these values, a graph of the NPV value depends on the discount rates. (Fig. 3.5)

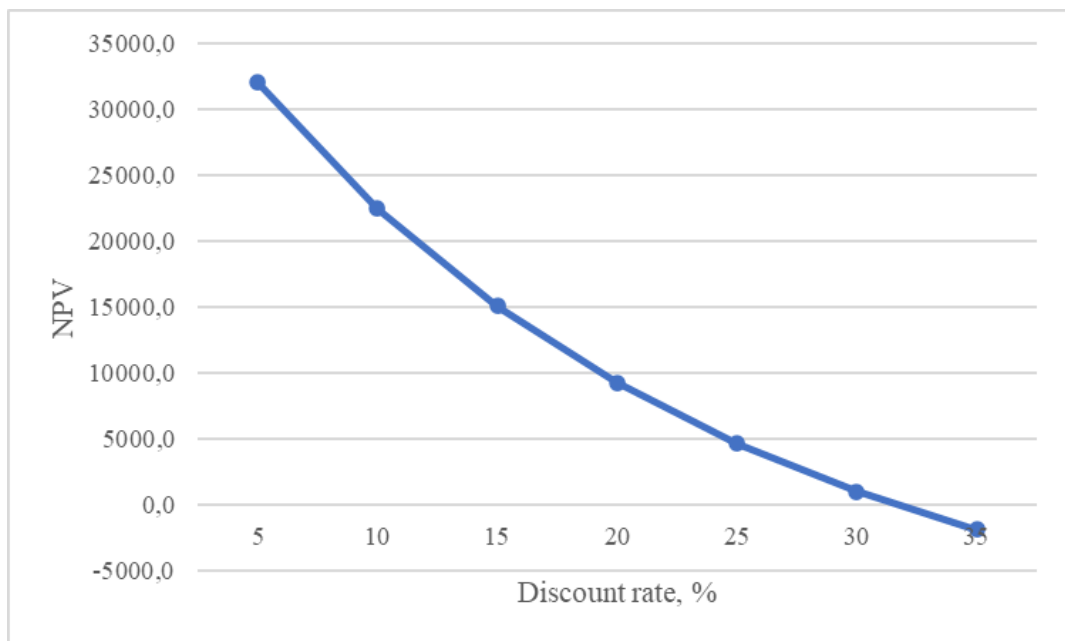


Figure 3.5 - Dependence of the NPV value on the discount rate

It is possible to see in the chart that before the 32% discount rate, the NPV values become positive and only after the 32% mark do they become negative. That

is, at an interest rate of 31,69%, the present value of all cash flows of the project is 0. This means that at such an interest rate, the investor will be able to recoup its initial investment.

Another efficiency criterion is Payback Period (PP). The payback period refers to the amount of time needs to recover the cost of an investment. Simply put, the payback period is the length of time an investment reaches a break-even point [63].

The time value of money is not taken into account. Payback Period intuitively measures how long something takes to "pay for itself." All else being equal, shorter payback periods are preferable to longer payback periods. Payback period is popular due to its ease of use. [39]

The payback period is indicated by the formula:

$$PP = \min n \text{ under which } \sum_{i=1}^n CF_i > IC \quad (3.5)$$

where *IC* (Invest Capital) - the initial investment costs in the project,

CF_i (Cash Flow) - cash flow of the project in the *i* period of time, less current costs,

n is the number of time periods.

Calculate the payback period of investment in the project (Table 3.10).

Table 3.10 – Calculation of the project Payback Period

№	Time period (year), T	Initial investment costs, IC	Cash Flow, CF	Cash flow cumulative total
1	2	3	4	5
2	1	83500	18000	18000
3	2	83500	16000	34000
4	3	83500	20000	54000
5	4	83500	24000	78000
6	5	83500	28000	106000

Cash flow over time was defined as the difference between the expected benefits and current expenses, which expected 6000 EUR in 1st year, 8000 EUR in 2nd year, and 6000 EUR in 3rd year, 4000 EUR 4th year and 4000 EUR in 5th year. Capital investments at the beginning of the project amounted to 83500 EUR. Based on the calculations, we construct graphs to reflect the moment of the beginning of the prevalence of cash flows over capital investments (Fig. 3.6) more conveniently.

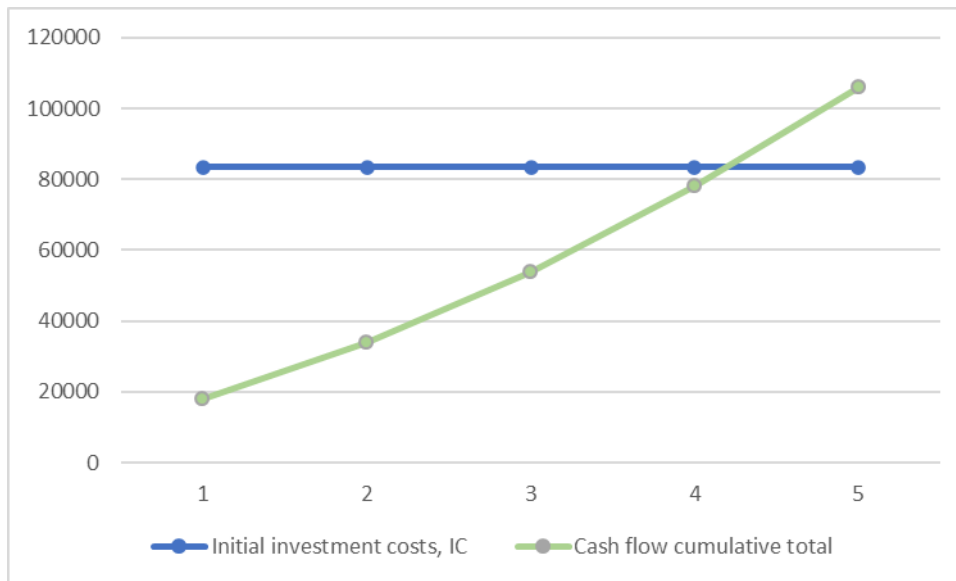


Figure 3.6 - Graphical display of the project PP

According to the calculations we can see that the Payback Period of the project comes after 4,2 years.

Chapter 3 summary

The third chapter of this thesis aimed on planning, implementation and recommendation of a project, which can solve the problem of supply chain deliveries delays.

The development of distribution channels and its structure continues nowadays. For better understanding the channel structure companies need to use different

analysis such as market dynamics indicators, product characteristics comparability, variables in the business subjects behaviour and external-internal environment changes. The most important changes in the distribution channel management system are increased attention to development strategies, creation of new alliances for strategic development. Also, usage of behavioral methods in sales management changed the economic system and organizational structures of the company.

Introduction of new technologies and solutions into car dealership structure simplify the collecting of data from branches and distributors, helps to maintain warehouse balances and automation of documentation. Usually, ADP system consists of several units. Web service is used for data collection from distributors, integrated online data base for data accumulation, the processor for analyzing of data arrays, and application for managers, technicians, and administrators of the car dealerships.

To achieve desired strategic goal of minimization of investment and logistics costs company was proposed to improve the process of delivery and transportation of goods, implement new logistics solutions, and optimize the logistics infrastructure using ADP system. Use and implementation of such solution can help in sales of vehicles and financing insurance process. Also, ADP system helps to manage spare parts delivery and warehouse operations, by continuous data interchange between dealerships and Toyota Distribution Center. According to analysis 6 companies propose full ADP system, which is ready for implementation on the Ukrainian market: Reynolds & Reynolds (R&R), CDK, Xtream Service, Eliad, Xchange, VinSolutions.

Using the weights-ranking method, and expert points, 6 criteria were chosen for system selection. After the provided calculations XtreamService was recommended for Toyota Center Kyiv Avtosamit company as the system with the highest relative weight assessment. The comprehensive scores are the highest, 9,23 and relative weight in comparison table is 0,178. The next best option is R&R with 9,02 score in comprehensive assessment.

In the third chapter the Net Present Value was used for calculation of effectiveness of project investments. Calculation Net present value is the difference

between the future value of the expected flow of benefits and the present value of the current and future costs of the project during its life cycle. The value of the future stream of benefits and the present value of the future costs of project implementation are 15,065.56 euros at a 15% discount rate and 4,685.44 euros at a 25% discount rate. From the moment when the amount of the discounted net value is positive - the net present value is positive, the project will have a positive development.

The IRR calculations help the company to understand the percentage in which NPV project cost equals zero. The IRR rate of the desired project is 31,69%. Such percentage indicates the value in which the investor can recoup initial investment. The payback period analysis showed that the proposed will recover the investment costs in 4,2 years.

CONCLUSIONS AND RECOMMENDATIONS

Continuous development of marketing and logistics is a key factor in the success of the company. With the successful cooperation of these departments, the company has the opportunity to plan a network of transportation and warehouses, using reports and data from the marketing department. The strategies involve successful internal and external communication within departments and along the entire supply chain.

In this work, it was defined that distribution has three systems with different level of authorities: operational, corporate and conventional. The distribution structure of the enterprise is mainly divided into vertical and horizontal. In the vertical structure, all organizational units that create the distribution channel remain partially independent in their activities, but there is a main department that creates a regulatory function. This system involves the creation of channels that will be responsible for moving products from manufacturer to customer, as well as operations related to logistics. While the horizontal structure determines the number and type of intermediaries at specific levels. Intermediaries in the transfer of ownership can be divided into dealers and agents. The first type is the owner of the product and is divided into wholesale, retail and other organizational units. Agents involved in the transfer of ownership from the manufacturer to the final buyer, conducting sales transactions and do not own or purchase these products.

Among the distributions in the field of car sales, indirect channel formats are most often used. The franchise dealer provides car service and is also an intermediary between the manufacturer and the customer. A multi-channel car sales environment is also used. It includes methods of online and offline car sales, the ability to buy a car to order, including all the necessary customer characteristics, as well as service and warranty repairs in the showroom. Use of online services such as early appointment registration significantly reduced clients waiting time. The supply chain for car

distribution consists of functional levels that are interconnected and form a single chain, which is combined into material flow, product flow and information flow.

The “supply-push” principle which was basic in the automotive industry was changed. Toyota Motor Corporation and General Motors introduced new channel-driven customer service where company excludes excessive errors, such as the clustering of an large number of dealers in close proximity and the formal incorporation of superior customer care practices. The value stream is base of distribution process in car dealership. It consists of functional tiers which help to coordinate material, information and product flows. The tier-production system consists of three tiers. The first one usually responsible for the supply of car details. The second one tier produce raw materials and other small parts of the cars. These tiers communicate between within horizontal and vertical structure of all Toyota suppliers to provide in time delivery and supply of necessary parts.

The financial and environmental analysis of Toyota Center Kyiv Avtosamit were conducted in the second chapter of this work. Toyota Center Kyiv “Avtosamit” has been operating in Ukraine since 1992 and located in Kharkivsky district of Kyiv. During these years, “Avtosamit” created a wide database of loyal customers. The Avtosamit company operates under the licence of Toyota Authorized Service Station. Dealership center is an official representative of Toyota Motor Corporation for cars and spare parts realization in Ukraine. The company proposes such services as: sale of Toyota brand new cars, maintenance and repair services for cars, and delivery of spare parts for Toyota. The additional services for the dealership are car maintenance and repair, realization of used cars, sales of corporate vehicles, spare parts delivery, and car detailing.

Toyota Center Kyiv “Avtosamit” as a branch of Toyota Motor Corporation uses in their activities Lean management techniques and the Toyota Production System. The system consists of six steps: establishing target set-up times to make every product every day, reducing set-up times, changing the layout of machines to create single-piece flow of parts through the process, moving from monthly to weekly

and then daily orders, stopping the use of MRP systems for production control, teaching the chroming subcontractor to process parts in a single-piece flow.

The environmental scanning of basic indicators in Ukrainian economy showed a decline during the recent years judging by the inflation level and the producer price indexes. The major competitors of Toyota “Avtosamit” are other Toyota dealership centers in Kyiv and Kyiv region. They provide similar services such as the sale of brand new cars from the showroom as well as service and body repair for Toyota cars. But Toyota “Avtosamit” has been on the Ukrainian market for the longest time. The company also has a fairly high brand market share on Ukrainian market.

According to the financial analysis of the company, Toyota Center Kyiv Avtosamit faced significant changes in the key indicators. The Company has increase in accounts receivables in more than 86%, increase in trade and other payables by 49% compared to 2021 data. An increase in cash and cash equivalents is 28,5% in 2022 compared to 2021 data. Toyota Center Kyiv Avtosamit has an asset light based model. The main ratio indicators fixed asset turnover ratio and absolute liquidity ratio had increased by 0,01% and 0,03% respectively. The asset coverage ratio has decreased by 4,10% in 2022 compared to 2021 data. The reason for such decline is interruption in supply chain deliveries. An increasing ROS indicator 47,40% compared to 20,34% in 2021 means company successfully develops their efficiency. Toyota Avtosamit Company is the leader in the Ukrainian market share for car distribution with relative part of 10,78%.

In the comparison with other Toyota dealerships in Kyiv, Toyota Center Kyiv Avtosamit has similar prices. The fluctuations are minimal, and depends on the cars availability in the autodealerships. The Toyota Center Kyiv Avtosamit uses ship-rail transportations for the delivery of cars from Japan. For the spare parts delivery dealership cooperates with Toyota warehouse in Poland. The SWOT analysis technique was used for Toyota Center Kyiv Avtosamit. Customers loyalty, long presence in market and broad scale for repairment facilities are strengths of the dealership center. Sales of brand new cars increased by 39%, as well as sales of commercial vehicles decreased significantly by 23.3%. SWOT analysis of the

company showed the problem in delays in the supply of parts. The high cost of customer service is due to the cost of spare parts and logistics costs for delivery. High outflow of customers due to geo-political situation and a dependency on the clients living in Kyiv were also identified as a threat and a weakness for the “Avtosamit” company.

The development of a distribution channel management strategy should be based on the financial capabilities of the enterprise. For this, it is necessary to assess the size of the company's net cash flow during economic downturns, as well as to understand whether this is sufficient for the successful development of the company. It is necessary to assess insurance reserves and the degree of their coverage of potential crisis risks. It is necessary to develop current issues of cost savings, reduce investment activities and other expenses, and also identify additional external sources of financing.

In addition, it is necessary to assess the potential of financial management: the qualifications of managers and the effectiveness of internal cash flow management processes. If the company has enough internal reserves to overcome the financial downturn, a comprehensive plan for the company's exit from it is developed, which includes the implementation of an optimization system, the amounts of allocated funds and the deadlines for the implementation of these measures are calculated, responsible for the implementation of the comprehensive plan and the expected results. In case of receiving external resources, an investment plan for financial repair is drawn up. Thanks to such a plan, the company can attract the attention of creditors, investors and other interested parties to improve its own business. The plan will help assess the company's financial condition, reveal the plan of action and understand the company's prospects for the future.

The third chapter of this thesis aimed on planning, implementation and recommendation of a project, which can help solve the problem of supply chain deliveries delays. The development of distribution channels and its structure continues nowadays. For better understanding the channel structure companies need to use different analysis such as market dynamics indicators, product characteristics

comparability, variables in the business subjects behaviour and external-internal environment changes. The most important changes in the distribution channel management system are increased attention to development strategies, creation of new alliances for strategic development. Also, usage of behavioral methods in sales management changed the economic system and organizational structures of the company.

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The IRR calculations help the company to understand the percentage in which NPV project cost equals zero. The IRR rate of the desired project is 31,69%. Such percentage indicates the value in which the investor can recoup initial investment. According to the calculations it was defined, that the Payback Period of the project comes in 4,2 years. After the analyzes and calculations, we can conclude that at the first stages, the system from the developer will fully satisfy the needs of the Toyota Center Kyiv Avtosamit company, but in the dynamics of several years, if there are unsatisfactory results, or the company needs additional functions, then the company can develop own ADP system.

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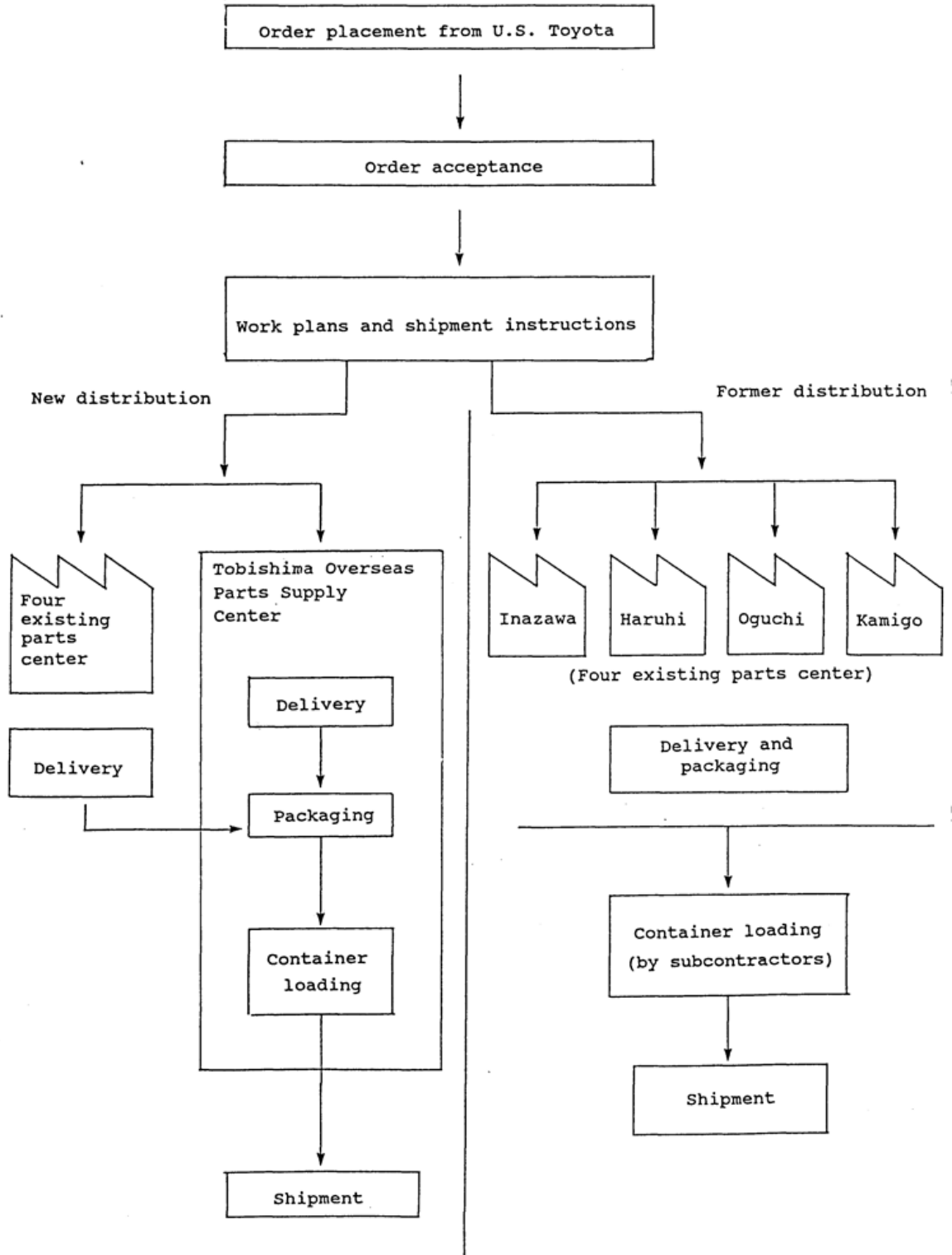
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Appendix A

Toyota distribution system

Outline of the New Distribution System



Source [11]