Streszczenie w języku angielskim

In accordance with the assumptions adopted for the implementation of the work, its content corresponds to the assumed theoretical and research objectives. The theoretical part of the paper is based on a literature review based on the use of primary and secondary sources of literature. Secondary sources were scientific publications, yearbooks and statistical materials published by the Central Statistical Office.

In the theoretical part, issues related to the competitiveness of small and medium manufacturing enterprises in the Silesian Voivodeship and supply chain management were discussed. The available knowledge in this area was systematized and the increasing role of developing a model significantly affecting the competitiveness of small and medium manufacturing enterprises in the Silesian Voivodeship was indicated.

Analysis of the literature on the subject indicates that theoreticians' views on competition have changed over time. Initially, the market and competition were combined with an "invisible hand" leading to an optimal allocation of resources. Over time, theorists have developed more advanced theories based on price, quality and sector competition. The most recent theories contributing to contemporary views on competitiveness were put forward by Michael E. Porter, who sees competitiveness as a constant struggle between competitors. Among Polish theorists studying competitiveness, the best known are the works of Marian Gorynia.

The author concludes that it can be assumed that competitiveness is the ability of a company to compete, and thus to make profits and achieve objectives better than competitive companies do. The concept of competitiveness has been present in economic literature since the 1980s. This means that competitiveness research is a young area.

When discussing competition, some theoretical questions about the types of competition cannot be ignored.

The author notes that in the literature on the subject there are many divisions of factors influencing the competitiveness of enterprises.

The doctoral student points out that there is no single opinion among theoreticians and practitioners about the factors of competitiveness of a company. The reasons for these dysfunctions are the location of sources inside or outside the enterprise, the tangible or intangible nature of sources of competitiveness and the creation or development of competitive advantages.

The author points out that not all elements of competitive potential are equally important, and their importance may change depending on the industry[1].

It is worth noting that in the literature on the subject, apart from the Porter concept, the earlier MCKinsey & Company concept is also commonplace. According to this concept, value is created through six different action groups: technical development, product design, manufacturing, marketing, distribution and service.

The author points out that the competitiveness of an enterprise is connected with the process of competitiveness strategy. A competitiveness strategy is understood as primarily objectives and actions implemented by an enterprise in order to obtain a lasting competitive advantage. A guideline for creating a competitive strategy is the reference of the enterprise to its environment, i.e. the network of entities having a decisive influence on the functioning of the enterprise. They shall be taken to include entities offering substitute goods or services[2]. M. Gorynia presents the strategy of competition as a formulated answer to the question about the areas in which the company is to compete, the products it is to offer and the way to achieve a lasting advantage.

The author further justified that it should be indicated that competition strategies can be divided into three basic directions of action, such as: cost leadership strategy (leading position in terms of total costs), differentiated strategy of a product or service offered by a company, strategy of concentration (concentration on costs or concentration on differentiation).

The author stresses that over the past ten years Poland has moved in the overall ranking of *the Global Competitiveness Report 2008 - 2009* from 53rd place in the 2008-2009 report to 46th place in the 2009-2010 report and 39th place in the 2010-2011 report. In the 2014-2015 report it occupies a distant 43rd place and is included in the countries at the stage of transition from the effectiveness-driven development study to the innovation-driven one. The position in the 2016-2017 report indicates Poland's development and better position in the report, while Poland returns to the 39th position. The 2017-2018 report indicates a promotion in the ranking to the 36th position. Therefore, it can be said that Poland has improved its position in relation to the previous years.

The PhD student also notes that the perception of the supply chain in the network is now dominant. A networked supply chain can be defined as a 'network of producers and

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[1] M. Dzikowska, M. Gorynia, Theoretical aspects of the company's competitiveness towards an eclectic concept. *Gospodarka Narodowa* 4.248, 2012, pp. 4-13.
[2] M.E. Porter, Porter on Competition, PWE, Warsaw 2001, pp. 2-8.

service providers that work together to process and move goods from the raw material phase to the end-user level'[3]. The supply chain network includes physical, information and capital flows in the areas of supply, production, distribution and customer service.

The author concludes that S. Kot in the book *Supply Chain Management* indicated that supply chain management is a relatively new concept, the concept was first used in the 1980s and has appeared in science ever since. on management and logistics .[4]"In the past, companies in the supply chain have traditionally not cooperated closely with each other, despite important dependencies. For the most part, they perceived themselves as individuals acting independently and competing with each other. However, this theory of "survival of the fittest" may be inappropriate because it excludes cooperation aimed at improving the competitive position[5].

It is clear that the aim of supply chain management is to integrate materials and information flowing through the supply chain in the fight against with the competition.

We can clearly point out that every supply chain management process has an operational and strategic basis. Strategic sub-processes contain the principles and details of how the process will be implemented. The strategic process is a necessary step in the integration of the company with other links in the supply chain, and at the operational level. The study of these processes is aimed at filling a literature gap in this area, but due to time and information constraints only three processes and their impact on competitiveness will be examined: relations with suppliers, customers and service providers.

The author of this dissertation points out that the most important internal factors are: synchronization and optimization of chain operations, speed of action, change and innovation, flexibility and ease of adaptation to market changes and the ability to benefit from relationships within the chain.

The author fully identifies herself with supply chain management instruments according to M.J. Stankiewicz, pointing to a competitive advantage, key competences and an attractive market offer.

It is worth noting that supply chain management in the XXI century is directed primarily to meet the requirements of customers. Constantly growing requirements determine

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[3] C. Bozarth, R. B. Handfield, Introduction to Operations and Supply Chain Management, *Helion, Gliwice* 30, 2007, p. 30.
[4] S. Kot, M. Starostka-Patyk, D. Krzywda, Supply Chain Management, *Wydawnictwa Section of Częstochowa University of Technology* 8, 2009, p. 4.
[5] M. Christopher, Logistics and Supply Chain Management, PCDL, Warsaw 2000, p. 14.

the increase in the involvement of supply chain participants in meeting customers' expectations. The essence of supply chain management is the decision-making process consisting in the physical, informational and financial synchronization of demand and supply streams flowing between its participants in order to achieve competitive advantage and create added value for all links in the supply chain.

The author emphasizes that one of the most recognized and popular methods of inventory management is the concept of just-in-time (JIT), described in Polish as "just in time". We talk about the production process exactly on time, the inventory exactly on time or the delivery system exactly on time. It is an operational concept of delivering materials and other goods in strictly defined quantities and exactly at the time when companies need them, which allows to minimize the costs of inventory and waste in the logistics system.

The author points out that, despite the multitude of literature on logistics and supply chain management instruments, no single, generally applicable set of instruments has been adopted, the use of which would enable the identification and improvement of certain parameters related to improving the competitiveness of small and medium-sized manufacturing enterprises.

When analyzing the impact of inventories on company operations, the PhD student lists the functions of inventories - which include the possibility of achieving economies of scale in the area of supply and transport, supporting production economics by producing in long production series, a constant level of production despite the seasonality of demand, improving the quality of customer service, preventing the effects of random events and limiting the effects of price changes, exchange rate fluctuations and interest rate reductions.

It is worth pointing out that the accumulation of stocks is conducive to improving the efficiency of certain processes in the company, inter alia, by achieving economies of scale in production, supply and transport. Inventories are usually associated with two decision making problems: determining the amount of one-time delivery and the point of reorder. In order to minimize their effects, two models of stock replenishment were developed: in conditions of uncertainty and in conditions of certainty, with the simultaneous assumption that the demand for stored products and the time of delivery of goods to the warehouse are variable and difficult to predict. These problems are among the most important, and their analysis shows a lot of relations between economic processes.

The author points to four basic cases of bullish whip effect, such as: Forrester effect, related to time of realization and processing of demand level signal, Burbidge effect, related

to grouping of orders, Houlihan effect, related to rationing and shortage of products and promotion effect, related to price fluctuation. It can be said that the emergence of the bullish whip effect increases the diversity of demand and orders along the supply chain and thus adversely affects the stability of activities carried out throughout the chain.

The main hypothesis of the study was confirmed in the course of the study: *Relationships in the supply chains of small and medium-sized manufacturing enterprises affect the competitiveness of manufacturing enterprises in the Śląskie Voivodeship.* The conducted research allowed to obtain answers to detailed hypotheses on the basis of literature review, including literature indications and analysis of collected questionnaires together with statistical studies in accordance with the accepted calculation methodology. In order to prove the main hypothesis, the following specific hypotheses were formulated:

1. Competitive enterprises on the market, as important in their activities, indicate correct relations with suppliers in the supply chain,

2. There is a relationship between the company's competitiveness on the market and proper relations with its clients,

3. Cooperation with customers requires the creation of inventories that determine the creation of the Forrester effect throughout the entire supply chain,

4. Shaping trust in the relationships between the links of the supply chain is the basis for building a model of competitiveness in the supply chain.

Randomly selected small and medium-sized manufacturing enterprises in Silesia will be the subject of research activities. The research area will include cities in the Silesian Voivodeship. The subject of the study is small and medium-sized manufacturing enterprises. The indicators for the selection of analysis units were the private sector, the place of conducting business activity, i.e. the Silesian Voivodeship and the size of enterprises. Respondents are managers managing enterprises. There are 36,731 manufacturing companies in the Silesian Voivodeship.

The research area covered the Silesian Province. The research period covered the years 2014-2018. A total of 310 manufacturing companies were investigated.

The conducted survey allowed us to draw the following conclusions indicating the following theoretical and practical statements.

The sampled production companies existed on average 20, 9 years on the market.

The majority of the surveyed enterprises were small companies employing up to 9 employees, accounting for 56% of the total number of employees. However, the lowest number of large companies employing between 50 and 99 employees was observed.

Among the surveyed companies, there were not the largest ones, employing 100 and more employees. The vast majority of about 70% of the respondents assessed the competitiveness of their company "rather well". Nearly one in 10 people thought that the competitiveness of their company was "rather weak".

In terms of the activities through which the company strives to achieve a high level of competitiveness, the following were most frequently mentioned: good relations with customers, high quality/innovativeness of own products and services, high level of customer service and qualified employees. The fewest people considered that generating a high profit is an activity through which the company tries to achieve a high level of competitiveness.

Too high costs of activity are the most frequently mentioned by the respondents problem occurring in the company. Nearly every 5th respondent pointed out the problem of untimely execution of orders by suppliers of raw materials and problems with maintaining financial liquidity. A high percentage of complaints submitted by recipients was the least frequently indicated. Other problems identified were mainly a lack of staff, qualified staff, high turnover and customer order cancellations, late payment by customers and low prices of competitive products from China and offered in supermarkets.

The largest number of direct suppliers with whom the company cooperates is the highest in enterprises from 11 to 50 persons in high 134 enterprises, which indicates 54.3% of the surveyed enterprises. The largest number of customers with which the company cooperates is 93 or 37.7% (11-50) and 66 or 26.7% (51-100).

Most often companies try to build closer relations with suppliers through effective communication and data exchange. Most rarely through joint financial investments or sharing of financial resources. Multi-annual trust was mentioned as another.

The most common barrier to building close relations with suppliers is, according to entrepreneurs, a general lack of trust and fear of sharing information. Cultural differences and differences in the applied IT systems and problems with their integration were the least frequently pointed out. Other barriers included frequent price changes, lack of a common pricing policy and low repetition of orders.

Effective communication and data exchange is the most frequently used activity by the surveyed entrepreneurs in order to build closer relations with customers. Common replenishment and risk-benefit sharing have been used least frequently. 7% of the respondents stated that they did not try to build closer relations with customers. In addition, the long-term trust and extensive knowledge of our own products were mentioned.

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The most frequently mentioned barrier to building close relations with customers was a general lack of trust, lack of perception of the potential benefits of building closer relations and lack of reliable information. Other barriers included: lack of repeatability of orders, distance, problems with payments and getting used to the current way of working.

The surveyed entrepreneurs most often pointed to the adjustment to the demand / sales plans as a way of planning production in their companies. It was also pointed out that plans are drawn up in accordance with established procedures. Among other ways, it was pointed out that the Board of Directors decides at weekly meetings and establishes plans and identifies individual production.

According to 38.5% of the surveyed entrepreneurs, a change in the size of an order by recipients does not have a significant impact on the functioning of the company. On the other hand, 36% of entrepreneurs believe that such a change causes delays in order execution for other contractors. 35.2% considered that the costs would increase in such a situation. As others, an increase in stocks in the event of a reduction in the volume of orders was indicated.

82.2% of entrepreneurs stated that they did not apply any of the above mentioned practices. 10.9% of entrepreneurs used systems supporting production flow, 7.3% used modern techniques of electronic data exchange (EDI) and 3.6% used multi-level supply control.

The surveyed entrepreneurs most often pointed to the increase in revenues as a success achieved in 2016 (44.5%), increase in efficiency (36%), improvement in working conditions (32%) and increase in employee involvement (28.3%). The following were mentioned as others: survival on the market and distinction among local entrepreneurs.

Analyzing the structure of the surveyed enterprises in terms of the size of employment and the evaluation of the competitiveness of the enterprise, it was observed that larger enterprises more often assessed their competitiveness better. Smaller companies more often described their competitiveness as very weak. However, this relationship is not statistically significant (p=0.667).

The competitiveness of companies in terms of size remains at a comparable level (small and medium) 80% and just below that of 50 to 99 employees are at the level of 65%.

This shows that better qualified employees are more likely to be hired and my better relationships with suppliers.

The conducted statistical research indicates that there was no statistically significant correlation ($p=0.393$) between the size of employment and the choice of generating high profit as an activity used to build a high level of competitiveness and ($p=0.919$) between the size of employment and the choice of increasing market share.

It was indicated that there was no statistically significant correlation ($p=0.090$) between the size of employment and the choice of high quality/innovativeness of own products/services as an activity used to build a high level of competitiveness and ($p=0.267$) between the size of employment and the choice of low production costs.

On the other hand, there was no statistically significant correlation ($p=0.965$) between the size of employment and the choice of a wide range of products as an activity used to build a high level of competitiveness.

We can point out that there was no statistically significant correlation ($p=0.219$) between the size of employment and the choice of intensive marketing activities as an activity used to build a high level of competitiveness.

On the other hand, there was a statistically significant correlation ($p=0.006$) between the size of employment and the selection of good relations with suppliers as an activity used to build a high level of competitiveness. The larger the company, the more often good relations with suppliers are considered to be an activity shaping a high level of competitiveness.

On the other hand, there was no statistically significant correlation ($p=0.383$) between the size of employment and the choice of good relations with recipients as an activity used to build a high level of competitiveness.

At the same time, there was a statistically significant correlation ($p=0.046$) between the size of employment and the choice of a high level of customer service as an activity used to build a high level of competitiveness. Companies with 10 to 49 employees more often than other companies considered that high quality customer service is part of building a high level of competitiveness.

There was also a statistically significant correlation ($p=0.003$) between the size of employment and the selection of skilled workers as an activity used to build a high level of

competitiveness. Companies with 10 to 49 employees most often considered that hiring skilled workers was the way to achieving a high level of competitiveness.

One of the most frequent problems occurring in small and medium enterprises were problems in communication between functional divisions, problems with maintaining financial liquidity, high percentage of complaints submitted by customers, untimely execution of orders by suppliers of raw materials, too high operating costs, too long time of transition through the production system, too high level of raw materials inventory, too high level of work in progress inventory, too high level of finished products inventory. All these elements are to a greater extent present in micro enterprises than in small ones, whereas in enterprises up to 50 to 249 employees are to a lesser extent present.

The amount of employment in the company did not affect the problems occurring in the company. In any event, there was no statistically significant dependence.

In turn, it can be noted that there was a statistically significant correlation between the size of employment and the number of direct suppliers with which the company cooperates. The larger the company (more employees), the greater the number of suppliers with whom the company cooperates.

There was also a statistically significant correlation between the size of employment and the choice of 'using electronic communication/exchange systems' as an activity used to build closer relationships with suppliers.

We can clearly point out that the larger the company, the more often it uses electronic data exchange systems to build closer relationships with suppliers.

It should be noted that there was a statistically significant correlation between the size of employment and the choice of "cultural differences" as a barrier to building closer relationships with suppliers. The larger the company, the more often it pointed to cultural differences as a barrier to building closer relations with suppliers.

There was a statistically significant correlation between the size of employment and effective communication and data exchange, as well as the use of electronic communication/ data exchange systems as a means of building close relations with the recipients.

It should be noted that there was a statistically significant correlation (p=0.036) between the size of employment and the choice of 'effective communication and data exchange' as an activity used to build closer relations with suppliers. The larger the company, the more often it uses effective communication and data exchange as an action of building closer relations with customers.

The author points out that there was a statistically significant correlation between the size of employment and the choice of "using electronic communication/data exchange systems" as an action used to build closer relations with suppliers. The larger the company, the more often it uses effective communication/ data exchange systems to build closer relationships with customers.

The PhD student shows that there was a statistically significant correlation between the size of employment and ERP software support as a way of planning production.

There was a statistically significant correlation between the size of employment and the choice of "ERP-supported software" as a method of production planning. The larger the company, the more often it used ERP software to support production planning.

There was also a statistically significant correlation between the evaluation of the competitiveness of the company and the choice of "qualified workers as an activity through which the company seeks to achieve a high level of competitiveness".

It should be noted that there was a statistically significant correlation between the evaluation of the competitiveness of the company and the selection of "qualified employees" as the activities through which the company seeks to achieve a high level of competitiveness. Companies that rated their competitiveness as rather weak were more likely to recognize that through qualified employees they are trying to achieve a high level of competitiveness, just as companies that rated their competitiveness as very good.

There was a statistically significant correlation between the evaluation of the company's competitiveness and the selection of "too high a level of finished products stock", "high percentage of complaints filed by customers" and "problems with maintaining financial liquidity" as problems occurring in the company.

The author of this dissertation states that there was a statistically significant correlation between the evaluation of the company's competitiveness and the selection of "too high a level of inventories of finished products" as problems occurring in the company. The companies that evaluated their competitiveness very well, more often than others, considered too high a level of stocks of finished products as a problem.

The PhD student indicates that there was a statistically significant correlation between the evaluation of the company's competitiveness and the choice of "a high percentage of complaints lodged by recipients" as problems occurring in the company. The worse the company assessed its level of competitiveness, the more often it chose "a high percentage of complaints lodged by customers" as a problem.

The author of this dissertation indicates that there was a statistically significant correlation (p=0.001) between the evaluation of the company's competitiveness and
the selection of "liquidity problems" as problems occurring in the company. The worse the company assessed its level of competitiveness, the more often it chose "financial problems with maintaining financial liquidity".

It should be pointed out that there was a statistically significant correlation (p=0.035) between the evaluation of the company's competitiveness and the selection of "other" as activities used to build close relations with suppliers. The worse the evaluation of the company's competitiveness, the more often other activities used to build close relations with suppliers were pointed out.

The implementation of the research process allowed us to indicate that there was a statistically significant correlation between the evaluation of the company's competitiveness and the evaluation of cooperation with customers. The better the assessment of the competitiveness of the company, the more often it was pointed out that the cooperation with customers has improved.

The author concludes on the basis of statistical research that there was a statistically significant correlation between the evaluation of the company's competitiveness and the choice of "generating a high profit" as an activity by which the company tries to build closer relations with its customers.

Doctoral student realizing the research process states that there was a statistically significant relationship between the evaluation of the company's competitiveness and the choice of "joint planning" as an action used to build close relations with customers. A company that rated its level of competitiveness as rather weak or very good was more likely than others to choose "joint planning" as an activity used to build close relationships with customers.

We can clearly indicate that there was a correlation between the assessment of the competitive level of the company and the choice of "no high frequency of changes in business partners" as a barrier to building close relations with service providers.

The implementation of the research process allowed the doctoral student to find a statistically significant correlation between the company's competitiveness assessment and the choice of "high frequency of changes in business partners" as a barrier to building close relations with service providers. Enterprises that defined their level of competitiveness as

rather good, more often than others considered the high frequency of changes of business partners as a barrier to building close relations with service providers.

It should be noted that there was a statistically significant correlation between the evaluation of the company's competitiveness and the choice of "other" as the impact of changes in the volume of orders by customers on the functioning of the company. The better the assessment of the level of competitiveness of the company, the more often it was pointed out other ways of the impact of changes in the volume of orders by customers on the functioning of the company.

It can be said that there was a statistically significant correlation between the number of suppliers and the choice of "using electronic communication/ data exchange systems" as an activity by which the company tries to build closer relations with suppliers.

It should be added that there was a statistically significant correlation (p=0,006) between the number of suppliers and the choice of 'use of electronic communication/data exchange systems' as an activity used to build close relationships with suppliers. The greater the number of suppliers, the more often it was considered that the used electronic communication system/exchange of data is used to build close relations with suppliers (except for companies with the largest number of suppliers).

The author concludes that there was a statistically significant correlation between the number of suppliers and the choice of "cultural differences" as a barrier to building close relations with suppliers.

This statistical study showed that there was a statistically significant correlation between the number of suppliers and the assessment of changes in cooperation with customers. Companies that cooperated with a larger number of suppliers more often considered that the cooperation with customers remains at a similar level. Companies that cooperate with a smaller number of suppliers more often considered that the cooperation with customers has improved or deteriorated.

The implementation of the research process indicates that there was a statistically significant correlation between the number of direct suppliers and a high frequency of changes in business partners as a barrier to building close relations with service providers.

It should be said that there was a statistically significant correlation between the number of suppliers and the choice of "high frequency of changes in business partners" as a barrier to building close relations with service providers. Companies with a large number of direct suppliers were more likely to recognise that the high frequency of changes in business partners is a barrier to building close relationships with service providers.

The implementation of the research process indicates that there was a statistically significant correlation between the number of direct suppliers and production planning methods.

It should be made clear that there was a statistically significant correlation between the number of direct suppliers and the assessment of the impact of changes in the volume of orders placed by customers on the functioning of the company.

The author of this dissertation concludes that there was a statistically significant correlation between the number of suppliers and the choice of "other" as an assessment of the impact of changes in the volume of orders placed by customers on the functioning of the company. The greater the number of suppliers, the more often it was pointed out that changes in the number of customers' orders had a different impact on the functioning of the company.

The implementation of the research process allowed us to state that there was a statistically significant correlation between the number of direct suppliers and the practices applied in the company.

The PhD student of this dissertation indicates that there was a statistically significant relationship ($p=0.015$) between the number of suppliers and the selection of "none of the above" as a company practice. The higher the number of suppliers, the more often the option "None of the above" was chosen.

The author of this dissertation concludes that larger enterprises more often than not assessed their competitiveness better. Smaller companies more often described their competitiveness as very weak.

The conducted comprehensive literature and research process allowed to construct a model of competitiveness of manufacturing enterprises in the supply chain, based on the improvement of processes occurring in the micro and macro environment of the enterprise. Achieving competitive advantage on the market requires the company's commitment to solutions and innovations that minimize the occurrence of the Forrester effect in a given chain. Forrester's Ffekt, the so-called Butterfly Effect, causes disturbances in the quantity of manufactured and sold goods, and thus generates costs for the company.

In the same model, competitiveness was related to the supply chain, presenting the processes taking place in manufacturing enterprises and the factors influencing them. In the literature on the subject, we find that competitiveness calls "the ability to oppose competition, the ability to compete, i.e. to act and survive in a competitive environment. The analysis of the environment concerns micro, small (supplement) manufacturing enterprises in terms of microcompetitiveness, mesocompetitiveness and macrocompetitiveness. It allows to reduce

the occurrence of the Forrester effect in the supply chain by adjusting the company's activities to changes in the environment. The competitiveness of a company in the supply chain is related to the adaptation of products to the requirements of the market and competition, especially in terms of management by products, business processes, management of relations with the environment.

Microcompetitiveness is defined as the ability of a company to offer the right goods in the right quantity, quality and price at the right time and at the right time. This is more effective in meeting consumer needs than other market players. The ability of a company to compete with others, to maintain and increase market shares, and to generate appropriate profits, is also important.

The author of this dissertation concludes that the competitiveness at the micro level is related to the costs and quality of offered goods, which affect the correct level of effectiveness and profitability of sold goods and services, and these in turn determine the company's market share.

Mezo-competitiveness is understood as the ability to design and sell goods in a given industry, branch or division, whose prices, quality and other advantages are more attractive than the relevant characteristics of goods offered by competitors in specific foreign trade production companies. It is worth mentioning that the concept of mesocompetitiveness is an intermediate category between micro and macro levels.

Macro-competitiveness of a company is related to the macro-environment and includes a number of factors influencing consumer decisions, such as: standard of living or consumer earnings.

In this model, innovation serves as one of the elements of competitive advantage,

Innovation is the entirety of activities related to creating an idea, creating an invention and then implementing a new or improved product or process.

At the micro level, in terms of microcompetitiveness, we indicate that the competitiveness of a company is about adapting products to the requirements of the market and competition, especially in terms of assortment, quality, price, as well as the use of optimal sales channels and production methods. In the model, the supply chain plays a very important role in achieving an optimal level of competitiveness and in minimising the occurrence of disturbances such as the Forresetea effect.

To sum up, it should be said that competitiveness at the micro level is related to the costs and quality of goods offered, which affect the correct level of effectiveness

and profitability of goods and services sold, and these in turn determine the company's market share.

The Forester's effect in this model is a determining factor for making profits.

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