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Designing a model for achieving sustainable competitive advantage through business intelligence using system dynamics modeling in Tehran Oil Refining Company

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Abstract

Competitive advantage is one of the components that ensures organizational viability. Gaining a competitive advantage is not achieved randomly and without a plan; Rather, organizations should move in this direction by thinking and designing scientific frameworks and creating appropriate structures. There are several strategies that organizations must use to gain a competitive advantage. Smart businesses are recognized in most countries as important elements in socio-economic development. These businesses are espCompetitive advantage is one of the components that ensure organizational viability. Gaining a competitive advantage is not achieved randomly and without a plan; Rather, organizations should move in this direction by thinking and designing scientific frameworks and creating appropriate structures. There are several strategies that organizations must use to gain a competitive advantage. Smart businesses are recognized in most countries as important elements in socio-economic development. These businesses are especially important in creating job opportunities with low investment, regional development, organizational development of companies based on the principles of technology, product innovation and the creation of new methods. The research method in this paper is the modelling of system dynamics in Tehran Oil Refining Company, the results of which have been analyzed by descriptive statistical methods. The data collection method of this research in the quantitative part is prepared with questionnaires that managers, experts and experts complete sustainable competitive advantage through business intelligence using system dynamics modelling in Tehran Oil Refining Company, and data collection tools to The statistical population of this research is the staff and customers of Tehran Oil Refining Company and the method of data analysis is the use of Vensim software version 19 and modelling method, dynamics. It is a system. The purpose of this study is to design a model for achieving sustainable competitive advantage through business intelligence using system dynamics modelling in Tehran Oil Refining Company. The results of this study showed that managers of different industries can use this model and consider other variables, using the documents in their organization, the effectiveness of each of the criteria for achieving sustainable competitive advantage through business intelligence on the criteria. And predict their desired indicators such as brand equity, brand market share, profitability, demand, etc.

Keywords: Sustainable Competitive Advantage, Business Intelligence, Technology, System Dynamics Modeling, Tehran Oil Refining Company
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1 Introduction

In the 21st century, organizations are evolving in a new way based on business intelligence and knowledge in response to a turbulent and ambiguous environment characterized by blurred organizational boundaries and rapid change. In such environments, knowledge-based assets lead to sustainable competitive advantage, and this is the basis of the success of organizations in this century. A look at the socio-economic system in many developed and newly developed countries of the world shows that creating and supporting small and medium-sized businesses is one of the main priorities in the economic development programs of these countries [5].

1.1 Problem statement

Competitive advantage is one of the components that ensure organizational viability. Gaining a competitive advantage is not achieved randomly and without a plan; Rather, organizations should move in this direction by thinking and designing scientific frameworks. There are several strategies that organizations must use to gain a competitive advantage. Smart businesses are recognized in most countries as important elements in socio-economic development. These businesses are especially important in creating low-investment job opportunities, regional development, organizational development of companies based on technology principles, product innovation and the creation of new methods.

Creating a unique combination of resources and capabilities, relying on intangible resources and heterogeneous methods play a decisive role in sustaining competitive advantage; Because sustainable competitive advantage requires causal ambiguity and managerial and social complexities, and in this case, it is difficult for competitors to imitate the competitive advantage in Tehran Oil Refining Company, and as a result, the organization's advantage remains stable and long-term and the company's competitive position. Tehran oil refinery is protected. Sustainable competitive advantage is a process that provides the competitive needs of today's Tehran Oil Refining Company in parallel with its ability to meet future competitive needs [10].

Such a process has a dynamic nature and includes the following basic foundations: By accepting the fact that the resources and capabilities of any organization are not unlimited, sustainable competitive advantage has a protectionist and maintenance-oriented nature, so in this regard one of the basic and determining requirements, Accurate and wise management of potential and actual resources in Tehran Oil Refining Company; Sustainable competitive advantage requires compliance with the competitive requirements of the organization's market and must be designed and implemented based on these needs. Sustainable competitive advantage must be based on a strategic and forward-looking view. In a way that goes beyond the current management of resources and capabilities to focus on the long-term development of resources and capabilities and achieving strategic advantage. Sustainable competitive advantage, in fact, it can be said that the re-engineering standard in Tehran Oil Refining Company, which largely relies on the knowledge, development and timely and appropriate use of strategic resources using modern methods of competition.

Therefore, considering the above, our goal in this study is to answer the main research question, which is how to design a model to achieve sustainable competitive advantage through business intelligence using system dynamics modeling in Tehran Oil Refining Company?

1.2 Importance and necessity of research

In general, in relation to the category of competitive advantage in business intelligence, two very important points are, the first is the acquisition and creation of competitive advantage and the creation of new and multiple layers of advantage and the second is its stabilization. To achieve the first goal, all three categories of competitive advantage resources, including intra-organizational resources and capabilities, inter-organizational resources and capabilities, and environmental resources and capabilities should be the focus of Tehran Oil Refining Company and exploited using efficient methods. To establish a competitive advantage, creating a unique combination of resources and capabilities, relying on intangible resources and heterogeneous methods, play a decisive role; Because sustainable competitive advantage requires causal ambiguity and managerial and social complexities, and in this case, it is difficult to imitate the competitive advantage of the organization by competitors, and as a result, the advantage of Tehran Oil Refining Company remains stable and long-term and competitive position of the refining company. Tehran oil is protected. According to field studies in Tehran Oil Refining Company, the issue of creating a competitive advantage over competitors is one of the company's new challenges in the field of marketing. This has become more important due to the declining trend of the company's market share in the past few years (especially in the field of products such as the production of petroleum products with the latest world standards, edible hexane, solvents, base oils, etc.). Therefore,

considering the above, the importance and necessity of research are to empirically show the users of the results of this research that competitive advantage can have a significant effect by using business intelligence in the projects of Tehran Oil Refining Company.

1.3 Research background

From the background related to the research topic, Aghaei and Taghavi [1] in their master's thesis can study the factors affecting the advantage of sustainable competition in the automotive parts industry of the country. In this study, to examine the competitive advantage, Porter's five-force model including factors of production (manpower, investment, technical knowledge and technology), domestic demand conditions, related and supporting industries, quality and price were used. The results show a positive and significant relationship between these five factors and Sapco's competitive advantage. The situation of customer capital is more favourable than the other two capitals, and customer orientation as one of the dimensions of market orientation has a good position, he pointed out.

By looking at the relevant literature and examining the theories of strategic management experts, we find the answer to the question of creating, maintaining and maintaining a sustainable competitive advantage. In other words, experts believe that organizations have no choice but to acquire and maintain a stable competitive blow in order to be safe from severe environmental waves and to comply with competitive requirements. Obviously, achieving this goal requires designing a highly intelligent competitive path, which is causally ambiguous and socially and managerially complex. However, understanding the concept and characteristics of content, types and causal domain of competitive advantage can be very effective in designing and implementing this path [6].

Business intelligence is nothing but the process of increasing an organization's profitability in a competitive market by intelligently using the data in the organization's decision-making process. Business intelligence is not a product or a system, but an architecture, and includes a set of applications and analytics, based on operational and analytical databases. Helps to make decisions for smart business activities [12].

Business intelligence systems provide the means by which an organization's information needs are adequately met. The main tasks that business intelligence systems consider include intelligently identifying, aggregating, and multidimensionally analyzing information data, which is derived from a variety of information sources. Business intelligence systems, data related to information systems within the organization with data obtained from the organization environment; Collects [8].

To stabilize competitive advantage, creating a unique combination of resources and capabilities, relying on intangible resources and heterogeneous methods play a decisive role; Because sustainable competitive advantage requires causal ambiguity and managerial and social complexities, and in this case, it is difficult for competitors to imitate the competitive advantage in Tehran Oil Refining Company, and as a result, the organization's advantage remains stable and long-term and the company's competitive position. Tehran oil refinery is protected. Sustainable competitive advantage is a process that provides the competitive needs of today's Tehran Oil Refining Company in parallel with its ability to meet future competitive needs [10].

1.4 Targets

The purpose of this study is to design a model for achieving sustainable competitive advantage through business intelligence using system dynamics modelling in Tehran Oil Refining Company, in this regard, we seek to meet the following objectives:

1. Assessing and measuring the closed range of the organization's model of achieving sustainable competitive advantage through business intelligence
2. Assessing and measuring the feedback loop of the organization's model of achieving sustainable competitive advantage through business intelligence
3. Examining and measuring the variables of the organization level to sustainable competitive advantage through business intelligence
4. Examining and measuring the rate variables of the organization's model of achieving sustainable competitive advantage through business intelligence
5. Assessing and measuring the auxiliary variables of the organization to achieve a sustainable competitive advantage through business intelligence

2 Theoretical Foundations of Research

2.1 Competitive advantage

To properly understand any topic, it is first necessary to define and conceptualize it. Obviously, the more comprehensive and efficient the meanings and concepts presented, the better the understanding of the subject. In this regard, a number of definitions provided by experts in relation to competitive advantage are as follows:

Porter [9] considers competitive advantage in the context of competitive strategy. He considers competitive strategy as determining the position of the firm in a competitive environment. The purpose of competitive strategy is to manage the market by understanding and predicting economic factors, especially the behaviour of other competitors. A competitive strategy allows the firm to produce products that cannot be produced by competitors. Studies on competitive advantage show that competitive advantage is at the heart of a competitive firm's performance, enabling it to provide better customer service (better value) to customers.

2.2 Sustainable competitive advantage

Competitive advantage is the company's ability to attract customers to competitors by relying on the capabilities and capabilities of the organization. One of the principles of marketing is to create a competitive advantage. In this field, the competitive advantage is the attractiveness of the company's offers compared to competitors in the eyes of customers. This advantage can be present in any of the elements of the company's marketing mix (product, price, advertisement, advertising and distribution) [4].

The idea of sustainable competitive advantage emerged in 1984 when it was shown that different types of strategies help to create sustainable competitive advantage. The real term sustainable competitive advantage was coined by Porter in 1985, who said that different types of corporate competitive strategies, including differentiation and low cost, would lead to sustainable competitive advantage.

Barney [3] stated that a company can achieve a sustainable competitive advantage when it creates unique values by creating appropriate strategies for customers; So that potential and current competitors are not able to simultaneously realize these values and create alternatives to them. Sustainable competitive advantage is long-term profitability that is created by the company through the creation of unique values for customers and can not be easily used and imitated by potential and actual competitors.

2.3 Place of competitive advantage

The place of competitive advantage can be pursued at three levels: individual, organizational and virtual. Advantage on an individual level comes from people with certain assets. Advantage at the organizational level arises from the collective characteristics of certain individuals or assets. Advantage at the organizational level is based on the collective characteristics of individuals or the organization as a whole. Such an advantage is less transferable and imitative, like a superior organizational culture. Virtual advantage must be sought outside the organizational boundaries and in the networks, relationships, and other resources that the organization has access to.

2.4 The effect of competitive advantage

The effect of competitive advantage can be absolute or relative, direct or indirect. If the company has an advantage that makes it impenetrable (unattainable) by competitors. Then we can say that the company has an absolute advantage. If the company has minor advantages, it can be said that its advantage is relative. Direct advantage has a direct role in creating value for customers, while indirect advantage does not have a direct share. Indirect advantage typically arises from the supportive activities of the organization [2].

2.5 Business model

Another area of disagreement among business model experts is the components of the business model. Experts suggest different components for business models. Since the description of the business model is the product of the description of the components and the relationships between the components of the business model, the proposal of different components has created different frameworks for the description of the business model. The number of business model description frameworks that have been proposed so far is very high [11].

Value goals and objectives consist of two main parts called the names of customers and partners and a description of the benefits that each of them derives from the business model. Defining value goals and objectives will automatically

introduce what the company is not going to offer to the customer. A business model should also have noble goals and objectives for business partners. These goals must be strong and appropriate enough to motivate partners to participate in the value creation process. The relationship between the company and customers is based on products and services.

This leads to the implementation of value goals and the creation of guaranteed profits for customers. The third factor in a business model is the value creation architecture. The company must decide in which market it intends to provide services. The market can be divided based on geography, demographic statistics, physiological characteristics, etc.

2.6 Business design patterns

Faber's model provides a framework for designing a business model that will enable companies to design the best business model according to market conditions and in four dimensions service, organization, finance and technology. In this context, the main issue that has been considered is the assumption, that due to the changing changes in the environment, the design of business models is becoming more complex. For example, in the future, each partner must be able to perform more tasks in order to be able to play a good role in the position they are in. They must be able to fill in the gaps and be able to work together to provide the expert opinion needed by the industry, which is constantly changing [7].

2.6.1 Identification module

At this stage, new technology is identified and analyzed to design new business models based on new technology. Given that business models are based on the assumptions of industry mechanisms and until these assumptions change, there is no need to change its business models. Therefore, the first step is to identify innovations in industrial technology.

2.6.2 Design module

In this module, in order to use the potential capabilities of change and innovation in technology, new business models suitable for the industry are designed. The main element of this step is to determine the dimensions and options of each and finally to connect these options to each other. At this stage, in order to avoid any confusion, to determine the most important potential innovations in the model and to determine the performance of each business model, it is necessary to pay special attention to both the dimensions of the model and the factors affecting the dimensions of the model.

2.6.3 Evaluation module

In this phase, the models designed in the previous stage are evaluated to evaluate the possibility of their success in the market. The designed models are then ranked according to their performance in the assumed market scenarios. In this module, it is necessary to pay attention to adapting business models to market scenarios and ranking mechanisms, considering all dimensions of models in ranking and selecting models that are likely to succeed, and analyzing them.

3 Research Methodology

The research method of this paper is modelling the system dynamics in Tehran Oil Refining Company, the results of which have been analyzed by descriptive statistical methods. In the qualitative stage, through semi-structured and exploratory interviews with experts, the model of achieving sustainable competitive advantage through business intelligence has been obtained by modelling system dynamics in the Tehran Oil Refining Company. At this stage, by presenting questions related to the interview, answers were received. Finally, by analyzing the interviews of experts, the model of achieving sustainable competitive advantage through business intelligence using system dynamics modelling in Tehran Oil Refining Company, the variables involved in the research topic. It was identified and its final framework was extracted.

The data collection method of this research in the quantitative part is prepared by questionnaires that managers, experts and experts complete sustainable competitive advantage through business intelligence using system dynamics modelling in Tehran Oil Refining Company, and data collection tools to The answer will be in the field and through a closed questionnaire and the statistical population of this research is 250 employees and customers of Tehran Oil

Refining Company. Considering that our goal is to achieve sustainable competitive advantage and variables should be studied dynamically and constantly so that at any time by changing different factors, their effect on competitive advantage can be measured, so to analyze the data from software Vensim software version 19 and system dynamics modelling method are used.

4 Research Findings

4.1 Fuzzy construction

At this stage, verbal variables are fuzzy. For fuzzy, a range of five Likert options with equal distances is used. The fuzzy number equivalent to each of the verbal variables is shown in Figure 1.

Verbal variables	Triangular fuzzy number
Too much	(.75, 1, 1)
High	(.5, .75, 1)
Medium	(.25, .5, 1)
Low	(0, .25, .5)
Very low	(0, 0, .25)

Figure 1: Triangular fuzzy numbers of verbal variables

4.2 Research Output variables

During the three stages of the survey, the final model with 34 components was obtained. Based on the results obtained from the fuzzy Delphi method, the factors affecting the achievement of sustainable competitive advantage through business intelligence were finalized. Using these factors and based on the research literature and with the help of experts, the factors affecting the achievement of sustainable competitive advantage through business intelligence have been formulated as follows (Fig. 2).

4.3 Characteristic causal problem

A causal diagram is a diagram that simply shows the causal relationships between system variables. With this tool, people's mental models are easier to understand. The relationship between cause and effect in a system is plotted through a curved line that has an arrow to indicate the direction of operation. Causal loops plot the structure of a system. There are several ways to build a model and gather information. But one of the best methods is to use the semi-structured interview method; because the data obtained from the interview is rich and should be supplemented with quantitative data. Of course, the diversity of the interviewees is the main condition for the successful use of this method.

This initial diagram was reviewed by experts in several stages. With further study, the research literature was expanded and new relationships were established between variables. Following this work, the final model was reviewed and approved by the experts of Tehran Oil Refining Company. These experts include the CEO, Head of Research and Development, Head of Marketing, Head of Human Resource Support and Development, Head of Quality and Productivity Engineering, Head of Information Technology, and experts from the Oil Refining Company.

Figure 3 shows the causal diagram of this research, which will be discussed in some sections later.

Figure 4 shows one of the moderating loops of the causal diagram of the problem. One of the benefits of customer relationship management is helping to create new marketing techniques, which, by increasing sales, increase production volume and reduce production costs. Reducing production costs will affect the cost price and consequently the price. Since one of the criteria for customer satisfaction, in addition to quality, is price, with decreasing price and increasing customer satisfaction, the demand for the company's products will increase. Due to the increase in demand, sales and production volumes will increase, which will reduce the volume of fixed production costs.

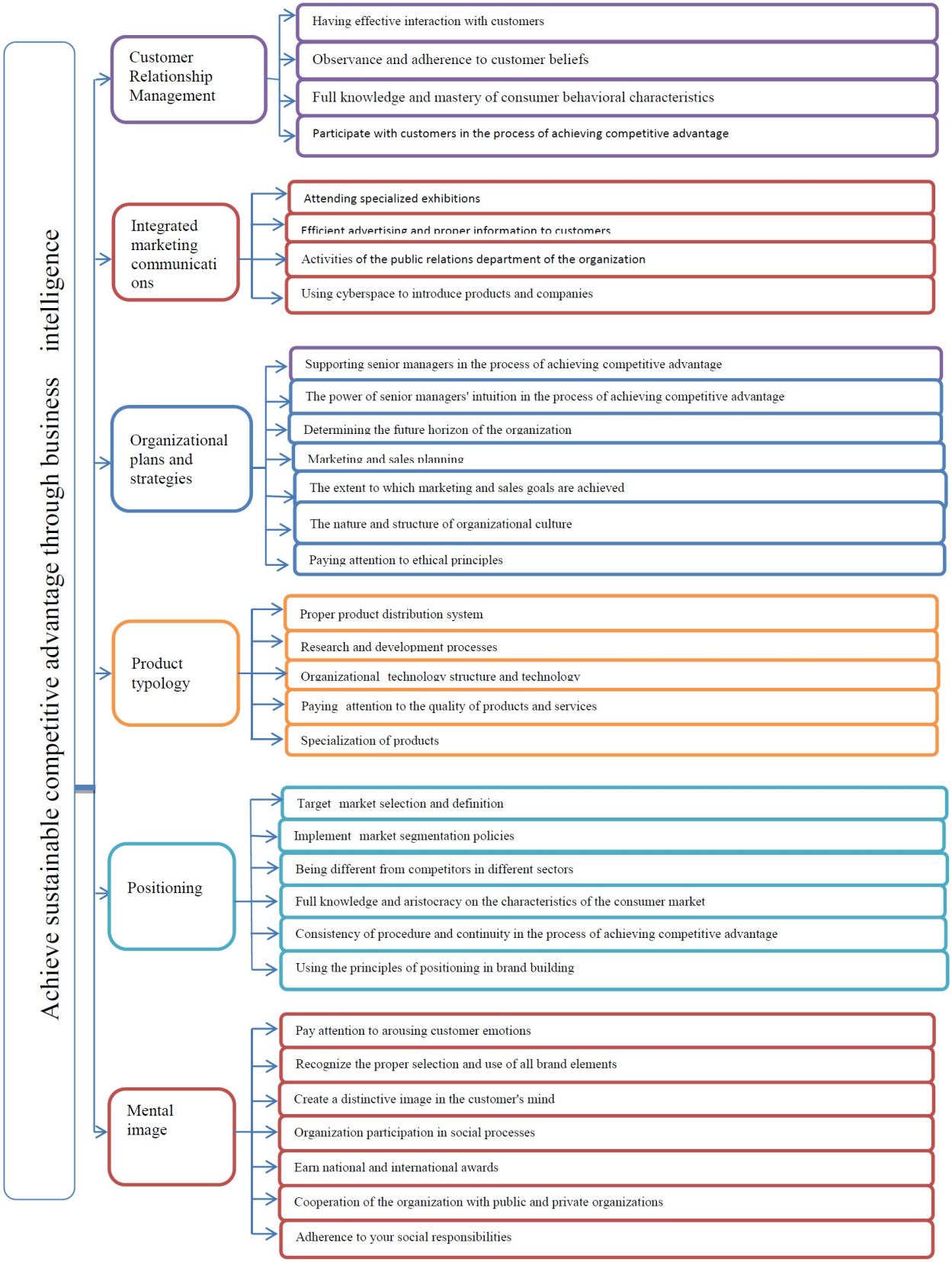

Figure 2: Conceptual model of research

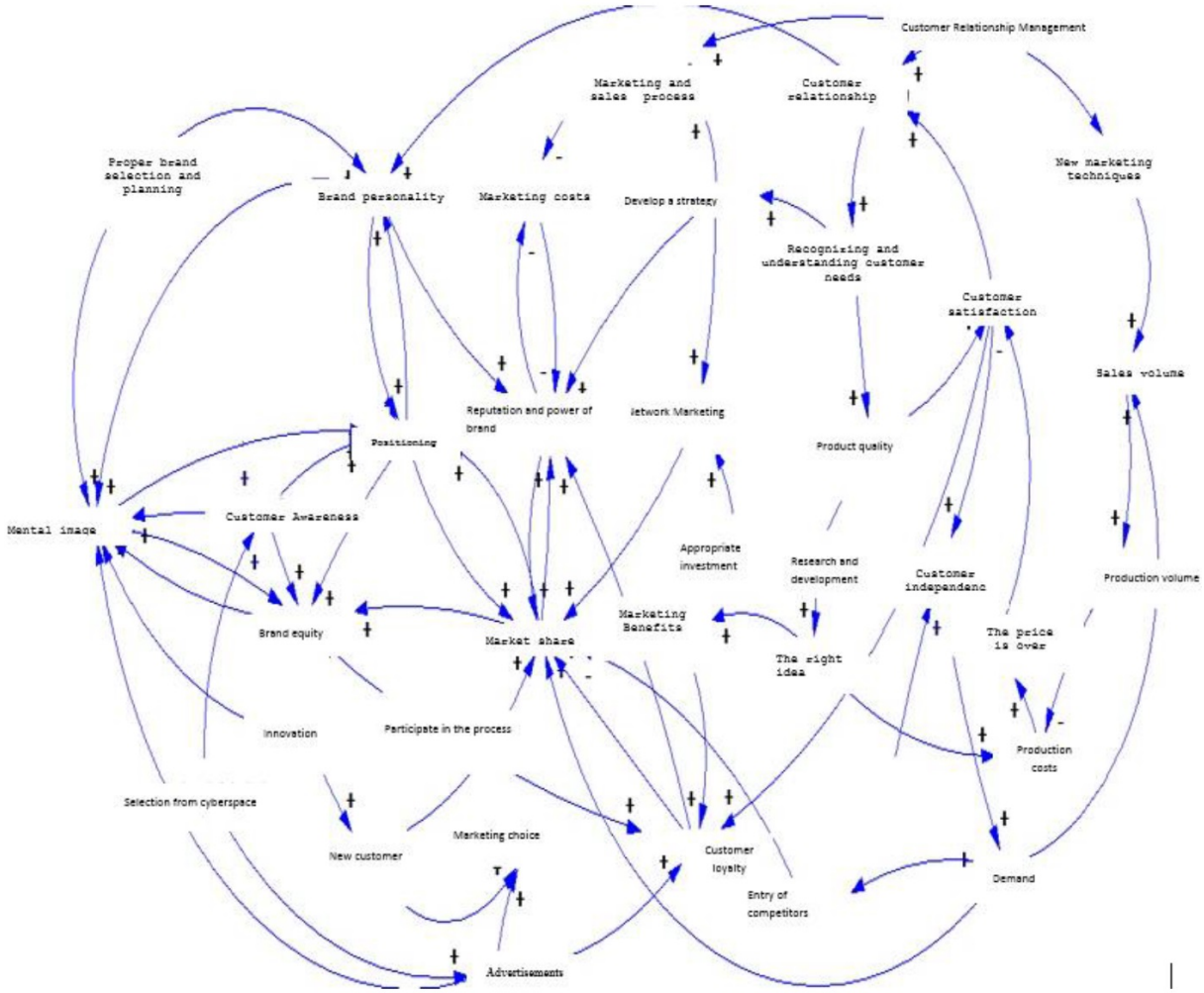

Figure 3: Causal Chart

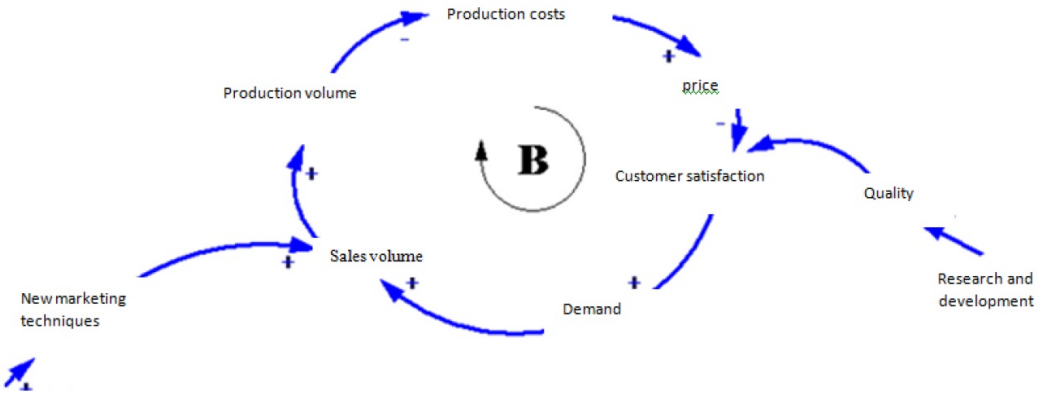

Figure 4: Cause-Disability Diagram of the Impact of Customer Relationship Management on Demand

Figure 5 is one of the reinforcing loops of the problem model. As shown in the figure, the activities of the research and development department of the organization are effective in differentiating and increasing competitive advantage. Creating and increasing competitive advantage largely leads to customer loyalty. Market share will not change as customer loyalty increases. Given the impact that increasing market share will have on brand equity, this increase will in itself increase competitive advantage for the company.

The following loop (Fig. 6) is one of the modulating loops of the causal diagram of the model of this research.

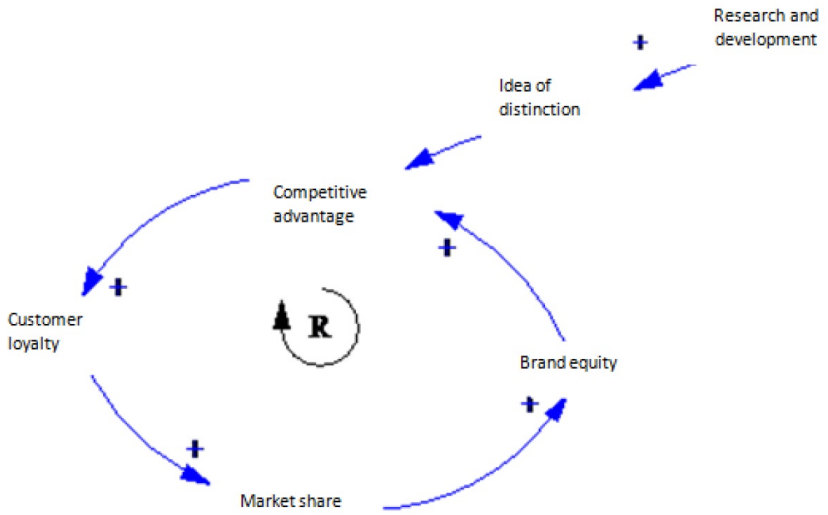

Figure 5: Causal Chart Ring The effect of R&D on brand equity

The increase in marketing communications, which increases to some extent with the activities of the organization's public relations department, affects the brand position and, accordingly, the brand personality. As a result, demand will increase. As an increase in the organization's brand demand reduces the entry of new competitors with different brands in this area, as a result, the organization's brand market share will increase significantly, which will increase the company's brand positioning.

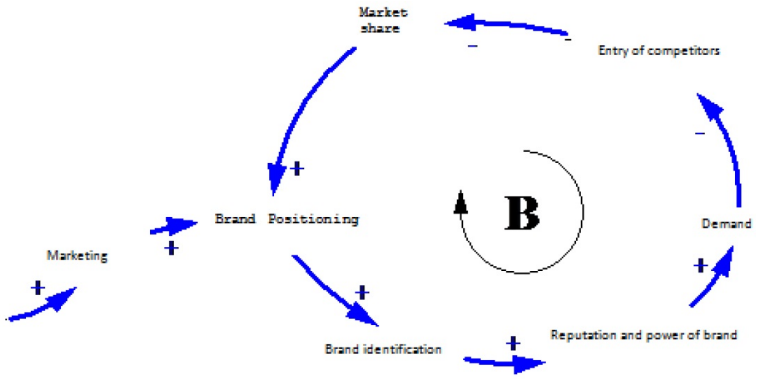

Figure 6: Causal loop the effect of marketing communications on market share

Figure 7 shows another example of a problem amplifying loop. Proper selection and application of all brand elements will have a positive effect on the brand image; this change will not have an effect on brand positioning and will increase the brand position. This increase will also change the market share and brand equity, which will also increase the brand image.

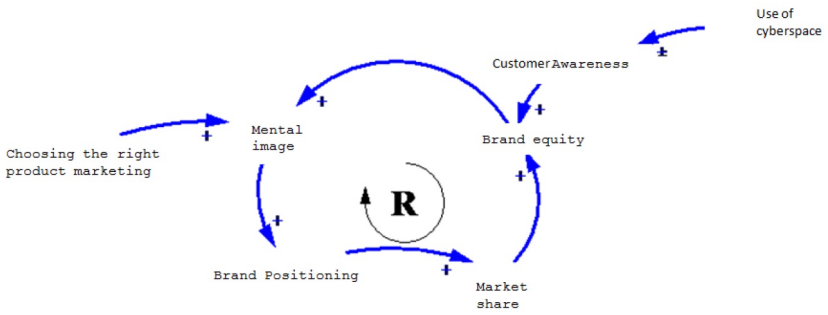

Figure 7: Causal-effect diagram The effect of proper selection and application of all brand elements on brand equity

4.4 Suggested scenarios

Since the system dynamics model and its scenarios consist of one hundred periods; The interval between 2011 and 2018 is divided into 100 periods, of which 90 is in the zero period and in 50 and 2018 is in the 100th period. Due to the qualitative nature of most variables and the existence of a small number of quantitative variables, Graphs are plotted over a period of time, and it can be argued that the ratio of the values shown by the months zero to one hundred can be relied upon with little approximation to the ratio of the actual values of the variables during this period.

4.4.1 Market share

Figure 8: Variable behavior of market share over time

This chart has been able to show the trend of changes in market share during the years 2011 to 2018, so that the ratio between the values of the year is zero and 50 and the rest of the time and confirms this model. Under these circumstances, at the end of the period, this graph shows a number equal to 9% for the market share of Tehran Oil Refining Company. The market share chart shows a lot of fluctuations, which is due to the arrival of new competitors, the implementation of some marketing tricks and the formulation of some strategies.

4.4.2 Profit

The following chart shows the trend of profit changes

Figure 9: Variable profit behavior over time

In the years before 2011, according to statistics, the organization's profit has been increasing with a good slope, which in 2011 the profit line was accompanied by a large decrease in slope and from 2011 to 2018 with a slow slope, the trend of increasing profit continued. The slope of the profit line has been a gentle trend for 50 months. The values shown from 2011 to 2018 in the diagram with the ratio of the values of these times are actually true. Relying on this confidence, it can be acknowledged that the profitability of Tehran Oil Refining Company reached double the profitability of the current year by 2018. Profit from the company's production.

4.4.3 Demand

According to the analysis of experts in 2018, the demand has been increasing more slowly than in previous periods, which has continued until 2018; But over time, this surge in demand has stabilized. The ratio of demand increase in the chart is proportional to the ratio, which experts have stated for 2011 and 2018. Due to the fact that demand must change over time and be accompanied by an increase, it will not be appropriate for the demand to remain constant during the periods after 2018.

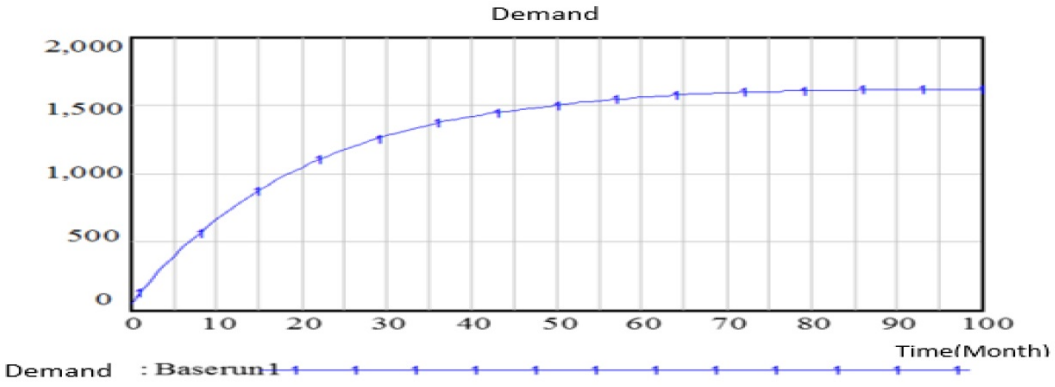

Figure 10: Demand changing behavior over time

4.4.4 Test scenarios

In this section, the scenarios will be discussed according to the flow chart. According to the research topic, which is the design of a model to achieve sustainable competitive advantage through business intelligence, and according to the study under consideration that reducing consumer acceptance of the brand and reducing the market share of Tehran oil refining brand in recent years, and with regard to concern Managers of the organization who are looking for ways to increase market share, profitability, demand; Therefore, in consultation with industry experts and managers, an attempt was made to design scenarios that can make changes in the current situation, according to the exogenous and endogenous variables of the model. As a result, scenarios have been designed in relation to the effect of variables on achieving sustainable competitive advantage through business intelligence on profitability and demand and market share of Tehran Oil Refining Company. In the charts below, the graphs denoted by number one indicate the new status of the chart and number two indicates the status of the variable in the previous state.

Scenario 1: Decrease in the product price. If the price of products is reduced by the company, Figure 11 shows the changes in the trend of the company's market share. This indicates that reducing the price of products by 10% can increase market share.

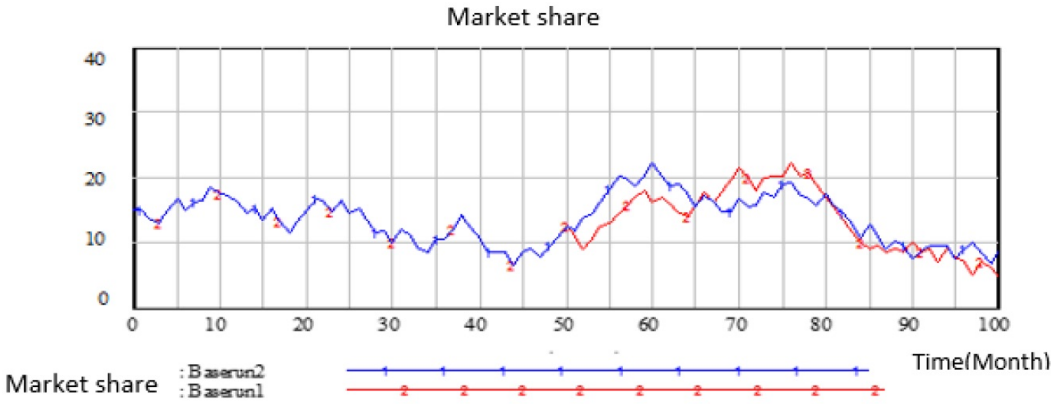

Figure 11: Investigation of market share behavior after price change

Figure 11 shows the effect of a 10% change in price reduction on the profitability of Tehran Oil Refining Company. This figure shows an increase in profitability compared to the initial state.

Figure 12: A Study of Profitability Behavior after a Change in Price

With a 10% change in the price of products, the amount of demand can change, which indicates an increase in demand after the change.

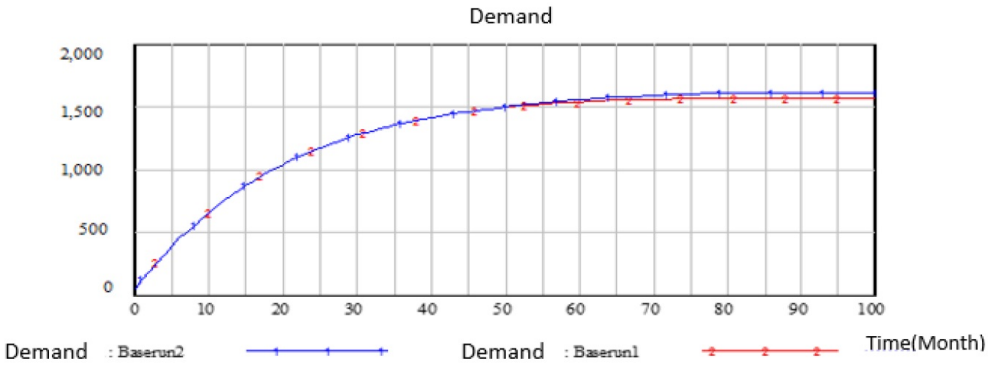

Figure 13: Investigating the behavior of demand after a change in price

Scenario 2: Simultaneous changes in advertising and research and development system

By changing 2.5 times the growth rate of the research and development system, and doubling the advertising, the following changes are achieved in the indicators of market share and profitability and demand.

If the activities of the research and development department increase 2.5 times and the advertising doubles, the increase in the brand market share of Tehran Oil Refining Company can be seen.

Figure 14: Investigating the market share behavior of the industry brand after changes in R&D and advertising rates

Figure 14 shows the effect of changing the activities of the research and development system and advertising on profitability. From the obtained diagram, it can be concluded that using more research and development system and advertising can greatly reduce the profitability of the industry.

Figure 15: Investigating the Profitability Behavior of the Industry after Changes in R&D Rates and Advertising

The effect of changes in R&D and advertising rates on demand can also be examined in Figure 15. From the obtained diagram, it can be concluded that using more research and development system and advertising can increase the demand of Tehran Oil Refining Company can be effective.

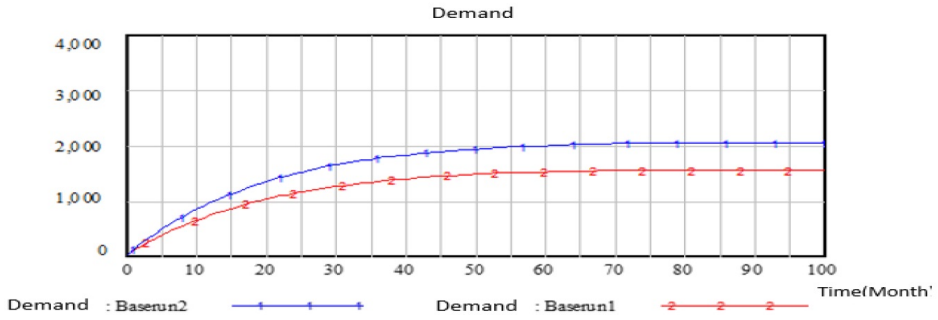

Figure 16: Investigation of demand behavior after changes in R&D rates and advertising

The above figure shows that an increase in the use of research and development systems and advertising at the same time, in addition to increasing market share, also increases demand.

Scenario 3: Changes in innovation

In this section, we look at what changes occur in the variables of achieving sustainable competitive advantage through business intelligence and the variables of market share, profitability, and demand if the rate of innovation doubles.

In this model, changes in the rate of innovation can only have a significant change in the rate of market share index and changes in the rate of innovation has not had much effect on the rate of profitability and demand indicators due to the relationships in the flow chart.

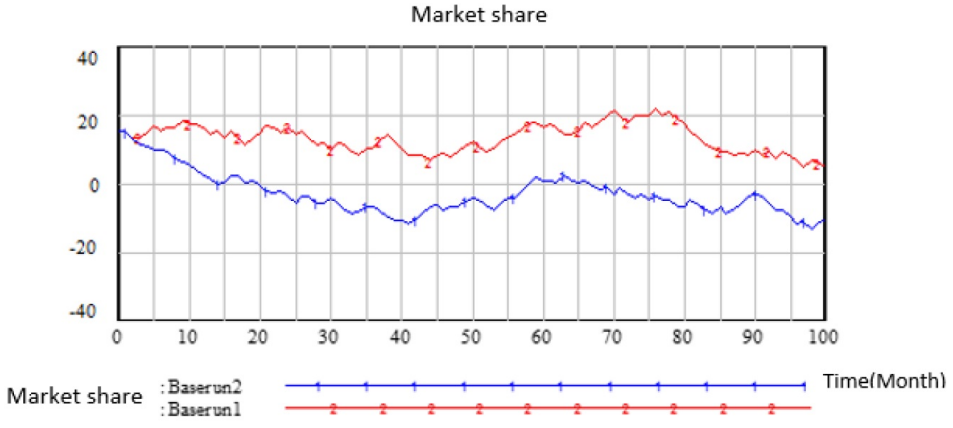

Figure 17: Investigating the behavior of market share variables after a change in innovation

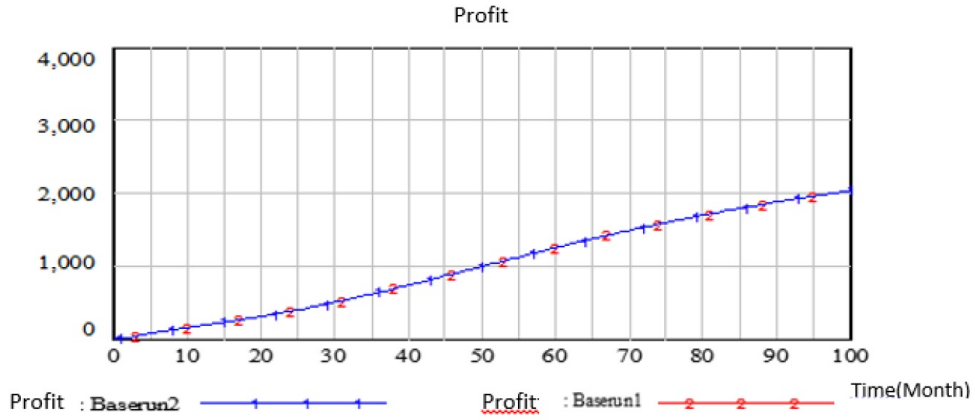

Figure 18: Investigation of profitability behavior after change in innovation

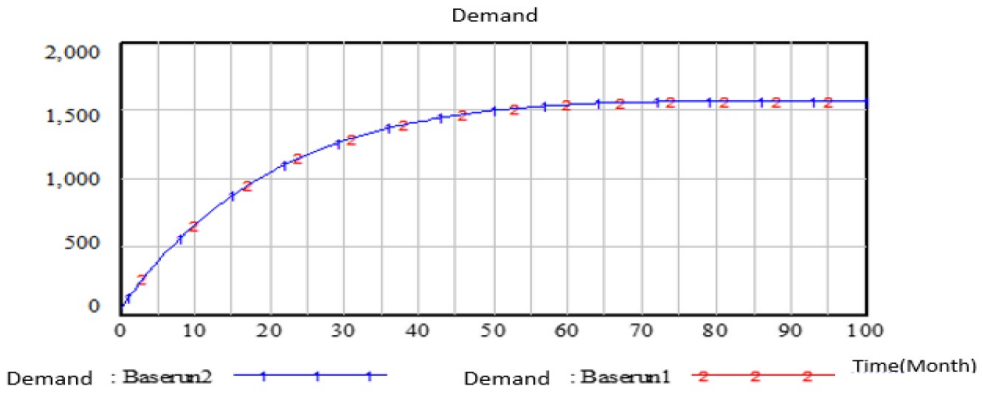

Figure 19: A study of demand behavior after a change in the rate of innovation

According to the flow model, an increase in the amount of innovation on the one hand creates a new product, which increases the market share, and on the other hand, an increase in the amount of innovation affects the brand image and brand equity.

Scenario 4: Changes in customer relationship management system

With a 15% increase in the growth rate of using the customer relationship system, the following changes in the indicators of achieving sustainable competitive advantage are achieved through business intelligence and market share and demand and profitability. If the customer relationship system increases by 15%, a decrease in the market share variable within 50 months can be seen according to Figure 20.

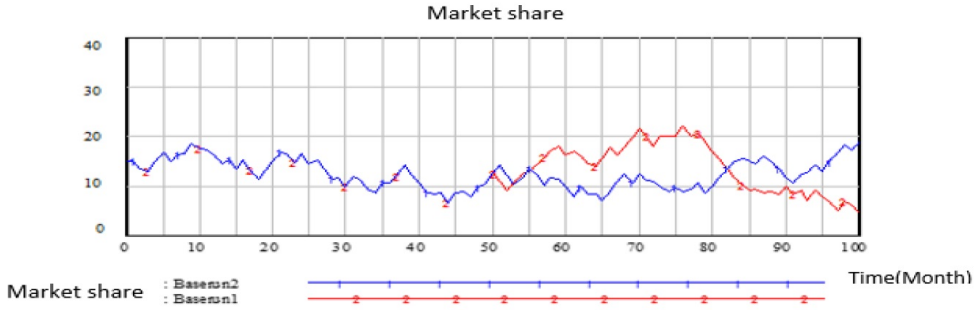

Figure 20: The effect of changing the customer relationship management system on the market share variable

From the obtained diagram, it can be concluded that using more customer relationship management system can reduce the market share; But this change has had a significant impact on other indicators. The effect of changes in CRM rates on demand and profitability can also be examined.

Figure 21: A Study of Profitability after a Change in CRM Rate

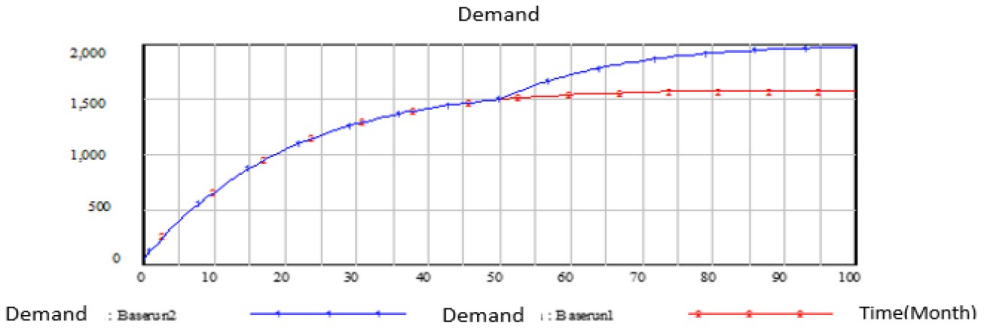

Figure 22: Investigation of demand behavior after change in CRM rate

Scenario 5: Changes in competitive advantage

In the following, we examine the effect of increasing the growth rate of competitive advantage by 2.5 times on the stock variables. According to the flow model, this change has only affected the market share variable. Because changes in the rate of competitive advantage only affect customer loyalty, customer loyalty will increase brand reputation and power and increase market share. Figure 23 shows the effect of changes in growth rates on competitive advantage and market share.

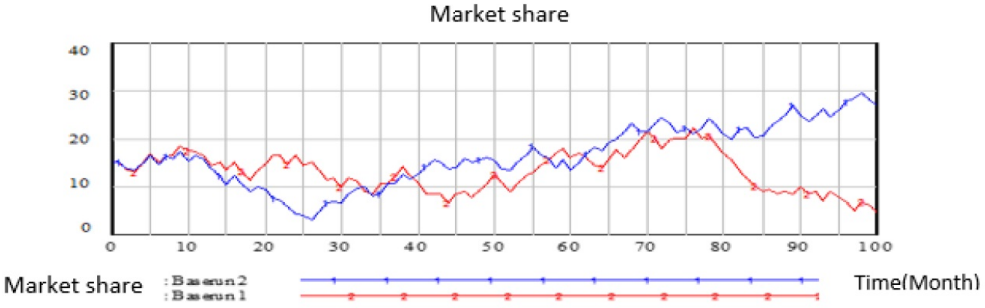

Figure 23: Investigating the behavior of a variable market share after a change in the competitive advantage rate

5 Discussion and Conclusion

According to the profit scenario chart, in 2011 the profit line was accompanied by a large slope reduction and from 2011 to 2018 with a slow slope, the trend of profit growth continued, which was due to increased investment in distribution networks, which failed. It was done, and on the other hand, it was due to the decrease in production and demand, and according to the chart, this trend will continue in the coming years until 2018. In the years before 2011, according to the statistics, the organization's profit has been increasing with a good slope and the company has not yet reached the loss stage; However, the profits that result from the company's production and brand are small compared

to other competitors due to the company's activities such as the use of distribution networks, facilities, and significant investments, and this trend will not be in the company's favour. According to the demand scenario, in 2011, demand has been increasing at a slower slope than in previous periods, and this increase continued until the 50th period with a lower slope; But after this increase, demand stabilized. Given that demand must change over time and increase, it will not be appropriate for demand to remain constant during these periods. Considering that the purpose of this study is to design a model of factors affecting the achievement of sustainable competitive advantage through business intelligence, by changing the growth rate and increasing each of the indicators of achieving sustainable competitive advantage through business intelligence, the following changes in Market share, profit and demand indicators will be created.

Using more customer relationship management systems, in addition to increasing the company's profitability and demand, also greatly increases customer satisfaction, which due to the role of customers in the competitive market can create a positive competitive advantage for the organization. Customer relationship management can, by using new marketing techniques and creating customer loyalty, increase demand and sales, which by increasing the amount of investment in this area can increase the profitability of the organization compared to the previous situation. In addition to the advantages mentioned in relation to customer relationship management, a customer relationship management system can increase market share relatively slightly and increase the growth rate of the customer relationship system over time, the extent of some indicators of achieving sustainable competitive advantage through Increase business intelligence such as mental image, brand reputation and power, brand personality and brand positioning compared to the previous case.

Increasing investment in innovation, profitability, demand and customer satisfaction does not change significantly. But it has a negative effect on the brand's market share. Innovation increases the mental image of the brand and with this increase has a positive effect on brand equity, brand reputation and power. Changes in the use of research and development systems can affect the quality of the product and create differentiation, and customer satisfaction and subsequently affect demand and profitability. According to the materials presented in this study, with increasing customer satisfaction, customer loyalty to the brand will increase compared to the previous case, which will have a positive effect on brand equity, brand image strength and mental image and positioning.

The determination of positive changes in creating more competitive advantages can only slightly increase the brand market share and brand equity of the lineage with the current situation for Tehran Oil Refining Company, and there is no significant change in other indicators. Changes in the growth rate of advertising and further investment in this field through the use of cyberspace, the establishment of public relations and participation in national and international exhibitions, affect marketing communications and customer awareness. Customer awareness will have a positive effect on the brand image and brand equity and positioning and will lead to an increase in market share, demand and profitability.

Considering the factors affecting the achievement of sustainable competitive advantage through business intelligence, factors may be overlooked and can be further explored in future research. Based on multi-criteria decision-making techniques, the factors affecting the achievement of sustainable competitive advantage through business intelligence can be prioritized or ranked for any industry or organization. Considering that one of the objectives of this study is to investigate the effect of each of the effective factors on achieving sustainable competitive advantage through business intelligence on each other through modelling system dynamics, the expression of each of these factors and the relationships between them complicates It was more modelled. Other objectives of this study were to solve the problem of brand market share of Tehran Oil Refining Company and to investigate the effect of criteria for achieving sustainable competitive advantage through business intelligence on the company's market share, which these variables can make this model more complete and realistic. Provide a more comprehensive model.

In addition to the factors affecting the achievement of sustainable competitive advantage through business intelligence, they affect market share, profitability and demand, those factors can be combined with the factors affecting the achievement of sustainable competitive advantage through business intelligence. And compared the impact of each of these factors with the variables affecting the achievement of sustainable competitive advantage through business intelligence. In addition to the factors affecting the achievement of sustainable competitive advantage through business intelligence, they affect market share, profitability and demand, those factors can be combined with the factors affecting the achievement of sustainable competitive advantage through business intelligence. And compared the impact of each of these factors with the variables affecting the achievement of sustainable competitive advantage through business intelligence.

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