

Identifying and analyzing factors affecting the excellence and success of small and medium industries using the system dynamics approach

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Abstract

Based on the theoretical underpinnings and opinions of industry experts, key variables in the field of new product development have been identified, and cause-and-effect relationships between these variables have been drawn in this study to identify and analyze the dynamics of factors affecting the success of new product development. The intended system has been replicated in the steel industry corporation using the mathematical correlations between these variables that have been established based on the linkages in the backdrop. The strategies of expanding managerial support, investing more in R&D, and increasing and enhancing product development planning have been recommended to increase the company's performance, and the outcomes of these scenarios have been simulated. The findings indicated that the first level is where the factors related to product development, technology development, research and development activities, the presence of complementary resources, long-term relationships with suppliers, transparent procedures, managerial competence, information sharing, conflict management, risk management, and problem-solving. The second level of the paradigm also includes pursuing power, caving to rivals, inspiring motivation, technical proficiency, technology knowledge transfer, customer happiness, market capacity, and marketing activities. The third level of the model was then used to group the following factors: market penetration, inter-industry compatibility, collaboration, mutual trust, business competence, the appearance of new rivals, change in consumption rate, awareness of environmental concerns, and business competence. This can contribute to the excellence and success of small and medium-sized metal sector businesses.

Keywords: system dynamics, new product development, SMEs
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1 Introduction

According to data from the Ministry of Industry, Mines and Trade's Bureau of Statistics and Data Processing, through the end of 2016, small and medium-sized enterprises made up 91.8% of all industries in the nation but were only allotted 23.2% of the necessary capital. On the other hand, small and medium-sized businesses account for 42.5% of total industry employment. This article demonstrates that while major industries account for 57.5%

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of employment and 76.8% of capital in the industrial sector, small and medium-sized enterprises play a crucial and significant part in Iran's economy [1]. Although small and medium-sized businesses provide a lot of jobs, one of their biggest issues is seen by how quickly they fail. Numerous domestic activities, including manufacturing and services, are included in small and medium firms. The lack of a precise, singular, and complete definition of small and medium-sized enterprises is, therefore, not unexpected. Most definitions of small and medium businesses are based on numerical factors such as the number of employees, the quantity of revenue generated, the value of assets, and the number of capital [23]. Small and medium-sized manufacturing and industrial businesses contribute significantly to developing the investment, employment, and entrepreneurial sectors. Even while there are constant discussions on how to improve small and medium-sized industrial firms' conditions and the significance of their existence for the economy, the advancement of the industry, and development, little progress has been made in this area up to this point. According to research, three factors are cited for the unfavorable situation of small and medium enterprises in the nation: "the strong role of the government in the production sector", "the lack of development of the financial market", and "the lack of support cycle for small and medium enterprises" [9].

Furthermore, one of the crucial cornerstones of a nation's economic success during the past few decades has been the development and support of small and medium-sized businesses. These businesses are now the primary source of entrepreneurship and production innovation, transforming the nation's exports and producing new job possibilities. The Central Bank of Iran's studies reveals that 36% of these businesses' issues are related to funding [25]. Fighting unemployment and expanding job possibilities is one of the macro-level government's most crucial responsibilities. Even though over the previous 20 years, the average number of jobs produced each year did not surpass 300,000, the fourth socio-economic development plan of the nation assumes that there would be roughly 900,000 new work possibilities annually due to market circumstances. As a result, Iran's labor market, as well as employment and work chances generally, are in delicate and crucial circumstances [14]. However, small enterprises make up a sizable portion of the industrial structure in our nation (about 94% of the nation's industrial units are small industries). These units are unable to fulfill the planned strategic role for them as developed and emerging countries because of their various issues and great backwardness. You may look at these little Iranian units from both quantitative and qualitative angles. In conclusion, small and medium-sized businesses account for a sizable portion of businesses in both our nation and many other nations throughout the world, and they employ a sizable number of people. Moreover, between one-third and half of the added value of the entire country is created by these units in various countries. The private sector typically lacks the infrastructure to build massive units; therefore, qualitatively, these units can incentivize investment. These units might be viewed as acceptable privatization tools as well. Due to their tiny size, these units' decision-making process is relatively quick, and they have the potential to understand markets and respond to market demands. These units can be more successful in distributing technology across the nation, quickly adapt to new technologies, and specialize, which is less typical in big groups. They can also have more powers of initiative and creativity [8]. On the other hand, the dearth of credible scientific studies to establish a native and appropriate model for the growth and success of these businesses has necessitated the conduct of more scientific studies in this sector to free it from the constraints it now faces. In addition, the majority of study both inside and outside the nation has looked at what causes small and medium-sized businesses to succeed or fail, which increases the significance of modeling these known and unknown elements.

2 Theoretical foundations

Small and medium-sized businesses have distinctive traits as they grow. These traits not only distinguish the appropriate marketing strategy from the traditional marketing strategies used in major sectors, but they also place certain restrictions on the marketing efforts of small and medium-sized businesses. The nature of marketing in small and medium-sized businesses is simple, flexible, casual, short-term, accidental, and frequently reactive and passive to rivals' efforts due to these constraints and distinguishing characteristics. The research findings indicate that small businesses employ various strategies to supply the necessary cash at various stages of their life cycles. We can list the company's internal resources, borrowing and debt, etc., at various periods of the life cycle of small industries, among these resources. Compared to huge businesses, small businesses require less cash to launch and run their operations. However, the covered projects are having a difficult time getting funding because of their low level of activity, weak track record, lack of credit, absence of audited financial accounts and financial transparency, lack of access to enough collateral, and low return on investment. Financial innovation can make it easier for small businesses to get sufficient financial resources at an affordable price [19]. Small and medium-sized business managers and owners can learn about marketing choices and actions through networking activities, including speaking with other managers and owners within the industrial cluster and going to related business events. In this approach, managers and owners of small and medium-sized businesses utilize networking to help them plan, alter, and carry out their marketing initiatives in a way

that boosts the efficacy and efficiency of those actions and enhances the performance of the business in the market [20].

To navigate the complicated and changing corporate environment, collaborative and networking tactics are being adopted more and more. Companies are better able to concentrate on their core competencies when they can collaborate with other businesses that have distinct core skills. Partnership tactics can range from formal contracts-based partnerships to unofficial networks built on relationships built on trust. A network is defined as "two or more organizations that engage in interactions for mutual advantages while maintaining all members as independent companies" by Battery & Battery [22]. Pinkat asserts that while big businesses are good at coming up with novel concepts, they are terrible at putting them to use economically. In his theory of marginal economies, economist Penn Rose argues that the expansion of small and medium-sized businesses is more feasible and less difficult than the growth of large businesses in times of prosperity. Due to the unique structure of major businesses, the approach of deploying innovations in huge enterprises is done slowly and under long- or medium-term planning. Only innovations that match the market circumstances, the corporate plan, and the flexibility of the current machinery is employed in huge organizations, and managers avoid implementing other advances [3].

Small businesses, however, do not have these limitations since they are more adaptable due to minimal overhead expenses and machine capacity limitations. The demand structure has changed as a result of the integration of the markets and the rise in consumer awareness, but huge industries are less able to adapt to the variety of customers because of their unique structure. The fact that many technological advancements are the product of modest but precise ideas involving particular materials and manufacturing procedures is a problem that is frequently disregarded. However, as large enterprises and businesses cannot afford to employ or sell such minute and accurate advancements, they are left unutilized [4]. Because there is a clear correlation between problems, workers, and incentives in a small firm, productivity rises one by one, making it simpler to manage emotions. In the United States, the problem of generating employment possibilities in the context of small industries was initially identified. According to David Beach's 1987 study on small companies, small industries now account for the majority of new job creation in America, not huge industries, which used to be the case. According to data from US intelligence agencies, small and medium-sized businesses were responsible for 51.9% of employment and 63.5% of employment growth in the whole economy between 1980 and 1985. Japan and France, which each employ less than 500 people, account for 70–80% of all industrial employment in Italy. Three major shifts in the global economy over the past 20 years have led to the expansion of small economic activities more so than large ones.

1. The intensification of international competitiveness, advancements in transportation, information and communication technology, trade exchange growth and global economic integration.
2. The rise in uncertainty directly affected inflation, unemployment, exchange rate volatility, and the significant decline in the growth rate of industrialized nations.
3. The deepening of market segmentation as a result of an increase in customer demand for a wide range of goods compelled businesses to place a greater focus on product diversity.

For producers, the scale of industries has advantages and drawbacks. The benefit of discovering huge industries has been caused by the influence of production size, product variety, experience, and organization. In economic analysis, the advantages of big enterprises for the production of a good might differ from those of small industries. Surveys have indicated that small and medium-sized companies may be utilized to generate the majority of commodities, except for a few circumstances (such as the manufacturing of petrochemical products and raw materials). At least four features of small and medium-sized enterprises have an impact on the world economy: entrepreneurship, innovation and technical development, industry dynamism, and job and income generation [24]. In a paper titled "Identifying and prioritizing the elements impacting the profitability of small and medium firms using the fuzzy network analysis approach," Kamali and Taghizadeh [21] claimed that according to the data, the sub-criteria for the human resources criterion—expertise, education, collaboration abilities, and experience—have the maximum priority in these organizations' performance, with weights of 0.16742, 0.1633, 0.14668, and 0.12933, respectively. According to Parsapour et al. [17], in their article "Factors Affecting the Sustainability of Small Enterprises and Entrepreneurs," the necessary data was gathered by having the managers of small industrial workshops fill out a researcher's questionnaire, which was then used to examine the factors affecting the sustainability of businesses using the "sequential logit" method. Combining the variables of change in capital, revenue, and employment of the firm, "Company Stability" is regarded as a dependent variable. The study's findings indicate that the following are the most critical elements influencing the sustainability of entrepreneurs and small businesses: the manager's training, how they oversee and regulate the business, their risk-taking tendencies, their knowledge of market prospects, how many staff take training courses, their access to the market, and their reliance on borrowing money in their article, "Factors Affecting the Success of Small and Medium Businesses," Molashahi et

al. [12] noted that these businesses' success was significantly influenced by the managers' work experience, the size of their family, the number of loans they had taken out to start their companies, their education, their age, and the number of employees they employed.

The development of small and medium industries requires a variety of actions that are carried out during the seven stages of business environment improvement, infrastructure development, market development, technology development and penetration, human resource development, and financial and network support, according to [7] article "Designing a model for the development of small and medium industries". The aforementioned seven phases are also influenced by the relative advantage and the current status of the industry, as well as by the economic, political, legal, technological, cultural, social, and environmental backdrop and the government's power of support. The main advantages of the growth of small and medium-sized businesses are that it makes them more competitive by increasing added value, productivity, and innovation. [11] noted that they took into account three crucial aspects affecting the success of small and medium enterprises, including internal factors, external environmental factors, and the influence of entrepreneurs in their article titled "Factors Affecting the Success of Small and Medium Enterprises". The psychological, mental, and behavioral traits of the entrepreneur, as well as management abilities, experience, and technical expertise, were also mentioned as the most significant influences on the performance of small and medium-sized businesses. In an article titled Factors Affecting the Failure and Success of Small and Medium Enterprises, [13] claimed that focusing on the right technology, knowledgeable staff, financial support, and effective advertising will help small and medium enterprises grow while neglecting the country's economic circumstances leads to the failure of such businesses. [18] said in an article titled "The Success of Small and Medium-sized Enterprises via the Social Responsibility of Organizations and Managers" that companies that focus on social responsibility and have knowledge management may grow their markets and attract more consumers, which will lead to greater success. Effective influences on the growth of small and medium-sized firms, according to [2], will expand and reach the requisite profitability over time by paying attention to innovation, funding, government assistance, and the deployment of skilled human resources.

According to research conducted by [5] on the variables influencing the expansion of small businesses in Romania, funding, human capital, technical support, and the climate for doing business are the key drivers of small business expansion. The findings of this study also demonstrated that loans are the most crucial element in promoting and establishing small enterprises, and they have a significant impact on both the employment and sales of small firms. [16] wrote in his essay, "The Impact of Technology and Technology on the Success of Small and Large Enterprises," that small and large businesses that pay attention to the selection of appropriate and cutting-edge technologies will be able to grow and profit in the proper ways and eventually develop. In a study titled "Elements Affecting the Success of Small and Medium Firms," [21] reported that 11 factors were found to be important to the success of small and medium enterprises. These factors were as follows: personal traits, managerial problems, monetary problems, marketing endeavors, human resource problems, economic conditions, production characteristics, rivalry, rules and regulations, technology, and environmental elements. The characteristics of the company, customers, financial resources, the management style, and the external environment have had the greatest impact on the success of such businesses, according to [6] in their article entitled Factors affecting the success of small and medium enterprises. Additionally, the presence of opportunities fosters growth, while the absence of opportunities results in the demise of such businesses. Reviewing the research in the area of excellence and success of small and medium industries has led to the conclusion that different methods have been used in the past to identify and prioritize the excellence and success factors of small and medium industries, with the system dynamics method being more frequently used to simulate the product development process. Besides, it has not been established how and to what degree each element and change in its quantity influences the success of new product development as well as other factors in research on the factors of excellence and success of small and medium-sized companies using the technique of system dynamics. The system dynamics technique has thus been applied in this research to discover and analyze the aspects influencing the quality and performance of small and medium-sized enterprises.

3 Methodology

The research approach is varied (quantitative-qualitative). This research will employ qualitative data and is classified as developmental research in terms of findings but is exploratory research in terms of its first (qualitative) phase. Two library and field methodologies have been employed in this study to gather data to address various research topics. The elements influencing the success of new product creation were discovered using the library technique, which also involves reviewing existing materials like books, journals, and local and international investigations. After that, the research model was developed with the help of specialists, and the equations and correlations between the variables were given. Two questionnaires were utilized in this study to gather the information needed to assess and gauge the variables under investigation. Two relative content validity coefficients (CVR) and the content validity index (CVI)

have both been used to objectively assess the validity of the material. Using a five-part scale of "absolutely required", "essential", "somewhat essential", "unneeded", and "unnecessary", experts are asked to evaluate each item to calculate CVR. The solutions are then computed using the formula below:

$$CVR = \frac{n_e - \frac{N}{2}}{\frac{N}{2}} \quad (3.1)$$

n_e is the proportion of experts who chose the "required" response, whereas N denotes the total number of experts. The validity of the content of that item is acknowledged if the computed value is higher than the table value. When the questionnaire was provided to seven experts to be evaluated for validity, it was discovered that all of the calculations were over 0.99, indicating that the questionnaire's content was legitimate.

$$CVI = \frac{\text{The number of experts who gave the item a score of 3 or 4.}}{\text{The total number of experts}} \quad (3.2)$$

The number of experts who selected options 3 and 4 was divided by the total number of experts to establish the validity index of CVI. It is acceptable to accept the validity of the questionnaire because the CVI score was higher than 0.79. Due to the qualitative character of the research, 50 managers of small and medium-sized businesses involved in the metal industries were given the final questionnaire after the independent variables, mediator, and dimensions of the dependent variables were finalized to gauge their reliability. The utilized questionnaire's Cronbach's alpha scores demonstrated the tool's proper reliability:

$$\alpha = \frac{K}{K-1} \left[1 - \frac{\sum S_i^2}{S_T^2} \right] \quad (3.3)$$

where S^2 is the variance of the k th subtest, σ^2 is the variance of the entire test, and k is the number of questions or items in the questionnaire or test. It may be argued that the null hypothesis is verified and that the reliability of disseminated questionnaires is satisfactory, given that Cronbach's coefficient of error determined for the questionnaire is 0.86 and is more than 0.65.

Although rank and nominal variables are occasionally utilized, variables at the level of distance measurement are better suited for model analysis. It should be noted that the researcher may analyze as many variables as are pertinent to the study topic. To the extent that the variables are measured properly and have a satisfactory reliability coefficient. The accuracy of the model analysis increases with sample quantity. As a general guideline, there should be four or five times as many samples as variables. This ratio can be considered conservative.

The opposing hypothesis ($H_a H_a$) in Bartlett's test implies that at least two populations do not have the same variance, while the null hypothesis ($H_0 H_0$) is based on the population's constancy of variance k . The opposing hypothesis disproves the null hypothesis, which holds that all civilizations are equally homogeneous in terms of variance. This is how Bartlett's statistic is expressed when we have $n_i n_i$ samples from the k population and $S_i^2 S_i^2$ stands for the variance of population ii:

$$\chi^2 = \frac{(N-k) \ln(S_p^2) - \sum_{i=1}^k (n_i - 1) \ln(S_i^2)}{1 + \frac{1}{3(k-1)} \left(\sum_{i=1}^k \left(\frac{1}{n_i - 1} \right) - \frac{1}{N-k} \right)} \quad (3.4)$$

Note that the following limitations ought to be taken into account in this regard:

$$N = \sum_{i=1}^k n_i \quad (3.5)$$

The mixed variance is likewise determined in the manner shown below:

$$S_p^2 = \frac{1}{N-k} \sum_i (n_i - 1) S_i^2 \quad (3.6)$$

The distribution of χ^2 or χ^2 with $k - 1$ degrees of freedom will asymptotically have zero degrees of freedom under this version of Bartlett's test statistic, which is defined as the square ratio of two standard normal distributions. In this method, we assume zero if the statistic's value is higher than the α th percentile of such a distribution:

$$\chi^2 > \chi_{k-1, \alpha}^2 \quad (3.7)$$

Sometimes the base 10 logarithm is utilized in the connection above in addition to the natural logarithm, in which case the Bartlett test statistic is recast as follows:

$$\chi^2 = 2.3026 \frac{(N - k) \log_{10}(S_p^2) - \sum_{i=1}^k (n_i - 1) \log_{10}(S_i^2)}{1 + \frac{1}{3(k-1)} \left(\sum_{i=1}^k \left(\frac{1}{n_i - 1} \right) - \frac{1}{N - k} \right)} \quad (3.8)$$

The vector's KMO statistic, which represents the sample adequacy, is determined for each index as follows:

$$MSA_j = \frac{\sum_{k \neq j} r_{jk}^2}{\sum_{k \neq j} r_{jk}^2 + \sum_{k \neq j} P_{jk}^2} \quad (3.9)$$

The Kaiser-Meyer-Olkin criteria, on the other hand, contain the following formula:

$$KMO = \frac{\sum \sum_{j \neq k} r_{jk}^2}{\sum \sum_{j \neq k} r_{jk}^2 + \sum \sum_{j \neq k} P_{jk}^2} \quad (3.10)$$

The data will not be eligible for factor analysis if KMO is less than 0.5, and factor analysis can be performed with more care if KMO is between 0.5 and 0.69. However, the correlations between the data will be employed for data analysis if their value is higher than 0.7. Since the KMO index value is equal to 0.835 and there are enough samples to do a factor analysis, Additionally, Bartlett's test's significance value is less than 0.05, demonstrating the suitability of factor analysis for locating the structure or factor model. In the second phase (quantitative phase), the objective is explanatory research, the outcomes are applied development, and the data used are quantitative. Survey research is the chosen research method for the quantitative approach in the second phase.

4 Findings

The cause-effect model 1 of the research model was presented after determining the elements impacting the success of new product creation using a research background and a poll of experts. Circles and interactions that are more closely tied to one another and have a shared objective will promote more openness and a better understanding of these ties.

4.1 Flow chart of the research problem

The dynamic model shown in Figure 2 and extracted based on the opinion of the chosen experts investigates the influence of factors such as the market of companies, existing conflicts between companies and also in the cooperation structure, differences in the working conditions of partners, differences in the relative power of partners, the complementarity of partners' resources and non-functional conflicts on the level of commitment, the level of cooperation, the level of compatibility, the level of mutual trust and the life of the relationship and ultimately their effect on the satisfaction, success and excellence of the companies. The findings of this study's interviews with managers in the metal sector have been used to determine the link between changes in market capacity and the growth of marketing and production activities. Companies have unique plans that are in line with their competitive strategies, and to respond to changes in supply and demand, they concentrate some of their efforts on marketing strategies, product development, and capacity expansion, so it is important to pay attention to this issue in problem simulation. The financial managers of these businesses emphasize economies of scale, but they also think that if production volume hits a certain point, marketing, R&D, and manufacturing expenses would likewise skyrocket, necessitating the formation of strategic alliances. Accordingly, the desire to form a partnership based on its potential financial, technical, and managerial advantages—what are often referred to as material and spiritual advantages—increases cooperation structures and has an impact on partner dependencies. The dedication to establishing a firm and the maintenance of a cooperative relationship is directly impacted by such environmental changes and their impact on businesses. The

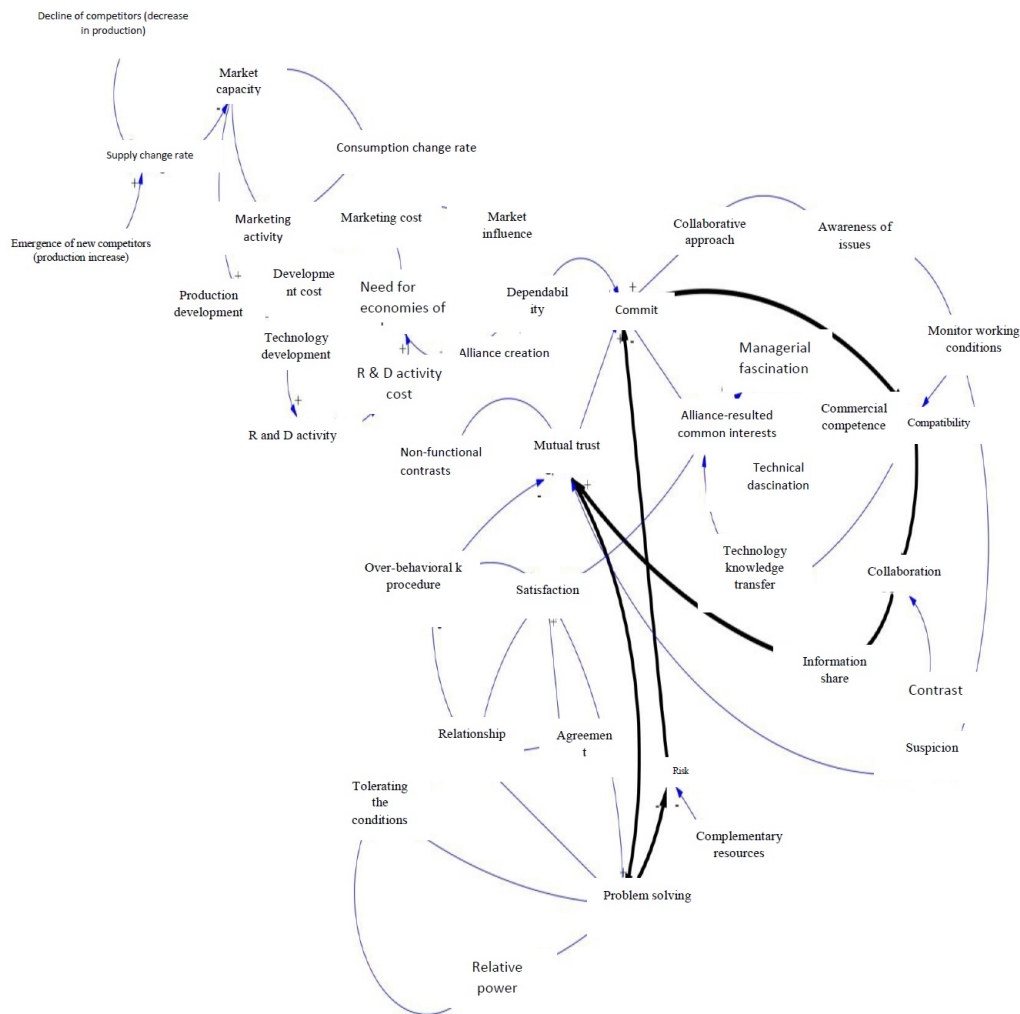


Figure 1: Causal-effect model of factors affecting excellence and success of small and medium-sized companies in metal industries

crucial element for the continuance of collaboration in the area of business management is "commitment", which must be taken into consideration. Several variables influence the amount of commitment in the organizational structure.

4.2 Formation of the system dynamics model

The model should be developed using accumulation and flow diagrams, and the mathematical relationships between the variables should also be established, after conceptualizing the system, actually establishing the boundaries of the model and its general framework, and determining the relationships between key variables in the form of cause and effect loops. The system structure may be understood visually with the help of cause and effect diagrams. To better understand the behavior of the system, it is required to collect the connections between the system's variables and simulate the values of the variables over time. However, these diagrams are insufficient to analyze the behavior of the system over time. To do this, flow-accumulation diagrams must be created. Finally, utilizing corporate records and the advice of the firm's specialists, the correlations between the variables were constructed.

4.3 Examining different policies

The most significant aspects have been included in the model based on the importance of their impact on excellence and success to avoid the model becoming infinitely complicated. As a result, the model accurately captures the state of the system and the interactions between its major parts. An equation was created based on the experts' viewpoint using numerical functions after consulting the experts about the link between the variables. While establishing the relationship between the variables in this equation, the behavior of the variables across three-year and three-month periods has been investigated.

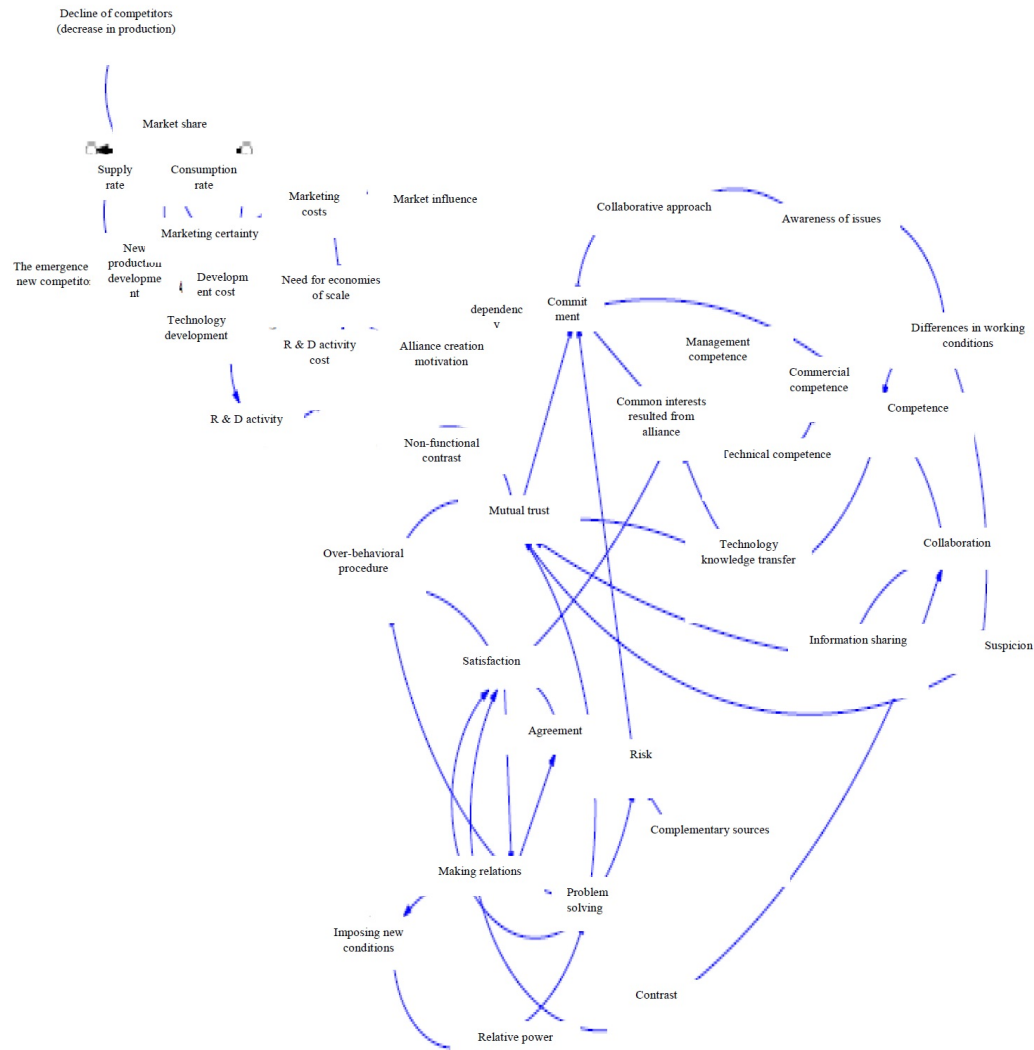


Figure 2: The flow diagram of factors affecting the excellence and success of companies in the metal industry

The first scenario: For excellence and success in this circumstance, managers are advised to concentrate on short-term dispute resolution and lowering the degree of disparity in their working conditions. In this regard, managers ought to aim for a 0.2 level difference in the work environment and take into account a 0.4 level dispute. Figure 3 depicts the important model variables' behavior after modeling the first scenario.

The second scenario: In the second scenario, it is recommended that in addition to putting the first scenario into practice, the partners work to find long-term solutions to the non-functional conflicts in the system and bring them down to the lowest feasible level. As a result, it is recommended that the degree of non-functional conflicts is decreased to 0.1 and that critical variables' behaviors be modified. Figure 4 depicts the behavior of the model's crucial variables after modeling the second scenario.

It may be claimed that the metal industry has a dynamic strategic development structure since there is a dynamic link between the elements influencing the quality and success of small and medium-sized firms in the sector. As a result, businesses should take an all-encompassing strategy for creating and maintaining partnerships rather than concentrating on just one issue. The approach described in this study can significantly aid in reaching this crucial objective and contribute to the success of the business. The outcomes of the scenario analysis suggest that when structuring inter-company cooperation, attention should be paid to long-term efficiency, and while defining the main success elements, emphasis must be paid to the idea that long-term efficiency should be researched in short intervals. It may be agreed that, from the perspective of experts, the dissemination of the idea of partnership dynamics and the dynamic connection structure of its components is the most significant accomplishment of this research. The premise of this study and its execution will alter how managers and those in charge of strategic growth and development

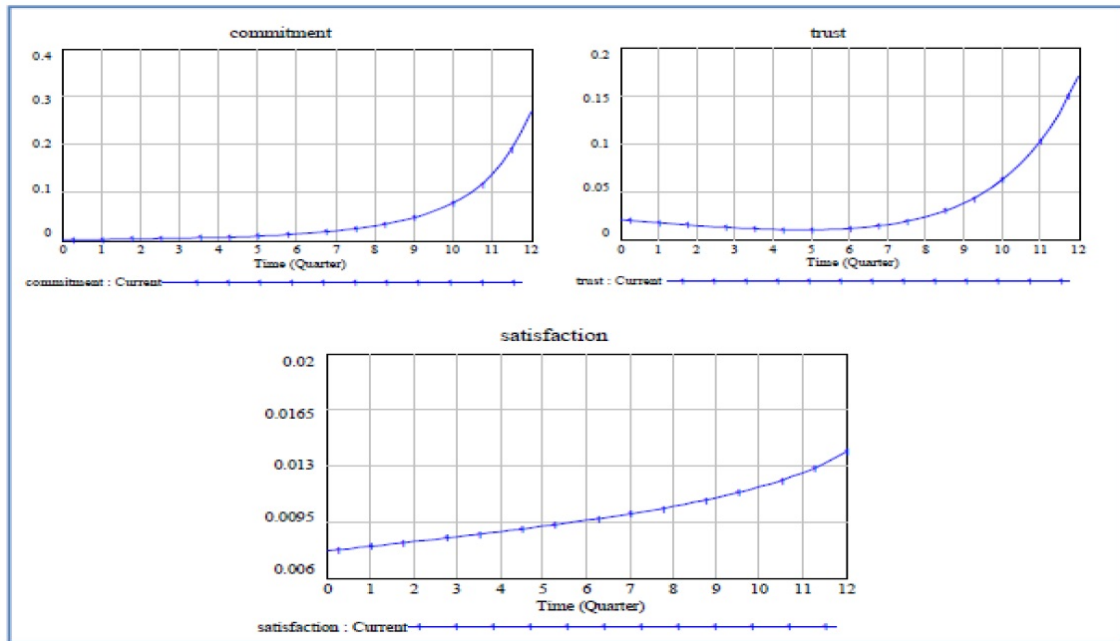


Figure 3: The results of running the first scenario

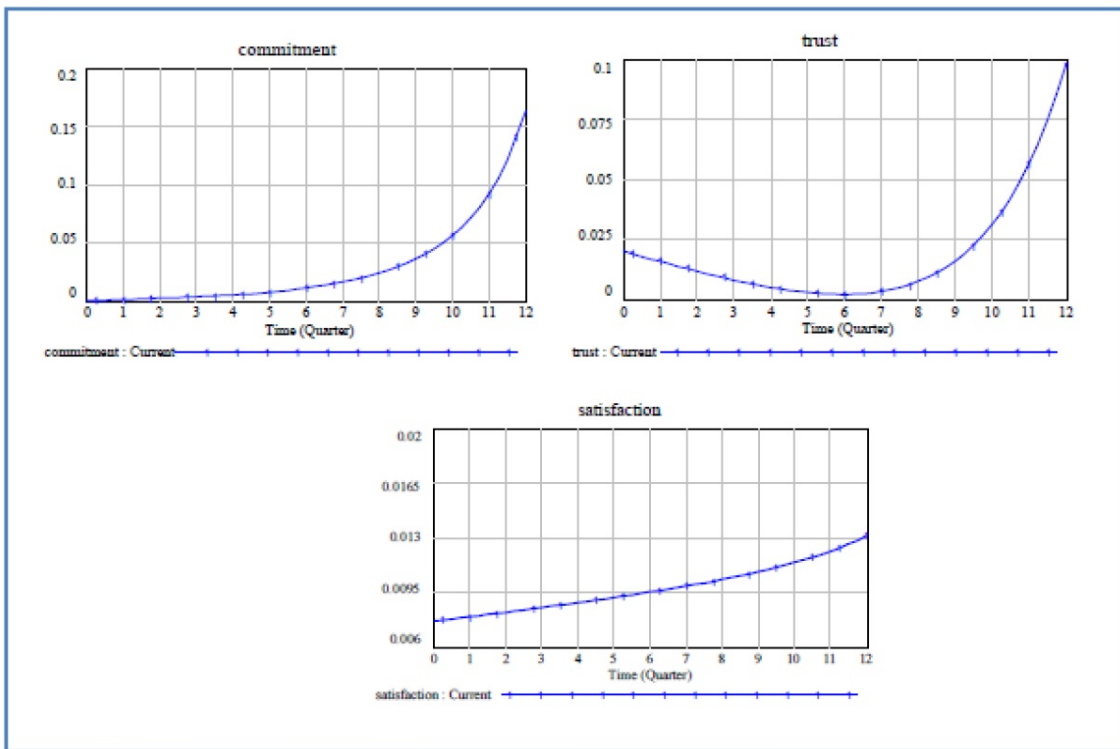


Figure 4: The results of running the second scenario

perceive this crucial, intricate, and dynamic phenomenon.

5 Conclusion and suggestions

The system dynamics technique has been used to analyze and assess the success aspects of new product development in the Steel Industry Company. One of the key advantages of this methodology over alternative approaches is the ability

to model changes in the success factors of new product development over a long time horizon and investigate and assess various scenarios. Open-ended questions were created for the expert interviews under the initial model that established the theoretical framework of the study, and 5 major categories were found. In this regard, considering the table of each of the open concepts, it was compiled first, and finally, according to the main concept of the phrase, the central code was identified, which is the sub-category of each class of determining categories and is placed in their respective categories. They found that they can affect the success of excellence and the success of small and medium-sized companies active in metal industries. These are as follows: organizational factors (production development, technology development, research and development activities, existence of complementary resources, long-term relationship with suppliers and transparent procedures), managerial factors (management competence, information sharing, conflict management, risk management, problem-solving, seeking power and agreeing with competitors), human factors (creating motivation, technical competence, technology knowledge transfer and customer satisfaction), marketing factors (market capacity, marketing activities, market influence, mutual trust, cooperation and business competencies) and environmental factors (decline of competitors, the emergence of new competitors, change in consumption rate, awareness of environmental issues, adaptation and integration between industries). To interpret the aforementioned findings, it may be said that crucial success factors serve as a tool for assessing an organization's effectiveness in carrying out its objectives. Therefore, it is important to recognize and learn about the crucial success aspects of a business. When these elements are neglected, the entire system and process are exposed to the danger of failure.

If the organization wants to succeed, it must correctly identify and handle critical success factors and key performance indicators. In actuality, important success factors are traits, circumstances, or variables that, when properly handled, may significantly impact an organization's competitive position. The organization's key performance indicators that are essential to fulfilling its purpose are its crucial components of success. If these indicators are clearly articulated, the entire company has a shared understanding of how to carry out its objectives [15]. Big companies will set the norms and laws regulating a market where there are several rivals with varying degrees of influence. It should be remembered that as time passes, the elements influencing market performance alter as a result of changes in our customers' and employees' demands. Moreover, the findings of this study can be summed up as follows: it was found that elements like commitment, mutual trust, and satisfaction from cooperation play a crucial role in the success and excellence of small and medium-sized enterprises in the metal industries after examining the cause-effect model and the presented flow model. Based on the findings of the scenario analysis, businesses may prepare for their short-term success to minimize non-functional conflicts, clarify their circumstances, fostering understanding among them, and lessening current conflicts. According to the scenarios looked at, companies should choose partners who are compatible with each other in terms of the sales market and field of activity to reduce the factor of difference in the field of job activity in the company's structure and based on the advice of experts. They can also provide transparency by improving the transmission and sharing of information.

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