

Role of Innovation in the Development of New Products for Improving Organizational Performance

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Abstract—The innovation has emerged as crucial tool for the modern corporations in order to sustain its competitive advantage in today's highly competitive, volatile and globalized markets. The purpose of this review is to discuss the critical role of innovation in the overall improvement in the organizational growth and performance. It specifically focuses on the new product development as an important innovative factor for success. Through a richer explanation and empirical assessment, the study contributes to generate clarity and better understanding of how new product development responds positively to the organizational performance.

Index Terms—innovation, NPD, organizational performance, competitive advantage, product success

I. INTRODUCTION

As it is now perceived imperative to success in the modern business environment of 21st century, the firms both small and large have begun to recognize the vital role of innovation and new product development for sustainability and growth of organization. They constantly concentrate on exploiting their existing competencies and exploring the new ones. Moreover, innovation is seen extensive as an essential component of the competitiveness which is implanted in the organizational structures, processes, and products within an enterprise [1]-[3]. Also, innovation is high complicated in the nature because of the market lack of clarity, the intensive competition and the short product life cycle [4]-[5]. Thus, innovation has become a crucial part of the corporate strategies for several reasons such as to adopt more productive manufacturing processes, to perform well in the market, to create positive brand image and loyalty in customers and consequently to gain sustainable competitive advantage. The innovation has turned into an attractive area of study in the last two decades for the researchers who tried to investigate its impacts and relevance on organizational performance because it provides firms a strategic positioning to overcome the complications they face while striving to attain sustainable competitive [6]-[7].

However, firms can face to many problems and complications in the product development process because of so many reasons and factors. This study is very important to identify the main factors and to value which concern the successful factors of the innovation. Identifying the role of NPD as the most innovative factor which contribute to success of organizational growth still remains a life management worry, not only because successful new products are a main spring of improved financial and market achievement. The study focuses on the NPD activities and develops a conceptual model that describes the process of product development and its effects on the performance. The organizational level performance includes profitability, quality, cost, flexibility, delivery and creativity [8]-[9].

In this study, we aim to discover innovations and their effects on firm performance by examining the process of new product development. Therefore the main input of this study is the comprehensive innovation-performance analysis based on empirical data, which revealed the positive effects of innovation on firm performance.

The paper is divided five sections. Following the abstract and introduction section, we briefly present in the second section the literature review and research background. In the third section, the empirical data and research methodology are discussed. The fourth section introduces the analysis and results. Finally, in the last section the discussion of findings, conclusions and final comments are given.

II. LITERATURE REVIEW

Innovation is central to business strategy. The deployment of modern innovative techniques can strengthen a firm's control on the industry. Innovation can occur through new product development, marketing initiatives and opening up new market opportunities [2], [11]. Occupying a position untouched by rivals is also an innovative approach. However, it is recognized in the literature that NPD is a highly challenging endeavor and is therefore, a subject of high concern for managers. The innovation can be a new product, a new service or a unique technology. Management of innovation is the course of bringing monetary value to technological

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knowledge and creativity [12]. The generation of new innovative ideas is highly challenging because the development of an effective idea requires input from a number of different sources, comprising customers, suppliers, employers, competitors, and even other industries. Active collaboration ensures that the most promising ideas, considering multiple points of view, will be put together in the NPD process, thus increasing the chances of success [13]. The process of innovation is divided into three stages: the Fuzzy Front End (FFE), the new product development (NPD) process and commercialization [14]. The idea development portion of an NPD process is known as the “fuzzy front end” [15].

New product development has received a great deal of importance in the strategy literature, and is a strong capability that can improve overall organizational performance (Li and Calantone 1998). The effective development of new products continues to be a critical business activity as firms, both large and small, struggle to acquire or sustain competitive advantage. However, unfortunately it is still difficult to have successful new product development [10]. In fact, some factors make new product development highly risky and difficult: ever increasing cost on research and development (R&D); rapid development in technology, very short products' life cycles, severe market competition, and high failure rates of NPDs [16].

For example, today software development is one of the major challenges in all organization. As we know user authentication which commonly named password stands out as one of the most essential subject in security of software. There are several techniques to develop the authentication process. Now a day, graphical passwords are proposed as an innovative technique in authentication process.

Moreover, hostile economic environments make new product development more difficult. In this regard, there is huge amount of literature focusing on the determinants of new product success [17]-[18].

Dr. Lashkari A.H. and his group after doing a wide research and survey on the graphical password [19], they have proposed and developed a new algorithm on Graphical User Authentication (GUA) based on multi-line grids [20]. Regarding to their research and analysis, graphical passwords are not only more secure than previous common techniques such as text passwords, but also it is easier to memorize and remember for people in all organizations. The successful development of new products is considered vital for organizational growth and sustainability by the industry leaders [21].

Therefore, the conclusion is that the NPD literature on organizational performance seems to agree that certain factors will enhance the chances of success. Thus, according to the literature, new product development success is reviewed at the project level and firm level. Cooper and Kleinschmidt developed five broad categories as success factors of NPD at the project level; each of the categories is: NPD process; organization; culture; role and commitment of top management and strategy [22]-[23]. In addition, Cooper and Kleinschmidt supported nine factors that distinguished the better performing businesses in very strong way [24].

This study tries to explore and analyze deeper understanding of the role of innovation in development of new products and attempts to identify ways in which firms can improve their performance when developing new products, mainly through the study of factors that are critical to success. These factors were identified through an extensive study of the practices and performance of successful firms presented in the NPD literature.

III. METHODOLOGY

The authors reviewed literatures about the role of innovation through develop new product and how that is improving the organizational performance. Also the authors focused within the interview that shows the performance of the organizations and the individuals of methodology that mentioned by pervious authors in their researches.

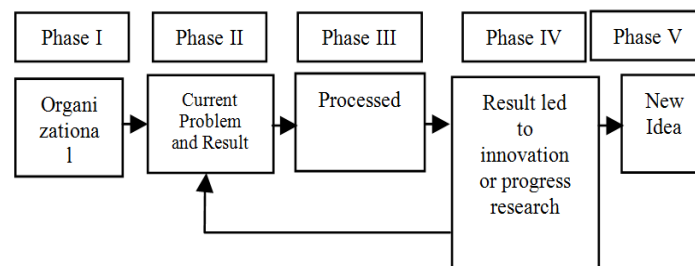


Figure. 1. The development of new Idea

In this study, the technique of reviewed previous studies that the authors used during this study is the development of new idea. Fig. 1 shows the five phases for analysis of each literature: Phase I; select the research or study that is related to the role of innovation and identify the current problem and result to enhance and develop the organizational performance. Phase II; clarify the current problem and current results from phase I.

Phase III; processed phase II through the analysis related to the research methodology and measure the level of article quality within current cases.

Phase IV; the result of the phase III that going in two channels:

The first channel is a key for next research that going back to phase II to get new results

The second channel led to Phase V

Phase V; the final results of the study and employ the results to support the role of innovation in NPD on the organization performance.

IV. RESULT AND ANALYSIS

This section summarizes the five processes that show in Fig 2, the organizational environment. The process of development new idea to create and reach new products through the organizational environment that helps the products to be more successful in the market through the feedback from the employees and customers. Process I, The new idea. Process II, the initial feedback helps to know how important the idea as the basic of the products and there is any change in the idea that will improve the

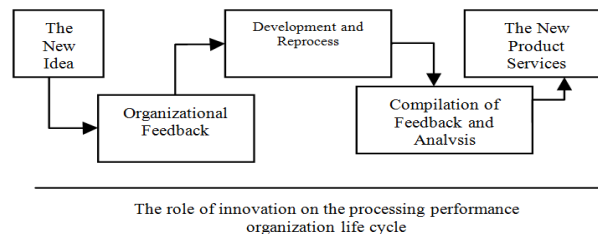


Figure. 2. The organizational environment

Process IV, collect and analysis the final feedback process: Based on the feedback analysis received, the teams rework the ideas to keep the cost low and reduce the risk until consensus has been reached and the best solution if there is any problem. Back to reprocess and develop the product for testing and examining the idea again through the organizational teams' rework to improve the product quality and success in the market which directly affects the performance of the organization.

Process V: The new product services or goods which impact of innovation and NPD on the organizational performance through team feedback that is related to skills and behaviour of employees. The implementation of innovation as group work is more successful than individual [25]. In the organizational context, innovation may be linked to positive changes in efficiency, productivity, quality, competitiveness, market share, and others. However, recent research findings highlight the complementary role of organizational culture in enabling organizations to translate innovative activity into tangible performance improvements.

V. CONCLUSION

The main purpose of this study was develop an understanding the growing importance of innovation as a success factor and NPD as a driver of improvement for organizational performance can be explained by the continuous accumulation of technical knowledge overtime through the organizational environment model. The findings of previous researches show that development of new products are critical to increasing competitiveness and support the Process of innovation in firms and help them in a systematic way to meet new market challenges. Although the previous researches in this area suggested that organizational innovation

product to perform with in the market. Process III, the development and reprocess station of new product development NPD will pass through development loop phases. Phase I, Develop the idea: the different teams will analyze the problems, elicit ideas and perform analyses. Phase II, Identify earnings impact and risks: The financial impact of all ideas will be determined in a precise and standardized way. All the risks associated with an idea will also be examined: operational risk, IT and implementation risk, customer and employee impact risk, legal, etc. Phase III, Review with team leader: The different groups discuss their ideas with the Executive Team, which provides feedback and guidance.

strategies have positive impacts the performance, however, the objective of this study is to explain how new product development process improve organizational performance in the highly competitive business environment through the organizational environment model. The companies can radically increase the use of scarce resources and reduce costs and risk concurrently because the proposed process model used in this study is more understandable to increase opportunities of the product success in the market. The organizations using this model will be able to develop more innovative new products or services at less cost and risk than before. NPD projects can help companies to optimize revenue and profit from their new product lines.

However the organizations need to nurture and develop continuously innovation process. They must build and position a deep capacity for innovation that is highly essential for the improvement in organizational performance. Systematically breeding new ideas may involve many different innovators both inside and outside the business in the ideation and R&D process. Building and sustaining a capability for innovation is critical for the constant success of every corporation. It is proposed that organizations that consciously and explicitly invest in the development of new products have a higher likelihood of achieving success and improvements in business performance. Furthermore, the findings reveal that pursuing NPD is more effective and beneficial in organization's financial performance in competitive environment. The results reveal the positive effects of innovations on firm performance.

VI. FUTURE WORK

This study serves as a foundation for the organizational performance relationship in the context of new product development (NPD).

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