Journal of
Value Creating in Business Management
https://www.jvcbm.ir

Volume 4, Issue 3, Autumn 2024, Pages 229 to 252

Original Article (Qualitative)

eISSN: 2980-8359

Applying the metacombination approach in order to design the native model of new product development

Seyed Rohollah Faraji[1], Hoseain Adab[2], Jalal Haghighat Monfared[3]

1- Ph.D student, Department of Technology Management, Central Tehran Branch, Islamic Azad University, Tehran, Iran
2- Assistant Professor, Department of Industrial Management, Central Tehran Branch, Islamic Azad University, Tehran, Iran
3- Associate Professor, Department of Industrial Management, Central Tehran Branch, Islamic Azad University, Tehran, Iran

Receive:
06 November 2023
Revise:
30 December 2023
Accept:
30 January 2024

Keywords:
research and development, localization, new product development, management factors, institutional factors

Abstract
The purpose of the current research is to use the metacombination approach in order to design a native model of new product development. The research method is applicable-developmental in terms of purpose; exploratory in terms of the nature; and qualitative in terms of the method of implementation, and a meta-composite method. The statistical population of the research includes all sources related to the development of new indigenous products during the years 2000 to 2023, totaling 225 sources. For this purpose, by systematically reviewing the subject literature, articles indexed in WOS, SCOPUS, Science Direct and Google Scholar were collected, and 143 articles were selected based on the abstract; then 75 sources were selected based on the content, and finally 67 sources were selected through checking the author information sources as the final sources of analysis and synthesis of the selected findings. The selected sources were analyzed using maxqda 2020 software, resulting in 104 primary codes. Finally, the findings of metacombination led to the identification of 15 categories in the localization of new product development research.

Please cite this article as (APA): Faraji, S. R., Adab, H., Haghighat Monfared, J. (2024). Applying the metacombination approach in order to design the native model of new product development. *Journal of value creating in Business Management*, *4*(3), 229-252.

https://doi.org/10.22034/jvcbm.2024.428370.1265

Publisher: Research Centre of Resources Management Studies and Knowledge-Based Business

Corresponding Author: Hoseain Adab

Email: hos.adab@iauctb.ac.ir

Journal of
Value Creating in Business Management
https://www.jvcbm.ir
Volume 4, Issue 3, Autumn 2024, Pages 229 to 252

Extended Abstract

Introduction

The environment of companies is changing dramatically with short life cycles, demand for product customization, technical innovations, rapid growth of technology, increased risk taking and risk in global trade and ever-increasing changes in customer needs; and companies have to reduce the expenditures and introduce the product to the market quickly. Before launch, each new product goes through a significant research and development process that includes product opportunity, cost, and timeline to produce a product. After sufficient research, a new product enters the development phase, where a company creates a product or service using the concept presented in the research phase. Companies that succeed in commercializing a new product and technology in a fast and accurate manner are able to gain greater market share, superior pricing, and dominant designs that lead to sharp competitive differences. The difference between success and failure is often found in the basic processes of management, specifically in the interfaces between different stages of research and development (Krishna et al, 2009). Research and development is not only a source for new ideas, but can also be used to solve identified problems (Clark & Watson, 2019). In fact, new products are the answer to the biggest problems of organizations. The dairy industry, with its long value chain and numerous links, is an effective and efficient industry in Iran's economy, and yogurt, as one of the most popular dairy products, is consumed daily by many customers. Therefore, identifying and understanding the subjective expectations of customers about this product as one of the important external sources of creating new knowledge and providing products in accordance with the expectations and demands of customers is a necessary condition for the survival of dairy producers in the competitive market (Mashhadhi et al, 2018).

Therefore, the researcher asks the main question: what is the application of the metacombination approach in order to design the native model of new product development?

Theoretical Framework

Research and Development

The term research and development means constructive activities arising from a systematic foundation that aims to increase human knowledge and social culture and use this knowledge in new applications. Research and development are activities that revolve around the innovation of new products or services in a company. Localization of the research and development network means that the companies affiliated to the countries carry out research and development activities in cooperation with local universities and research institutes. High-quality R&D personnel are relatively scarce in some places, and most of them are available for universities or research institutes in regions with higher innovative capacity. To fully utilize the benefits of local R&D knowledge and human resources, frequent interaction with universities and research institutes to create an R&D network for companies is very important (Lashgari et al, 2021).

Alizadeh et al, (2023) investigated the identification of dimensions and components affecting research and development strategies in domestic automobile companies. The findings showed that the dimensions and components affecting research and development strategies in domestic automotive companies have 33 sub-themes in 7 main themes including business strategy, support policies, investment attraction, intellectual capital, cultural development, research and development implementation network, and research and development management. Finally, the pattern of main themes affecting research and development strategies in domestic automobile companies was drawn. The results of this study have many applicable implications for the managers and officials of domestic automobile manufacturing

companies, and they can take an effective step in the direction of research and development based on the results of the main and sub-themes identified in the present study.
Kruachottikul et al, (2023) in a research titled "New Product Development Process and Case Studies for Academic Research with Deep Technology to Commercialization" propose a new product development framework for innovation-based deep technology research for commercialization. The proposed framework, called Gateway-Completed Phase, integrates the development process with design thinking and lean deployment approaches. The framework consists of six steps and five gates, and focuses on critical thinking to help entrepreneurs avoid mental traps and make sound decisions. Early activities focus on searching for potential socio-economic impact research in deep technology, developing a business case, market analysis, and strategy for problem-solution fit; and then moving into a build-measure-learn activity with an authentic learning feedback loop. In the next step, appropriate exploitation methods are decided using weight factor analysis, development of intellectual property strategy, completion of university technology transfer process and participation in fund raising.

Research methodology

The research method is applicable-developmental in terms of purpose; exploratory in terms of the nature; and qualitative in terms of the method of implementation, and a meta-composite method. The statistical population of the research includes all sources related to the development of new indigenous products during the years 2000 to 2023, totaling 225 sources. For this purpose, by systematically reviewing the subject literature, articles indexed in WOS, SCOPUS, Science Direct and Google Scholar were collected, and 143 articles were selected based on the abstract; then 75 sources were selected based on the content, and finally 67 sources were selected through checking the author information sources as the final sources of analysis and synthesis of the selected findings.

Research findings

The selected sources were analyzed using maxqda 2020 software, resulting in 104 primary codes. Finally, the findings of metacombination led to the identification of 15 categories in the localization of new product development research.

Conclusion

The current research was carried out with the aim of using the metacombination approach in order to design the native model of new product development. The results of this research correspond with the results of Alizadeh et al, (2023), Kruachottikul et al, (2023), Askarifar et al, (2022), Vidor et al, (2022), Adomako (2021), Tajik (2021), Qiao et al, (2019), Altuntas et al, (2019), Zedtwitz et al, (2018), Cuervo-Cazurra et al, (2017), and Silinevica et al, (2017). Askarifar et al, (2022) showed that innovation in production technology, products, work processes and sustainable and green production have the highest priority in the innovative needs of these cooperatives. Also, the stages of commercial production, research, and marketing are the most important in the research and development process; which sponsors, suppliers and customers in the commercial production phase;, research units including universities, research and development centers and research institutes in the research phase; and customers in the marketing stage are more important.
According to these results, it is suggested that organizations not only need to combine product features and strengthen production capabilities to develop new product research, but a wide range of responsibilities and considerations should be anticipated in their research and development stage. In fact, organizations should consider local issues related to service

Journal of
Value Creating in Business Management
https://www.jvcbm.ir
Volume 4, Issue 3, Autumn 2024, Pages 229 to 252

capabilities, financial solutions, performance and sales development, marketability, and distribution channels for current and future customers. Also, organizations can consider the exchange and sharing of experience and knowledge among employees in local research and development activities in order to increase the performance level through various sources, including market research, collaborative research, and expert associations. Also, focusing research and development activities on existing assets and designing strategic plans based on the amount of assets should be considered. In the end, culture creating is suggested in order to create the willingness of managers and shareholders to implement and develop a new product.