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Model of Factors Affecting Competitive Advantage in the Media and Publishing Industry in Thailand

Uraiwan Chanchonyut^{*1}

Uraiwan_ch@rmutto.ac.th

Kanchaya Chaivirutnukul²

kanchaya_ch@rmutto.ac.th

Kanakarn Phanniphong²

kanakarn_ph@rmutto.ac.th

Sumalee Somnuk²

sumalee_so@rmutto.ac.th

Abstract

This research aims to develop and examine the consistency of the model of factors influencing competitive advantage of the media and print media industry group developed with empirical data, to study the factors of digital transformation that directly influence competitive advantage, to study the factors of innovation behavior that directly influence competitive advantage, to study the innovation pattern as a mediating variable between the aspects of digital transformation and competitive advantage, to study the innovation pattern as a mediating variable between the elements of innovation behavior and competitive advantage.

Using stratified sampling, a mixed-method, quantitative research was conducted with a sample group of 400 media and print media industry groups, companies registered with the National Press Council, and registered with the Department of Business Development. The instrument used was a questionnaire. Data were analyzed using structural equations. Qualitative research was conducted using in-depth interviews with executives of businesses in the media and print media industry group. The research results were found to be consistent with the empirical data according to the specified criteria, with values of (χ^2 , CMIN-P) equal to .106 (CMIN/DF, χ^2/df) equal to 1.264 (GFI) equal to .979 (RMSEA) equal to .026 (RMR) equal to .014 (AGFI) equal to .959 (CFI) equal to .984. Therefore, it can be concluded that the model is consistent between the theoretical model that has been developed and the empirical data. It can be said that the model is Model Fit. The results of the qualitative research study found that

* Corresponding Author

¹ Doctoral student at the Faculty of Business Administration and Information Technology, Rajamangala University of Technology Tawan-ok

² Faculty of Business Administration and Information Technology, Rajamangala University of Technology Tawan-ok

in the business operations of the media and print media industry, all factors studied are critical in driving the organization.

Keywords: innovation, media and publishing industry, competitive advantage

Introduction

Currently, media and print media play an essential role as a medium to connect information that people cannot refuse to receive. Media can be divided into many types: mass media, personal media, activity media, local media, printed media, and digital media. Each media type is essential and beneficial to communication, which can help drive social development in the same direction. Choosing appropriate media for the occasion, purpose, and target group will help communication be effective and most beneficial. Therefore, at present, communication and technological advancement have made the media and printed media industry in Thailand; in the past, if it were a media organization, it would be an analog system, and printed media is an organization that printed media that has gone through a production process on paper, a media that presents information or various contents. Later, in the era of the Internet system, it played a role in managing the services of entrepreneurs in the media and printed media industry in Thailand. Therefore, it was necessary to adjust the services provided in the form of books, journals, and magazines by adding more channels in the form of online media.

From the factors influencing the competitive advantage in the field of digital transformation, it was found that leading an organization to technological change requires many factors. One of the factors is leadership because leaders who understand technology and use it will be able to measure the potential of technology usage at the organization level. Having good leaders who care about their work, managing and managing people well, and managing people must take into account 2 more factors: management factors and personnel factors because investment in human resources is an important factor in determining the competitiveness of a business. If there are no suitable personnel, no organization can work and be successful. Subanjui and Pasantia (2022). Innovative work behavior is the behavior of each employee with clear work goals. It aims to create and promote new ideas and innovations in management, products, services, and technology based on management that promotes good relationships in the workplace. It aims to benefit the organization's work in order to enhance its overall efficiency. There are 3 factors: job resource management, personal resource management, and job demands that affect employees' commitment to Work engagement. Srinual and Waiprom (2022). Therefore, it can be seen that the factors of digital transformation and innovative behavior are essential factors that should be studied in the context of the media and print media industry in Thailand. In addition, the innovation models that influence competitive advantage will provide data that can be used to create a competitive advantage for Thailand's media and print media industry. Therefore, the researcher is interested in studying the model of factors that affect the competitive advantage of Thailand's media and print media industry to know how to make decisions in the era of digital transformation in order to achieve continuous success.

From the origin and significance mentioned above, it can be seen that the approach to creating a competitive advantage for media and print media businesses in Thailand is to use the study results to apply the approach to creating a competitive advantage for media and print media businesses in Thailand. It can also be a model for planning decisions to

promote, improve, correct, and support media and print media management that is continuously developing and changing. It also enables media and print media business operators in Thailand to compete internationally. It can also be applied to other businesses as well.

Objectives

1. To develop and validate a model of factors influencing competitive advantage in the media and publishing industry based on empirical data.
2. To investigate the factors of digital transformation that directly influence competitive advantage.
3. To study the factors of innovative behavior that directly impact competitive advantage.
4. To examine the patterns of innovation as a mediator between the factors of digital transformation and competitive advantage.
5. To explore the patterns of innovation as a mediator between the factors of innovative behavior and competitive advantage.

Definition of Terms

Media means producers of media, tools, channels, or formats of information transmission that humans use to carry out the communication process, such as television, radio, content, platforms, and media industry groups in Thailand.

Print media (Media & Publishing) means printed media that goes through a production process onto paper. A type of media that presents information or various contents according to each purpose; for example, information or content that provides knowledge, advice, or news in various entertainment categories. A printed media is a paper material on which information and images are printed. Formal and informal styles will differ in the characteristics of inserting text, photographs, or colors by each group of the print media industry in Thailand.

Digital transformation means changing to increase businesses' competitiveness. It is an organization adaptation in the digital era, including using technology to create new things or changing the old stuff in business operations to be more dynamic to suit business in the digital age.

Innovative Behavior refers to all employees' behaviors related to creating, supporting, and/or applying new ideas, processes, products, or procedures in their work, group, or organization.

Innovation means new ideas or inventions, such as services, products, or processes, that can be extended and used to make what already exists more modern, valuable, and useful for commercial expansion.

Competitiveness (Competitive Advantage) refers to an organization's ability to use strategies to create added product value, generate more turnover than competitors, or have a competitive advantage.

Expected Benefits

1. Understand a model of the factors influencing competitiveness in the media and publishing industry.
2. Understand the factors of digital transformation, innovation behavior, and innovation patterns that impact competitiveness for strategic planning to gain a competitive advantage in Thailand's media and publishing industry.

Conceptual Framework

In the study of the model of factors affecting the competitive advantage of the media and print media industry in Thailand, the researcher has studied and related research works and defined the research conceptual framework. Factors of digital transformation Tana and Chai (2023). Factor Innovation Behaviour Zhang, Zhang, and Wang (2022). Factor Innovation Peykani and Mohammadi (2022). Factor Competitive Advantage Niwash, Cek, and Eyupoglu (2022). As shown in Figure 1

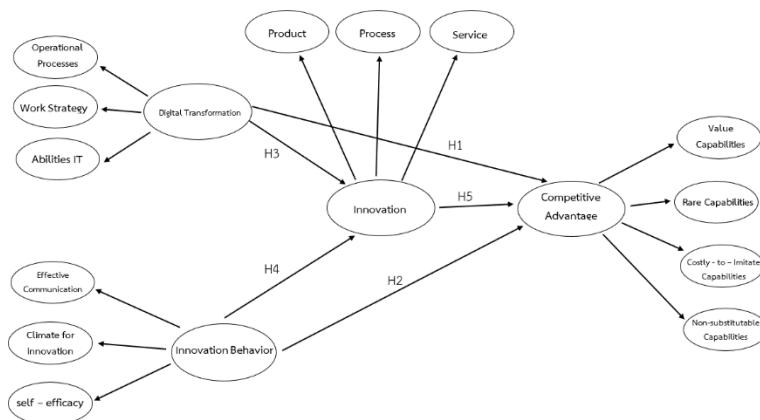


Figure 1: Research concept framework

Research Hypothesis

Hypothesis 1: Develop and examine the consistency of the developed model of factors influencing competitive advantage in the media and publishing industry with empirical data.

Hypothesis 2: H1: Digital transformation factors directly influence competitive advantage.

H2: Innovation behavior factors play a direct role in influencing competitive advantage.

H3: Innovation pattern as a mediating variable between digital transformation factors and competitive advantage.

H4: Innovation pattern as a mediating variable between innovation behavior factors and competitive advantage.

H5: Innovation pattern as a mediating variable that directly influences competitive advantage.

Research Methodology

The researcher used a mixed-research method consisting of quantitative and qualitative methods to conduct the research. The population and sample of the study were:

1. Population and Sample

The researcher conducted mixed methods research with the follow-up explanation model by defining the population and sample in this research.

1.1 Quantitative research

The population of the study was the operational-leveled supervisors from the Department of Innovation, technology and Related Work of 49 companies registered under the National Mass Media Council and from the 801 companies located in both Bangkok and the other regions (Northern, Central, Northeastern, Eastern, Western, and Southern) registered under the Department of Business Development, Ministry of Commerce (the information as of April 6, 2022). Thus, 850 companies comprise the whole population. The researcher used the probability sampling technique as the stratified sampling to divide subjects into subgroups by the regions and the provinces of Thailand. Next, the researcher used the simple random sampling technique to select the final samples.

According to the statistical analysis technique of the structural equation model (SEM), the researcher used the sample size determination method described by Hair, Black, Babin, and Anderson (2010). The sample size was set to be 10 times to 20 times the observed variables. In this research, there were 13 observable variables with a reliability of 95 percent, allowing for errors not to exceed 5 percent. Therefore, the sample size equals 260 (13 x 20) samples. To analyze data using the SEM technique, the researcher increased the study sample to 400. The tool for data collection was the semi-structured questionnaire.

1.2 Qualitative research

The key informants were 5 digital experts from the criteria, namely those who hold executive positions in the media and publishing businesses ranked in the top 5 of the registered capital in the Stock Exchange of Thailand. The researcher used a semi-structured selection Interview as the tool for eliciting data. The set of questions was considered, and the content validity was measured to determine whether it provided adequate potential for eliciting data by the dissertation advisor and five research experts. The descriptive analysis was utilized for data analysis; each issue was categorized to suit the determined variables in analyzing and synthesizing, leading to conclusions and recommendations.

2. Research Tools

2.1 Tools used in quantitative research method

The quantitative research on modeling factors affecting competitive advantage in the media and publishing industry used the tool in data collection as the questionnaire. By studying concepts, theories, and related papers, the researcher defined the operational definitions and determined the variables specified to generate the questions in the questionnaire. The dissertation advisor and five research experts proved and developed the research tool or questionnaire. The researcher produced the complete questionnaires after testing the drafted questions for validity and reliability.

2.2 Tools used in qualitative research method

The research on a model of factors affecting competitive advantage in the media and publishing industry in the quantitative research used the data collection method as the individual in-depth interview. The researcher conducted the semi-structured selection Interview to consider the appropriate relation between the set of questions and the measured variables. After that, the dissertation advisor and five research experts inspected the questions. Before applying the drafted questions, the researcher tested their validity and reliability. Descriptive analysis was utilized to analyze data by dividing the studied issues according to the specified variables to analyze and synthesize, leading to conclusions and recommendations.

3. Data collection

3.1 Collection of data used in quantitative research method

The researcher launched the questionnaires to the sample group via the online system with Google Forms. The researcher only asked the samples to answer the questions by themselves so that the answers would be exact and reliable. In this data collection process, the researcher received all the responses altogether.

3.2 Collection of data used in qualitative research method

The researcher used in-depth interviews as a method of collecting qualitative data. The two-person interview, only the interviewer and interviewee, was conducted via talking on the telephone and Zoom application. No other person was allowed to join the conversation.

4. Data Analysis

The researcher analyzed the data obtained from the sample group using statistical methods from the statistical software package. There were steps as follows:

Data were analyzed to test the model of factors affecting competitive advantage in the media and publishing industry. The researcher used descriptive statistics for analysis as follows:

Data analysis using descriptive analysis

1. Frequency and Percentage were used to analyze respondents' data, including media type, job position, gender, age, status, education level, and length of work.
2. Mean and Standard Deviation (SD) were used to analyze the factors affecting competitive advantage in the media and publishing industry, including digital transformation, creative behavior, and Innovation format factors.

Data analysis using inferential statistics

Before analyzing the structural equation model (SEM), the researcher performed a preliminary examination of the data to find missing data, outliers, data adequacy, regular distribution of the data, data correlation with Bartlett's test, partial correlation with the Anti-Image Correlation, and data suitability with the Kaiser-Meyer-Olkin test (KMO). Next, the SEM analyses were conducted as described below. Hair, Black, Babin, and Anderson (2010).

1. The measurement model analysis technique was used to analyze the relationship between observed and latent variables. Confirmatory factor analysis (CFA) was used to find the relationships between

the two groups of variables and determine whether they were suitable to belong to the group of latent variables.

2. Structural Model Analysis was the technique for analyzing assumptions among the latent variables.

In testing this research's structural equation model, the researcher chose the statistical methods from the software package and followed the analysis steps.

Results

Quantitative Research

The research results are presented in the order of the research objectives, as shown below.

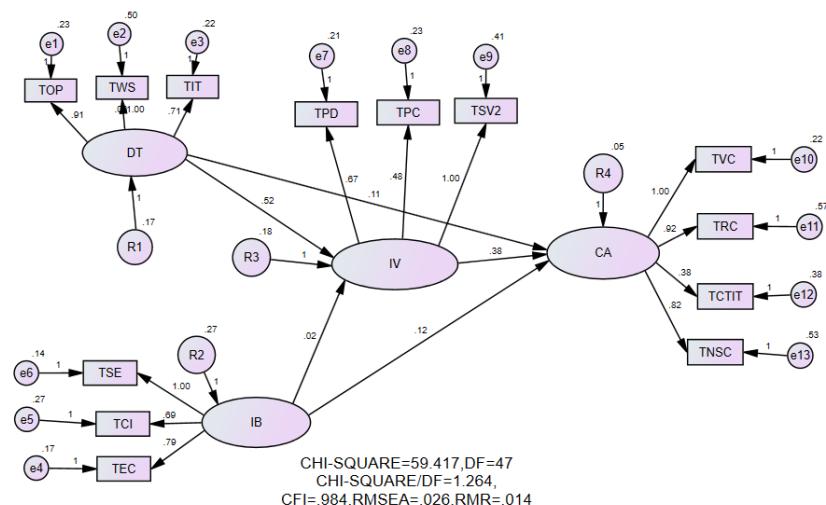


Figure 2: The Model of Factors Influencing Competitive Advantage in the Media and Publishing

Industry in Thailand

Figure 2 shows the structural equation model of factors affecting competitive advantage in Thailand's media and publishing industry. From the confirmatory factor analysis (CFA) by program AMOS, it is found that the Chi-square value is equal to 59.41, the DF value is equal to 47, and the CHI-square/DF value is equal to 1.264, which is considered as accepted. The details of the analysis of the model of factors affecting the competitive advantage of the media and publishing industry in Thailand are shown in Table 2.

Table 1: The Results of the Analysis of the Model of Factors Affecting the Competitive Advantage of the Media and Publishing Industry in Thailand.

index	symbol	Criteria for consideration	Inspection Results	translation
Chi-square probability level	χ^2 CMIN- ρ	ρ -Value $\geq .05$	.106	accept
Relative Chi-square	χ^2/df	≤ 2	1.264	accept

index	symbol	Criteria for consideration	Inspection Results	translation
Goodness of Fit Index	GFI	$\geq .95$	.979	accept
Root Mean Square Error of Approximation	RMSEA	$< .08$	.026	accept
Root Mean Square Residual	RMR	$< .05$	.014	accept
Adjusted Goodness of Fit index	AGFI	$\geq .95$	.959	accept
Tucker-Lewis Index	CFI	$\geq .95$	.984	accept

From Table 1, the results show that the analysis of the Goodness of Fit Index (GFI) of the model of factors affecting the competitive advantage of the media and publishing industry in Thailand, the empirical data, the completely adjusted model, and Chi-square probability level (χ , CMIN-P) must be greater than or equal to .05 from the test being equal to .106 accepted. The Relative Chi-square value (CMIN/DF, χ^2/df) must have been less than 2 from the test bedualo 1.264 accepted. The Goodness of Fit Index value (GFI) must be greater than .95 from the test beual to .979 accepted. The root mean square error of approximation value (RMSEA) must be less than .08 from the test, equal to .026, and be accepted. The root Mean Square Residual value (RMR) must be less than .05 from the test b, equal to .014 accepted. The Adjusted Goodness of Fit Index value (AGFI) must be greater than .95 from the test, equal to .959 accepted. The Comparative Fit Index value (CFI) must be greater than .95 from the test b, equal to .984, and accepted. Therefore, it can be concluded that from Hypothesis 1, the developed theoretical factor model is fitted to the empirical data that can be considered as Model Fit.

Table 2: Results of the Hypothetical Variable Analysis

factor	The influence value of competitive advantage factors					
	Innovation Format factor: IV			Competitive Advantage factor: CA		
	DE	IE	TE	DE	IE	TE
Digital Transformation factor (DT)	.450	.000	.450	.143	.273	.416
Innovation Behavior factor (IB)	.020	.000	.020	.204	.012	.216
Innovation Format factor (IV)	-	-	-	.606	.000	.606
Competitive Advantage Factor (CA)	-	-	-	-	-	-

Latent variables provide direct, indirect, and total influence, which are the components of the causal variables and the outcome of the model of factors affecting competitive advantage in Thailand's media and publishing industry. The details are sorted by the hypothesis order, as indicated below.

Hypothesis 1 (H1): The digital transformation factor directly influences competitive advantage. It is found that the value of direct influence is equal to .143; the value of the total influence is equal to .416. The statistical significance is at the 0.01 level. Therefore, the research hypothesis 1 or H1 is accepted.

Hypothesis 2 (H2): The innovation behavior factor directly influences competitive advantage. It is found that the value of direct influence is equal to .204; the value of the total influence is equal to .216. The statistical significance is at the 0.01 level. Therefore, the research hypothesis 2 or H2 is accepted.

Hypothesis 3 (H3): The innovation format factor is the intermediate variable between digital transformation factors and competitive advantage. It is found that the value of direct influence is equal to .450; the value of the total influence is equal to .450. The statistical significance is at the 0.01 level. Therefore, the research hypothesis 3 or H3 is accepted.

Hypothesis 4 (H4): The innovation format factor is the intermediary variable between the innovation behavior factor and the competitive advantage. It is found that the value of direct influence is equal to .020; the value of total influence is equal to .020. The statistical significance is at the 0.01 level. Therefore, the research hypothesis 4 or H4 is accepted.

Hypothesis 5 (H5): The innovation format factor is the intermediary variable directly influencing competitive advantage. It is found that the value of direct influence is equal to .606, the value of indirect influence is equal to .000, and the value of total influence is equal to .606. The statistical significance is at the 0.01 level. Therefore, the research hypothesis 5 or H5 is accepted.

Qualitative Research

This research aims to study a model of factors affecting competitive advantage in Thailand's media and publishing industry. The qualitative method of interviewing was used to elicit data. The samples were the managing directors with digital knowledge about the media and print media industry from 26 companies registered in the Stock Exchange of Thailand (the information as of April 6, 2022). The researcher made a simple random selection of five companies to choose the informants. Only one sample from each of the five companies was randomly singled out for the semi-structured selection interview. The questions concerning digital transformation, innovation behavior, innovation format, and competitive advantage were open-ended and close-ended. The contents of the interview could be summarized in the following way.

Issue 1: The interviewers were asked how they operated the process planning about self-adjustment and how they applied technologies for working in the age of digital transformation. It was found that the organizations in the media and publishing industry adjusted themselves to handle new technologies and digital systems in planning, operating, or even in meetings to reduce expenses and work processes. Besides, new technologies and digital systems could facilitate quick communication with target groups and the characters of each platform. For instance, TikTok is a more suitable channel for communicating with the new generation.

Issue 2: The interviewers were asked how the digital transformation era affected personnel's working behavior. It was found that the employees, pushed by the company, were urged to improve themselves

in knowledge, creative thinking, skill strengthening, and attitudes toward applying AI and HR Technology for more effective working and training.

Issue 3: The interviewers were asked how the company's working process changed when innovation was applied to the production process. It was found that the organization's working process was positively changed because technologies and digital systems could help reduce working time and help create and develop new products, services, and innovations. Having cultivated creative thinking in employees, the organization grew sustainably and developed. The organization can expand its productive commercial continuation by saving time and expenses.

Issue 4: The interviewers were asked how digital transformation replaced the traditional working process. It was found that digital transformation effectively played better roles in administration, services, communication, and information exchange. However, some processes of working in mass media that humans run could not be achieved by technology. Those kinds of work, such as a special interview, require human skills, abilities, and experience.

Discussion

The researcher conducted a study on the model of factors affecting the competitive advantage of Thailand's media and print media industry. The discussion can be summarized as follows:

Digital transformation factors directly influence competitive advantage because business operations will undergo digital transformation when the company introduces digital technology into the organization, resulting in changes in work processes, such as computer systems or automated programs, to increase speed and efficiency in work. It also helps the company to adjust its work processes to suit the digital environment, such as working together through online platforms or using online communication tools, which may result in more efficient work and the ability to follow the organization's operational plans effectively, which is consistent with the research of Xue, Zhao, and Tan (2022). The results show that digital transformation positively impacts the sustainable competitive advantage of manufacturing enterprises. Compared with the level of transformation, technological readiness has a more substantial influence on sustainable competitiveness. Second, digital transformation positively impacts expanding the scope of manufacturing enterprises. The expansion of the scope of manufacturing enterprises has a positive impact on sustainable competitive advantage. Third, digital transformation affects the acquisition of sustainable competitive advantage of enterprises through the expansion of scope. The direct role of digital transformation accounts for 75%, and the mediating effect of boundary coverage accounts for 25% of the total effect. Fourth, the mediating effect of boundary coverage on the relationship between digital transformation and sustainability. Competitive advantage is mainly realized through expanding scope while mediating the impact of boundary coverage. The relationship between digital transformation and sustainable competitive advantage is insignificant. Our findings can help realize the digital transformation of manufacturing enterprises and achieve sustainable competitive advantage.

Innovation behavior factors directly influence competitive advantage because of innovation and communication. Innovation behavior may affect effective communication in the organization because those with innovative behavior tend to be creative and progressive, resulting in effective communication in exchanging opinions and ideas. In addition, it is considered to increase the confidence in the performance of personnel because having innovative behavior may help build trust and the ability to solve problems and new challenges in the work environment, which is consistent with the research of Thi, Van, Mahmud, and Thuy (2023). The study found that innovation in processes and systems affects the sustainable advantage of small enterprises in Vietnam. The research used primary data from a survey of 289 leaders of small enterprises in Vietnam. The PLS-SEM method using SmartPLS software was used to evaluate the capability of the measurement and structural models to test the hypotheses. The results showed that the four hypotheses about the impact of innovation in strategy on innovation in process and systems and the impact of innovation in process and systems on the sustainable advantage of small enterprises in Vietnam were all confirmed. These critical results fill the gaps in the research on innovation in small enterprises, especially the gaps in the context of developing countries. The current study establishes essential implications for using innovation practices in small enterprises to maintain their sustainable competitive advantage. Therefore, small enterprises can significantly enhance their sustainable advantage through innovation practices at both the strategic and functional levels.

The innovation model factor is a mediating variable between the digital transformation factor and competitive advantage. Because digital transformation directly impacts the competitive advantage of businesses in the media and publishing industry by offering new media and services that align with digital transformation and rapidly changing customer needs. The use of digital technology to develop and deliver media and services that can provide quality and satisfying user experiences enables businesses in this group to adapt and respond to changes more effectively in the rapidly changing environment of today's digital age. Introducing innovations and using digital technology is an important part that helps increase competitive advantage in the media and publishing industry in the present era and has an impact on consumers and future marketing, which is consistent with the research of Shehadeh, Almohtaseb, Aldehayyat, and Abu-AlSondos (2023). Digital transformation is essential in manufacturing and can help service-oriented organizations gain a competitive advantage. Therefore, this study investigated the impact of digital transformation on competitive advantage and the mediating role of entrepreneurial orientation. Innovation capability is a moderator between digital transformation and competitive advantage. The data for the research were collected from service companies in Jordan, and AMOS was used for the analysis. The results showed that digital transformation influences competitive advantage and entrepreneurial orientation. Entrepreneurial orientation significantly mediates the relationship between digital transformation and competitive advantage. In addition, innovation capability moderates the relationship between digital transformation, competitive advantage, and entrepreneurial orientation. Innovation, manufacturing, and operation managers and owners of service companies can use this finding as a guideline for policymaking to create a competitive advantage.

Innovation pattern is a mediating variable between innovation behavior factors and competitive advantage. Because innovation behavior affects businesses' competitive advantage in the media and print media industry. Innovation creation helps companies to respond to customer needs and satisfaction appropriately. It also helps

increase the variety of products or services of the business. This allows it to respond to market needs more. And create differences that meet customer needs. This gives the company a competitive advantage and stability in the rapidly changing market. Innovation creation also helps increase efficiency in businesses' production and service processes. It can reduce costs and increase productivity. This results in companies being stable in the competition in the said industry. This is consistent with the research of Nasifoglu Elidemir, Ozturen, and Bayighomog (2020). Organizations that lack innovation and creativity to survive in the market successfully. Employees' top role performance is not always sufficient to create a competitive advantage, for which innovative behavior and creativity are considered necessary components to make it. This study proposes and tests employee innovative behavior (IB) and creativity as mediators and moderators, respectively, of the effect of high-performance job performance (HPWP) on sustainable competitive advantage (CA). The resource-based view and the job demands-resource model provide the theoretical foundation for the developed hypotheses, which are tested using a sample of 323 customer-facing employees of 4- and 5-star hotels. The results reveal that HPWP indirectly predicts CA through IB. In addition, creativity moderates the effect of HPWP on innovative behavior, positively and negatively, and on competitive advantage. Employee innovative behavior can generate significant returns for service organizations competing with semi-homogeneous end products. The relevant theoretical and practical implications are discussed further. The scope of the study calls for caution in generalizing the overall findings. The research acknowledges the need to extend the findings by explicitly considering national cultural histories. This study fills the lack of service innovation research in the hotel industry by testing the mediating effect of IB on the HPWP CA Nexus and revealing the moderating role that employees' innovative traits play in these relationships.

Innovation model as a direct intermediary variable affecting competitive advantage. Because new technologies may affect the development of new products and services by introducing new technologies into the production process or service, such as using IoT technology to develop products that can be connected to the Internet or using technology to create new services to meet the needs of current customers. Changes in customer needs can be the source of the development of new products and services. For example, they are adapting and developing products to meet the new needs of changing customers. Changes in the external environment, such as changes in regulations and market trends, may affect the development of new products and services to be consistent with the current situation and meet market needs at the same time, which is consistent with the research of Peykani and Mohammadi (2022). Repairing the knowledge gap between technology and business: A strategic perspective of innovation Decision-makers (DMs) are not sufficiently informed about concepts such as efficiency and risk in innovation activities from a corporate strategy perspective. The challenge is compounded when these DMs lack expertise in technology and have to deal with uncertain situations. In this way, the knowledge sharing between decision-makers and technical teams strengthens the link between technology planning and strategy management. This study aims to repair the knowledge gap between this group, proposing a framework for translating corporate strategy into technological decisions at an acceptable level of innovation risk. The framework considers knowledge, innovation types, and innovation processes. The study determines whether an activity should be accepted or rejected by considering innovation uncertainty and efficiency. It also presents a new perspective on innovation's

“uncertainty of success-failure” and a new measure called “probability of efficiency” that DMs and technology developers can use to be more aware of the innovation process. This paper proposes an operational strategy map for new product development in uncertain conditions to achieve this goal. Using the Phased Front End (FFE) concept, the Phased Dependent Analysis (FDEA) model, and adaptive programming (APP) methodology, the results of this study indicate that innovation activities are often low-performing and highly uncertain, and thus, decisions to implement or abandon them require reviewing and balancing an organization's strategic objectives and approaches with its technological and business capabilities.

Recommendations

Suggestions from this research

This study of a model of factors affecting competitive advantage in Thailand's media and publishing industry is exciting due to this industry's quick growth and continuous changes. Therefore, studying the model focusing on factors affecting competitive advantage will be very helpful in creating appropriate approaches and strategies.

Consumer and market immunity analyses: Studies and analyses of potential consumers' behaviors, including their needs and preferences in media consumption, should be conducted. These can help customize products and services to suit the market better.

Business and industry structure analyses: Studies and analyses of the media and publishing industry structure—the analyses of market players, business models, and business relationships, for instance—should be conducted. These can help understand the importance and factors affecting competition.

Trends and tendencies studies: Trends and tendencies in the media and printed media industry, such as changes in digital media consumption and the increasing importance of online marketing, should be analyzed. These can help determine the appropriate strategies for future competition.

Operations and innovation analyses: Studies should be conducted on trends in operations and innovations occurring in the industry, such as new technology, new business models, or technology for developing modern media and printed media.

Analyses of the potential for creating alliances and networks: Studies of the potential for creating alliances and networks that can help strengthen and increase competitive opportunities in the industry should be conducted.

Research focused on these areas will help business managers in Thailand's media and publishing industry set appropriate strategies and work plans to compete in a rapidly changing and challenging industry with efficiency and long-term success.

Suggestions from the next research

1. Researchers interested in this field should study target groups, service users, and consumers to understand Thailand's competitive advantage in the media and publishing industry.
2. Researchers interested in this field should study the ASEAN population to understand the trends and changes in foreign and neighboring countries' markets.
3. Researchers interested in this field should collect data via in-depth interviews and issue questionnaires to specific groups, categorizing the questions for each kind of user to obtain actual and accurate information.

References

Hair, J.F., Black, W.C., Babin, B.J., & Anderson, R.E. (2010). *Multivariate Data Analysis* (7th ed). New York: Pearson.

Nasifoglu Elidemir, S., Ozturen, A., & Bayighomog, S. W. (2020). Innovative Behaviors, Employee Creativity, and Sustainable Competitive Advantage: A Moderated Mediation. *Sustainability*, 12(8), 3295.
<https://doi.org/10.3390/su12083295>

Niwash, M. N. K., Cek, K., & Eyupoglu, S. Z. (2022). Intellectual Capital and Competitive Advantage and the Mediation Effect of Innovation Quality and Speed, and Business Intelligence. *Sustainability*, 14(6), 3497.
<https://doi.org/10.3390/su14063497>

Peykani, P., Namazi, M., & Mohammadi, E. (2022). Bridging the Knowledge Gap between Technology and Business: An Innovation Strategy Perspective. *PLOS one*, 17(4), e0266843.

Shehadeh, M., Almohtaseb, A., Aldehayyat, J., & Abu-AlSondos, I. A. (2023). Digital Transformation and Competitive Advantage in the Service Sector: A Moderated-Mediation Model. *Sustainability*, 15(3), 2077.
<https://doi.org/10.3390/su15032077>

Srinual, W., & Waiprom, N. (2022). Causal Factors Affecting Innovative Work Behavior of Academic Support Staff in Rajamangala University of Technology Thanyaburi. *The Periodical of Behavioral Science*, 28(2), 155–174. retrieved from <https://so06.tci-thaijo.org/index.php/BSRI/article/view/256091>

Subanjui, R., & Pasantia, C. (2021). Structural Equation Model of Factors Affecting the Digital Transformation of Industrial Business in Rayong Province. *Journal of Information Science Research and Practice*, 40(2), 23–40. <https://doi.org/10.14456/jiskku.2022.9>

Tana, G., & Chai, J. (2023). Digital Transformation: Moderating Supply Chain Concentration and Competitive Advantage in the Service-Oriented Manufacturing Industry. *Systems*, 11(10), 486.
<https://doi.org/10.3390/systems11100486>

Thi, U. N., Van, M. H., Mahmud, I., & Thuy, L. V. T. (2023). Innovation and the Sustainable Competitive Advantage of Young Firms: A Strategy Implementation Approach. *Sustainability*, 15(13), 10555.
<https://doi.org/10.3390/su151310555>

Xue, F., Zhao, X., & Tan, Y. (2022). Digital Transformation of Manufacturing Enterprises: An Empirical Study on the Relationships between Digital Transformation, Boundary Spanning, and Sustainable Competitive Advantage. *Discrete Dynamics in Nature and Society*, 2022(1), 1-16. <https://doi.org/10.1155/2022/4104314>

Zhang, G., Zhang, X., & Wang, Y. (2022). Perceived Insider Status and Employees' Innovative Behavior: The Role of Knowledge Sharing and Organizational Innovation Climate. *European Journal of Innovation Management*, 27(2), 589-607. <https://doi.org/10.1108/EJIM-03-2022-0123>