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Influence Of External Social Capital on Product Innovation: The Case of Food Firms

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Abstract

For many years, the food industry has always been one of the important economic sectors and has much development potential in Vietnam. In terms of production value, this is one of the industries with the highest production value and total revenue among Vietnamese economic industries. To create value in the food industry, the role of food firms cannot be ignored. External social capital is defined as resources that individual members of a collectivity may be able to obtain or actually mobilize through external interactions (Leana & Pil, 2006). The caliber of an organization's network of connections with outside partners is known as its external social capital (Dai et al., 2015). The aim of the study is to examine the influence of external social capital on the product innovation of food firms in Hanoi and some neighboring provinces. External social capital consists of five observed variables (scales), and product innovation consists of four observed variables. The study adopted a quantitative research approach and a cross-sectional research design. Primary data on 210 employees was collected from food firms in Hanoi, Hungyen, Haiduong, Bacgiang, and Vinhphuc. The results show that there is no basis to conclude about the influence of external social capital on the product innovation of food firms in Hanoi and some neighboring provinces. Based on the research results, we present recommendations for food firms and their employees.

Keywords: *Business Administration, Social Work, External Social Capital, Product Innovation, Food Firms, Economics.*

INTRODUCTION

According to Podolny and Baron (1997), social capital is regarded as a component that encourages knowledge creation through sharing and learning from stakeholders. According to Yli-Renko et al. (2002), social capital makes it easier for businesses to learn from one another since it makes information and other resources easily accessible (Nahapiet & Ghoshal, 1998). The fact that partners have different knowledge inspires everyone to learn new things from one another in order to achieve the desired outcomes (Simonin, 1997). Consequently, social capital makes the company's knowledge more accessible through its network of partner ties (Yli-Renko et al., 2002). Specifically, businesses leverage their network of contacts to discover new procedures, technology, and competencies through cooperative efforts amongst other firms (Hitt & Ireland, 2002). Consequently, alliance partnerships generate social capital that gives organizations access to additional information and guidance for knowledge development (Zhao & Aram, 1995).

Product innovation is essential to the survival and growth of craft firms, as noted by Handel et al. (2019). They can communicate a range of complementary information and knowledge to generate new goods at cheap costs, overcoming risks associated with product innovation, through partnerships with buyers, suppliers, joint ventures, strategic partners, and stakeholders (Cuevas-Rodríguez et al., 2014).

Digital technology is the application of technology to the design and development process, including artificial intelligence (AI), the Internet, webpages, etc. As a result, the food industry will encounter both opportunities and difficulties in the context of digital technology. Businesses that are able to adopt, assimilate, and utilize digital and advanced technologies in a proactive manner will secure a competitive edge and foster sustainable growth. Conversely, businesses that fall behind will struggle to survive and hold their position.

Food firms increasingly meet people's increasing living needs. Previously, people were only used to consuming fresh, raw products, but now there has been a clear change. Processed products increasingly hold

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an important position in people's lives, such as cakes, instant noodles, canned vegetables, canned meat, sausages, etc. It is clear that the diversity and richness of products, as well as the nutritional value and convenience of the products, have convinced more and more consumers. However, the development of the food processing industry needs to be stronger and more innovative to meet the rapidly growing needs of consumers, especially high-income consumers in cities and regions.

Vietnam's food processing sector has made significant strides in the last several years, substantially boosting the country's economy and carrying out the goal of guaranteeing domestic food need while pursuing exports. Businesses still face a number of difficulties, though, including the following: (i) The pressure of economic integration and the globalization of the food market causes an increasing number of new competitors to enter the market. Foreign nations join the market through mergers and acquisitions (M&A deals; Statista, 2022); (ii) shifts in consumer food consumption preferences (GSO, 2021); (iii) tightening national and international food safety regulations; and (iv) the advent of the fourth industrial revolution, which is marked by the emergence and widespread use of digital technology platforms that integrate smart technology to optimize production, processing, and process methods. In order to enhance operational efficiency and adjust to the evolving business environment, food organizations must possess suitable strategies, like augmenting their external social capital and introducing innovative products.

LITERATURE REVIEW

External Social Capital

External social capital is defined as resources that individual members of a collectivity may be able to obtain or actually mobilize through external interactions (Leana & Pil, 2006). The caliber of an organization's network of connections with outside partners is known as its external social capital (Dai et al., 2015).

Assessing the caliber of external networks demonstrates how companies need to fulfill their commitments, establish, nurture, uphold, trust, exchange knowledge, and offer mutual assistance to friends, family, distributors, and suppliers (Nguyen & Huynh, 2012; Laursen et al., 2012).

Additionally, businesses must maintain strong bonds with their business partners through actions including honoring agreements, presenting fresh ventures, staying in close contact, avoiding conflicts of interest, and preserving personal friendships (Dai et al., 2015).

Furthermore, it has long been known that funding for emerging businesses is significantly influenced by external social capital (Mollick, 2014; Zheng et al., 2014).

Product Innovation

A company's external networks assist it in obtaining resources from its surroundings while it looks for new business prospects. A large network of relationships has a beneficial impact on organizational financial results (Lins et al., 2017), product innovation results (Sanchez-Famoso et al., 2017), and business results (Akintimehin et al., 2019).

According to a number of studies (Sanchez-Famoso et al., 2017), social capital fosters knowledge development, which lays the groundwork for creating business innovation and competitive advantage. Furthermore, social capital fosters collaboration and coordination between individuals both within and outside the company, which supports innovation (Dai et al., 2015). Additionally, Cuevas-Rodríguez et al. (2014)'s empirical research, which examined 142 companies in Spain's manufacturing, information technology software services, and mechanical industries, demonstrates that internal social capital has a greater influence on product innovation than external social capital.

The Relationship between External Social Capital and Product Innovation

A company's external networks assist it in obtaining resources from its surroundings while it looks for new business prospects. A large network of relationships has a beneficial impact on organizational financial results (Lins et al., 2017), product innovation results (Sanchez-Famoso et al., 2017), and business results (Akintimehin et al., 2019; Nasip et al., 2017).

Social capital theory posits that a firm's external networks allow it to gain resources from the environment in search of new opportunities (Cuevas-Rodríguez et al., 2014). In the food industry, if firms have broad, sustainable relationships with customers, business partners, and stakeholders, it will have a positive effect on business performance. Thanks to this relationship, firms can mobilize each other's resources, reduce transaction costs, open up many business cooperation opportunities, and share knowledge and information smoothly (Yang et al., 2011). The more cohesive the quality of external relationships, manifested in trust, mutual help, and support, will facilitate a better outcome because both parties are committed to sharing a significant amount of their resources (Laursen et al., 2012). Through relationships with buyers, suppliers, strategic partners, joint ventures, and stakeholders, they are able to exchange a variety of complementary information and knowledge to create new products with low costs, overcoming risks related to product innovation (Cuevas-Rodríguez et al., 2014).

METHODOLOGY

Sample and Research Methods

We use qualitative research methods and quantitative research methods. The study followed two approaches: (i) the descriptive approach and (ii) the analytical approach (a questionnaire).

The observations in this paper are based on secondary data and expert opinions. Experts are food firm managers with at least 5 years' experience and senior lecturers with both theoretical and practical experience. Primary data on 210 employees is collected from food firms based on a stratified random sample from the period of February–April 2024. A random sample of 50 food firms from Hanoi, Bacninh, Bacgiang, Vinhphuc, and Haiduong made up a total of 210 samples for the study.

Selected interview subjects were food firm managers who had worked at the firms for at least 5 years and had a high level of understanding of social capital and product innovation. The questionnaires were distributed through Google Drive and e-mail, and the questionnaires retrieved were 210.

After being cleaned, the data is imported into an Excel file. Next, the statistical analysis program (SPSS) was used, and the following tests were performed: Analyze the reliability of the scales through the Cronbach alpha coefficient, EFA analysis, and correlation analysis.

Research Models

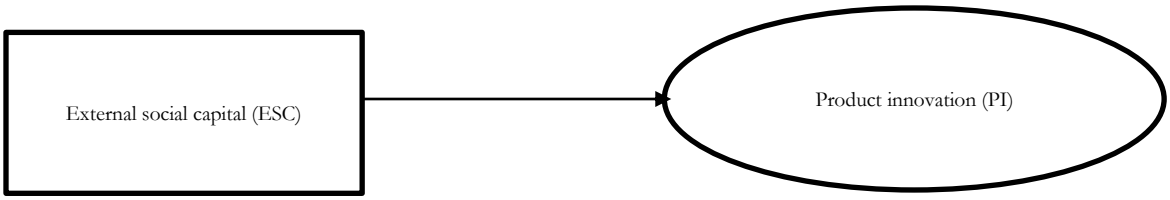

Figure 1: Research Model

External social capital (ESC): Includes 5 observed variables (ESC1, ESC2, ESC3, ESC4, ESC5) inherited from the research results of Nguyen et al. (2023).

Product innovation (PI): Includes 4 observed variables (PI1, PI2, PI3, and PI4) inherited from the research results of Dao et al. (2023).

RESULTS

Cronbach Alpha

We use the Cronbach alpha coefficient to assess the scales' internal reliability. The reliability of the scale utilized in the study is confirmed by the statistical results in Table 1, which demonstrate that Cronbach alpha values in the range of 0.863 to 0.884 are greater than the significance level of 0.7 (Nunnally & Bernstein, 1994). The item-total correlation for every observable variable on the scales is more than 0.3. Thus, all of the scales are eligible for exploratory factor analysis since they satisfy the necessary conditions (Hoang & Chu,

2008; Hair et al., 2009; Hair et al., 2014).

Table 1. Results Of Cronbach's Alpha Testing of Attributes and Item-Total Statistics

PI				
Cronbach's Alpha	N of Items			
.901	4			
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
PI1	12.08	5.583	0.755	0.881
PI2	12.02	5.368	0.802	0.863
PI3	12.11	5.585	0.770	0.875
PI4	11.99	5.474	0.786	0.869
ESC				
Cronbach's Alpha	N of Items			
.904	5			
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
ESC1	15.90	8.444	0.752	0.884
ESC2	15.95	8.428	0.756	0.883
ESC3	15.86	8.292	0.755	0.884
ESC4	15.95	8.461	0.751	0.884
ESC5	15.84	8.468	0.783	0.878

Source: Prepared by the authors (2024) and SPSS software.

EFA Analysis

Subsequently, component analysis and variance were used to perform exploratory factor analysis (EFA), as indicated by tables 2, 3, and 4.

The KMO index is 0.840 and 0.887, respectively, greater than 0.5 (>0.5), according to the results of Bartlett's test used to investigate the hypothesis of correlation between observed variables. The extracted variance is 77.096% and 72.296%, respectively, (>50%), meaning that these four and five observed variables account for 77.096% and 72.296% of the variation in the data. There is statistical significance (Sig.<0.05) in Bartlett's test. Consequently, it can be said that the study's indicators satisfy the requirements of the EFA analysis (Hoang & Chu, 2008; Hair et al., 2009; Hair et al., 2014).

These statistics demonstrate that research data analysis for factor discovery is appropriate. Through the quality assurance of the scale and the test of the EFA model, we have identified four components of product innovation and five components of the external social capital of food firms (Hoang & Chu, 2008; Hair et al., 2014).

Table 2: KMO and Bartlett's Test

PI	**KMO and Bartlett's Test**	
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.840
Bartlett's Test of Sphericity	Approx. Chi-Square	510.839
	Df	6
	Sig.	.000
ESC	**KMO and Bartlett's Test**	
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.887
Bartlett's Test of Sphericity	Approx. Chi-Square	618.999
	Df	10
	Sig.	.000

Source: Prepared by the authors (2024) and SPSS software.

Table 3: Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
PI						
1	3.084	77.096	77.096	3.084	77.096	77.096
2	0.356	8.909	86.004			
3	0.317	7.921	93.925			

4	0.243	6.075	100.000			
ESC						
1	3.615	72.296	72.296	3.615	72.296	72.296
2	0.418	8.365	80.661			
3	0.362	7.231	87.892			
4	0.321	6.416	94.308			
5	0.285	5.692	100.000			

Extraction Method: Principal Component Analysis.

Source: Prepared by the authors (2024) and SPSS software.

Table 4: Component Matrix[a]

	Component
PI	1
PI2	0.894
PI4	0.883
PI3	0.873
PI1	0.862
ESC	Component
	1
ESC5	0.867
ESC2	0.848
ESC3	0.847
ESC1	0.845
ESC4	0.844

Source: Prepared by the authors (2024) and SPSS software.

Correlation Analysis

The results of the correlation matrix are indicated in Table 5. The correlation coefficients of the external social capital with the product innovation of food firms are smaller than 0.0, reflecting a reverse-direction relationship. In addition, the values of sig. are more than 0.05, which means that all variables are not interrelated (Hair, Black, Babin, & Anderson, 2009).

Table 5: Correlations

		Product innovation	External social capital
Product innovation	Pearson Correlation	1	-0.099
	Sig. (2-tailed)		0.153
	N	210	210
External social capital	Pearson Correlation	-0.099	1
	Sig. (2-tailed)	0.153	
	N	210	210

Source: Prepared by the authors (2024) and SPSS software.

As a result, it is impossible to draw any conclusions regarding how external social capital affects food companies' ability to innovate new products. Subsequent studies ought to go deeper into the independent factors that impact food enterprises' product innovation, aside from external social capital. To further improve the dependability of the research findings, additional research should be done in the future with larger sample sizes and wider geographic scopes.

DISCUSSION AND IMPLICATIONS

When firms build trust with customers and business partners, they will receive many comments on product designs, styles, patterns, and materials to help food firms improve. Product innovation to improve the firm's product strategy. In addition, through discussions with experts, it was also confirmed that external social capital helps firms have many ideas for product innovation, especially in the food industry.

Food processing enterprises contribute to expanding agricultural product consumption markets. If agricultural products are not processed, they cannot be transported long distances, have a short consumption time, and cannot meet the diverse needs of people in different regions. Thanks to the food processing industry, agricultural products can be transported more easily as well as stored for sale on the market during the off-season, which overcomes the weakness of agricultural goods being highly seasonal. At the same time, the food processing industry also contributes to increasing agricultural exports. If it is only exported in raw or semi-processed form, it cannot compete with other countries, especially countries in the region. Therefore, innovating products and developing the food processing industry to serve consumption and export, expanding the market is very necessary and urgent.

The food processing industry promotes the restructuring of agricultural production, develops commodity agricultural production, and forms large-scale specialized farming areas. Raw materials for the food processing industry must be concentrated and homogeneous for processing to be highly effective. The development of product processing depends on understanding the market, so agricultural production will change to meet the raw material needs of the food processing industry. When building a processing factory, the first problem is to build a raw material area for processing to have a reasonable scale and technology. The scale and speed of development of agricultural product processing depend on the level and nature of agricultural production. On the other hand, thanks to the development of agricultural product processing, agricultural exports will develop in the direction of specialized farming, with high productivity and high economic efficiency.

The food processing industry also plays a huge role in restructuring the rural agricultural economy towards strong, solid, and effective development. Rural industry and services will rapidly increase in this sector in the coming years. structure of agriculture, industry, and services; within the agricultural sector, we also rearrange the structure of crops and livestock associated with the food processing industry in the direction of increasing the proportion of livestock, reducing the proportion of cultivation, and within the cultivation industry, reducing the proportion of livestock. increase the proportion of food crops, increase the proportion of industrial crops, and increase the proportion of increase the proportion of fruit trees.

In addition to benefits, food processing companies report that they are under a lot of strain from things like the global supply chain not functioning as it did prior to the COVID-19 epidemic, stress on input materials, a lack of capital flow, and overstock in warehouses. Moreover, Vietnamese food enterprises suffer from shifts in customer behavior, particularly those that are relatively new to the industry. Food firms therefore make excellent partners; among the company's benefits are sharing and camaraderie.

Customers' dietary preferences will become increasingly discerning. This implies that companies need to raise the caliber of their products and maintain food safety in order to guarantee the quality of both local and exported goods. Food companies need business partners who uphold private ties and consistently assist one another in order to do this effectively. Food companies also need to develop new items to satisfy customer demands. In particular, consumers who work in industrial parks, live in cities, have nice living conditions, and earn high earnings.

Businesses in the food industry should prioritize a number of strategies, including increasing revenue, developing the current market, encouraging research and enhancing product quality, diversifying their sources of supply (with suppliers receiving priority), and simultaneously growing and developing online distribution channels on e-commerce platforms. Business partners must introduce food enterprises to new business opportunities in order for them to be extremely successful.

Changes in consumer behavior are expected to help the food and beverage industries rebound greatly because safe adjustments to the pandemic will increase domestic demand once more. At this point, the food and beverage sector in Vietnam is regarded to have a lot of promising development potential. Particularly in the present, consumers are more likely to focus on organic foods, plant-based foods, and easy, healthful components. Thus, one of the key elements supporting the growth and scale-up of food enterprises is business partners' refraining from undermining their interests.

Food companies need to capitalize on the achievements of the 4.0 industrial revolution to continuously improve internal resources, improve products, and innovate new technical processes. By applying cutting-edge technology to improve product quality, they can better approach and meet the diverse needs of consumers in the context of deep international economic integration and an increasingly complex competitive environment.

In order to develop sustainable import and export of Vietnam's food products, food businesses should be given access to the most recent information available from state agencies and professional associations about potential markets, consumption trends, standards, and quality requirements in food production. They should also discuss and find solutions to remove difficulties and obstacles in import and export activities.

Ethical Considerations

Not applicable.

Conflict of Interest

The authors declare that they have no conflict of interest.

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