

MODERATING ROLE OF PACKAGING ATTRACTIVENESS IN THE RELATIONSHIP OF PACKAGING DESIGN, TECHNOLOGY ACQUISITION AND INTERNATIONAL PERFORMANCE OF THAI BUSINESSES

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Abstract

This research effort incorporates the assessment of international performance, influenced by packaging design, technology acquisition for business operations, and packaging attractiveness. The study addresses the research gap in explaining the international performance that packaging design and technology acquisition along with packaging attractiveness influence the international performance. The data was collected from business operator in the province of Ranong Thailand. The research was quantitative in nature as cross-sectional data was collected from the respondents, the Smart-PLS was utilized for data analysis that shows insignificant relationship between packaging design and international performance, however the moderation role of packaging attractiveness significantly moderated the relationship between packaging design and international performance. The study found that technology acquisition and packaging awareness directly influence the international performance. The future studies can be conducted on assessment of mal-practices in organizations that negatively influence the performance.

Keywords: International Performance, packaging attractiveness, packaging design, technology acquisition, Ranong Thailand.

Introduction and Background

The involvement of community members through production process, selling the goods, sharing funds for setting-up the enterprises, financial management, utilization of resources and having required investments are properties of community enterprises. The idea is to possess sustainable regeneration of communities with focusing the environmental activities, economic activities, cultural perspective, and social initiatives comes under the concept of community enterprises. The community sector supported by number of charities, social enterprises, religiously faithful groups, un-constituted community groups, the rural and urban regions (Bailey, 2012). Previously, number of characteristics have been highlighted by the research writers including ownership by the group people among community, finished the goods services through production process, the goods and production emerges from creative activities based on local wisdom, and universal wisdom enables to combined with universal and wisdom. It has been noted that local community come together to work and participate in work related

activities through a network system, knowledge practice, self-sufficiency of the family and community (Petprasert & Wongkul, 2002).

The economic situation receives positive impact due to involvement of community enterprises; the SMEs forms due to community involvement. The six factors have been highlighted that negatively impact the industry development, one is the availability and utilization of knowledge, second is the recognition of value addition, third is effective supply chain management, fourth is appropriate marketing management, fifth is manufacturing management and technology and sixth is financial management (Promsaka Na Sakolnakorn, 2011). The prior literature also highlighted the factors that affect small enterprise management in Thailand, the results show the number of factors that affect management, these factors involve knowledge and skills of an entrepreneur, the capability of entrepreneurs, the utilization of technology, the attitude of an entrepreneurs, motivational level to get engage in business, the source of funds and investment, the creativity of an entrepreneur. The research scholars have stated that human development plays crucial role in skills development and enrich the knowledge of employees that further play important role in organizational success. The study incorporated village of Songkhla Lake basin where the people have great deal of knowledge, knowledge management, sharing, skills and abilities that community enjoys the developmental aspect (Sakolnakorn & Naipinit, 2013).

The community business turned into various forms with typical example of cottage industry such as OTOP (one Tambon, One Product), the legal compliance of community enterprises has been approved by government in 2013, where the board of community enterprises reported 81 thousand registered community enterprises. The national economic and social development plan year 2016 focused upon the development of community and businesses, the focus was on agriculture sector, food security, energy department for building-up stability for formers. The government stressed upon the development of the farmers, the emergence of community institutions that enhance self-reliance and strengthen the business of agriculture sector and food due to free trade agreement. For accomplishment of the target's community enterprises found to be necessary for national level enrichment, the clear guidelines and developmental plans required to be executed for successful community-based business directly or indirectly. The local, provincial and central agencies focused on the educational sector, and private sector by encouraging the participation of community in Thailand as this was not focused before. The number of problems has been faced including poor quality, lack of labor and raw material, inefficient and inappropriate management and issues related to technological adoption. The non-standard products leads towards the negative impact not only in domestic market but also in global market and firms may lose the competitive advantage and performance (Santipolvtut, 2015).

The highly resourceful firms acquire the international markets, the SMEs sector of any country plays vital role in economic development, and the recent evidences suggested the internationally active SMEs enhance the financial strength and international performance. The advancements in technological perspective and information communication technologies, the globalization of markets and facilities availed by SMEs in international markets drive the

substantial share in export and economic perspective. The SMEs sector occupy the 95% of businesses that contribute 50% of total value worldwide depends upon the country. The SME sector plays important role in generation of job market that approximately 90% of jobs created by the sector. The contribution of community enterprises has been found by empirical studies that internationalization of businesses increases the economic cooperation and development in quarter of year through intensive exports. The internationally active SMEs have been observed as one of the emerging trends that is growing faster and dynamically than domestic firms, that shows the large-scale contribution in the economic development. The number of key trends in international enterprises have been observed through entrepreneurial engines and adoption of newly emerging technologies, the product innovation and development of nation and the key emerging trend is international presence of SMEs. The lack of resources, the shortage of capabilities, the presence of multinational enterprises brings negative impact on local businesses due to low base resources and higher level of rivals, the complexities of international operations also impede the way of development of local SMEs (Knight, 2001).

The efficient packaging found to be very influential in attracting the consumers and for selling of products. It enables to achieve their goals for selling, the generate the benefits for product outcomes. Conversely, the inappropriate packaging brings negative impact and reduces the customers' confidence and decreases the interest in product (Rojanabengakun et al., 2021). The poor or inappropriate packaging produces number of issues and problems for the consumers, firstly it creates the dangerous perception of poor food quality, and the poor packaging may get leaked due to poor sealing capacity of the food container and causes the contamination. So therefore, there is need to ensure the suitable packaging for physical protection and keep the products safe and protect items inside. The proper and suitable food remain stable and doesn't change the color or flavor of product as compare to poorly packaged products. The nutrition information must be presented on the suitable packaging and details given on the packaging brings the informative perspective of quality (Pranee, 2013). The local material for packaging must be avoided as local material may not fulfill the criteria for effective packaging and organization may face the issue of sustainability and customers decrease the interest due to less attractive packaging. For the sustainable growth and acceptability, the firms must be focused for attractive packaging that keep the product safe with sufficient information displayed. The prior literature also focused that packaging influences the consumer's decision for product purchase, the effective packaging increase the customers' satisfaction through attracting consumers due to quality perspective of the goods as suitable packaging play vital role in acceptability of the product (Rojanabengakun et al., 2020).

The present research is an effort to determine the international performance of community-based businesses in Thailand in the province of Ranong influenced by packing design, technological acquisition with moderating role of packaging attractiveness.

Literature Review

The phenomenon of international performance is explained in context of community-based businesses and relationship between technology acquisition, packaging design and packaging attractiveness, further the moderating effect of packaging attractiveness is examined.

Packaging design and International Performance

The significant growth has been experienced in e-commerce around the world that alone in US 4.2% to 10% total sales in 2018 growth has been observed according to the US department of Commerce and US Census Bureau in 2019. The electronic commerce has been rapidly grown in last decade as compare to traditional retailing as in last year 12.1% sales growth has been observed recently. The failure in packaging and lack of integrity significantly negatively influence the food life, the packaging provides the barriers for moisture and oxygen to the product and determine the food life on the shelf (Reinas et al., 2016). The significant negative impact can be seen on leaks and puncture products that causes microbial ingress that affect the quality of food and reduces the life of food. The research article has highlighted to investigate the packaging quality as very less information is available specifically lack of empirical evidences prevents to assess the role of packaging in the performance of the product. The leaked products or puncture products causes gas and microbial ingress that affect the quality of food and health of the consumers (Moghimi et al., 2018). The previous study depicted that no information and knowledge is available related to packaging integrity in the supply chain and that is likely to impact the performance related outcomes. The more studies need to be conducted that address the issue of packaging and related outcomes including determining the shelf life, and waste reduction. The research studies have determined the impact of e-commerce for food packaging but at early stage in specific supply chain and environmental practices (Kerdpitak, 2022; Heard et al., 2019).

The phenomenon of food packaging in electronic commerce has been examined in perspective of resources, performance and trends, the study highlighted the impact of poor and inappropriate packaging on the consumers' attitude, performance and quality. The study categorized the food, its packaging, and package type, package material, defects and defect rates. The study described the phenomenon of packaging and its related issues such as performance (Spruit & Almenar, 2021). However, the study was limited in describing the issues, but no empirical examination was conducted. Another study was conducted on packaging design, in context of design for safety, design for communication and marketing, packaging design for logistics, packaging design for sustainability, for environment perspective, and economic sustainability (Azzi et al., 2012). The study was descriptive and lack of empirical evidence encourages the current study to be conducted. Another study highlighted the drivers for packaging design, including integrative supply chain, environmental capabilities, market-based instruments, cost reduction, consumer pressure, competitive advantage and regulatory pressures, the study also highlighted the barriers cost/benefit ambiguity, economic performance, operational and environmental performance, and social performance as well, that shows packaging is an important factor that influence the number of positive and negative performance related outcomes (Afif et al., 2021). The lack of empirical

evidences encourages the researcher to conduct the empirical evidence. The current study argues that packaging design influence the international performance, so therefore the following hypothesis is derived.

H1: Packaging design influences the international performance of businessmen in Ranong province of Thailand

Technology acquisition and International Performance

The performance and international success depend upon the specific initiative, such as the international entrepreneurial activities, the entrepreneurial orientation, the competence, strategic mindset, technological advancements adoptions, and international preparation at strategic level. The proactive approach, entrepreneurial orientation and acquisition of technological perspective for leveraging the strategies for entering the international market in higher level of competition. The literature focused on the international mindset of technology acquisition as a key point that enhances the effectiveness of international orientation for successful SMEs, the technology acquisition enables the firms to gain the strategic competence. The acquisition of appropriate technology and utilization for advanced technological equipment for business operations must be incorporated as it enables the firms to gain the competitive advantage in international market by enhancing the performance of organizations. The technology helps in designing the superior products and processes, the ability of organization through utilization of technology assists in creation of superior quality, so therefore there is need to improve the technological acquisition and utilization as it helps in innovating and responsive towards changing conditions in external environment. The firms must be able to develop the international operations through development of products, by fulfilling the demand of market opportunities, standard products, and harmonize the products according to the universal acceptability. The firms strive to gain the competitive advantage through research and development by upgrading and accelerating the innovative capabilities, so the technology helps to increase the level of automation, manufacturing and processing techniques, the technology acquisition allows the firms to compete effectively, operational efficiency and launch the products for better satisfaction through fulfilling the need of consumers, the favorable effect has been observed on market share and performance of firms, so therefore, it has been argued that technology acquisition influence the international performance (Knight, 2001).

The current research argues that technology acquisition has the influence on international performance, as it enables the firms to upgrade the product's quality and fulfill the consumer's need. So therefore, following hypothesis is derived:

H2: Technology acquisition influences the international performance of businessmen in Ranong province of Thailand

Packaging attractiveness and International Performance

The processing of food and food packaging has significant impact on business operations and now a days in highly competitive business environment the innovative activities are required

to be conducted in order to cope with rapid changes. The global trends, advancements in technology as current era are demanded for technological perspective, to fulfil the requirement of the consumers towards packaging must be met for being sustainable. The packaging perspective must be in accordance with environmental requirement, the food packaging material must be environmental friendly, the packaging material that causes negative impact on environment must be avoided and eliminate the negative impact on environment (Mlalila et al., 2016). The innovative packaging found to be aimed in raising the consumer's life standard through improved health features, nutritious and attractive design. The more attractive design attract the consumers, the package material also fascinate the consumers, the firms focus on durability of goods, improve quality of the product through effective packaging, to ensure the safety of the products through effective packaging and environmental friendly material (Sokolović, 2018). The effective and attractive packaging found to be efficient in reducing the number of complaints from consumers and seller as products remain safe and it attracts the consumers (Biji et al., 2015).

Previously, the study has been conducted on Slovak consumers to determine the packaging innovation, the study was descriptive and stated that innovative packaging helps to reduce the complaints, secure the food, attract the customers, and add value to product (Loucanová et al., 2019). However, the study was limited in assessing the empirical evidences, as there is lack of empirical study that determine the relationship and influence of packaging innovation or quality to explain the performance related consequences. Another study found that packaging is crucial in value addition of agri-business, it also plays marketing role, it also relates to the brand image and awareness, that also found to be effective in marketability and development of shelf-appeal (Kwaku & Fan, 2020).

The current study argues that packaging attractiveness plays significant role in explaining the international performance, however no empirical evidence was reported, so this study claims to be one of the pioneers that empirically investigates the relationship between packaging attractiveness and international performance. So therefore, following hypothesis is derived:

Ranong province of Thailand

Moderating role of packaging attractiveness

This research paper also intends to determine the moderating role of packaging attractiveness between packaging design, technology acquisition, and international performance. The previous section of the literature presented the relationship between packaging design and international performance and between technology acquisition and international performance. The literature presented in previous section shows that packaging design influence the performance, the technology acquisition also found to be effective in gaining competitive advantage and enhancing the performance. The researcher of the current study argues that packaging attractiveness moderates the relationship between exogenous and endogenous constructs by strengthening the relationship, so therefore, two following moderating hypotheses are derived:

H4: Packaging attractiveness moderates the relationship between packaging design and the international performance of businessmen in Ranong province of Thailand

H5: Packaging attractiveness moderates the relationship between technology acquisition and the international performance of businessmen in Ranong province of Thailand

Research Framework

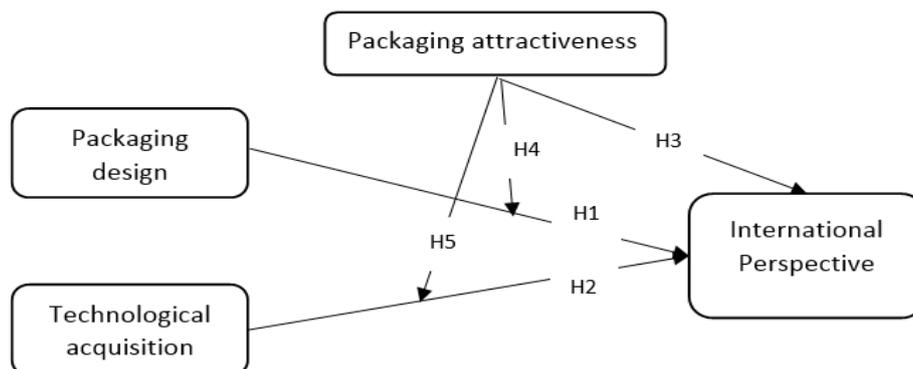


Fig 1: Proposed Framework

Research Methodology

This research effort employed quantitative approach for investigating the relationship between packaging design and technology acquisition in explaining the phenomenon of international performance, moreover the direct relationship is assessed between packaging attractiveness and international performance, the moderating effect of the packaging attractiveness is also intended to be investigated. The measurement scale of each construct was adopted from previous studies and was assessed on 5-point scale ranging from 1-5, whereas 1 as strongly disagree, 2 as disagree, 3 as neutral, 4 as agree, and 5 as strongly agree. The 300 businessmen were targeted under convenience sampling technique in the province of Ranong, Thailand.

Measurement Scale

The measurement scales of each construct was adopted from previous literature, the 5 items measurement scale of international performance was taken from the article of (Knight, 2001), the three points measurement scale of packaging design was adopted from the work of (Rojanabengakun et al., 2020), the two points of measurement scale of technology acquisition was adopted from the study of (Knight, 2001), the three points measurement scale of packaging attractiveness was taken from the research of (Rojanabengakun et al., 2020).

Data analysis

This section of the study presents the analysis of collected data, the Smart-PLs was utilized for data analysis, the analysis was conducted in two phases, the first phase entails the assessment of measurement model in which researcher determined the construct validity and reliability

based on Cronbach alpha, on the base of composite reliability and average variance extracted. The first phase now presents the measurement model assessment.

Measurement Model

This test determines the validity and reliability of the construct, the Cronbach alpha, composite reliability and average variance extracted, the PLS-algorithm method was applied for construct validity and reliability assessment. The values for Cronbach alpha, composite reliability and average variance extracted (AVE) must be greater than 0.70 for acceptable reliability and greater than 0.50 respectively according to the given criteria for acceptable reliability and validity given by (Leguina, 2015). The table 1 below presents the Cronbach alpha, CR and AVE

Table 1:

Constructs	α	CR	AVE
IP	0.812	0.762	0.502
PD	0.801	0.781	0.511
PA	0.791	0.761	0.662
TA	0.711	0.777	0.509

Note: IP (International Performance), PD (Packaging design), PA (Packaging attractiveness), TA (Technology acquisition)

The above table presents the values for Cronbach alpha, CR and AVE, the values for each found to be greater than cutoff point. Hence, the constructs are reliable and valid for relationship testing.

Discriminant Validity

The research article examined the discriminant validity for constructs validity, the table 2 presents the discriminant validity, the square root of AVE or the intersection value of each row of same variable must remain higher than the correlational value of each column. The criteria for the discriminant validity was given by the (Fornell & Larcker, 1981).

Table 2

Constructs	IP	PD	PA	
IP	0.702			
PD	0.611	0.714		
PA	0.613	0.619	0.814	
TA	0.601	0.701	0.509	0.713

Note: IP (International Performance), PD (Packaging design), PA (Packaging attractiveness), TA (Technology acquisition)

The table 2 demonstrated discriminant validity and hence it is shown that is meets the criteria of discriminant validity that each measurement scale determines the different concept. The measurement model is achieved, and collected data is suitable for next phase to test the hypotheses.

Structural Equation Model (SEM)

This section of the analysis investigated the hypothesized relationship, the current study has three direct and two moderating hypotheses. First, the direct hypotheses were investigated through utilization of bootstrapping method of Smart-PLS based on the t-statistics and p value, whereas the β demonstrates the direction of the relationship.

The table 3 depicts the results of direct relationship.

Table 3: Direct hypotheses testing

Constructs	β	T-statistics	P value
PD→IP	0.102	1.911	0.065
TA→IP	0.211	3.987	0.000
PA→IP	0.313	3.456	0.000

Note: IP (International Performance), PD (Packaging design), PA (Packaging attractiveness), TA (Technology acquisition)

The direct hypothesis H1 between packaging design and international performance was investigated through bootstrapping method based on t-statistics and p value, the results depicted that t-value found to be lower than cutoff point 1.96 for statistically acceptable relationship as per given criterial of Hair et al ., (2010). So therefore, the first hypothesis H1 is rejected based on statistical grounds that t-value is lower than cutoff point, and p value also found to be higher than 0.05, and rejected. The hypothesis H2 investigated the relationship between technology acquisition and international performance was assessed and results reported that t-statistics higher than cutoff point as it was observed as 3.987 with p value as 0.000, that means the hypothesis H2 is accepted on statistical grounds. The hypothesis H3 investigated the relationship between packaging attractiveness and international performance, the results show statistically significant relationship as t-statistics was observed to be 3.456 with p value 0.000, so therefore the hypothesis H3 is accepted on statistical basis.

Moderating effect

The moderating hypotheses were investigated in this section, the study argued that packaging attractiveness has the tendency to strengthen the relationship between exogenous and endogenous constructs. The table 4 presents the results of moderating effect of packaging attractiveness between independent and dependent variables.

Table 4: moderating effect

Constructs	β	T-statistics	P value
PD*PA→IP	0.112	2.911	0.000
TA*PA→IP	0.311	2.987	0.000

Note: IP (International Performance), PD (Packaging design), PA (Packaging attractiveness), TA (Technology acquisition)

The above table shows that there is significant moderating effect of packaging attractiveness between packaging design and international performance, surprisingly, the direct hypothesis

between packaging design and international performance was reported as insignificant as shown in table 3, but packaging attractiveness was significant towards international performance, and significantly moderated the relationship by strengthening the association between packaging design and international performance. Similarly, the moderating role of packaging attractiveness was significant between technology acquisition and international performance.

Conclusion

The prime concern of the current study to empirically investigated the relationship between packaging design, technology acquisition, packaging attractiveness and international performance among business operators of Ranong province of Thailand. The study contributed in knowledge by assessing the empirical relationship between constructs to explain the international performance. The results of the study depicted that packaging design has no influence on international performance, however the moderation effect of packing attractiveness strengthen the relationship between packaging design and international performance. The study also reported that technology acquisition influences the international performance as technology adoption increase the efficiency in the business operations. The moderation role of packaging attractiveness was evident as well that packaging attractiveness moderated the relationship between independent and dependent variables. The study suggested to incorporate the effective packaging design, attractiveness and adoption of technological equipment for business operations is necessary in todays' highly competitive business environment. The future studies may also be conducted in introducing more variables to explain the phenomenon of international performance.

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