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EDITORIAL

Dear Readers,

Welcome to Volume 9, Number 1 of the ASEAN Journal of Management and Innovation (AJMI). While a stricken world is reeling from the pandemic and slowly returning to a ‘new normal’, new concerns are emerging. Indeed, with central banks remaining committed to doing whatever it takes to bring down inflation as commodity prices skyrocketed following Russia’s invasion of Ukraine and Covid lockdowns in China, risks of a demand-sapping recession are real.

The pandemic has been an accelerator of trends and has made some practices, which some consumers were slow or reluctant to endorse, acceptable. This has been the case, for example, with e-commerce which has been growing exponentially as older generations are now far less reluctant to shop online. However, as discussed by **Suteera Detnakarin** and **Thananya Yincharoen** in *A Study of Consumers’ Trust in E-Marketplaces among Generations X, Y, and Z in Thailand*, older consumers do not place the same level of trust in the e-marketplace as younger generations.

While digitization was already well under way before the onset of the pandemic, with Covid-19, it has leapfrogged years ahead. For many businesses, this means that the old playbook is no longer relevant ; hence the need for them to enter into new territory. This also means quickly learning how to adapt. As **Chayapon Soontornwiwattana** and **Sombat Kusumavalee** report in *Organizational Learning Elements of a Private Primary Care Unit: A Case Study of a Private Hospital in Bangkok*, private hospitals are no exception.

As **Sawan Wangcharoendate** shows in *Strategic Human Resources Development Capability and Firm Performance: Empirical Evidence from Information and Communication Technology Business in Thailand*, given the imperative to learn fast, the role of human resources in facilitating change and promoting a learning culture is significant.

Two of the contributions to this volume focus on financial issues. While gold is generally regarded as a safe haven in times of financial crisis, it is unclear if this also the case during a pandemic. This is precisely what **Budsabawan Maharakkha, Boonyachote Suteerawattananon** and **Suttatt Ramasoot** seek to determine in *Is Gold a Safe Haven During a Pandemic? A Case Study of Thailand*. Their findings challenge common thoughts on the safe-haven appeal of gold. The second article on financial issues relates to the green credit system put in place by a growing number of Chinese banks to get polluting industries to take steps to reduce their negative impact on the environment. At a time when the world is witnessing an increase in the frequency and intensity of extreme weather events, many of which linked to climate change, this makes **Lei Chen’s** article, *Impacts of Environmental Information Disclosure on Corporate Debt Financing in China*, especially relevant.

Two other contributions to this volume focus on public services. In *Organizational Support Factors on Public Service Innovation Outcomes: Evidence from Bangladesh*, **Mst. Shumshunnahar and Kasemsarn Chotchakornpant** seek to assess the influence of the support factors of perceived organizational support on public service innovation outcomes in Bangladesh, where public organizations are finding it increasingly difficult to provide adequate services in the face of the growing demands of a rising population. In *Activate Interpersonal Citizenship Behavior among Vietnamese Public Servants: The Mediating Role of Self-Efficacy*, **Nguyen Le Hoang Long** investigates the impact of ‘guanxi,’ a term originating from China and associated with public affairs and the facilitation of transactions, and public service motivation on organizational citizenship behavior toward individuals in Ho Chi Mihn City, Vietnam.

Finally, in *Right Intentions Leading to Wrong Results: A Case Lesson on Helping Thai Locals Sustain their Business Community*, **Manop Chum-un, Ardchawin Jaikaew, Pichaphob Panphae, and Ravee Phoewhawn** describe how challenging it can be to help a local community develop sustainable operations and overcome its members’ strong resistance to change.

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A Study of Consumers' Trust in E-Marketplaces among Generations X, Y, and Z in Thailand

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Abstract

This study seeks to investigate buyer's trust in e-marketplaces among Generations X, Y, and Z and compare their respective level of trust. The research sample consisted of 330 Generation-X, -Y, and- Z consumers who had purchased or intended to buy goods and services in e-marketplaces. The sample was selected using quota and accidental sampling. Data were collected from questionnaires and analyzed using frequency, percentage, mean, standard deviation, one-way ANOVA, and pairwise comparison by Fisher's Least Significant Difference (LSD) or Dunnett's T3. The findings indicate that the overall level of trust of the three generations in e-marketplace factors is high ($\bar{x} = 4.01$) as they value the perceived accuracy and reliability of the information offered by sellers and previous buyer reviews of the e-marketplace. Generation Z had the highest mean ($\bar{x} = 4.16$), followed by Generation Y ($\bar{x} = 4.10$) and Generation X ($\bar{x} = 3.77$). However, there is a significant difference in the level of trust in the e-marketplace among the three generations at the 0.001 level of statistical significance, with Generations Y and Z placing more trust in online marketplaces than Generation X, since they were born and raised with technology, unlike Generation X. The results of this study have both theoretical and practical implications.

Keywords: E-Marketplace, Generations X, Y, and Z, Online Purchases, Buyer Review.

1. Introduction

In today's digital age, consumers can easily and conveniently purchase virtually any products they want online. In Thailand, consumers' widespread use of mobile phones and/or tablets has caused electronic commerce (e-commerce) to rise exponentially over the past few years. Another key factor in the recent dramatic growth of e-commerce has been the coronavirus pandemic (COVID-19), which for sanitary reasons has been causing consumers to purchase more products via social media. Indeed, the pandemic has been acting as an accelerator (Gu et al., 2021). As a result, Thailand's e-commerce reached 220 billion baht in 2020; a 35 percent increase over the previous year (Bangkok Bank SME, 2021). The significant growth of e-commerce in Thailand has brought a boom in the popularity of electronic marketplace (e-marketplace) businesses as entrepreneurs have been quick to identify opportunities to expand their ventures into a new business model on social media, particularly in the e-marketplace (Hirankasi & Klungjaturavet, 2021). Clearly, the e-marketplace has the potential to generate new revenue for entrepreneurs (Loro & Mangiaracina, 2021).).

Broadly speaking, an e-marketplace is a platform for automating online transaction management. It serves as an intermediary between buyers and sellers and facilitates the exchange of information and the trade of goods and services. Market-makers in e-marketplaces have also established service and payment policies to create more convenience for buyers (Supol,

Pavorawat, & Fumongkol, 2019). However, since an e-marketplace is a virtual community where buyers and sellers cannot meet face to face, buyers are unable to touch and feel the products. This brings to the fore the issue of trust as buyers may be concerned that sellers will not keep their commitments (Kim & Ahn, 2007), which may cause buyers to lose trust in the e-marketplace. Therefore, trust is a key factor in building a positive consumer attitude, which in turn will lead to a willingness to buy goods and services through an e-marketplace. Academics and entrepreneurs are increasingly recognizing the role of consumers' trust as a critical facilitator of e-marketplaces (Oliveira et al., 2017; Hassan, Iqbal, & Khanum, 2018; Dang, Wang, & Vu, 2020).

Trust in the e-marketplace is at the core of this study. The focus is on customers' perspectives and insights on the e-marketplace and its potential. The trend in modern marketing market segmentation is to prioritize generations rather than age groups since consumers of the same generation tend to have similar attitudes, beliefs, and behaviors (Noah & Sethumadhavan, 2019). It is important for marketers to be aware of this novel approach in order to provide appropriate products and services to different target groups (Lissitsa & Kol, 2016). At the same time, marketers are also wondering whether generational differences have any impact on trust in the e-marketplace.

There are few studies on the differences in attitudes among generations in virtual communities (Herrando, Jimenez-Martinez, & Martin-De Hoyos, 2019). As Dang et al. (2020) have noted, while the generational cohort concept has been commonly used in studies in the fields of organizational behavior and human resource management, it lacks widespread application in the field of marketing management. This is precisely why this research aims to study and compare consumers' trust among generations in the e-marketplace. The researchers focus on three aspects of consumers' trust in the e-marketplace: (i) trust in the seller, (ii) trust in the intermediary, and (iii) trust in the transaction. Generations X, Y, and Z were chosen as the sampling because they are the majority target groups of e-marketplaces. The findings of this study will benefit both entrepreneurs and application developers in targeting audiences on social media.

2. Literature Review

- E-marketplace

As noted above, an e-marketplace is a platform that facilitates online transactions between buyers and sellers. It is a collection of various products and shops. The e-marketplace is organized by a market-maker who is neither a buyer nor a seller but only an intermediary (Dang et al., 2020). The primary function of an e-marketplace is to provide the infrastructure for online shopping. The e-marketplace is widely recognized as an online shopping experience that provides convenience, time-saving, and low transaction costs for customers and entrepreneurs (Dang et al., 2020). Shopee, Lazada, and JD Central have been the three most popular e-commerce platforms in Thailand (Klungjaturavet, 2020).

- Trust in E-marketplace

Consumers' trust is a key factor in the success of electronic shopping (Oliveira et al., 2017). In this context, trust can be defined as the willingness of buyers to risk a transaction through virtual shopping, their expectations being that sellers will fulfill their promises (Isa et al., 2020). As noted above, three types of trust in the e-marketplace have been identified: (i) trust in the seller, (ii) trust in the intermediary, and (iii) trust in the transaction. Each will be briefly discussed.

(i) Trust in the Seller – This type of trust refers to the buyer's belief in the seller's ability to complete online transactions by being accountable for product quality and the delivery of goods under the virtual marketplace's conditions. It means trusting sellers who have professionalism,

knowledge, and experience in online selling products. Therefore, if the seller performs his/her side of the contract, it will lead to more trust in the seller (Lee, Ahn, Song, & Ahn, 2018; Oliveira et al., 2017).

(ii) *Trust in the Intermediary* – This kind of trust implies user's confidence in the intermediary or market-maker to maintain the online shopping system. The intermediary can help the user by serving as a facilitator, matching buyers with sellers, providing information to buyers for decision-making, and solving problems for both buyers and sellers (Kim & Ahn, 2007). A robust intermediary management system that strictly enforces policies can therefore reduce the problems caused by the exploitation of the user in the e-marketplace. It will build up trust in the intermediary (Hassan et al., 2018).

(iii) *Trust in the transaction* – This third form of trust refers to the confidence of the buyer when sending personal and financial information to an unknown seller. This buyer's information is supposed to remain secret and not be passed to third parties (Lee et al., 2018). A smooth transaction shows that the e-marketplace is a credible source and can make consumers more likely to trust transactions conducted through a virtual marketplace. The more successful the online transactions between the buyer and seller, the more trust is formed in online business transactions (Guo, Le-Nguyen, Jia, & Li, 2015).

- Generation Concept

Generational cohorts can be divided into cohorts or groups based on their years of birth as people born at the same time tend to share similar beliefs, values, and experiences. This gives each generation a unique perspective in various social contexts (Bilgihan, 2016). Marketers are now focusing on generational market segmentation as each generation has different interests, attitudes, and behaviors. Therefore, segmenting the targets by generational cohort will increase the competitiveness of entrepreneurs (Herrando et al., 2019; Lissitsa & Kol, 2016). This study chose generations X, Y, and Z because they are the largest groups of online consumers. The characteristics of each generation can be summarized as follows:

- *Generation X (Gen X)* refers to people who were born between 1964 and 1979 and grew up before the internet. Gen X individuals tend to have a risk-averse attitude, so they prefer to gather information about a product before purchasing it through, for example, reading reviews or opinions from other consumers who have used it (Petra, 2016). Typically, when confronted with problems on the e-marketplace, this generation will require the assistance of people in an online community (Lissitsa & Kol, 2016).

- *Generation Y (Gen Y)* refers to people who were born between 1980 and 1997. Also known as millennial, they grew up emerged in the social media movement, which is why Gen Y has a more positive attitude about the impact of technology on their lives than any other generation (Ayuni, 2019). Gen Y people regard online shopping as more convenient and faster, so they have no problem with the shopping system in virtual markets (Petra, 2016).

- *Generation Z (Gen Z)* refers to people who were born between 1990 and the early 2010s. Gen Z was born in a time of rising innovation; hence their high expectations for technology and the products they purchase. They form a group who uses social media to share information and comment on their experiences buying goods and services (Ayuni, 2019; Vieira et al., 2020).

- Related Research on Generational Differences

Jiang et al. (2016) investigated differences in perceptions and behaviors among three generations as part of their effort to understand online safety issues. Their study indicates that millennial are less concerned about online security than other generations and exhibit more defensive behavior than previous generations. Herrando et al. (2019) found that generation X gains trust in social commerce websites mainly through trust in information generated by companies, while generation Z gains trust primarily through trust in information generated by users. In addition, Noah and Sethumadhavan (2019) found that generation Z was more trusting

of digital assistants than generation X, thereby confirming that a different set of trust exists between different generations. Finally, Thoumrungroje (2021), who research trust effects on e-commerce continuance intention in Thailand, concluded that whereas trust is a driving factor of retention intention among baby boomers and Generation Z, this is not so among Generations X and Y. Based on the above prior studies, the following hypothesis and research framework were proposed:

H: *There is a significant difference in trust in the e-marketplace among different generations.*

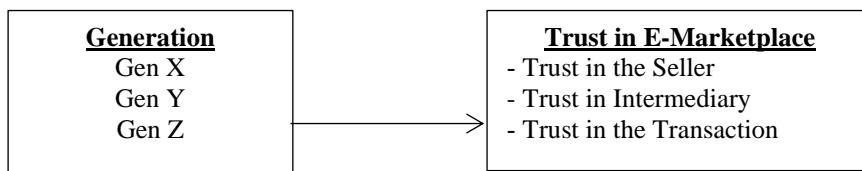


Figure 1: Research Framework (created by the authors for this study)

3. Research Methodology

- Sampling and Data Collection

The population for this study consisted of generation X, Y, and Z consumers in Thailand, who have purchased or intend to purchase goods and services on e-marketplaces such as, for example, Shoppe, Lazada, or JD Central. The exact size of the population is unknown, so the sample size was determined based on the G*Power program developed from power analysis and related to testing statistics (Vorapongsathorn & Vorapongsathorn, 2018). This study employed one-way ANOVA with error probabilities of 0.01, power of the test at 0.99, and an effect size of 0.30.

As a result of the program's calculation, a sample of 312 people was obtained. To prevent data loss during the research, the researchers collected 18 additional data sets, which brought the total number of respondents to 330 with generations X, Y, and Z totaling 110 each. A survey questionnaire with an online platform was used to collect the data, which was gathered by employing a two-stage sampling procedure in order to select a non-probability sample. At the first stage, the quota sampling method was used, with 110 people per generation. It was then followed by accidental sampling, using an online questionnaire.

- Measurements

The questionnaire was developed based on perceptual constructs that were measured based on a review of the relevant literature on trust in online markets (e.g. Kim & Ahn, 2007; Sfenrianto, Wijaya, & Wang, 2018). The questionnaire was composed of two parts: Part 1 includes general information about respondents' gender, age, average monthly income, and type and experience shopping via e-marketplaces. Data was collecting using check one-choice questions and open-ended questions; Part 2 assesses the three aspects of trust in the e-marketplace at the core of this study and contains 11 items, measured on a five-point-scale rating from 1 (strongly disagree) to 5 (strongly agree). The Cronbach's alpha reliability of the items was 0.926.

- Data analysis

Data were analyzed using frequency, percentage, mean, standard deviation, one-way ANOVA, and pairwise comparison by Fisher's Least Significant Difference (LSD) or Dunnett's T3.

4. Results

- Respondents' Demographic Characteristics

330 respondents completed the questionnaire, with more women (n = 243, 73.6%) than men responding (n = 87, 26.4%). The largest group of consumers (55.8%) had an average monthly income of more than 10,000 baht (US\$290). The majority of them had experience shopping through the e-marketplace of more than five years (67.6%). Shopee and Lazada were the most popular e-marketplace platforms used.

- Descriptive Analysis on Trust in e-Marketplaces

The analysis of the data collected in this section answers the first objective. As shown in Table 1, descriptive statistics were performed to determine the mean (x̄) and standard deviation (SD).

Table 1: Mean and Standard Deviation of Trust in E-Marketplace by Generation

Trust in e-marketplace	All Gen		Gen X		Gen Y		Gen Z	
	\bar{x}	S.D.	\bar{x}	S.D.	\bar{x}	S.D.	\bar{x}	S.D.
Trust in the seller	3.93	0.56	3.72	0.57	3.99	0.52	4.08	0.53
Trust in the intermediary	4.06	0.56	3.82	0.58	4.15	0.51	4.21	0.51
Trust in the transaction	4.02	0.61	3.76	0.65	4.14	0.57	4.17	0.54
Total of trust in e-marketplace	4.01	0.52	3.77	0.52	4.10	0.49	4.16	0.46

From Table 1 it can be seen that the overall trust in e-marketplaces was at a high level ($\bar{x} = 4.01$); ($\bar{x} = 4.16$) for Gen Z, ($\bar{x} = 4.10$) for Gen Y, and ($\bar{x} = 3.77$) for Gen X, respectively. When considering each component, the component that gained the most trust was trust in the intermediary ($\bar{x} = 4.06$), followed by trust in the transaction ($\bar{x} = 4.02$), and trust in the seller ($\bar{x} = 3.93$), respectively.

- Hypothesis Testing

In this section, a hypothesis test was used to answer the second objective and analyzed using one-way ANOVA. Its purpose was to test the differences among generations towards trust in the e-marketplace. If the test results were statistically different, the researchers tested pairs to determine which pairs differed by applying Fisher's Least Significant Difference (LSD) if the groups' variances were equal and applying Dunnett's T3 if the groups' variances were not equal. Table 2 displays the results of the data analysis.

Table 2: Results of One-Way ANOVA of Trust in the E-Marketplace by Generation

Factor	Source of variations	df	Mean Square	F-test	p-value	Result of hypothesis test	Details of the differences
Generation	9.942	2	4.971	20.613***	0.000	Accepted	Gen Y and Gen Z > Gen X
	78.861	327	0.241				
	88.803	329					

Note: *** p-value < 0.001

Table 2 shows the one-way ANOVA results on the differences between each generation in terms of trust in the e-marketplace. The results revealed that the research hypothesis was accepted due to a p-value of 0.000, which is less than 0.05. This means that there is a significant difference in terms of trust in the e-marketplace among generations. A post-hoc analysis was then conducted for group comparison. The results are shown in Table 3. Post-hoc comparisons using Fisher's Least Significant Difference (LSD) were employed because the variances of the groups were not equal. The results revealed that Gen X's mean score of trust in the e-marketplace differed significantly from Gen Y and Gen Z because the p-value of group

comparison was less than 0.001 or ($p < 0.05$). The results in Table 3 implies that Generations Y and Z have more trust in online marketplaces than Generation X.

Table 3: Comparative of Trust in the E-Marketplace by Generation

Trust in the e-marketplace	Gen X ($\bar{x} = 3.77$)	Gen Y ($\bar{x} = 4.10$)	Gen Z ($\bar{x} = 4.16$)
Gen X ($\bar{x} = 3.77$)	-	-0.336*** (0.000)	-0.393*** (0.000)
Gen Y ($\bar{x} = 4.10$)		-	-0.057 (0.753)
Gen Z ($\bar{x} = 4.16$)			-

Note: *** p-value < 0.001

5. Discussion, Conclusion, and Implications

This study aimed to compare consumers' trust among generations X, Y, and Z in Thailand in the e-marketplace. According to Lissitsa and Kol (2016), tackling issues of marketing strategies by focusing on generations is a very effective step. Two key findings emerged from this study. One is that each of the three generations of online consumers discussed in this study has a high level of trust in e-marketplaces. This result is in line with Thadhom (2016), who determined that online buyers in Bangkok have a high level of trust in Facebook Live, and with Sawasdinam's (2018), who found a high level of perceived e-marketplace trust among online shoppers. Having a trustworthy intermediary to keep the e-marketplace system operational is viewed as critical and key to their faith in the e-marketplace, a finding consistent with Vieira et al.'s (2020) study. The value online shoppers see in the e-marketplace and the trust they place in the accuracy and reliability of the information offered by sellers and previous buyer reviews essentially account for these findings and explain why the three generations feel secure and confident transacting online (Kim & Ahn, 2007; Lee et al., 2018).

The other key finding is that Generation Z had the highest level of trust in the e-marketplace. It was much higher than that of Generations X and Y, thereby highlighting the importance and significance of online market segmentation by generation. This is consistent with research by Thongmullek and Vichitthamaros (2017) who concluded that Generation Z had the highest percentage of acceptance and use of social networks. Generation Z is a group who likes to discover new things on the internet and on digital platforms. They are also a more technologically advanced and creative generation with a high level of skills and equipment as they were born and raised with technology, which gives them much confidence in technology (Jiang et al., 2016; Vieira et al., 2020). The significant difference in the level of trust in the e-marketplace between generations points to specific generational cohorts' attitudes towards virtual communities and the need not to generalize across generations seemingly similar. While previous studies have found that younger people are more accepting of technology than older people (Noah & Sethumadhavan, 2019; Thongmullek & Vichitthamaros (2017), there are statistically significant differences in terms of perceived reliability of the e-marketplace. Compared to younger generations, older buyers are less trustful of e-marketplaces as they lack the skills to search for information and often initially encounter problems using technology. That said, Generation X's personalities may be different from those of Generations Y and Z. For example, Generation X doesn't like changes and prefers face-to-face conversation and the 'feel-and-touch dimension of real shopping to typing for purchases online. As a result, the Generation X cohort gets nervous when having to shop online because they are not able to see or touch the real products, which comes in addition to their lack of technological skills as noted above.

On the other hand, since Generations Y and Z are insensitive to such changes and professional in their use of technology, they have far more confidence in using e-commerce platforms (Weeraphatrungroch, 2016). Moreover, as Yulianita (2018) aptly noted, Generations Y and Z also perceive social media platforms as helping online buyers' save money and time. But Generation X is still concerned about the perceived benefits and usefulness of e-commerce, resulting in lower confidence in its real convenience and money-saving property. For all these reasons, Generations Y and Z have far more trust in purchasing goods and services on e-marketplaces than Generation X.

- Implications

The results of this study have both theoretical and practical implications. From a theoretical perspective, this study examined the generational differences in trust in the e-marketplace. As its findings show, there is a significant generational difference in trust in the e-marketplace, especially among Generation Z, which has the highest level of trust. These findings therefore contribute to a better generational understanding of the differences in trust, a key aspect in each generation's e-commerce purchase decisions in the online context. Consumers of the same generation have comparable attitudes, beliefs, and actions; hence the importance of market segmentation emphasizing generations rather than age (Lissitsa & Kol, 2016). Clearly, generational variables must necessarily be considered while researching market segmentation in modern marketing.

For entrepreneurs, this study makes it clear that trust is a critical factor in making purchasing decisions on online channels for each of the three generation of consumers considered as did a number of prior studies (Lee et al., 2018; Thongmullek & Vichitthamaros, 2017). Internet-based business owners should therefore try to improve online trustworthiness. Undoubtedly, requesting the DBD Registered and DBD Verified credibility marks from the Electronic Commerce Division, Department of Business Development, would boost consumers' confidence in buying and selling products through electronic commerce firms (Srisen, 2019). Moreover, application developers or creators should prioritize the trust of each generation of buyers because different generations have different forms of trust. For Generation X, who has purchasing power but less trust than Generations Y and Z, allowing buyers to check information and order details in real-time, such as details about the ordered product as well as the transportation system, would go a long way in building trust. This includes displaying information about products and services that buyers have experienced before in text, still images, and moving images (Soleimani, 2021).

- Limitations and Suggestions for Future Research

Although this study contributes significantly to the comprehension of consumers' trust in e-marketplaces among generations X, Y, and Z, some limitations exist. Firstly, the data in this study was collected over a specific period, so the data analysis and results were limited to this time frame. A longitudinal study would thus be an important method for future research. Secondly, all the items in this study were based on self-reported data, which obviously may be subject to self-reported biases. Future research could therefore use multiple sources or different populations to collect data. Thirdly, the study did not examine the relationship between the attitudes and behaviors of buyers in an online context. Thus, future research should consider a more comprehensive model of consumer behavior to contribute to a robust explanation of the effect of attitudes towards buying behaviors in virtual communities.

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Is Gold a Safe Haven During a Pandemic? A Case Study of Thailand

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Abstract

The once-in-a-century pandemic that wreaked havoc around the world in the late 2019 and throughout 2020 infected more than three hundred million people and killed over five million. As economic activities virtually came to a halt and financial markets plunged, the sanitary crisis also soon became a source of high uncertainty for investors in search of assets that would preserve their wealth. One such asset long perceived to be a hedge to store value and a safe haven in time of crisis is gold. This current research extends prior studies regarding the property of gold as an all-time flight to safety in Thailand and Southeast Asia. Specifically, it investigates the safe-haven property of gold during the COVID-19 crisis in Thailand using the DCC-MGARCH model. The sample period includes several COVID-19 waves in the country over the period 2020-2021. The findings reveal that stock returns volatility was sensitive to its own shock and to the shock in gold returns volatility during the COVID-19 period. The volatility of stock returns was persistent to both its own previous volatility and to prior volatility of gold returns. The findings, however, do not support the assumption that gold was a safe haven during the COVID-19 crisis period. It is, instead, concluded that the property of gold as a safe haven varies across time. This is possibly attributable to the driving factors behind the current pandemic which differ from those typically found in other situations of financial turmoil. The study has implications in risk management and portfolio diversification.

Keywords: Gold Investment, COVID-19, Financial Crisis, Safe Haven, Volatility.

1. Introduction

At the end of 2019, the COVID-19 pandemic hit the city of Wuhan in China and spread through other areas in the country. The disease was subsequently transmitted to many other countries across the world causing the World Health Organization (WHO) to finally declare the outbreak of a world pandemic in March 2020 (World Health Organization, 2020). By that time, most countries had reported an increasing number of confirmed cases and deaths. Quarantine policies were then put in place to prevent the spread of the human-transmitted virus; national borders were closed, international flights banned, and travelling heavily restricted. Among other consequences, people engaged in fewer social activities and were more cautious in their spending as many lost their jobs while others had their revenues cut. Unsurprisingly, limited economic activities caused unemployment to rise, businesses to shut shutdown, and turmoil in global financial markets. In the US, the stock market fell dramatically in the days following the WHO announcement. The Dow Jones Industrial Average and NASDAQ faced the biggest drop ever and circuit-breakers had to be put in place as a result.

In Europe, the London's FTSE, the index of the London stock exchange, hit its lowest point since the 2008 world financial crisis. Asian markets followed a similar pattern, including the Shanghai Composite, and the Japanese, Singapore, and India indexes to name a few. Clearly, the COVID-19 pandemic was once-in-a-century pathogen that wreaked havoc on the world (Zhang, Hu, & Ji, 2020). While the Severe Acute Respiratory Syndrome (SARS) cost the world an estimated 30-100 billion US dollars at the beginning of the 21st century, its impact was mainly in China, unlike the COVID-19 pandemic, and pale in comparison. In Thailand, the country on which this study focuses, the first case was reported in January 2020. The number of infections spiked in March 2020 and Thailand declared a state of emergency after the WHO declared COVID-19 a pandemic (World Health Organization, 2020, September). The spread of the virus, together with the decline in stock markets all over the world caused the SET Index, Thailand stock exchange index, to plunge deeply in March. On March 12, 2020, the SET Index fell by 125.5 points (Bangkok Post, 2020) causing the trading circuit-breaker to be triggered for the first time in a decade. This was followed by more action meant to stabilize the nation's capital market. With the health situation starting to improve in the third quarter of 2020 as the number of new confirmed cases declined to less than ten a day, business activities started to resume. However, a second wave of outbreak began in late December. This was followed by a third wave in April 2021, which is still going on even as this paper is written. As a matter of fact, the highest number of daily confirmed cases was in August 2021 (Tourism Authority of Thailand, 2021).

During times of market turmoil, investors are in fear of uncertainties. It is during these times that portfolios are highly vulnerable (Bloom, 2009). Many investors search for assets that preserve their wealth (Forbes & Rigobon (2002). Traditionally, gold has always been considered a safe haven among both Western and Eastern investors, especially during an economic recession (Baur & McDermott, 2010; Ji, Zhang, & Zhao, 2020; Lucey & O'Connor, 2017; Wu & Chiu, 2017). It has become an alternative asset in the long-term and is often added to traditional portfolios to diversify risk (Ang & Weber, 2017; Baur & Lucey, 2010; Miyazaki & Hamori, 2013; Syahri & Robiyanto, 2020). The unexpected spread of the pandemic, which badly depressed financial markets, has motivated people to reemphasize the unique safe-haven properties of gold. All that said, although there have been several studies considering the flight to safety in this pandemic time, any determination regarding gold as a safe haven is still inconclusive (Bakas & Triantafyllou, 2020; Ji et al., 2020; Salisu, Vo, & Lawal, 2021; Syahri & Robiyanto, 2020). The mixed findings in these studies vary depending on the scope of the studies, the sample period, and the methodology. This present paper extends previous research to investigate the properties of gold as a safe-haven during the COVID-19 pandemic in Thailand. Section two discusses related literature on safe-haven properties of gold during a financial crisis. Section three looks at the sample data and methodology. The results are discussed in sections four and five respectively. The implications from this study will benefit portfolio diversification in emerging markets, including Southeast Asian markets.

2. Literature Review

This section first discusses the key concepts at the core of this research study. It then reviews the relevant literature in the context of COVID-19.

- Portfolio Risk Management

In the light of portfolio risk management, it is suggested that managers combine various assets with low or negative correlation to reduce the total portfolio variance. However, before we proceed with the relevant literature on these issues, the concepts of a diversifier, a hedge, and a safe haven need to be defined first.

- *A Diversifier*: an asset can be considered a diversifier when it has a non-perfect positive correlation with other assets in the portfolio on average (Shrydeh, Shahateet, Mohammad, & Sumadi, 2019).

- *A Hedge*: a hedge, on the other hand, is an asset that has a negative correlation with the other assets in the portfolio on average. Though these two concepts reduce the risk of massive loss in a portfolio, they serve as all-time risk management tools but they do not possess the properties needed to minimize losses specifically during extremely volatile markets (Baur & Lucey, 2010).

- *A Safe Heaven*: an asset is considered a safe haven only if that asset has no negative correlation with other assets in the portfolio, especially during crisis (Baur & McDermott, 2012). Many studies in portfolio risk management have expanded from the traditional portfolios consisting of stocks and bonds to include commodities as an alternative investment (Daskalaki & Skiadopoulos, 2011; Maharakkhaka 2015; Hoang, Lean, & Wong, 2015). This is because the drivers behind commodity prices are different from the demand and supply that define financial asset value.

- Gold and Portfolio Diversification

Among notable alternatives, gold has been a celebrated commodity throughout history. Gold demand falls into three categories. Gold is needed as (i) jewelry, (ii) in dental and other industrial applications, and (iii) for investment purposes. The intrinsic value of gold is driven by a limited supply as a precious metal and investment in gold does not bring default risk. With its property to store value, gold stores wealth at all times and all places (Petty, 1960, as cited in Baur & McDermott, 2010, p. 1887). This characteristic differentiates gold from other commodities such as oil and agricultural products (Miyazaki & Hamori, 2013). The early work of Jaffe (1989) suggested that gold has a significant role in portfolio diversification since its returns are independent from the returns of other assets. The study examined the correlation between gold and its proxies and other assets. The findings indicate that gold offers diversification benefits to a diversified portfolio as adding gold and gold stocks to the portfolio increases portfolio returns and the standard deviation. An increase in returns, however, was more than compensated by an increase in risk.

Hoang et al. (2015) examined the diversification benefits of gold in French portfolios of stocks, bonds, and risk-free and mixed assets during the period 1949-2012 using a stochastic dominance approach. The results revealed that the stock portfolios with gold stochastically dominated the stock portfolios without gold in the second and third orders. The same evidence could not be found in portfolios of bonds and risk-free assets. Like portfolios of stocks, portfolios of mixed assets that included gold also stochastically dominated those that did not include gold. Aftab et al. (2019) followed Engle's (2002) DCC-MGARCH modelling to investigate conditional correlations between gold, equities, and currencies in twelve Asian markets from 1995 to 2013. Although the findings suggest time varying correlations between gold and stocks, negative correlations were dominantly evidenced during the Asian financial crisis and the subprime crisis in many of these countries. Additionally, the role of gold as a safe haven was reported only in Thailand. Gold was therefore recommended as a diversifier rather than as a hedge across Asian financial markets. Shrydeh et al. (2019) applied the VAR-ADCC-BVGARCH model to daily returns of US stocks and gold from 2007 to 2017. They found a negative dynamic conditional correlation between stocks and gold to support the role of gold as a safe haven during the 2007 global financial crisis. However, their results vary across the sample, leading to inconclusive findings in the long term. In addition, the effectiveness of a gold hedge diminished as market capitalization increases. A larger investment proportion of gold in an optimal portfolio is required as the portfolio expands. They concluded that investors might seek alternative commodities to effectively hedge against stock markets.

- *Gold as a Hedge*

The property of gold as a hedge is evidenced in several scholarly studies. Sarac and Zeren (2014), for example, considered the property of gold as a hedge against inflation and currency risk of the Turkish Lira with respect to the US dollar. Employing cointegration tests with unknown endogenous breaks, they concluded that it is always rational to have gold in a well-defined portfolio. Conlon, Lucey, and Uddin (2018) adopted a continuous wavelet transformation to examine the capacity of gold as a hedge against inflation in the US, UK, Japan, and Switzerland. The paper confirmed the property of gold as a hedge against inflation both in the short- and long-term. With regard to gold as a hedging instrument among Thai investors, Padungsaksawasdi (2020) explored the relationship between gold investor sentiment and the stock market return as well as stock market volatility in Thailand in a panel auto regression analysis. The strong negative impact of stock's realized volatility on gold investor sentiment points to investors' attention to gold in time of market fluctuations.

- *Gold as a Safe Haven in Times of Crisis*

Baur and McDermott (2012) studied how bonds and gold are treated by investors in times of financial crisis. The evidence they gathered indicate that both bond and gold act as safe havens whenever the stock market experiences extreme negative returns but the response of gold to market shocks is quickly reversed, pointing to its property as a short-term haven. Compared to bonds, gold responses stronger and more persistently to most extreme shocks while bonds are more susceptible to inflation, credit, and foreign exchange rate risks. Coudert and Reymond (2012) applied bivariate ARMA-GARCH-X and regressions to analyse the correlation between gold and stock returns in several indices. Using monthly data sample between 1978 and 2009, their findings supported the property of gold as a safe haven against all stock indices in times of recession.

Evidence from Raza et al. (2016) adds to the body of studies on gold as a safe haven, in this case, for the Islamic index and BRICS markets during the Asian financial crisis and in times of global financial crisis. The wavelet coherence analysis they conducted revealed that the ability of gold as a safe haven was market specific. Gold strongly acted as a safe haven for BRICS and Islamic index during the Asian financial crisis. From the start of the economic contraction in 2005, gold showed a positive correlation with BRICS indices. Its ability to safeguard negative shock against BRICS markets was limited during the 2007-2009 financial turmoil. On the other hand, the property of gold as a safe haven for Islamic stock markets was evidenced in times of global financial crisis. Miyazaki and Hamori (2013) explored the causality in mean and variance between S&P500 index and gold. The results of unilateral causality both in mean and variance from the index to gold reveal that in times of financial turmoil investors were driven by the fear of financial collapse and headed towards gold or gold-linked investments.

Ang and Weber (2017) extended their analysis of safe haven to consider the property of gold to safeguard socially responsible investment. The paper analysed daily returns of socially responsible investment, conventional investment, and gold through an autoregressive distributed lag model. The authors focused on the sample period between January 2006 and December 2015 with an intention to include the 2009 South Korea's government subsidy program designed to stimulate the economy. Their findings, however, contradicted other studies on the safe-haven property of gold; no evidence was found during the global financial crisis for social responsibility investments or for conventional investments. The results were rationally linked to the stable fast-growing economy of South Korea that could withstand negative external shocks. Neither positive nor negative shocks had a greater impact on the index.

- Relevant Literature on Gold as a Safe Heaven during the Covid-19 Pandemic

Among the literature related to gold as a safe haven in times of crisis, some research studies focus specifically on the financial market distress that arose from the COVID-19 pandemic. Ji et al. (2020) applied a sequential monitoring procedure to assess whether the tail change in equity index could be offset by the inclusion of safe haven assets into the mean-variance portfolio during the COVID-19 pandemic. The study examined gold, cryptocurrencies, foreign exchanges, and other commodities during the sample period August 2019–March 2020 and the sub-period December 2019–March 2020. Their results confirmed that gold has an irreplaceable role in preserving wealth. Interestingly, robust evidence was also conclusive in regard of soybean futures. Thus, both gold and soybean futures could act as safe havens in the latest financial turmoil driven by a health crisis. While gold has consistently been a flight to safety, the demand for agricultural products during the pandemic and the lockdown could hike up the price level as food security was a critical issue in many countries.

In another recent paper, Corbet, Larkin, and Lucey (2020) investigated the roles of gold and cryptocurrencies as safe havens during the COVID-19 pandemic. Using hourly data of Bitcoin and the Chinese stock markets during the period March 2019–March 2020 in a dynamic correlation analysis, the results support prior findings that gold has been a reliable preserver of value during the pandemic crisis. Crypto currencies, however, were found to amplify the effects of the contagion. Yousaf (2021) proposed empirical evidence to support why gold can serve as a safe haven during the COVID-19 outbreak. The paper follows Salisu and Akanni (2020) in the construction of COVID-19 Global Fear index. The risk transmission from the Global Fear index to the metal and energy markets was analyzed by the BEKK-GARCH model. The results show that current volatility of precious metals, including gold, is influenced by their own previous shocks and that the previous shocks in the COVID-19 index do not affect conditional volatility in the gold market. The risk transmission from COVID-19 to the gold market is therefore significantly negative.

Akhtaruzzaman, Boubaker, Lucey, and Sensoy (2020) applied a dynamic conditional correlation analysis and an analysis of hedging ratio during December 2019 through April 2020. The aim was to examine the capacity of gold as a safe haven and assess its hedging effectiveness. The results suggested that during the early months of the pandemic, gold exhibited its property of safe haven with its negative correlation to international equity returns. However, the safe haven property of gold subsequently disappeared with an increase of the optimal weight of gold in investors' portfolios. There was a greater cost of hedging as investors added gold to their portfolio. Cheemah, Faff, and Szulczyk (2020) compared the performance of precious metals, currencies, treasuries, and cryptocurrencies as safe havens during the 2008 global financial crisis and Covid-19 pandemic across ten of the largest markets. Using the econometric model of Baur and McDermott (2010) and a GJR-GARCH model introduced by Glosten, Jagannathan, and Runkle (1993), their evidence suggested that gold was a safe haven during the 2008 financial crisis (and potentially all financial crises) but not during the COVID-19 pandemic when investors opted to stay away from gold. This may be due to the instability in gold prices after September 2011, which caused investors to seek assets with greater liquidity and stability.

Pisedtasalasai (2021) also used the GJR-GARCH model to analyze the hedging property of gold, government bonds, and corporate bonds in Thailand at stock market and industry levels. The sample period January 2004–March 2020 covers five crises, including the major global financial crisis in 2008, the European debt crisis in 2011, the political turmoil in 2013, the stock market downturn in 2015, and the latest COVID-19 pandemic. The dynamic correlations between stock and gold returns were generally negative, especially during market turbulence. Yet, the safe haven property of gold was found only in some crises and varied across industries

during the COVID-19 period. The negative correlations were mainly driven by the property and construction industries and the financial and technology sectors. Yousaf et al. (2021) analyzed time-varying correlations between stocks and gold and the hedging effectiveness of stock-gold portfolios in thirteen Asian countries during the COVID-19 outbreak. Employing Engle's (2002) DCC-GARCH model to examine data from January 2015 to May 2020, they reported mixed findings that corroborated many of the above conclusions.

The safe haven property of gold was studied even more recently by Drake (2022) who used Granger causality and co-integration tests. The study employed data from January 1990 to March 2021 to analyze whether gold served as a safe haven during COVID-19 pandemic as it did in past recessionary periods. The results show a positive correlation between gold and stock returns, offering contradiction to the support of gold investment in times of crisis. In summary, this review of some of the most recent literature on gold as a safe haven in time of crisis reveals that the role of gold as a safe haven – but also as diversifier and a hedge – tends to be market specific. While gold can be added to the diversified portfolio to generally protect losses in many Asian stock markets, it offered protection only in few markets during the COVID-19 crisis period. For Thailand, it was found that gold generally served well as a diversifier but acted only as a weak safe haven for investors during the COVID-19 pandemic. With these varied conclusions from earlier literature in mind, the authors examined the safe haven property of gold during COVID-19 pandemic crisis specifically in Thailand using the DCC-MGARCH estimation. The next section of the paper discusses data sample and the model estimation.

3. Data and Methodology

The data samples in this study include returns from the Stock Exchange of Thailand (SET) and returns on gold. The daily closing prices of the SET index were gathered from Investing.com (2021) and 96.5 percent of the daily closing prices of the gold bullion were retrieved from Gold Traders Association (2021). The data were collected from the period running from January 2018 to October 2021 so as to cover pre-COVID-19 and COVID-19 periods. Altogether, there are 930 samples. This present study covers large sample periods specifically during the COVID-19 pandemic time, allowing for an inclusion of several COVID-19 waves/cycles in Thailand from January 2020 to October 2021.

Table 1: Data Sample

Data	Period	Frequency	Source
SET Index (Closing Price)	January 2018 – October 2021	Daily	www.investing.com
Gold Bullion 96.5% (Daily Price)	January 2018 – October 2021	Daily	Gold Traders Association

The returns were first calculated as a natural log of the ratio of asset price at period (t) to price in the period ($t - 1$):

$$r_t = \ln \left(\frac{p_t}{p_{t-1}} \right) \quad (1)$$

The returns on SET Index were calculated as:

$$SET_t = \ln \left(\frac{SETP_t}{SETP_{t-1}} \right) \quad (2)$$

where:

$SETP_t$ is the closing price of SET index at period (t)

$SETP_{t-1}$ is the closing price of SET index at previous period (t – 1)

The returns on gold (gold bullion 96.5%) were also calculated as:

$$GOLD_t = \ln \left(\frac{GOLDP_t}{GOLDP_{t-1}} \right) \quad (3)$$

where:

$GOLDP_t$ is the closing price of gold at period (t)

$GOLDP_{t-1}$ is the closing price of gold at previous period (t – 1)

The returns on stock (SET_t) and gold ($GOLD_t$) were examined for their stationarity properties. The Augmented Dickey-Fuller (ADF) unit root test was used to ensure that the data series were qualified for a generalized autoregressive conditional heteroscedasticity (GARCH) model estimation, which is the main analysis of this research (Dickey & Fuller, 1979). Then, given the authors' expectation that gold would turn to be a safe haven during the pandemic, pre-COVID-19 and COVID-19 periods were separated in the analysis. The authors identified a structural break using the Bai-Perron structural break test (Bai & Perron, 2003).

As guided by this structural break test, the first period thus runs from January 4, 2018, to January 24, 2020, and the second period from January 27, 2020 to October 29, 2021. These results from the structural break test were rationally used to divide the sample period into pre-COVID-19 and COVID-19 periods in Thailand since the first patient was confirmed in January 2020. Thus, this research was conducted to analyze three sample periods: the whole sample period, and the pre-COVID-19 and COVID-19 periods.

To critically examine the safe haven property of gold during the COVID-19 pandemic crisis, this paper applied the Dynamic Conditional Correlation (DCC) in a multivariate generalized autoregressive conditional heteroskedastic (MGARCH) model of gold and stock returns. The DCC-MGARCH model was proposed by Engle (2002) as an extension of Bollerslev's (1990) Constant Conditional Correlation (CCC) model to capture the time-varying conditional correlation among variables.

The model is widely used in financial applications since volatility is a major concern in financial markets. This is because financial assets' volatilities move together closely over time and the transmission of volatility shock can cause a spill-over across financial assets. In contrast to the univariate estimation which mainly focuses on the sensitivity and persistence of a variable volatility shock on itself, the multivariate model evaluates the impact of a variable's volatility shock on another asset.

The model is defined based on Engle (2002) and Orskaug (2009) as:

$$r_t = \mu_t + \varepsilon_t \quad (4)$$

$$\varepsilon_t = H_t^{1/2} z_t \quad (5)$$

$$H_t = D_t R_t D_t \quad (6)$$

where:

r_t = $n \times 1$ vector of log returns of n assets at time t .

μ_t = $n \times 1$ vector of the expected value of the conditional r_t .

ε_t = $n \times 1$ vector of mean-corrected returns of n assets at time t ,

i.e. $E[\varepsilon_t] = 0$. $Cov[\varepsilon_t] = H_t$

$H_t = n \times n$ matrix of conditional variances-covariance of ε_t at time t .
 $D_t = n \times n$, diagonal matrix of conditional standard deviation of ε_t at time t .
 $R_t = n \times n$ conditional correlation matrix of ε_t at time t .
 $z_t = n \times 1$ vector of i.i.d. errors such that $E[z_t] = 0$ and $E[z_t z_t^T] = I$.

Asset 1 is denoted to represent returns on the SET Index (SET_t) and Asset 2 to represent returns on gold ($GOLD_t$). The DCC-GARCH (1,1) was estimated with the maximum likelihood method. The construction of the model starts from equations (7) and (8) as follows:

$$SET_t = a_1 + b_{11}SET_{t-1} + b_{12}GOLD_{t-1} + \varepsilon_{1,t} \quad (7)$$

$$GOLD_t = a_1 + b_{21}SET_{t-1} + b_{22}GOLD_{t-1} + \varepsilon_{2,t} \quad (8)$$

The conditional variance-covariance matrix is described as:

$$H_{11,t} = \alpha_{0,1} + \alpha_{11}\varepsilon_{1,t-1}^2 + \beta_{11}H_{11,t-1} \quad (9)$$

$$H_{22,t} = \alpha_{0,2} + \alpha_{21}\varepsilon_{2,t-1}^2 + \beta_{21}H_{21,t-1} \quad (10)$$

Where:

$$D_t = \begin{pmatrix} \sqrt{H_{1,t}} & 0 \\ 0 & \sqrt{H_{2,t}} \end{pmatrix}$$

$$R_t = \begin{pmatrix} 1 & \rho_{12,t} \\ \rho_{21,t} & 1 \end{pmatrix}$$

$$\varepsilon_t = (\varepsilon_{1,t}, \varepsilon_{2,t})$$

$\varepsilon_t = n \times 1$ vector of mean-corrected returns of n assets at time t ,
i.e. $E[\varepsilon_t] = 0$. $Cov[\varepsilon_t] = H_t$

And $\alpha_{DCC} + \beta_{DCC} \leq 1$ for stability to hold

4. Results and Discussion

- Descriptive Statistics

Table 2 shows the descriptive statistics of gold and stock returns. Based on the whole sample period, the mean of gold returns is 0.0004 with a standard deviation of 0.0075. Stock returns has a mean of 0.0001 and a standard deviation of 0.0115. The mean returns of gold is higher than the mean returns of SET index and the standard deviation of gold returns is lower than the standard deviation of the returns on SET index during all the sample periods. Both the mean and standard deviation of gold returns are highest during the COVID-19 sample period. The mean returns of the SET index during the whole sample and during the COVID-19 period are similar but they are negative during the pre-COVID-19 period. The standard deviation of the SET index returns is highest during the COVID-19 outbreak. Figures A1 and A2 in Appendix A provide an illustration of the movement of the SET index and gold prices from January 2018 to October 2021.

Table 2: Descriptive Statistics

Period	All Samples		Pre-COVID-19		COVID-19	
Data	$GOLD_t$	SET_t	$GOLD_t$	SET_t	$GOLD_t$	SET_t
N	930	930	505	505	425	425
Mean	0.0004	0.0001	0.0002	-0.0002	0.0005	0.0001
Minimum	-0.0421	-0.1143	-0.0421	-0.0242	-0.0416	-0.1143
Maximum	0.0503	0.0765	0.0373	0.0227	0.0503	0.0765
S.D.	0.0075	0.0115	0.0059	0.0069	0.0090	0.0153

The correlation matrix between the returns on gold and the stock index is shown in Table 3. The correlation of the SET index and gold returns is negative during the whole sample and pre-COVID-19 periods. During the COVID-19 period, there is a small positive correlation between the returns of gold and the SET index. This preliminary evidence is consistent with Drake's (2022) study which identified a positive correlation between gold and stock market returns during the COVID-19 pandemic

Table 3: Correlation Matrix

All Samples		
	$GOLD_t$	SET_t
$GOLD_t$	1	
SET_t	-0.0010	1
Pre-COVID-19		
	$GOLD_t$	SET_t
$GOLD_t$	1	
SET_t	-0.1183	1
COVID-19		
	$GOLD_t$	SET_t
$GOLD_t$	1	
SET_t	0.0278	1

- Unit Root Test

The stationarity of the data was examined with the Augmented Dickey-Fuller (ADF) unit root test. Table 4 presents the results of the unit root test. The data series has no unit root. Both series are stationary. They qualify for DCC-GARCH estimation.

Table 4: Unit Root Test

	Augmented Dickey-Fuller	Probability	Result
$GOLD_t$	-27.9915	0.0000	Stationary
SET_t	-10.5962	0.0000	Stationary

- DCC-MGARCH Estimation

This section presents the results of the DCC-MGARCH estimation. Table 5 shows the results of the analysis using the whole data sample whereas Tables 6 and 7 present the results using sample data during the pre-Covid-19 and Covid-19 periods respectively. The derived estimations are consistent with the model requirements. The coefficient α_{DCC} is approximately equal to zero ($\alpha_{DCC} \approx 0$). The coefficient β_{DCC} is greater than zero ($\beta_{DCC} > 0$). The sum of α_{DCC} and β_{DCC} is less than one ($\alpha_{DCC} + \beta_{DCC} < 1$). Coefficient α_{ij} indicates short-run dependence or sensitivity of asset j to the volatility shock of asset i and β_{ij} indicates long-run volatility persistence of asset j to the volatility shock of asset i . As described in the previous section, asset 1 represents returns on SET index while asset 2 represents returns on gold.

The mean and variance equation coefficients of the DCC-MGARCH estimation shown in Table 5 use the 930 data samples. The mean equations suggest that none of the current returns on the SET index are significantly affected by the lagged gold returns. Similarly, none of the current returns on gold are significantly affected by the lagged SET index returns. Though, we can observe small negative coefficients in the mean equation, they are not statistically significant. The conditional variance equations show that the returns volatility on the SET index is significantly sensitive to its own volatility shock ($\alpha_{11} = 0.1060$) but is not significantly sensitive to the volatility shock of gold returns. The signification estimation shows that the impact of prior volatility in SET index returns on itself and the impact of prior volatility in gold returns on SET index returns volatility are highly persistent in the long run ($\beta_{11} = 0.8794$ and $\beta_{21} = 0.9521$). It is also observed that SET index returns volatility is slightly more persistent to the past volatility of gold returns than to the past volatility of itself.

The coefficient $\alpha_{11} + \beta_{11} = 0.1060 + 0.8794 = 0.9854 < 1$ and $\alpha_{21} + \beta_{21} = 0.0458 + 0.9521 = 0.9979 < 1$ which is consistent with the relevant theory. The sum of α_{DCC} and β_{DCC} is less than 1 ($0.0095 + 0.8609 = 0.8704 < 1$).

Table 5: DCC-MGARCH Estimation (All Samples)

Variable	Coefficient	Std. Error	t-value	Pr(> t)
$\mu_{2,1}$	-0.0001	0.0003	-0.3987	0.6901
$\mu_{1,2}$	-0.0001	0.0002	0.4219	0.6731
α_{11}	0.1060**	0.0422	2.5090	0.0121
β_{11}	0.8794***	0.0426	20.6645	0.0000
α_{21}	0.0458	0.0362	1.2672	0.2051
β_{21}	0.9521***	0.0327	29.0980	0.0000
α_{DCC}	0.0095			
β_{DCC}	0.8609			

** and *** indicate the level of significance at 5% and 1% respectively

The estimation results for the pre-COVID-19 period shown in Table 6 reveal that, based on the mean equations, there is no significant impact of the lagged measure of gold returns on the current returns on the SET index during the period before the COVID-19 outbreak and no significant impact of the lagged SET index returns on the current returns on gold. Before the current pandemic, SET index returns volatility was significantly sensitive to its own volatility shock ($\alpha_{11} = 0.0831$) and not significantly sensitive to the volatility shock of gold returns. In the long run, the volatility of SET index returns is persistence to its own prior volatility ($\beta_{11} = 0.7754$) and more persistence to the prior volatility of gold returns ($\beta_{21} = 0.9617$). The estimation is based on assumptions with coefficient $\alpha_{11} + \beta_{11} = 0.0831 + 0.7754 = 0.8585 < 1$ and $\alpha_{21} + \beta_{21} = 0.0373 + 0.9617 = 0.9990 < 1$. The sum of α_{DCC} and β_{DCC} is less than 1 ($0.0476 + 0.8683 = 0.9159 < 1$). These results mostly conform to those of the all-sample data analysis shown in Table 5.

Table 6: DCC-MGARCH Estimation (Pre-COVID-19 Period)

Variable	Coefficient	Std. Error	t-value	Pr(> t)
$\mu_{2,1}$	-0.0001	0.0003	-0.4565	0.480
$\mu_{1,2}$	0.0003	0.0002	0.1253	0.9003
α_{11}	0.0831***	0.0060	13.8371	0.0000
β_{11}	0.7754***	0.0190	40.7584	0.0000
α_{21}	0.0373	0.5656	0.6593	0.5097
β_{21}	0.9617***	0.0550	17.4969	0.0000
α_{DCC}	0.0476			
β_{DCC}	0.8683			

** and *** indicate the level of significance at 5% and 1% respectively

Recall from above that the Covid-19 period sample in this study runs from January 27, 2020, to October 29, 2021. Table 7 describes the estimation results using data from 425 observations from the pandemic time. The mean equations suggest no significant evidence for the impact of gold returns on SET index returns, and vice versa. Furthermore, the conditional variance equations show that during the COVID-19 period, the SET index return volatility was significantly sensitive to both its own volatility shock and the shock of gold returns ($\alpha_{11} = 0.1152$ and $\alpha_{21} = 0.1230$). The persistence impact of the SET index volatility on itself and the persistence impact of gold returns volatility on the SET index returns volatility are both statistically significant ($\beta_{11} = 0.8761$ and $\beta_{21} = 0.7308$). Index return volatility during this period is more persistent with its own volatility than with the past volatility of gold. The coefficient $\alpha_{11} + \beta_{11} = 0.1152 + 0.8761 = 0.9913 < 1$ and $\alpha_{21} + \beta_{21} = 0.1230 + 0.7308 = 0.8538 < 1$. The sum of α_{DCC} and β_{DCC} is less than 1 ($0.000 + 0.9136 = 0.9136 < 1$) which is consistent with the relevant theory.

Table 7: DCC-MGARCH Estimation (COVID-19 Period)

Variable	Coefficient	Std. Error	t-value	Pr(> t)
$\mu_{2,1}$	-0.0001	0.0005	-0.1049	0.9165
$\mu_{1,2}$	0.0004	0.0005	0.8593	0.3902
α_{11}	0.1152**	0.0564	2.0439	0.0410
β_{11}	0.8761***	0.0526	16.6503	0.0000
α_{21}	0.1230***	0.0163	7.5333	0.0000
β_{21}	0.7308***	0.0444	16.4634	0.0000
α_{DCC}	0.0000			
β_{DCC}	0.9136			

** and *** indicate the level of significance at 5% and 1% respectively

In summary, there is no significant impact of the lagged gold returns on the current stock index returns and no significant impact of the lagged stock index returns on the current returns of gold. But since the main focus of this paper is an analysis of the dynamic conditional correlation, the authors then concentrated exclusively on the analysis of the variances. The variance equations suggest that the volatility of stock index returns is sensitive to its own prior volatility shocks but not to the prior shocks in gold return volatility during the whole period and the pre-COVID-19 period samples. But during the COVID-19 period, stock return volatility is significantly sensitive to prior volatility shocks in gold return volatility, implying

a dynamic conditional correlation in variances. The long-term persistence in variance suggests that stock returns volatility is persistent to both its own prior volatility and the prior volatility in gold returns. The persistence is significantly evidenced during the three study periods. That said, for the COVID-19 period sample, the returns on stocks are more persistence to its own volatility than to the volatility of the gold returns.

Therefore, these results do not lend support to the property of gold as a safe haven during the pandemic but, instead, strongly suggest that the safe haven property of gold varies across time. Indeed, our findings offer surprise contradictions to the prior studies that support the ability of gold to withstand all turbulence. The analysis of the variances challenges the idea that an increase in gold price during the COVID-19 period is a sign of safe-haven investment. Our findings are consistent with a number of prior studies that specifically examined the property of gold as a safe haven during the COVID-19 crisis. The results may be attributable to the fact that the COVID-19 crisis is pandemic-driven which is different from earlier risk-driven financial crises. When businesses locked down and health was the primary concerns, food and necessities were the first priority among investors. Variance and its shocks in the two investment assets exhibit dynamic correlations. This argument is in keeping with Ji et al.'s (2020) study. As we saw earlier, in this study, soybean futures were surprisingly recommended as one of the best safe haven assets during the COVID-19 crisis period.

The findings are also consistent with the work of Cheemah et al. (2020) who compared the property of gold as a safe haven during global financial crisis period and during the COVID-19 period. Their study concluded that this property of gold was present only in the times of global financial crisis but not during the on-going pandemic. Since there were times when returns on gold fluctuated and gold lost its value, this suggests that investors should seek more stable and liquid assets to preserve their wealth in this pandemic time. Another pertinent consideration is the cost of hedging with gold during the COVID-19 turmoil, which was positively shown to rise as investors allocated more gold to their international portfolios as determined by Akhtaruzzaman et al. (2020). Thus, while the property of gold as a safe haven may be preserved during this pandemic time, investing in gold may not always result in an efficient hedge.

Finally, it is also worth mentioning the findings of Raza et al. (2016), Ang and Weber (2017), and Drake (2022), whose studies conclusively propose that the safe haven property of gold may vary across markets, time, and sectors. While a safeguard during financial crises, gold may not necessarily perform well during the pandemic and not serve as a safe haven in all markets. The safe-haven property of gold against stock investment during the COVID-19 crisis in Thailand also varied as shown in various prior studies discussed above (see, for example, Pisedtasalasai, 2021 and Yousaf et al., 2021).

5. Conclusion, Recommendations, and Limitations

This paper had as its objective to empirically examine the safe haven property of gold during the COVID-19 pandemic crisis. It extends prior studies regarding the safe-haven property of gold in Thailand and Southeast Asia and as such has implications in risk management and portfolio diversification as gold is well known among researchers and investors for its perceived property as a safe haven. Since the COVID-19 crisis has arisen from circumstances quite different from those that typically drove earlier financial crises, the issue was whether gold could maintain this unique property to preserve wealth during market turbulence driven by a health crisis. The DCC-GARCH model was used to estimate dynamic conditional correlations and volatility impact between the returns of stocks and gold investment. Employing the DCC-GARCH model allowed the authors to capture the time-varying conditional correlations among variables and analyze exclusively the impact among variances.

The sample period included several COVID-19 waves in the country over the period 2020-2021. With regard to returns on the SET index and gold, data were examined during three study periods; the whole study period from January 2018 to October 2021, the pre-COVID-19 period, and the COVID-19 period. As shown by the mean equation estimations, the earlier movement in gold returns did not have any significant impact on the current stock returns and similarly, the prior movement in stock returns did not have any significant impact on current gold returns. The conditional variance equations suggest that, in the short-term, stock returns volatility was significantly sensitive to its own volatility shocks but not significantly sensitive to the volatility shock of gold returns in the whole sample and the pre-COVID-19 sample periods. During the COVID-19 crisis period, however, volatility in stock returns was sensitive both to the volatility shock of itself and the volatility shock in gold returns.

While in all three sample periods, the estimations suggest significant persistence of returns volatility, during the COVID-19 crisis, stocks return volatility was more persistent to its own past volatility than to the past volatility of gold. Given the main focus of this paper, it is important to note that the conclusion does not support the property of gold as a safe haven during the latest COVID-19 crisis. Instead, it is suggested that gold's unique property to preserve wealth varies across time. These results contradict some studies that find gold to be an all-time flight to safety (Ji et al., 2020; Corbet et al., 2020) but is also consistent with some that exclusively examine the safe-haven property during pandemic crisis and came to the same conclusion (Cheemah et al., 2020; Yousaf et al., 2021; Drake, 2022).

- Recommendations and Limitations

The evidence provided in this study adds to the body of literature on the issue of the flight-to-safety property of gold. It is recommended that investors aiming at portfolio diversification consider including various alternative assets to store their wealth. Moreover, investors should occasionally rebalance their portfolio and allocate their investment across various alternatives to ensure optimal diversification and risk management. All that said, it is important to bear in mind that since this study is limited to the single financial market of Thailand, these results can be susceptible to an individual country's specific factors and risks. It is therefore strongly recommended that future researchers further examine the property of gold in the pandemic time across countries with diverse macroeconomic factors to provide a more accurate assessment of the ability of gold to preserve wealth in times of crisis, most notably during pandemics. Additional studies could also address the benefits of portfolio diversification when gold is included. Moreover, further research may focus on a cross-country analysis to re-examine the safe-haven property of gold in various macroeconomic environments.

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Appendix A

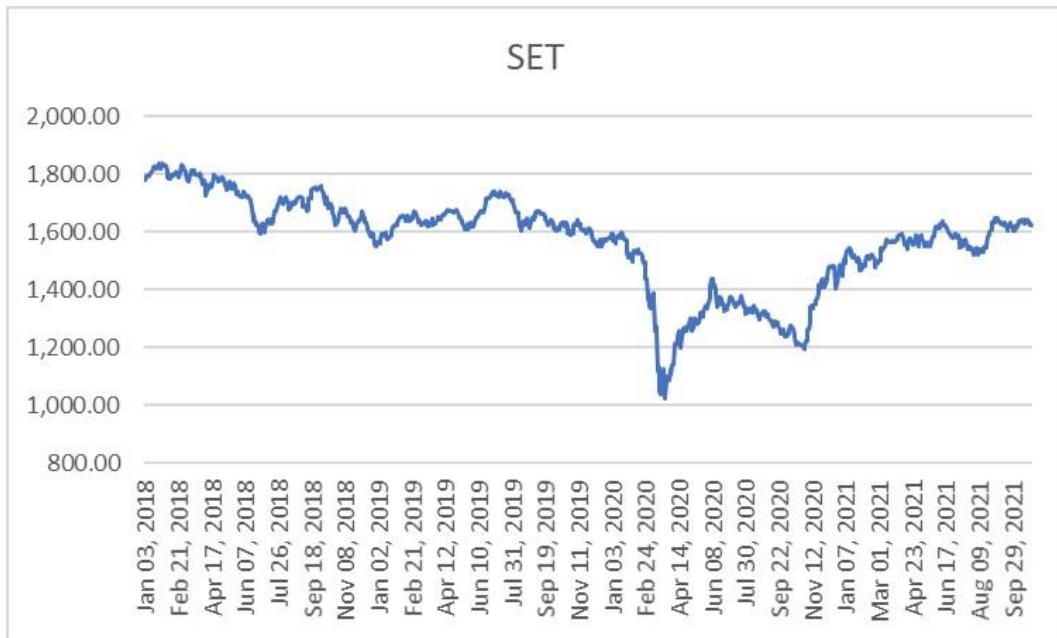


Figure A1: SET Index Daily Closing Price January 2018 – October 2021
Source: Investing.com

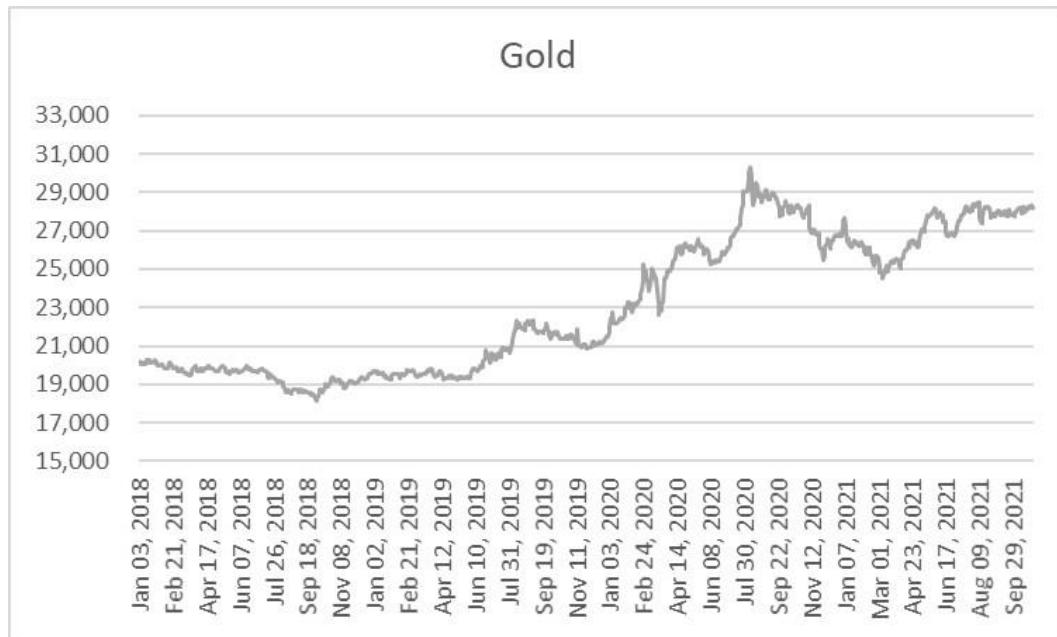


Figure A2: Gold Bullion 96.5% Daily Closing Price January 2018 – October 2021
Source: Gold Traders Association

Active Interpersonal Citizenship Behavior among Public Servants: The Mediating Role of Self-Efficacy

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Abstract

Unlike most prior studies on extra-role behavior which mainly focus on generic organizational citizenship behavior (OCB), this study aims to explore organizational citizenship behavior toward individual (OCBI). The individual aspect of citizenship behavior is investigated through testing the relationships between guanxi, public service motivation, self-efficacy, and OCBI. To test the hypotheses, a sample of 215 public employees was surveyed by employing partial least square structural equation model (PLS-SEM). The results show that both public employees' motivation to serve society and high-quality relationships between public employees and their supervisors have a direct impact on OCBI. The findings also confirmed the mediating roles of self-efficacy in linking PSM, guanxi, and OCBI. Managerial implications were discussed and a number of suggestions made to improve coordination among public servants, particularly in countries with cultural contexts similar to Vietnam.

Keywords: Guanxi, OCBI, Public Service Motivation, Public Sector, Self-Efficacy

1. Introduction

Interpersonal relationships in organizations have been proven to bring many positive outcomes such as, for example, improving organizational work performance, promoting a creative work environment (Ozbek, 2018), or enhancing organizational citizenship behavior (OCB) (Li, 2017). In the public sector, the positive effect of interpersonal relationships is seen as an important factor contributing to organizational effectiveness (Ali et al., 2019). Although the behaviors referred to are voluntary and not recognized by any formal reward systems, these behaviors are of great benefit to organizations. To refer to interpersonal relationships, scholars in the field of management have been increasingly using the term 'guanxi' (Barbalet, 2021). Originating from China, where it has been widely used for decades, this term has traditionally been associated with public affairs and the facilitation of transactions between civil servants and the public. Its use has now been extending to the private sector as well.

The influence of Guanxi on extra-role behavior has been well documented (Jia & Hu, 2018; Luo, Cheng, & Zhang, 2016; Yu, 2021; Wong, 2018). Still, while scholars have been interested in investigating the positive effects of guanxi, little research has been done to investigate the effects of guanxi on organizational citizenship behavior toward individual (OCBI) and learn about the mechanism that mediates from guanxi to OCBI, especially in the context of the public sector, which is precisely what this study seeks to do. Another key construct at the core of service in the public sector, in addition to guanxi, is public employees' public service motivation, which is a type of job motivation geared toward helping society rather than serving personal interests. Studies on public service motivation have demonstrated its impact on job performance, job satisfaction, and proactive behaviors at work, to name a few (Miao et al., 2019; Piatak & Holt, 2020; Stefurak, Morgan, & Johnson, 2020). Typically, an individual with a high degree of public service motivation will be willing to sacrifice his self-interest for the

benefit of the organization. But will he/she voluntarily sacrifice his/her time and effort to help colleagues around to jointly improve organizational efficiency? There is a lack of empirical data on the influence of public service motivation on interpersonal citizenship behavior (Pandey, Wright, & Moynihan, 2008), which points to the need for additional studies to fill the research gap related to the impact mechanism of public service motivation and interpersonal citizenship behavior. This study seeks to contribute to the research gap on OCBI. Specifically, it aims to facilitate the understanding of the impact of guanxi and public service motivation on OCBI. Besides, since in high-context culture countries daily activities in organizations are frequently socially oriented, it is vital to comprehend the influencing mechanism of social relationships as variables that drive organizational performance (Kim, Pan, & Park, 1998). The research results in this study suggest some managerial implications for practitioners in the public sector, particularly in countries with cultural contexts similar to Vietnam, to improve the efficiency of coordination among public employees.

2. Literature Review and Hypothesis Development

This section discusses the key concepts at the core of this study, starting with the concept of 'guanxi', a term from China, which as we just saw, has now entered the lexicon of many management scholars around the world.

- *Supervisor-Subordinate 'Guanxi' and Interpersonal Citizenship Behavior*

Chen and Tjosvold (2006) defined 'guanxi' as a personal relationship at the workplace that serves as the foundation for efficient collaboration. This definition is consistent with Cheung et al's (2009) description of supervisor-subordinate guanxi, which is depicted as "a personal relationship between a supervisor and a subordinate that is developed largely from non-work related social interactions both inside and outside working hours" (p. 77). The key point here is that individuals with greater degrees of guanxi are valued above those who do not have solid ties with their superiors, who are frequently regarded less favorably (Charoensukmongkol, 2022; Miao et al., 2020).

In the context of public sector organizations, whose main focus, as we just saw, is to serve society, one of the proposed integrated frameworks is Ansell and Gash's (2008) model of collaborative governance. The variables in this model include starting conditions, institutional design, facilitative leadership, and collaborative process. In order for the collaborative process to be effective, individuals in the organization need to accumulate relational capital and understand the interdependence between individuals (Ramadass, Sambasivan, & Xavier, 2018). A number of other studies also consider guanxi as relational capital (e.g. Shao & Pan, 2019; Roxas, Chadee, & Wu, 2012). As expounded in the social exchange theory, when a good relationship is established between subordinates and superiors, employees will display discretionary behaviors that are not recognized by formal reward systems yet contribute to the organization's performance (Organ, 1988). Such behaviors serve as a way for employees to 'repay' their superiors and preserve their relationship with them. At the same time, pro-social behaviors are intended not just at the superior but also at the surrounding colleagues with the expectation that the colleagues would be more supportive of the superior (Liu & Wang, 2013). This research proposes that the relationship between public servants and their superiors will activate interpersonal citizenship behavior. It is hypothesized as follows:

H1: Supervisor-Subordinate guanxi is positively related to OCBI

- *Public Service Motivation and Interpersonal Citizenship Behavior*

Perry and Wise (1990) defined public service motivation (PSM) as "an individual's predisposition to respond to motives grounded primarily or uniquely in public institutions and organizations" (p. 368). PSM was originally proposed to be measured by assessing five criteria: attraction to policymaking, commitment to public interest, social justice, civic duty, and

compassion (Perry, 1996). Subsequently, Wright, Christensen, and Pandey (2013) came up with a global measure of the concept of public service motivation which has been commonly used since as recent studies show (Bashir, Wright, & Hassan, 2021; Chen, Hsieh, & Chen, 2021; Potipiroon & Wongpreedee, 2021). Employees in public organizations are frequently encouraged to undertake work that helps society rather than work for personal incentives. Such motives aim to improve social welfare and will attract and motivate public servants to engage in their work (Wright & Pandey, 2008). Public servants with higher levels of public service motivation are more likely to exhibit altruistic (Pandey, Wright, & Moynihan, 2008) and helping behaviors (Karolidis & Vouzas, 2019). In the literature of extra-role behaviors, Williams and Anderson (1991) divided organizational citizenship behavior into two directions: organizational orientation (OCBO) and individual orientation (OCBI). The latter orientation is appropriate for this current study and consistent with previous studies on the impact of public service motivation on public servants' fellow-oriented behaviors (such as helping behavior toward colleagues or supervisors). This is all the more the case as there has been a growing focus on research on interpersonal citizenship behavior and the importance of public service motivation in promoting extra-role behaviors toward other individuals (Pandey et al., 2008). It is therefore proposed that public service motivation of public servant will foster their interpersonal citizenship behavior, which can thus be hypothesized as follows:

H₂: *Public service motivation is positively related to OCBI*

- Mediating Role of Self-Efficacy

Self-efficacy refers to the perception by an individual that he/she is capable of performing a given task and achieving stated goals (Wood & Bandura, 1989). Self-efficacy will affect the way an individual in an organization chooses activities and behaves. As Bandura and Adam (1977) noted, people with high self-efficacy are better able to handle difficult problems in the organization. The relationship between self-efficacy and positive outcomes has been widely studied and shows that it results in reduced intention to quit (Afzal et al., 2019), increased personal job performance, satisfaction (Bantha & Sahni, 2021; Bargsted, Ramírez-Vielma, & Yeyes, 2019), and creativity, and organizational citizenship behavior (de Clercq, Haq, & Azeem, 2018; Farooq et al., 2021). As posited by Bandura (1977), four main factors are apt to enhance self-efficacy: performance accomplishments, vicarious experience, verbal persuasion, and psychological states. And as expounded by the self-efficacy theory (Bandura, Freeman, & Lightsey, 1999), an individual does not act autonomously but rather relies on external forces to exert personal efforts.

One of the factors on which scholars have focused their attention is the quality of the relationship between supervisor and subordinate, which contributes to the process of increasing employees' self-confidence (Khorakian & Sharifirad, 2019; Afzal et al., 2019). In addition, as noted earlier, the process of increasing one's self-efficacy is tied up to interpersonal relationships. For example, when relying on vicarious experience (modeling) to increase self-confidence, high-quality relationships will enable employees to express themselves as they truly are and better absorb knowledge and skills from superiors as guidance to increase self-efficacy (Latham, Winters, & Locke, 1994). This study hypothesizes that self-efficacy would bridge the gap between guanxi and individual-oriented organizational citizenship behavior as public servants who feel increased confidence from good relationships tend to mirror their supervisor's behavior in order to help those around them (Zhang et al., 2020). As articulated in the process theory of public service motivation (Perry, 2000), self-concepts (identity or value) act as a filter from motivation to individual behavior. It has been shown that individuals with high degrees of public service motivation and perceived self-efficacy are more likely to put in extra effort to attain organizational goals (Lim, Moon, & Christensen, 2021; Van Loon et al., 2018).

While the effect of public service motivation on public servants' extra-role behaviors towards other individuals in the organization has been established, there is still a lack of empirical evidence to test this relationship, hence the need for research to examine the impact of public service motivation on OCBI under various settings (Pandey et al., 2008). This present study examines public service motivation from the perspective of the self-efficacy theory, i.e., as a psychological state that motivates public servants to be more active and gain confidence and thereby supports other colleagues. Based on the above, the following hypotheses can therefore be proposed:

H₃: *Self-efficacy mediates the positive relationship between supervisor-subordinate guanxi and OCBI*

H₄: *Self-efficacy mediates the positive relationship between public service motivation and OCBI*

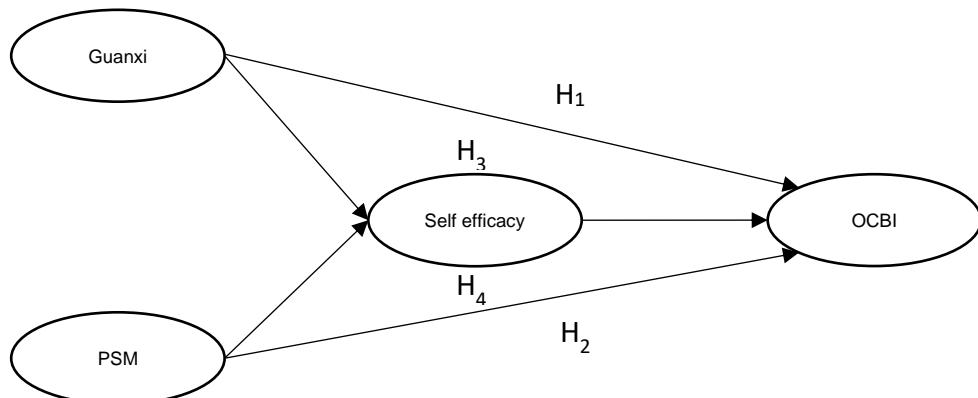


Figure 1: Research Model

3. Methodology

- Sampling and Data Collection

Participants in this research are public employees from local governments (district and commune level). The initial participants were public servants currently working on a master's degree in public management. Through them, it was then possible to recruit more participants to take part in the survey put together. As a result, in the two-month period during which the survey was conducted the study received the participation of 215 public servants working in local governments throughout the country. Data were collected online via Google Form. To avoid respondents being distracted and loosing their concentration, throughout the survey, short scales were used in the questionnaires (Beal, 2015; Uy, Foo, & Aguinis, 2010). It was found that 53.40 percent of the respondents were males and 46.60 percent females. 6.5 percent of them were below 25 years old, 40.9 were between 25 and 35 years old, 34.4 percent between 36 and 45 years old; 12.5 percent between 46 and 55 years old, and 5.7 percent over 55 years old. Moreover, 3.2 percent held an Associate's degree or an equivalent, 86.9 percent hold a Bachelor's degree or an equivalent, and 9.9 percent a master's degree and above.

- Measurements

Supervisor-Subordinate Guanxi – To estimate the relationship between public servants and their direct supervisors, this study used Law et al.'s (2000) six-item scale. This scale is used in China, which shares Confucian values with some Southeast Asian countries (Hofstede, 1988). It is therefore appropriate in the context in Vietnam given the similarity of, cultural, and social factors. The following question is an example of the type of closed-ended questions asked in

this section: 'I always actively share with my supervisor about my thoughts, problems, needs, and feelings.'

Public Service Motivation – Public service motivation was estimated using Wright et al.'s (2013) five items, which include questions such as, for example, 'making a difference in society means more to me than personal achievements.' Wright et al.'s (2013) scale not only reduces the number previous measurements of public service motivation as determined by Perry (1996) but also proves its validity in terms of global measurements (Miao et al., 2019). *Self-Efficacy* – Self-efficacy was measured via Chen, Gully, & Eden's (2001) eight items. This scale has been shown to have high reliability and can be used in many different contexts. One of the questions, for example, was: When facing difficult tasks, I am certain that I will accomplish them.'

Interpersonal Citizenship Behavior – Interpersonal citizenship behavior was examined via seven items adapted from Williams and Anderson's (1991) OCBI scale. This OCBI construct has been widely used in the public sector in addition to the Organ OCB scale previously developed in 1988 (de Geus et al., 2020). The following is an example of the closed-ended questions asked: 'I go out of my way to help new employees.'

4. Results

- Measurement Model

As recommended by Hair et al. (2021), the measurement model was evaluated through convergent validity and discriminant validity. To measure convergent validity, several criteria were used, including composite reliability, individual indicator reliability, and the average variance extracted (AVE). The result of the analysis are shown in Table 1. The value of the composite reliability ranged from 0 to 1, meaning that the larger the value, the higher the degree of consistency. According to Hair et al. (2021), in the advance stages of research, the value of composite reliability should be greater than 0.7 and should not be too high (no greater than 0.95). The composite reliability in this study was good when compared to the criteria, ranging from 0.836 (public service motivation) to 0.911 (personal motivation) (OCBI).

To measure the reliability of each indicator, the outer loading value was used. The expected value was found to be greater than 0.708. As stated by Hair et al (2021), researchers can consider values ranging from 0.4 to less than 0.7, but this usually happens only in social studies when a new scale is applied (Hulland, 1999). In this study, to ensure convergent and discriminant validity, some questions were therefore eliminated during the analysis as indicated in Table 1. A common criterion applied in the assessment of convergent value is the use of the average variance extracted (AVE). The rate for a recommended AVE value is 0.5 (More than half of the variance in its indicators is explained by the construct). The results satisfy these criteria as the lowest AVE value is 0.560 (public service motivation) and the highest OCBI (0.631).

Table 1: Convergent Values

Construct	Outer Loading	Cronbach's Alpha	Composite Reliability	AVE
Supervisor-Subordinate Guanxi				
During holidays or after office hours, I would call my supervisor or visit him/her.	0.801			
	0.766			
My supervisor invites me to his/her home for lunch or dinner.	0.769			
On special occasions such as my supervisor's birthday, I would definitely visit my supervisor and send him/her gifts.	0.777	0.874	0.904	0.612
I always actively share with my supervisor my thoughts, problems, needs and feelings.	0.809			
I care about and have a good understanding of my supervisor's family and work conditions.	0.771			
When there are conflicting opinions, I will definitely stand on my supervisor's side.				
Public Service Motivation				
Meaningful public service is very important to me.	0.707			
I am often reminded by daily events about how dependent we are on one another.	(*)			
Making a difference in society means more to me than personal achievements.	0.758			
I am prepared to make enormous sacrifices for the good of society.	0.765	0.738	0.836	0.560
I am not afraid to fight for the rights of others even if it means I will be ridiculed.	0.762			
Self-Efficacy				
I will be able to achieve most of the goals that I have set for myself.	(*)			
When facing difficult tasks, I am certain that I will accomplish them.	0.769			
In general, I think that I can achieve outcomes that are important to me.	0.812			
I believe I can succeed at basically any endeavors to which I set my mind.	0.733	0.857	0.894	0.585
I will be able to successfully overcome many challenges.	0.771			
I am confident that I can perform effectively on many different tasks.	0.777			
Compared to other people, I can do most tasks very well.	(*)			
Even when things are tough, I can perform quite well.	0.722			
OCBI				
I help others who have been absent from work.	0.824			
I help others who have heavy workloads.	0.825			
I assist my supervisor with his/her work (when not asked).	(*)			
I take time to listen to coworkers' problems and worries.	0.831	0.883	0.911	0.631
I go out of my way to help new employees.	0.767			
I take a personal interest in other employees.	0.752			
I pass along information to other coworkers.	0.763			

(*) This item was dropped during the analysis process

Source/ Compiled by author for this study based on Wright et al. (2013); Perry (1996); Miao et al. (2019); Chen, Gully, & Eden (2001); Williams & Anderson (1991); de Geus et al. (2020).

The discriminant value represents the degree of difference between the constructs. This study uses Fornell-Larcker's (1981) criterion of discriminant validity. The square root values of AVE lying on the diagonal are expected to be greater than its highest correlation with any other construct. As can be seen in Table 2, all the concepts used in this research achieve discriminant validity.

Table 2: Discriminant Validity

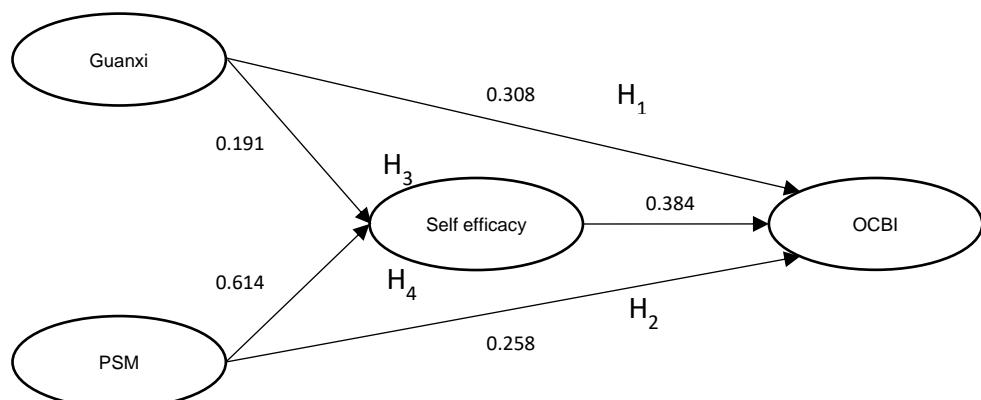
	Supervisor– Subordinate Guanxi	OCBI	Public Service Motivation	Self- Efficacy
Supervisor–Subordinate Guanxi	0.782			
OCBI	0.693	0.794		
Public Service Motivation	0.630	0.734	0.749	
Self-Efficacy	0.578	0.752	0.734	0.765

- Structural Model

The goodness level of the model structure was assessed through the R^2 value as suggested by Hair, Ringle, and Sarstedt (2011) and Ramayah et al. (2018). R^2 value of endogenous latent variables (OCBI) is 0.692, which is a moderate value as determined by Henseler, Ringle, and Sinkovics (2009). The value of Q^2 was then tested to evaluate the model's out-of-sample predictive power. Applying the blindfolding procedure, Q^2 value of OCBI is 0.429, which is greater than zero and confirms the predictive relevance of the dependent variable. The Bootstrap analysis was conducted with 5000 samples to test hypotheses H_1 , and H_2 . The results of the analysis are presented in Table 3 and Figure 1, which show the significant influence of supervisor-subordinate guanxi (H_1) and public service motivation (H_2) on interpersonal citizenship behavior.

Table 3: Direct Effects

Hypothesis	Path Description	β (Original Sample)	β (Sample Mean)	Standard Deviation (STADEV)	T Statistics (O/STDEV)	P Values	Result
H_1	Supervisor– Subordinate Guanxi → OCBI	0.308	0.313	0.063	4.915	0.000	Supported
	Supervisor– Subordinate Guanxi → Self-Efficacy	0.191	0.197	0.075	2.560	0.010	
H_2	Public Service Motivation → OCBI	0.258	0.255	0.076	3.385	0.001	Supported
	Public Service Motivation → Self- Efficacy	0.614	0.608	0.067	9.104	0.000	
	Self-Efficacy → OCBI	0.384	0.381	0.070	5.525	0.000	

**Figure 2:** Model Estimated Results

To verify the mediation hypotheses, the study used bootstrapping results as recommended by Hair et al. (2021) and Preacher and Hayes (2004, 2008). As Table 4 shows, the results of the analysis support both mediation hypotheses. Self-efficacy is a mediator for the relationship between supervisor-subordinate guanxi and OCBI and self-efficacy is also the bridge for the relationship between public service motivation and OCBI. In addition, both indirect effects are significant because none of the 95% confidence intervals include zero value

Table 4: Indirect Effects

Hypothesis	Path Description	β (Original Sample)	β (Sample Mean)	Standard Deviation (STADEV)	95% Confidence Interval of the Indirect Effect	T Statistics (O/STDEV)	P Values	Result
H ₃	Supervisor– Subordinate Guanxi → Self- Efficacy → OCBI	0.073	0.075	0.031	[0.022; 0.141]	2.396	0.017	Supported
H ₄	Public Service Motivation → Self-Efficacy → OCBI	0.236	0.232	0.053	[0.141; 0.348]	4.475	0.000	Supported

5. Discussion and Conclusion

This research looked at the influence of superior-subordinate relationships and public employees' motivation to serve society via interpersonal citizenship behavior simultaneously. It adds to prior knowledge on organizational citizenship behavior in public organizations as it responds to research calls to unravel mechanisms from public servant motivation, guanxi to individual performance (Guan & Frenkel, 2019; Jin, McDonald, & Park, 2018). In the public sector, especially in Asia (Atkinson-Sheppard, 2021), guanxi has been one of the most discussed topics both in terms of its negative effects (e.g. bribery) and positive ones (e.g. innovative behavior) (Gao & Liu, 2021; Li, Sun, & Taris, 2021). This study, however, focused on the 'healthy' aspect of guanxi and its effects on interpersonal citizenship behavior. The findings show that a healthy relationship between subordinates and superiors is one of the effective factors that determine the supportive behavior of public servant in the workplace. In particular, the direct impact of guanxi on OCBI is slightly stronger than public service motivation. The latter not only motivates public employees to commit their efforts to produce public value for society, but also promotes extra-role behaviors toward individuals. Public servants with a high degree of public service motivation tend to spend their time and effort to support their coworkers (Pandey et al., 2008).

The study also looked at the mediating role of self-efficacy in the connection between guanxi and OCBI as well as between public service motivation and OCBI. Public servants who have positive relationships with their superiors will have more opportunities to engage, exchange experiences, and be guided by their superiors. It ensues that they will be more confident in providing ideas and solutions and, if they believe in themselves, will be eager to help their colleagues. It was also determined that the mediating role of self-efficacy in the link between public service motivation and OCBI is stronger than the connection between guanxi and OCBI. In light of the self-efficacy theory, public service motivation will help public servants become more active in their efforts to improve organizational performance as a more flexible approach to their activities will influence self-efficacy positively and motivate their colleagues by supporting them.

- Recommendations to Public Sector Practitioners

The following recommendations for public sector practitioners can be made:

- First, the connection between managers and employees in the public sector contributes significantly to the creation of a collaborative working environment. Superiors should therefore pay greater attention to activities involving subordinates in order to enhance the spirit of collaboration. Furthermore, managers should recognize that not only training and development activities, but also exchanges, directions, and the role model played by senior workers may instill confidence in public servants. They can boost employees' self-confidence, allowing them to share more with other members. In addition, activities that promote healthy relationships in the organization also need to be institutionalized to build a shared culture in the organization. Some employees may be afraid to share their thoughts with their superiors due to the great power gap in public institutions, especially in collectivist countries such as Vietnam. To this end, managers should propose regular informal meetings between superiors and subordinates on topics related to work or personal life to name a few to reduce employees' apprehensions when they want to share information with managers.
- Second, public employee motivation toward society has been demonstrated to directly encourage pro-social behaviors in the workplace and enhance self-efficacy. Therefore in the recruitment and selection process, managers should pay close attention to prospective employees' reasons for wanting to join the organization. Many recruiters currently prioritize the selection of candidates in the public sector mainly on the basis of professional knowledge examinations with little regard for their motivations. Surveys or specific interviews on their goals and values could be utilized as part of the recruitment process. Furthermore, managers could create inspiring training sessions for public employees, emphasizing the purpose of work as contributing to the development of society.

- Limitations and Future Directions

There are several limitations to this study. Firstly, since this research employs a cross-sectional research design, relationships between factors could be examined with longitudinal studies to better understand the phenomenon and avoid bias (e.g. whether in different settings, public service motivation fosters mutual interest among individuals). Secondly, this study relies on the responses of employees to evaluate their citizenship behavior toward other employees. In the future, researchers should collect data from alternative settings (such as the perspective of managers). Thirdly, given the limited scope of this study (it only focuses on supervisor-subordinate guanxi), further studies could explore other types of relationships in the workplace (such as, for example, family ties). Fourthly, this study is limited to understanding the impact of guanxi and public service motivation on OCBI. Further studies may seek to expand on specific factors in public organizations such as red tape or public leadership (de Geus et al., 2020). Finally, since this study sampled the public sector in Vietnam, it may not be generalized as a representation of the phenomenon across the board. Future studies should consider cross-cultural factors or retest the model in other industries.

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Organizational Learning Elements of a Private Primary Care Unit: A Case Study of a Private Hospital in Bangkok

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Abstract

This qualitative research seeks to investigate organizational learning (OL) at a Thai private primary care unit (PCU), located in Bangkok, and selected for its outstanding performance with the local community. In-depth interviews were conducted with twenty individuals from that hospital with various level of responsibilities and with seven community leaders and health volunteers, all of them key stakeholders. Data was also collected from relevant documentation. The data collected was analyzed using a thematic analysis based on three elements: (i) strategic leadership as related to transformational and transactional leadership, and knowledge creation and application; (ii) communication in terms of etiquette/manners and common language; and (iii) stakeholder relationships in terms of long-term relationship goals. A conceptual OL framework was used to present the relations among these elements. It was found that these three key elements were essential for effective OL of the PCU toward sustainable working relations with the local community. This study can benefit the human resources management, especially but not exclusively in healthcare units, and promote community development.

Keywords: Communication, Organizational Learning, Primary Care Unit, Stakeholder Relationships.

1. Introduction

Public health in Thailand was developed to support the health security of citizens. Initially, it consisted of four schemes: a public welfare scheme, a social security scheme, a voluntary health insurance scheme, and a public health welfare scheme for the poor and disadvantaged carrying a low-income card (NaRanong & NaRanong, 2006; World Health Organization, 2017). The voluntary health insurance scheme and the public health welfare scheme for low-income people were subsequently replaced by the *30-baht* scheme which covered all citizens, including the 'leftover' (Tangcharoensathien & Suphanchaimat, 2012). In addition, the National Health Security Office (NHSO) was established to administrate the 30-baht scheme, which later was changed to the Universal Coverage Scheme (UCS) (Tangcharoensathien & Suphanchaimat, 2012). In the following years, because of crowd service unit problems the NHSO decided to increase service units by allowing private hospitals to assist in the UCS (Ministry of Public Health, 2018; World Health Organization, 2017). This provided an opportunity for private hospitals to operate as primary care units (PCU) while still permitted to maintain the privacy of internal management as the NHSO gave them independence in term of financial or internal systems.

However, the right to self-manage private service units as well as paid per capita medical expenses paused serious challenges and required some learning on the part of private hospitals (Sorakraikitikul & Soontornwiwattana, 2019). Compared to their previous situation, private PCUs were now facing challenges at three stages: at the start of the contract with the NHSO, in the middle of it, and after it expired. When private hospitals contracted with the government, the switch to the public health scheme initially resulted in a lack of income since Thai citizens were not necessarily paying for the full medical services. While many private hospitals had decided to join the UCS to survive as private PCUs, becoming a private PCU thus meant changing from middle-high income to low-income stakeholders as, as part of serving the community, newcomers had to accept policies from secondary care units and the NHSO (Yangkratok, 2002). They needed to learn to build new relationships with stakeholders. To this end, the NHSO and secondary care units issued healthcare policies to encourage private PCUs to take care of the community under the concept ‘the healthier people at family level, the fewer medical expenses’ (Jittasano & Parinyasutinun, 2017; Yangkratok, 2002).

As a result, private PCUs learned to manage the cost of medical care and engage in community outreach as dictated by the NHO policies. Half-way through the contracts, PCUs were subject to an annual quality assessment, called Private Primary Care Accreditation (PPCA), with the promise of increase paid per capita until the end of the contract should the assessment warrant it. All private PCUs adapted to this dynamic environment. After the contracts expired, they continued to operate as private hospitals and strove to survive amid the pandemic. How they managed to survive remains somewhat of a mystery. It can, however, be surmised that they developed organizational learning (OL), especially when still operating under PCU contracts with the NHO as part of the UCS. Less clear though was what had become of their organization goals. Focusing on one such PCU, namely, Nan-ah hospital, located in the Klongsan district, Bangkok, Thailand, this qualitative research study aims to explore the learning elements which have supported private PCUs throughout the pandemic and beyond. Specifically, it seeks to answer the following research questions:

- What elements of learning supported private PCUs in their response to the changes in the Thai health care system as described above?
- What were private PCUs' goals in response to those changes?

Before addressing these queries, a few words on landmark developments at Nan-ah hospital in the last few years are in order as they will help to understand its trajectory to organizational learning. It is well known that challenges energize knowledge creation and learning. Private PCUs are no exception; Nan-ah hospital in particular, which faced challenges at the three stages of its contractual obligations as noted above. When contracts were awarded, private PCUs, including Nan-ah hospital, were forced to do some critical learning for their survival and make adjustment in regard of requests, information exchange, and relationship building through community feedback. Private PCUs were also confronted with other challenges after they familiarized themselves with local communities as half-way through their contracts, more NHO and secondary care unit policies emerged to control service quality and accelerate proactive care. When the contracts ended, Nan-ah hospital, as was also the case with other private PCUs, found itself under the necessity to re-adjust as a private hospital to continue business. The key point here is that as new challenges piled up, OL likely developed (Sorakraikitikul & Soontornwiwattana, 2019).

As one of the private PCUs forced to cope with all these challenges, Nan-ah hospital engaged in OL by dint of circumstances as its relations with the surrounding community attest. Indeed, after contracting with NHO, Nan-ah hospital approached the community for relationship building. Although a private PCU, Nan-ah hospital soon became part of the community and in the following years became a leader in establishing the Warm Community

Clinic Association to collaborate with other PCUs. (Soontornwiwattana and Sorakraikitkul (2018) determined that the hospital resorted to engaging with stakeholders to learn and keep developing. They also found that job rotation was applied in order for employees to acquire knowledge from other professionals and external part-time employees. In 2017, as a testimony to its collaboration with communities, the hospital received the best award as a smoking care clinic. Moreover, after the contract with the NHSO expired, as part of its efforts re-adjusting to a new environment, Nan-ah hospital became famous on social media as the COVID-19 cheapest checkpoint. The outstanding performance of Nan-ah hospital among private PCUs in Bangkok strongly suggests that the hospital developed OL. It is important to note though that the organizational learning elements developed in Thai organizations likely differ from the Western concept due to the specific Thai context. This makes the conceptualization results in this study beneficial for Thai organization's learning and development. Moreover, this study could be a model for further organizational studies in other industries.

2. Literature Review

- *Organizational Learning*

Organizational Learning (OL) became popular when Argyris and Schon (1978) introduced single-loop and double-loop learning (Basten & Haamann ,2018). Single-loop learning is concerned with the action's result, and double-loop learning describes the improvement by revisiting assumptions (Argyris and Schon, 1978; Dixon, 1992). Huber (1991) and Dixon (1992) suggested approaches according to which organizations acquire knowledge, interpret it from distributors to receivers, and lastly store it as organizational knowledge. OL was born. The consensus among Western OL studies was a 'shared understanding and a common language,' which was essential in knowledge sharing and transfer. This focus, however, was altered in 1995, when OL studies occurred in the Asian context. This is when Nonaka and Takeuchi (1995) suggested that another vital element should be incorporated, the 'interpersonal relationship', a concept embedded in the study of Japanese organizations under the Socialization, Externalization, Combination, and Internalization (SECI) model. The model was later further developed and comprehensively articulated as organizational knowledge creation theory (Nonaka, Krogh, & Voelpel, 2006).

The theory principally described knowledge transfer and knowledge creation through daily work and interaction. The principle was refined in 1998, when Nonaka and Konno (1998) published *the four characteristics of Ba* in which they argued that most of the four learning processes occur through interactions. It was determined that relationships between individuals played a crucial role in the learning process. Meanwhile, in the western context, the focal point turned to leadership, which encouraged learning in an organization (Senge, 1990, 1996). The emphasis was on the importance of new leadership styles to initiate OL and on the attribute of problem confrontation, which, it was argued, led to the most outstanding results (Senge, 1996). The rationale was that bureaucratic culture is an obstacle to the learning of an organization and that people who can lead in different ways are needed in leading positions (Senge, 1996). A change in bureaucratic culture was encouraged so that new leadership skills for OL would emerge. As suggested by Vera and Crossan (2004), the top executive team, especially the CEO and top management, should be the change initiators.

- *Organizational Learning in the Asian Context*

It is important to note first that Western perspectives on OL, however, are not capable of being easily transported to Asian contexts – a Southeast Asian context in particular – where a bureaucratic culture remains strong. Since research was initially essentially based on Western perspectives, it is questionable whether the type of leadership styles and authority best suited for OL in Western firms apply to an Asian context (Senge, 1996). For a successful transfer of

OL practices to Asian contexts, many supportive elements need to be added, starting with relationships as suggested by Nonaka and Takeuchi (1995) as we just saw above. Other elements that should be reinforced or introduced include empowerment (Watkins & Marsick, 1993), system thinking, and a strong leadership (Senge, 1996). While, as noted above, a change of leadership style was encouraged in the Western context and realistically achievable, this is not the case in an Asian context, where hierarchical structures predominate and are more difficult to displace.

- Thai Organizational Learning Research

As can be expected from the above discussion, research on Thai OL shows that OL as applicable in a Western context is likely to be ineffective in Thai organizations, where, as in most of Asia today, a bureaucratic culture remains well entrenched. This unless new elements are added as we just saw. There have been extensive OL studies in Thailand (Yangkratok, 2002; Chaowanasiriyatham, 2015; Meehanpong et al., 2019). One of the problems is that research has been essentially based on Western perspectives, which raises the issue of whether leaders' authority and styles apply to the Asian context (Senge, 1996). The main concerns with these studies, however, is their inadequacy to clarify practices and the pressing need for some elements to be strengthened under an Asian bureaucratic culture as found in Thailand. For one thing, questionnaires were developed from a western context to measure learning (Chaowanasiriyatham, 2015). For instance, research conducted at Singburi hospital indicated that the behavior of the head nurse did not affect the performance of the PCU as a learning organization (Meehanpong et al., 2019). Yet, as Vera and Crossan (2004) have argued, it is the role of top management to change the bureaucratic culture as it has the authority it takes to do so. In some ways, the result was not a surprise, but the change of attitude needed for OL to take roots should have been more strongly emphasized.

In another Thai quantitative research study that sought to measure OL in a Thai government agency, Bangkok Urban Development, known for being highly bureaucratic, it was found that the items in the close-ended questionnaire were applied to fit the organization and therefore were unlikely to signal any need for change (Chaowanasiriyatham, 2015). Closed-ended questions such as, for example: 'You adapt your work to the organization's vision;' 'You adapt yourself to the current situation;' and 'You admit the corporate culture,' reflected the lack of decision-making power of employees and confirmed the status quo rather than challenge existing practices through either different closed-ended questions and/or open-ended ones. As these examples show, the questions asked run contrary to the definition of shared vision and system thinking among teams and simply reflects the predominant bureaucratic working culture in governmental agencies. In short, they were meant to reinforce the existing bureaucratic culture rather than investigate possible barriers to a strong OL performance (Chaowanasiriyatham, 2015).

A subsequent paper by the same author on the same agency and related to the 2015 study criticized the learning problems that arose from the top management and the interpersonal relationships (Chaowanasiriyatham, 2017). In keeping with Nonaka's (1995, 2006) perspectives, the discussion exposed the importance of relationship among stakeholders, unlike prior research that essentially concluded that the problems stemmed from hierarchical authority (Chaowanasiriyatham, 2015). The 2017 study suggested that reducing the role of leaders roles might be a serious problem in bureaucratic culture oriented organization (Chaowanasiriyatham, 2017).

3. Methodology

Since as prescribed by Gill (2014), in this qualitative research, an individual, an organization, and/or a private PCU could be selected for collecting information, data was collected from

participants cognizant of the challenges paused by a UCS under contract. Moreover, this study could not only collect experiences but also documentation (Creswell, 2003). The qualified organization in this research must have survived, responded, and learned from the challenges arising from changes in the Thai public health system, national policy adjustments, and the termination of contracts during the pandemic. As mentioned in the introduction, a former private PCU in the Klongsan district in Bangkok, Nan-Ah hospital, was selected based on its solid track record responding to challenges. The various distinctions it received in acknowledgment reflect the organization's flexibility and continuous attention to learning, all which strongly related to OL. It can therefore be surmised that OL developed in response to all the challenges the hospital faced and contributed to shaping its identity.

The triangulation method used for validation requires that data be collected from multiple sources (Heale & Forbes, 2013). Sources were thus collected from employees and influential people in the community (community leaders and health volunteers) and relevant documentation. In-depth interviews were deemed appropriate to acquire rich information about participants' experiences. Twenty interviewees were from the hospital: three executives, one chief of primary care service, three public health coordinators, a physician, five healthcare officers, two pharmacists, and five registered nurses (see Table 1 in Appendix). Other interviewees included seven community leaders and village health volunteers (VHV), who were the influencers and at the center of community information. Due to the health service rights, the names of the community people were blinded. In addition to conducting interviews with all the participants described above, the researchers were able to review the hospital's five-year annual reports relevant to stakeholders (the PPCA) as well as project reports with secondary care units. Collecting and analyzing data from hospital employees, community people, and the relevant documentation increased the reliability of the data as in-depth interviews were used to cross-examine the relevance of other data. All the data was analyzed using thematic analysis (Joffe & Yardley, 2004) to identify frequency and patterns, and was extensively described.

4. Results and Discussion

Data collected from the interviews indicated that OL was at the core of the hospital's mode of operation and that three key elements were relied upon in this Thai PCU to ensure continuous learning: strategic leadership, communication, and stakeholder relationship.

- Strategic Leadership

The various types of leadership that exist are well documented in the relevant literature. OL, however, requires uniqueness (Senge, 1996). In this study, the results indicate that the strategic leadership is based on transformational/transactional leadership. According to Vudy, era and Crossan (2004), transformational leadership initiates organizational changes and establishes the foundation of the organization system, including a culture of trust in individuals. Transactional leadership, on the other hand, extended to reward and promote existing knowledge systems and maintain continuous collaborative learning (Vera & Crossan, 2004). The hospital's top-level executives have embraced transformational leadership and the flexibility, feedback learning, and policy changing which characterize it.

The following comment from one of the executives reflects the flexibility of transformational leadership when it comes to finding new solutions: "We had to continuously adjust according to the situation and learn by doing, whether possible or not. If it were not successful, it was considered a lesson learned. Then we have to change and learn again and again." As corroborated by interviews with two healthcare administrative officers, the executives encourage them to try new tasks and seek skill development. As one of the officers, who was satisfied with the new skills, stated: "I was encouraged to try something new and then

followed the results for improvement. For instance, I visited the community and learned to talk to community leaders with the team. If I can practice new skills, it would be advantageous for helping others as well." In addition, the chief of primary care service, an executive level position, was quite clear about what a transformational behavior meant when he added that "Everyone has to be flexible and learn from doing new tasks. For instance, health care officers will be assigned for months in the dentist's office to help and learn. Then, they will be rotated to another department. This promotes skill development. If they are skilled, we can replace the positions and solve the problem of lacking a skilled workforce." Referring to the job rotation, another hospital's top executive said, that job rotation had been used since the hospital was founded as part of promoting exchange knowledge. According to him, "when employees move around different services, they develop a strong understanding of the nature of other services and communication with patients." These comments on the job rotation are in line with previous findings (Soontornwiwattana & Sorakarikitkul, 2018). Because of workforce shortages, employees learned new skills and there is a continuous flow of feedback.

As to transactional leadership and the use of acquired skills, especially communication skills, executives at Nan-Ah hospital encourage employees to communicate with key stakeholders efficiently, which requires a strategy of communicator selection. At every meeting with stakeholders, the hospital leaders select a communicator who fits the target audience, based on his/her knowledge and skills. As a top executive stated: "For example, at quality assurance meetings, employee with strong academic references is chosen so that he/she can communicate with the same academic language level and tone. This provides for a more efficient exchange of information." As explained by this executive, a brief from that communicator follows and anything that requires adjusting is dealt with immediately if possible. If not, no pressure is applied. It is clear from the above that both transformational and transactional leadership styles are used at the hospital. This is in keeping with Vera and Crossan's (2004) study which concluded that transactional behaviors encouraged the organization's members to use their skills while transformational leaders support feedback learning and changes. Moreover, the process of selecting a communicator to impart information and share procedures resembles the feed-forward suggested by Crossan, Lane, and White (1999).

- Communication

Nan-Ah hospital values communication and to that end selects communicators to exchange information with target stakeholders as we just saw. Public health coordinators, who have been assigned as communicators, confirmed that communication was the key for information exchange and stakeholder relationships. This was corroborated by the interviews of community leaders, and village health volunteers (VHV), who acted as communication representatives of the communities. Their interviews confirmed that good communication can build trust in medical services and make people feel that they are not left behind. Moreover, they also confirmed that attention was paid to two key elements of communication: etiquette/manners and common language. In their interviews, public health officers stressed that the hospital had strict unwritten regulations in regard of manners and that everyone was expected to speak and behave well with every patient with no exception. As one public health officers explained, "It reminded me when I started the job. I was told to give it a try and talk to patients. If I did not talk properly, I would be actively trained as part of the on-the-job training. Everyone would be trained about manners as this is regarded as one the most important aspects of our daily work." Etiquette also dictates that while one should be frank with patients, no one should be brutally frank and 'shock' patients. As to the second key element, common language, it refers to the need to use lay terms as opposed to highly technical terms which people outside a small circle of experts would not understand.

This is especially important for shared understanding among specific stakeholder groups. As the chief of primary care service pointed out; "When we had to visit the community, we selected team members who could understand and use common language since we have to communicate with local people in the communities." This may mean also understanding some medical terminology but as this interviewee added, when this is the case "We have to understand the differences between the professions of medical staff and patients. We must not to the extent possible use medical terms or formal words to community people." For employees used to the medical jargon, using lay terms may not be easy. One executive admitted having difficulty communicating with VHV. This why, when visiting the community, health care officers were specifically selected to communicate directly with the patients and the community people using terms the latter could understand.

Not only the surrounding communities, but the hospital also selected communicators who could match the competencies of other stakeholder groups (the NHO, secondary care units, annual quality accreditation examiners, suppliers, and the Ministry of Public Health). As described by one of the top executives, "Communication with the NHO and other primary care units will be assigned to the Chief of Primary care services, who knows about medical technology and terminology and has good relations with other hospitals." According to this executive, as expected, this generally provided for a smooth resolution of the issues at stake due to the strong relationship and the use of the same language. As to communication with surrounding communities, "it will be assigned to health care officers because they know each other from daily presence on the site. Communicating with the annual quality accreditation examiners and the Ministry of Public Health will be done by the Quality Assurance Coordinator, who understands the managerial terminology and official documents." Contacts with suppliers were handled by this top executive who is well versed with issues of quality and cost.

The following excerpt of an interview with one of the employees aptly captures the importance of using a common language: "If we could not speak their language, we would not know anything new. How much do we talk to them is how much we learn from them. We could listen to the reflection and reaction. It will be a warning if they do not speak out because it means they do not care about us anymore." In summary, the use of proper etiquette/manners and common language was instrumental in collecting knowledge from and sharing it with stakeholders. This is why, as the results show, Nan-ah hospital selected individuals who were equipped to communicate with stakeholders effectively so that information could be disseminated to build relationships. Consistent with Herremans, Nazari, and Mahmoudian's (2015) findings in a similar study, the hospital accelerated practices promoting stakeholder relationships by identifying stakeholders, collecting feedback, extending the practice to stakeholder groups, and utilizing information for learning. In short, communication as practiced at Nan-ah hospital was critical to expanding stakeholder relationships.

- Stakeholder Relationships

The satisfaction of stakeholders is paramount to the success of an organization in a hypercompetitive environment as is also the case with communication and strategic leadership (Davies & Davies, 2006). The quality of knowledge sharing also largely depends on the nature of relationships (Herremans et al., 2015). In addition to strategic leadership and communication, the key to continuous learning is a long-term relationship with stakeholders. As repeatedly stressed in interviews, a healthy relationship feeds itself on robust feedback. Several executives recited the founder's principle ('Relationship feud brings no end. Be kind to all,') as the leitmotif of the organization, which has been passed down for three generations. As noted by one hospital health care officer "We never argue with patients. Even if there is a misunderstanding, do not blame the patient. That was a rule of thumb." Failure to maintain a relationship with a patient or behave properly, it was explained would result in a dismissal. As explained by the

Chief of primary care, who was the leader of the Warm Community Clinic Association mentioned in the introduction, establishing and maintaining positive long-term relationships with all stakeholders avoids the risk of negative words of mouth, which in today's world of social media could spread like a wildfire. Stakeholder relationships also thrive on knowledge sharing and solid listening skills. As stated by executives and health care officers who have long worked in the community, "When someone tells us something, we do not argue at first, but listen [...] No need to argue as the complaint was a reward for development." This was corroborated by a community leader: "When we recommend something, the hospital is never defensive. They listen and get involved in community activities;" and by a top executive, "Actually, we do not want compliments. We want to know more about what they want us to improve." It is clear from the above that executives and employees eagerly receive feedback and that stakeholder relationships are meant for stakeholders to share as much information as possible. In short, the organization sees relationships and relationship building with all stakeholders as one of its primary goals.

It is worth noting that aside from the relationships with the community, the hospital also seeks to build relationships and promote knowledge sharing with other private PCUs in Bangkok. As one executive explained, "We were the leader in establishing the Warm Community Clinic Association. We wanted private PCUs in Bangkok to cooperate. After setting it up, we took the role of an ordinary member and were not involved in management." There is evidence that the Association played a key role in negotiating health masks during the initial shortage and providing proactive COVID testing services until its role declined in 2020 after the termination of the NHO contract. Nan-ah hospital's stakeholder relationship building efforts have turned it into a center for private PCUs. According to the Chief of primary care services, "Even after the contract ended, we asked for information or cooperation," which its prior good relationship made possible. In summary, stakeholder relationships boosted the exchange of information, which continued after the contract with the NHO expired since according to one executive, the hospital "Did not take advantage of anyone. Despite allegations of corruption, the community felt doubtful and showed empathy for the hardship caused by the legal investigation process." Clearly, one of the byproducts of strong stakeholder relationship building was trust as noted by that same executive.

5. Conclusion

This qualitative research was conducted at a Thai private PCU located in Bangkok with the purpose of exploring OL in regard of this PCU's efforts to develop long-term relationships with the local community, something which, until the hospital contracted with the NHO had not been necessary for the PCU to do. OL at this PCU is based on three supportive elements, strategic leadership, communication, and stakeholder relationship, which are meant to serve the primary goal of establishing long-term relationships. It was found that strategic leadership helps to develop employees, select capable communicators, and then give the feed-forward for strategies and policies. Selected communicators spoke a common language with etiquette/manners and could share information. The distribution and receiving process associated with knowledge sharing built long-term relationships, which in turn called for more sharing. Lastly, feedback was provided to community leaders for initiating changes and developing further strategies. The OL process at the hospital is in line with knowledge acquisition as communicators share and give feedback.

Moreover, knowledge interpretation and distribution occur when communicating in the same language (i.e. generally, in lay terms) to provide mutual understanding with stakeholders (Herremans et al., 2015). Leadership is essential (Meehanpong et al., 2019). Findings at Nan-Ah hospital are consistent with the conclusions of Vera and Crossan's (2004) study as well as

that of Mjaku (2020) in that the CEOs and the top executives were determined to promote OL implementation. Although, as we saw earlier, in these studies, strategic leadership was unspecific and open to various perspectives, in this study it is associated with both transformational and transactional leadership and was a turning point as it is in any bureaucratic cultures. While previous Thai organizational research suggested overthrowing the bureaucratic culture and limiting authority, for the most part these suggestions have remained wishful thinking since any change depends entirely on leaders (Chaowanasiriyatham, 2015; Cheung, 2005; Meehanpong et al., 2019). In that sense, Nan-Ah hospital is an odd given its ability to generate shared understanding and long-term relationships. relationships.

- Limitations and Future Research

This study took place at a private hospital in Bangkok. Further research on similar OL issues should be therefore conducted in another context, such as a different province and possibly a different industry although the same industry in another province would also be relevant and enlightening. Moreover, further research in the Asian context should focus primarily on relationships as the goal and strategy for knowledge sharing. Since Nan-Ah hospital set a milestone in successfully developing the three elements (strategic leadership, communication, and stakeholder relationship), evaluating these three elements should be at the core of these studies. Such studies would benefit the human resources management and human resources development fields in Asia, especially but not exclusively in healthcare units, and promote community development.

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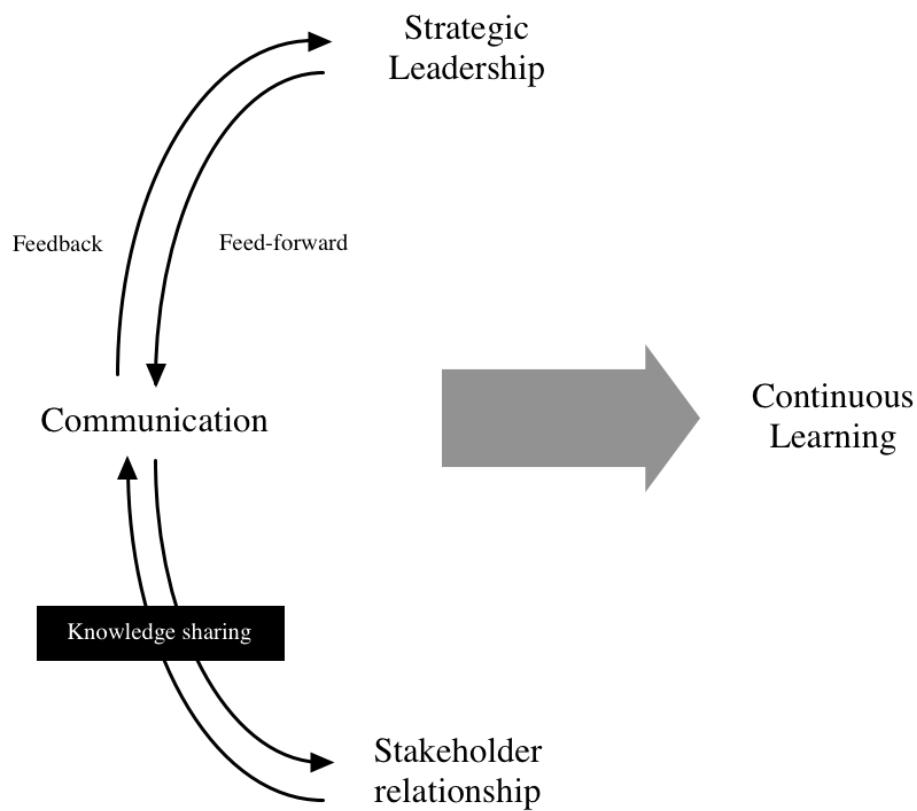
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Table 1: Nan-ah hospital's participants

Name organization/community	of Position	Number of informants
Nan-Ah hospital	Executives	3
	Chief of Primary care service	1
	Public health coordinators	3
	Physician	1
	Health care officers	5
	Pharmacists	2
	Registered nurses	5

**Figure 1:** The OL process of Thai private PCU.

Right Intentions Leading to Wrong Results: A Case Lesson on Helping Thai Locals Sustain Their Business Community

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Abstract

This qualitative research study focuses on the efforts of a local community to develop sustainable operations and the difficulties encountered achieving this goal. Specifically, cognizant of the fact that right intentions can sometimes lead to wrong results, it seeks to answer the following question: What are the lessons learned on spearheading a project designed to help Thai locals sustain their business community? A case study was conducted by a group called the Marketing Knowledge Management for Community Enterprise to assist several local businesses regrouped as the Agricultural Home Group and located in the Pang Moo Sub-District, Muang District, Mae Hong Son Province. The methodology included a community forum, focus group meetings, marketing field trips, and on-site visits, each activity serving a specific purpose. Lessons were captured in a Refraining Matrix that included four theoretical perspectives derived from the central question: a product line, distribution channel, growth strategy, and sufficiency perspective. The findings indicate that improvements were hindered by a reluctance to take risk, a lack of competence in digital communication geared toward tourists, a failure to have a clear vision as well as lack of discipline and enthusiasm of the participants. A discussion on the practical methods to get locals more focused and motivated to sustain their local businesses in their community is provided.

Keywords: Channel of Distribution; Growth Strategy; Local Business Community; Sufficiency, Sustainability.

1. Introduction

The sustainability of some local business communities in Thailand can be credited to a group of leaders within those communities who make the most of seminars and workshops learn to overcome resistance to change and navigate through the challenges that changes bring about (Gibbons et al., 2018). These communities have been shown to thrive over the long term. While getting local community members to attend seminars and workshops designed to help their communities become economically more sustainable is generally not an issue as most are keen

to attend, the implementation of the recommendations made at these seminars and workshops is far from satisfactory (Gibbons et al., 2018; (Kala & Bagri, 2018

). As a result, many of the problems raised remain unresolved. This is especially the case with the issue of sustainability. It has been found that, even though seminars and workshops do provide valuable guidance, the lack of discipline of some community members render them almost meaningless (Denney et al., 2018). The result is that resources provided by institutions to initiate projects designed to assist communities in getting their businesses to operate soundly cannot attain their goals. No matter how substantial they may be, if recipients are lacking the drive for self-improvement, the projects at the core of the seminars and workshops will not come to full fruition (Kala & Bagri, 2018). It is quite clear that, while benevolence to help remains strong, what is needed is a genuine willingness to improve things.

This paper provides a case lesson on initiating a project for helping the businesses of a local community based in Northern Thailand to become more sustainable. It seeks to draw lessons on spearheading such a project by focusing on key learning points. Specifically, the case study developed for this research aims to assess whether the product line, the channel of distribution, the growth strategy, and the implementation of the concept of sufficiency as applied to that community are efficient enough for sustainability. To do so, the following research questions have been articulated:

- Are the (i) product line, (ii) the channel of distribution, (iii) the growth strategy adequate for sustaining the local business community?
- Is the concept of sufficiency properly implemented to ensure the sustainability of the local business community?

To address these questions, the study begins with a review of the relevant literature on product line, channels of distribution, growth strategy, and sufficiency, all key concepts at the core of sustainable local business communities. The ‘reframing matrix’ used as the conceptual framework and the contours of the case study developed for this research are then introduced. This leads to an analysis of the lessons learned from the workshop conducted to help the local business community members develop sustainable operations. Finally, the paper offers its own conclusive perspectives on practical methods to get locals more focused and motivated to sustain their local businesses in their communities. Before proceeding with this research study, it is important to note, though, that for the scholars spearheading the project (the authors), what is taught in the classroom and learnt from past research is truly tested in the reality of the business environment, where dynamic factors inexorably redefine how theories really work in the real world and inescapably need some improvements to remain relevant and fit with reality. Herein precisely lies the importance of this case lesson as it takes into account the variables of business operations and adopt practical ideas to broaden efforts to help Thai locals operate their small businesses in a sustainable way.

2. Literature Review on Sustaining a Local Business Community

Before discussing the four key concepts at the core of the research questions, this section first considers the notion of sustainable project.

- Sustainable Projects Helping Local Business Communities

Shiel et al., (2016) concluded that it is quite challenging to get a big overview amongst stakeholders involved in projects. According to them, without a proper structure and enabling platform to get a firm dialogue with the community, the capacity development for sustainability will mean different things for each individual or group. As Zollo, Cennamo, and Neumann (2013) stated, both the “identification of the enabling and hindering factors behind the success of these transformational processes, and (in a more normative perspective) an understanding of which approach to the change challenge might work under what conditions”

(p. 13), need to be addressed to help companies move forward. The process of helping a local business community become sustainable thus begins with addressing the social, economic, cultural, political, and ecologic dimensions which are integrated as a means to improve quality of life (Azizia, Biglarib, & Joudi, 2011). Approaches that can be changed to get company members become more innovative towards delivering a worthy product or service to their customers need to be identified (Bocken et al., 2014). This requires facilitators to acknowledge the traits, functions, and individual mindsets (value systems, beliefs, motivations, emotions, and psychological dispositions) of the participants (Foss, Heimeriks, & Winter, 2012).

- Developing Sustainable Product Lines in a Local Business Community

In their study on socially responsive and sustainable product design, Melles, de Vere, and Misic (2011) concluded that “most successful examples of socially responsible design have emerged from co-design where designers have engaged effectively with communities and then co-designed and co-manufactured a solution that utilizes local or regional materials, craftsmanship and expertise, facilities, new skills and knowledge acquisition, empowers the community, and allows the user to ‘own’ the solution” (p. 149). Getting people to accept the idea of having a sustainable product line requires the participation and input of other people in the community in terms of sharing knowledge, discussing ideas, and listening to the critical issues that need to be focused on (Clark et al., 2009). This will prevent products from being unwanted and unsold (Aguñaga, Henriques, & Scheel, 2018). Thus, having a seminar designed to enlist the help and receive the feedback of the local business community in incorporating a sustainable product line is a good way of securing their collaboration (Nunkoo & So, 2017). It will provide for a good understanding of the product line. Olya, Alipour, and Gavilyan (2018) concluded that representatives of all the community groups should be included in initiatives and meetings/seminars so that they could voice their opinions about the sustainability and tell whether they are satisfied with the process. Workshops should provide a platform for participants to discuss the realities of managing sustainability. First and foremost, they should promote an exchange of knowledge and practices dealing with the environment, being innovative, and getting closer to the idea of having a sustainable society (Muñoz-Pascual, Curado, & Galende, 2019).

- Sustainable Channels of Distribution in a Local Business Community

The channel of distribution acts like the communication process between sellers and buyers and develops into a collaborative arrangement and commitment to share knowledge, resources, and capabilities for upholding sustainability (Villa et al., 2017). In their study on a sustainable channel relationship, Sheu and Hu’s (2009) found that the source member with relatively more power does not always mean to be a winner in markets without any aid from the target member’s resources. They argued that instead, source member “should regard himself/herself as a channel manager aiming to enhance the channel integrative collaboration by effectively allocating channel resources, e.g., the manufacturer’s technical and logistics resources as well as the dealer’s marketing-information resources, through the appropriate use of power influence strategies so as to improve the collective channel performance” (p. 27). When conducting a workshop, facilitators can direct participants to see where the challenges dealing with sustainability may reside, most notably issues on distribution channels and securing the full collaboration of those who are part of the network system and value chains (Joshi, 2018; Bendul, Rosca, & Pivovarova, 2016). Having an open discussion during seminars and workshops about improving the capability for innovation and technological productivity within the channels of distribution enables firms to be more prepared when competition gets tough and matured to handle changing situations (Stachová et al., 2019).

- Sustainable Growth Strategy in a Local Business Community

Gallo, Antolin-Lopez, and Montiel (2018) found that local businesses contribute more to sustainable growth when they locate value creation near the sources of production. Local community businesses can never be too sure of the market and economic environment to be in a long-lasting stable condition. Resiliency needs to be nurtured along the way as a form of growth (Akemu, Whiteman, & Kennedy, 2016). The capabilities of individuals and communities for anticipating the shocks and disturbances and overcoming crisis need to be developed (Boeri et al., 2017). Locals will need to take into consideration how basic infrastructure facilities like roads, shopping options, health care, education, banking, utilities, and sanitation, can have a multitude impact on the satisfaction of community members (Mathew & Sreejesh, 2017). In short, projects supporting the growth of local business must be able to recognize the barriers that plague performance (Picciotti, 2017).

- Sustainable Sufficiency in a Local Business Community

Sufficiency is a shorter term for ‘meeting needs.’ It is a practical method of meeting needs without compromising others who are also dependent on resources to make a livelihood and sustain their living (Missimer, Robèrt, & Bromann, 2016). To assess the rate of sustainability of a local business community it is necessary to take into consideration how their daily routine operations may have an impact on the wellbeing of people, economic morality, and the environmental habitat (Shen, 2014). As a means of getting a local business community to be sustainable, sufficiency does not mean sacrificing quality. It requires to be mindful of the resources used and make sure that they would not degrade their social community (Praswati & Aji, 2017). Still, while the practice of being sufficient is a virtue model for local businesses in the community to follow, the reality is that barriers, such as lack of time, interest, and human resources can demotivate the practice (Chazireni & Zvitambo, 2020). Workshops can be the agent connecting participants and empowering them to find the resources they need to develop their plans for being more sustainable in their local business communities (Connor & Bent-Goodley, 2016). There is, however, a risk that the cultural heritage and customs of local people will be commodified. Preventing the marginalization of a culture will entail local businesses to be engaged with an active community participation and demonstrate a better connection with all the locals (Rashid, 2020). As Clausen and Gyimóthy (2016) pointed out, “Local communities are neither cohesive objects nor homogeneous instruments of implementing community-based development initiatives. It is therefore necessary to differentiate actor participation or influence in terms of their power networks and positions in various geographical, economic and cultural constellations” (p. 325).

3. Research Methodology

As noted in the introduction, this qualitative research is based on a case study whose lessons were captured in a Refraining Matrix.

- Refraining Matrix

A Reframing Matrix was used as the conceptual framework and case lesson methodology. As a tool designed to look at organizational problems from different perspectives and expands the range of creative solutions that can be generated (ODI.org, 2006), the matrix was used to capture the lessons learned from the workshop on sustaining a local business community. Recall from above that the aim of this study is to answer the following query: What are the lessons learned on spearheading a project designed to help Thai locals sustain their business community? Four research objectives, referred to as theoretical perspectives, were derived from this central question, each one addressing a specific issue as follows:

- *Product Line Perspective* – Are the products offered generating the type of brand reputation needed to sustain the local business community?

- *Distribution Channel Perspective* – Is the value chain (also referred as value chain) helping the sustainability of the local business community?
- *Growth Strategy Perspective* – Are the plans for achieving a higher market share contributing to a sustainable local business community?
- *Sufficiency Perspective* – Are the needs being met compatible with sustaining a local business community?

- *Case Study*

As part of the methodology used for this research, a case study was conducted. It involved two groups: a group called the Marketing Knowledge Management for Community Enterprise (hereinafter, MKM group), and the Agricultural Home Group, a substituted name used to protect the identity of the stakeholders, located in the Pang Moo Sub-District, Muang District, Mae Hong Son Province.

- *The MKM Group*: The group consisted of five researchers who had been following the Agricultural Home Group since 2009 as part of a project designed to help local business community members adopt sustainable practices. The MKM group collaborated by providing data to the case related to the research questions articulated for this study. The data was obtained through interviews, which enabled members of the MKM group to relate their answers to the information in their documentary notes and their previous experience interacting with local business community members. Photos and images of the local community who participated in prior workshops and actions promoting/selling their products were also used to provide a more vivid description.

- *The Agricultural Home Group*: The group regrouped three local business organizations. To protect their identity and maintain confidentiality, their names were changed to Soybean Inc., Bean Group, and Sesame Oil Alliance, respectively. The three of them took part in the market test that was conducted at three stores located in Chiang Mai Night Bazaar and two shopping malls in the Chiang Mai province. These places are well known for carrying high end products and branded goods. Consumers frequently visit them to buy their favorite items.

The methodology used in this case study to improve product development and learn how to make distribution channels work to the benefit of the community included a community forum, focus group meetings, marketing field trips, and on-site visits. Each method served a specific purpose. The aim of the community forum was to allow participants to learn about the problems and requirements of marketing, distribution channels, expanding a product line for creating growth. Having focus group meetings enabled the group leaders and sample representatives to gather in-depth information on sales strategies, distribution channel development, trade show attendance, and roadshows and initiate specific projects. Group meetings were carried out to analyze the potential of production and marketing, and jointly looking for group representatives to be part of the sales team of the group and help distribute products to the market more widely. The purpose of onsite visits was to accumulate business experience and develop a vision. Once the main issues had been identified, focus groups were set up to zero in solely on developing the products and distribution channels with the goal to expand the market from Mae Hong Son to markets in Chiang Mai and other neighboring provinces in the northern region along with markets in the central region. The idea was to implement a better distribution of income and make the community stand on its own.

- *Data Analysis*

The analysis of the data was done by gathering the responses from the interviewees on the four research questions and allocating them to one of the perspectives in the Reframing Matrix.

4. Results and Case Lesson Analysis Under the Reframing Matrix Approach

One of the findings from the community forum was that products from the Agricultural Home Group were not developed as a brand to capture consumers' interest. Moreover, they did not include information on expiration dates, the ingredients they contain, and nutritional facts. This made it difficult for quality control. In addition, packaging had not been modernized to keep the goods in safe conditions. The MKM group then worked with the Agricultural Home Group on a project initiation designed to address these issues. When the focus switched on how to get the products to a wider consumer base and perk their interest, it was discovered that while there was an effort among members of the Agricultural Home Group to develop a brand and update packaging, the distribution channel in place was too limited for local businesses to have direct market access to a wider group of consumers. The Agricultural Home Group was advised to conduct consumer research on the targeted groups and develop communication channels to make clear the benefits from buying products such as fermented soybean sheet, peanut, pea beans, and sesame oil. Market penetration strategies were introduced. In addition, the group was advised on how to conduct consumer research about the targeted groups and in today's age of social media on the need for their products to demonstrate their quality to potential repeat customers, who often rely on peer reviews for their purchases.

Despite gaining some valuable information and good learning experience from the focus groups and the projects initiated as a result, it was discovered that some challenging issues remained unresolved due to shortcomings in regard to the real aims of the group, most notably a lack of enthusiasm within the group to keep going forward and a lack of clear vision for a concise developing plan. It was also found that a fear of risk associated with action kept them from making much-needed aggressive business decisions. Another issue that came up was a lack of investment for developing expanding the product line, which shut out any opportunity for group members to showcase their skills and abilities to help promote their products on social media. In addition, of great import here, it was found that some of the products still needed to be registered with the Food and Drug Administration, a requirement to operate legitimately. Moreover, it became evident that the group was not equipped to use commercial language that would appeal to and be understood by foreign tourists and was also unable to use digital information to reach out to a greater market via posting the benefits of their product lines. In short, even though they had been working with the MKM Group since 2009, local businesses were still at developing stage and needed to keep on learning about the markets and their potential.

The following list of the issues identified during the case study captures the key findings in this research study:

1. Lack of solid managerial skills.
2. Inability of underdeveloped products to enhance the brand.
3. Limited distribution channels.
4. Inability of product range to expand marketing potential.
5. Initial focus only on developing existing products and distribution channels to expand the market.
6. Lack of enthusiasm at the community forum, focus groups, marketing field trips, and on-site visits conducted as part of the research project and case study.
7. Failure of some products to be registered with the Food and Drug administration.
8. Use of social media not optimized to enhance the credibility of the products.
9. Lack of enthusiasm stemming from group leaders' lack of clear vision and fear of taking risk.
10. Insufficient investment limits group members opportunity to showcase their skills and abilities and promote their products.

11. Group ill-equipped to communicate with foreign tourists and in a digital format.
To be in line with the research aims, these learning points were then analytically processed through the four theoretical perspectives that made up the structure of the reframing matrix as shown in Figure 1.

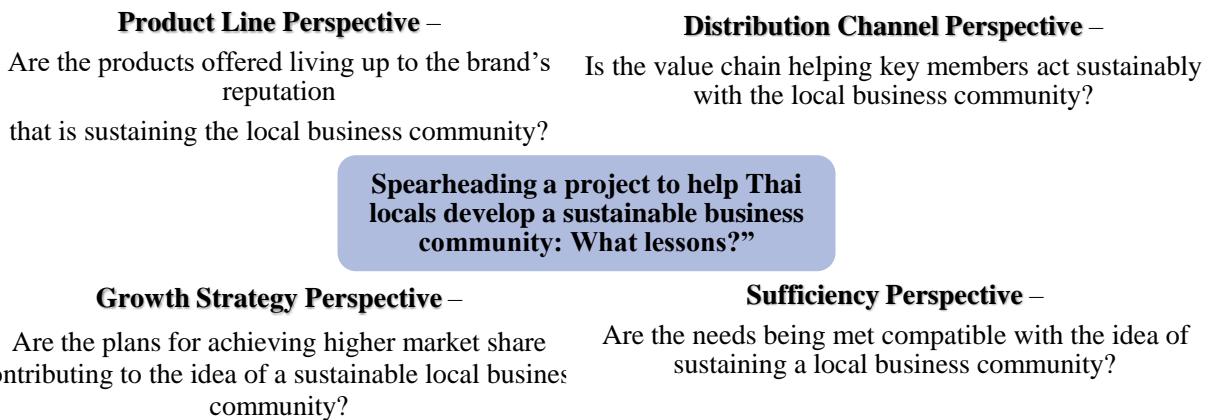


Figure 1: Reframing Matrix (created by authors for this study)

(i) Growth Strategy Perspective

It is important to note first that as part of the effort to help locals develop their product line of fermented soybean sheets, peanut, pea bean products, and sesame oil products and enhance brand reputation, due to the sensitivity of a working culture that is uncomfortable losing face, the emphasis was not to find faults and errors in the approach but to get members to reflect on what had been done that caused shortcomings in order to identify areas for improvement. While the borderline between open criticism and fact finding is thin, such an exercise was necessary to ensure a positive outcome. Finding out what could be done better from the process did not explicitly implied that what had been done thus far was wrong. It simply was the starting point to help make enhance the brand. The workshop was also a platform to help individuals to humbly start over and acquire the necessary managerial skills and capabilities to help their business move forward.

Local businesses should heed facts, not rely on assumptions on top of assumptions. Indeed, they would learn a lot more from those who have been constantly buying their products, especially from those who may have purchased them once and switched to other brands instead of sticking to their products and becoming loyal customers (Kuo et al., 2019). Such information would give them better ideas for being more innovative in design and value and retain customers by offering them greater benefits (value) and for creating the right conditions for potential new buyers (Abramovici et al., 2014). For example, suggestions for adding features to an existing product line could serve as an experiment to determine whether repeating buyers approved the changes or not, while it could simultaneously be a test to see who the new potential customers would be. True facts and information on the lack of popularity of some products would also facilitate debates and help local business managers decide whether to shut down some operations so that resources could be re-allocated appropriately and better utilized to develop other valued items along the product line that offer more sustainable perspectives (Badurdeenab, Aydina, & Brown, 2018).

(ii) Distribution Channel Perspective

The key point in helping local businesses to make the most of distribution channels is to ensure that the products not only reach buyers' hand in good conditions but also provide value based on their expectations of the brand. Given the limited distribution channels locals have to deal with, the forum was meant in part to help them determine which current network would assist them in ensuring that their customers enjoy sustainable quality and that the products meet the demands of those customers. Regardless of how the products are distributed, the local management and staff should be well informed about the uniqueness of each product and how they benefit buyers while being offered at reasonable prices (Vestrup, Rasmussen, & Carter, 2017). Besides, the profile of customers who have taken an interest in the products need to be analyzed for information that will then serve to understand how the existing channels of distribution can adversely impact those customers. A channel of distribution also functions as a tool for promoting the product line and as such sustains operations for members of the value chain to be respectfully involved in the business (SzczepańskaWoszczyna & Kurowska-Pysz, 2016). Stakeholders in the supply chain could be invited to a workshop/focus group to discuss with their local business partners the challenges of trying to be sustainable, and brainstorm for innovative approaches to make the partnership more effective and enhance the mutual trust and efficiency through an effective allocation of resources (Ngo, Lohmann, & Hales, 2018).

(iii) Growth Strategy Perspective

The taste and demand for fermented soybean sheets, peanut, pea bean products, and sesame oil products sold as dry edible goods for appetizers or snacks can change. Local business operators and their key networking partners need to take the viewpoint that the unexpectedness can occur. To limit the risk of a change of taste among consumers, one strategy is to emphasize the health benefits of these products and keep upgrading their quality through new technologies, in other words, by adding more value to them without making the buyer bear the extra cost of doing so (Alam et al., 2015). In today's age of social media where one can be easily swayed or manipulated to support or cast doubt on a product, such reinforcement takes a sense of urgency (Kim, Kim, & Hwang, 2020). It is also strategically important to learn more about customers' decision-making process (Bertheussen, 2020).

(iv) Sufficiency Perspective

In addressing issues related to sufficiency, it is important to draw lessons from past experiences, especially in cases where ideas were put into practice and had either benefitted the stakeholders involved or failed to meet the objectives (de Lange & Dodds, 2017). This includes revising existing frameworks for product line extension, channel of distribution upgrading, and growth strategy definition and question their execution. This may mean to continue with the operation and make moderate changes to the approach or implement some important changes (Piscicelli, Ludden, & Cooper, 2018). A focus on the soft side of affairs, such as the knowledge, skills, talent, and abilities of the people involved, is also on order as is a scrutiny of their level of motivation. As noted above, an unclear vision and a fear of taking risks can be counterproductive, let alone a low level of motivation can have a significant negative impact on sufficiency; hence the need, if necessary to turn to additional internal and external working partners (Hysa et al., 2018).

5. Conclusion

This study sought to answer the following question: What lesson can be drawn from spearheading a project to help Thai locals sustain their business community? To do so a case study was conducted with the help of a team of experts who had been working with the community since 2009. Activities included a community forum, focus group meetings,

marketing field trips, and on-site visits. All these projects were designed to assist local Thais in sustaining their business community. An analysis of the lessons learned was conducted using a Reframing Matrix, built around four perspectives: product lines, distribution channels, growth strategy, and sufficiency. The findings indicate that improvements toward greater sustainability were hindered by the lack of discipline and enthusiasm of participants, a reluctance to take risk as well as a lack of competence in digital communication geared toward tourists and a failure to have a clear vision. These were the wrong results for a project that had the right intentions. The community still needs assistance in becoming more sustainable. Nobody disputes this fact. However, while initiatives taken showcase themselves as patronage to the cause, they too often lack a sincere desire to get to the bottom of things, leaving many problems unresolved, most notably the motivation to change things within the community. There seems to be a paralyzing fear of effecting changes that results in a lack of a disciplined approach to problems to be resolved and improvements to be made as well as in a lack of enthusiasm searching for viable solutions.

As is the case with any process implementing new solutions, mistakes, errors, and failures when, for example in this case, trying to arrange the contents in social media for establishing credibility, are bound to be made. This should not be a cause for demotivation. On the contrary, this should be seen as a good opportunity for having more discussion about why the unfortunate situation occurred and what could be done if given a second chance (Sahakian & Seyfang, 2018). As to the failure of a clear vision, some reinforcement should be made so that the same issues would not resurface, keep circulating, and remain unresolved (Misiaszek, 2019). Forum, seminars, and workshops become sustainable when they actually provide some dynamic support along the learning process as opposed to being solely centers of interest. Moreover, an assessment on why certain group members are not able to meet their goals and consistently fall short of them would give facilitators an opportunity to design workshops that offer a platform for participants to lead the learning journey by explaining their management style and provide details on which competencies and capabilities are strongly required to develop the product lines, attract more buyers through more diverse distribution channels and enhanced promotion.

This would boost their motivation instead of putting them in a negative spotlight as is generally the case as they are made to confess about their lack of experience (Ioppolo et al., 2016). Thus, liaison is the key to help the local business community group members be mindful of what the possibilities are to sustain their ventures while also be aware of the current limitations and the need for innovation to take precedence in the working process (Ortiz & Huber-Heim, 2017). The project team can lay out situational facts by making the best of the forums, focus groups, marketing field trips, and on-site visit for participants to visually feel and determine from the circumstances the best course of action to take to accomplish the aims. In summary, the lessons on spearheading a project to help Thai locals sustain their business community could also serve as an awareness on how workshops can take a more proactive approach in helping locals not only become aware of shortcomings but also make all the necessary changes. Lessons can only go so far as project team leaders apply the acumen that enables participants to learn by changing and adapting while also helping their fellow peers to abide by the same behavior.

Finally, one of the benefits of this research is that it provides a realistic outlook for other researchers in charge of initiating a similar type of project to help local businesses become sustainable. It can raise awareness on the limitations of resources to get the desired results and point to other factors that would assist in the idea of sustaining a local business in the community. As a learning tool for undergraduates and/or postgraduates majoring in

business, this work can also be a supporting tool in getting a good grasp on the critical factors that support sustainable management. In addition, it can provide a blueprint for similar endeavors. In terms of practical recommendations, further studies could be undertaken focusing on geographic factors and on the kind of impact they would have on the practice of being more sustainable.

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Strategic Human Resource Development Capability and Firm Performance: Empirical Evidence from the Information and Communication Technology Sector in Thailand

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Abstract

This study focuses on strategic human resource development capability and firm performance in the context of the Thai information and communication technology (ICT) sector, which has been one of the main drivers of economic growth in the country. Specifically, it seeks to investigate the determinants of strategic human resource development capability and firm performance through the mediating effect of employee commitment awareness, valuable operational improvement, and business effectiveness with technology learning capability as a moderating variable on the relationship among strategic human resource development capability and consequence variables. A survey questionnaire was used to collect data. 389 managing directors or managing partners of Thai firms in the information and communication technology (ICT) industry were selected as key informants. An Ordinary Least Squares regression analysis was conducted to examine all the hypotheses. The results indicate that three dimensions of strategic human resource development capability (employee competency focus, strategic individual learning, and innovation creativity development) have a partial significant positive effect on employee commitment awareness, valuable operational improvement and business effectiveness. Moreover, employee commitment focus has a significant positive effect on valuable operational improvement and valuable operational improvement has a significant positive effect on business effectiveness. Similarly, all the consequence variables have a significant positive effect on firm performance. Suggestions and directions for future research are highlighted.

Keywords: Strategic Human Resource Development Capability, Firm Performance, Commitment Awareness, Employee Competency Focus, Technology Learning Capability.

1. Introduction

In today's dynamic and continuously changing business world, introducing new products or services and innovating business processes faster than competitors is likely to result in enhanced competitiveness (Schmitt & Klarmer, 2015). To achieve a sustainable competitive advantage, a business organization will generally find it necessary to deliver value – a strategy that differentiates it from its competitors and makes it difficult for its competitors to imitate (Bae & Patterson, 2014). Today though, the success of a business firm in brutally competitive markets depends less on advantages associated with economies of scale, technology, patents, and access to capital than on the speed of innovation and adaptability. In other words, the sources of competitive advantage are largely derived from human resources (Daveri & Parisi, 2015). Whereas technology, manufacturing processes, products, services, and the strategy of the firm can be copied easily, this is not the case with the intangible asset that human resources, which therefore represent a unique competitive advantage (Pfeffer,

2000). As the design and management of a human resource system, human resource management is based on employment policy and comprises a set of policies designed to maximize organizational integration, employee commitment, flexibility, and work quality (Alagaraja, 2012). This study focuses on strategic human resource management and firm performance in the context of the information and communication technology (ICT) sector in Thailand, which has been one of the main drivers of economic growth in the country (National Science and Technology Development Agency, 2019). The ICT industry has also been placing much emphasis on human resource development capability to respond to standard regulations and achieve its goals in an extremely competitive environment. Developing strategic human resource capability is necessary to provide training, appraise the effectiveness of the activities undertaken and ensure that they contribute to the achievement of the quality objectives, and maintain appropriate records in terms of education, training, skills, and experience (Neffke & Henning, 2013). Strategic human resource management can be defined as the pattern of planned human resource development and activities that are related to operational performance. It is the process of developing and unleashing expertise for the purpose of enhancing individual and teamwork and organizational performance (Jamshide & Moazemi, 2016). This process focuses on training and development, job enrichment, employee empowerment and productive organizational climate (Jain & Gulati, 2016).

In this research study, the successful implementation of strategic human resource development capability involves three dimensions: employee competency focus, strategic individual learning, and innovation creativity development (Price, Lee, & Kozman, 2010; Chaudhuri & Bartlett, 2014). Their impact can be measured in four ways: in terms of employee commitment awareness, valuable operational improvement, business effectiveness, and firm performance with technology learning capability acting as a moderator (Leede & Looise, 2005; Bae & Patterson, 2014). The main purpose of this study is therefore to examine the effects of each dimension of strategic human resource development capability on firm performance via employee commitment awareness, valuable operational improvement, and business effectiveness. Specifically, it seeks to address the following research questions:

- What are the effects of employee commitment awareness on valuable operational improvement?
- What are the effects of valuable operational improvement on business effectiveness?
- What are the effects of employee commitment awareness, valuable operational improvement, and business effectiveness on firm performance?
- How does technology learning capability moderate the relationships across each dimension of strategic human resource development capability and each of the consequences.

2. Literature Review and Hypothesis Development

The core concepts reviewed in this section include the three dimensions of human resource development capability (employee competency focus, strategic individual learning, and innovation creativity development) and the four ways in which its impact on it can be measured (employee commitment awareness, valuable operational improvement, business effectiveness, and firm performance). Strategic human resource development capability is discussed first.

- Strategic Human Resource Development Capability

In a nutshell, strategic human resource development capability refers to the process of modernizing employees' knowledge and upgrading their skill, attitudes, and perceptions in order to meet changing trends and attain organizational goals (Misanchuk, 1984). It is also

about the way employees are recruited, organized, developed, appraised, motivated, and retained (Oumlil & Juiz, 2016). It includes planned activities and processes designed to enhance organizational and individual learning and develop human potential. The result is that it maximizes organizational effectiveness and performance and helps bring about effective and beneficial changes within and beyond the boundaries of an organization (Zott, Amit, & Massa, 2011). Research indicates that strategic human resource development systems, processes, and practices are positively associated with operational performance such as, for instance, a reduction of employee turnover intention (Batt & Colvin, 2011), increments in productivity (Singh, 2011), higher safety performance (Huselid, 1995), greater organizational commitment, and better service performance (Nolan & Garavan, 2016). By facilitating the development of competencies and teamwork in an organization, they can contribute to gaining sustainable competitive advantage through (Jain & Gulati, 2016). The development of personal functions, however, does not necessarily keep pace with changes in the work environment (Juchnowicz, 2019). Therefore, the solutions applied may not be consistent with organizational aspirations for sustainable development.

- Employee Competency Focus

Employee competency focus refers to the firm's human resource development planning and the related activities to identify and classify individuals and job-need-skills. A critical component is an individual's desire to undertake training for effective human resource development (Johannesson & Palona, 2010). It involves creating a working environment in which employees achieve their professional goals while implementing the company's strategy (Piwowar-Sulej, 2021). Fair remuneration adequately and comprehensive benefits reflecting employees' work engagement are also part of the equation. Ensuring fairness in the remuneration system is essential to attain greater employee commitment, operational development, business productivity, firm competitiveness, and firm success (Johannesson & Palona, 2010; Kinowska, 2020). Thus, the following hypotheses can be proposed:

H1a-1c: The higher employee competency focus, the more likely the firm will achieve greater (a) employee commitment awareness; (b) valuable operational improvement; and (c) business effectiveness.

- Strategic Individual Learning

Strategic individual learning can be defined as the encouragement of an organization in providing all possible resources to improve the skills of employees and give those prominent employees an opportunity to use these skills (Ifinedo, 2008). This includes a desire to develop the other abilities of employees. Employees who receive a great deal of specific training and have job security and growth opportunities have a lower rate of turnover, which in turn improves employee productivity, individual outcomes, and operational performance (Nolan & Garavan, 2016). The following hypotheses can therefore be formed:

H2a-2c: The higher strategic individual learning, the more likely the firm will achieve greater (a) employee commitment awareness; (b) valuable operational improvement; and (c) business effectiveness.

- Innovation Creativity Development

Broadly speaking, innovation creativity development refers to the enhanced ability of an organization in generating new information, knowledge and capitalizing on the experience of employees to improve operational processes within the organization (Eriksson, 2014). For a firm promoting innovation creativity development, this may also mean a deliberate and radical change in existing products and processes in order for the organization to achieve a competitive advantage over its competitors (Aggarwal & Singh, 2019; Tsai & Yen, 2020). Thus, three hypotheses can be developed as follows:

H3a-3c: *The higher innovation creativity development, the more likely the firm will achieve greater (a) employee commitment awareness; (b) valuable operational improvement; and (c) business effectiveness.*

- Employee Commitment Awareness

In this study, the following three variables have a mediating effect: employee commitment awareness, valuable operational improvement, and business effectiveness.

Employee commitment awareness refers to the conduct of organization's employee who behaves as a member is very proud of helping the organization achieve its objectives. It helps both the employee and the organization to improve their skills which, in turn, improves the productivity of the organization and that of employee (Patel, Terjesen, & Li, 2012). Employee commitment awareness increases the emphasis on general knowledge, skills, and abilities within an industry, and thus positively affects the competitive ability of the firm (Singh, 2011). Hence, the following hypotheses:

H4: *A firm with greater level of employee commitment awareness will achieve better valuable operational improvement.*

H6: *A firm with greater level of employee commitment awareness will achieve better firm performance.*

- Valuable Operational Improvement

Valuable operational improvement can be defined as the use of structured processes and procedures that contribute to the continuous development of the activities of the firm and bring benefits to it (Yang, Lee, & Cheng, 2015). A better use of resources through such processes and procedures enables the organization to eliminate waste, reduce costs, adapt more appropriate technological innovation and therefore, perform better than competitors (Demeter, 2014). The following hypotheses can thus be proposed:

H5: *A firm with greater level of valuable operational improvement will achieve better business effectiveness.*

H7: *A firm with greater level of valuable operational improvement will achieve better firm performance.*

- Business Effectiveness

Business effectiveness refers to a firm's ability to achieve its goals and generate business growth that is superior to that of its competitors. Eccles, Ioannou, and Serafeim (2014) concluded that a business exhibiting an effective management of its stakeholder relationships can generate persistent superior financial performance over the longer-term. This study proposes the following hypothesis:

H8: *A firm with greater level of business effectiveness will achieve better firm performance.*

- Technology Learning Capability

The moderating effect of technology learning capability refers to a firm's ability to systematically develop the knowledge and skills of its personnel so that it operates effectively (Sutanto, 2017). Lin and Wu (2014) determined that a firm can develop innovative technology and improve its performance through learning from cooperative alliances. The following hypotheses can therefore be developed:

H9-11: *Technology learning capability will positively moderate the relationship between strategic human resource development capability and (a) employee commitment awareness, (b) valuable operational improvement, and (c) business effectiveness.*

- Control Variables

Two control variables are included to account for firm characteristics that may influence the hypothesized relationships: firm size and ownership. Firm size refers to the number of workers in an organization. It is representative of business size and is widely used in the literature on management and organization (e.g. Bello-Pintodo, 2015). Therefore, firm size is a dummy variable in which 0 means that the firm has a number of workers less than or equal to 300 and 1 that the firm has more than 300 workers. Ownership is a substantial variation in the way human resources are managed among different ownership types and regions (Ding, Akhtar & Ge, 2006). Organizational culture and economic conditions play an important role in determining an organization's human resource strategy and practice (Brand & Croonen, 2010).

Accordingly, ownership is a dummy variable in which 0 means that the firm is a single unit and 1 that the firm is a franchised unit.

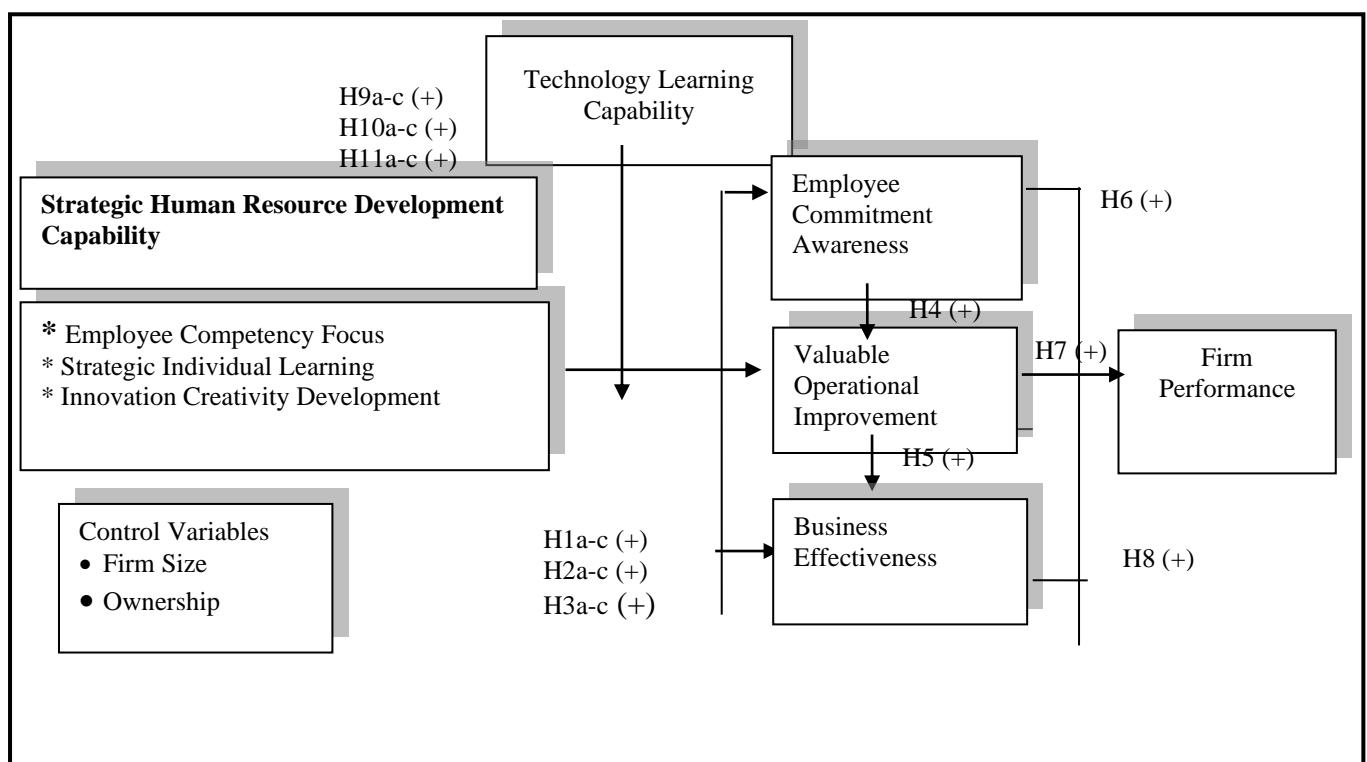


Figure 1: Conceptual Model (created by author for this study)

3. Research Methodology

This quantitative research study used a survey questionnaire to collect information. Participants were the managing directors, managing partners, or managers of the ICT firms selected.

- Sample Size

A list of 18,470 Thai ICT firms was first obtained on the online database of the Thai Department of Business Development (2021). It was then calculated that to be representative the sample size in this research needed to include at least 376 of these firms, which would represent the minimum usable sample size with 95 percent confidentiality (Krejcie & Morgan, 1970). Since the effective response rate for a mail-out survey, without an appropriate follow-up procedure, should be more than 20 percent, a range considered

acceptable for data analysis (Aaker, Kumar, & Day, 2001), the sample size in this research was calculated to be 1,880 [(376x100)/20]. As a result, a stratified random sampling of 1,880 firms listed on the online database of the Department of Business Development was selected. To come up with a sample in each stratum, proportionate stratification, based on the stratum's share of the total population, was applied. The target sample was obtained using systematic random procedures to draw the population from each stratum. There were seven strata in total: Bangkok 1,137 firms; the north, 148; the northeast, 182; Central Thailand, 283; the east, 72; the west, 32; and the south, 26.

720 surveys were found to be undeliverable, which brought the total number of surveys delivered down to 1,160 (1,880 – 720). A total of 650 responses was received. However, 261 of them turned out to be incomplete surveys and were discarded, which means that only 389 questionnaires were usable for analysis. The response rate was 33.53 percent. According to Aaker et al., (2001), a response rate of 20 percent or more to a questionnaire mailing survey is acceptable.

- Questionnaire Development

The questionnaire consisted of six parts. Part 1 asked for personal information. Part 2 was about information on the organizational characteristic. Part 3 evaluated each of the constructs in the conceptual model. The questions in Part 4 measured the consequences of strategic human resource development capability and firm performance. Part 5 detailed the moderator variable. Part 6 consisted of an open-ended question. All the variables, except for the control variables, were measured on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). To examine the appropriateness of the questionnaire, this research used validity and reliability tests. First, the questionnaire was double-checked by an experienced expert scholar. Second, a pre-test was conducted to check its rational and ensure its clear and accurate understanding.

- Reliability and Validity

Factor analysis was implemented to assess the underlying relationships of a large number of items and determine whether they could be reduced to a smaller set of factors. The factor analysis conducted was done separately on each set of items representing a particular scale due to limited observations. With respect to the confirmatory factor analysis, this analysis had a high potential to inflate the component loadings. Therefore, a cut-off value of 0.40, was adopted as a rule-of-thumb as recommended by Hair et al. (2010). Since all factor loadings were greater than the 0.40 cut-off, they were statistically significant. The reliability of the measurements was also evaluated using Cronbach alpha coefficients. As Table 1 shows, in regard of the scale reliability, Cronbach alpha coefficients are greater than 0.70. This scale appears to produce internally consistent results. Thus, these measures were deemed appropriate for further analysis as they reflected generally accepted validity and reliability.

Table 1: Results of Measure Validation

Variables	Factor Loadings	Cronbach's Alpha
Employee Competency Focus (ECF)	.827 - .836	.842
Strategic Individual Learning (SIL)	.746 - .763	.838
Innovation Creativity Development (ICD)	.724 - .731	.728
Employee Commitment Awareness (ECA)	.827 - .849	.835
Valuable Operational Improvement (VOI)	.728 - .754	.754
Business Effectiveness (BE)	.720 - .754	.736
Technology Learning Capability (TLC)	.712 - .723	.718

- *Statistical Analysis*

The Ordinary Least Squares (OLS) regression analysis was used to test and examine the hypotheses articulated in the conceptual model. Since none of the variables were either nominal data or categorical data, OLS was an appropriate method for examining the hypothesis relationships. The equation models are as follows:

$$\text{Equation 1: } ECA = \alpha_1 + \beta_1 ECF + \beta_2 SIL + \beta_3 ICD + \beta_4 (ECF * TLC) + \beta_5 (SIL * TLC) + \beta_6 (ICD * TLC) + \beta_7 FS + \beta_8 OS + \varepsilon$$

$$\text{Equation 2: } VOI = \alpha_2 + \beta_9 ECF + \beta_{10} SIL + \beta_{11} ICD + \beta_{12} (ECF * TLC) + \beta_{13} (SIL * TLC) + \beta_{14} (ICD * TLC) + \beta_{15} FS + \beta_{16} OS + \varepsilon$$

$$\text{Equation 3: } BE = \alpha_3 + \beta_{17} ECF + \beta_{18} SIL + \beta_{19} ICD + \beta_{20} (ECF * TLC) + \beta_{21} (SIL * TLC) + \beta_{22} (ICD * TLC) + \beta_{23} FS + \beta_{24} OS + \varepsilon$$

$$\text{Equation 4: } VOI = \alpha_4 + \beta_{25} ECA + \beta_{26} FS + \beta_{27} OS + \varepsilon$$

$$\text{Equation 5: } BE = \alpha_5 + \beta_{28} VOI + \beta_{29} FS + \beta_{30} OS + \varepsilon$$

$$\text{Equation 6: } FP = \alpha_6 + \beta_{31} ECA + \beta_{32} VOI + \beta_{33} BE + \beta_{34} FS + \beta_{35} OS + \varepsilon$$

4. Results and Discussion

The survey questionnaire indicates that 62.3 percent of the 389 valid respondents are males. 58.72 percent of those respondents are over 40 years old and 75.40 percent of them are married. 67.90 percent of them have diplomas above undergraduate level and 72.19 percent of them have more than 15 years of work experience. The average monthly income of 46.28 percent of them is below 100,000 bath (US\$2,900) and 52.85 percent of them work as managing directors. Data in the 389 valid responses also indicate that 75.30 percent of the companies are registered as limited liability companies (LLC). 92.61 percent of them are wholly owned by Thai. In addition, 75.25 percent of these firms have less than 25,000,000 baht (US\$700,000) in operational capital. Approximately 79.56 percent of them have been in business form more than 15 years. More than half of them have between 10-15 full-time employees (51.36%).

A bivariate correlation analysis of Pearson's correlation was conducted to explore the relationships among the variables and detect multicollinearity in multiple regression assumptions. Multicollinearity might occur when inter-correlation in each predict variable is more than 0.80, which is a high relationship (Hair et al., 2010). In this study, the bivariate correlation procedure was scaled to a two-tailed test of statistical significance at $p < 0.01$ and $p < 0.05$. Variance inflation factors (VIF) were used to provide information on the extent to which non-orthogonality among independent variables inflates standard errors. The VIFs, which range from 2.516-3.349, are well below the cut-off value of 10, which means that the independent variables are not correlated with each other (Hair et al., 2010). Therefore, as Table 2 shows, this study encountered no substantial multicollinearity problems.

Table 2: Descriptive Statistics and Correlation Matrix

Variables	ECF	SIL	ICD	ECA	VOI	BE	TLC
Mean	4.218	4.128	4.019	4.051	4.259	4.214	4.117
SD	.415	.427	.442	.413	.428	.418	.417
ECF	1						
SIL	.651**	1					
ICD	.466**	.643**	1				
ECA	.488**	.581***	.638**	1			
VOI	.424**	.619**	.541**	.646***	1		
BE	.570**	.481**	.465**	.518**	.523**	1	
TLC	.477**	.543**	.525**	.538**	.493**	.423**	1

*** Correlation is significant at the 0.01 level (2-tailed), ** Correlation is significant at the 0.05 level (2-tailed)

Table 3 presents the results of the OLS regression analysis that affects the three dimensions of strategic human resource development capability on employee commitment awareness, valuable operational improvement, and business effectiveness. The hypotheses predicted positive relationships.

Table 3: Results of OLS Regression Analysis

Independent Variables	Dependent Variables			
	Equation 6: Firm Performance	Equation 1: Employee Commitment Awareness	Equation 2: Valuable Operational Improvement	Equation 3: Business Effectiveness
Employee Competency Focus (ECF)		.249** (.079)	.223** (.083)	.251** (.085)
Strategic Individual Learning (SIL)		.236** (.089)	.230** (.089)	.262** (.093)
Innovation Creativity Development (ICD)		.029 (.085)	.032 (.088)	.024 (.091)
Technology Learning Capability (TLC)		.172* (.080)	.027 (.090)	.037 (.093)
ECF x TLC		.041 (.071)	.027 (.060)	.152* (.077)
SIL x TLC		.038 (.083)	.132* (.093)	.032 (.077)
ICD x TLC		-.024 (.067)	-.016 (.033)	-.072 (.081)
Employee Commitment Awareness (ECA)	.198** (.092)			
Equation:4 Valuable Operational Improvement (VOI)	.207** (.090)	.267** (.080)		.240** (.070)
Equation:5 Business Effectiveness (BE)	.233** (.087)			
Firm Size (FS)	0.05 (.093)	0.12 (.106)	0.17 (.123)	.080 (.106)
Ownership (OS)	.100 (.094)	-0.11 (.016)	-0.172 (.012)	-0.151 (.106)
Adjusted R square	.301	.369	.384	.432
Maximum VIF	2.561	3.349	3.349	3.349

**p<.05, *p<.10

^a Beta coefficients with standard errors in parenthesis.

As can be seen in Table 3, employee competency focus has a significant positive impact on employee commitment awareness ($\beta_1= 0.249$, $p <0.05$), strategic individual learning ($\beta_9= 0.223$, $p <0.05$), and business effectiveness ($\beta_{17}= 0.251$, $p <0.05$). Hypotheses 1a-1c were supported. This result is consistent with prior studies and confirms that competency focus can help a firm enhance its capabilities and as such is an important source for organizational performance in terms of employee development (Ifinedo, 2008; Price et al., 2010; Sutanto, 2017). Furthermore, strategic individual learning has a significant positive impact on employee commitment awareness ($\beta_2= 0.236$, $p <0.05$), valuable operational improvement ($\beta_{10}= 0.230$, $p <0.05$), and business effectiveness ($\beta_{18}= 0.262$, $p <0.05$). Hypotheses 2a-2c were supported Adding value to the capabilities of employees contributes to their commitment to the firm as they expect that their investment in training will raise the capability of the organization's collective skills and improve their productivity and that of the

organization as a whole (Alhogail, 2015; Jain & Gulati, 2016). Consequently, innovation creativity development shows no significant influence on employee commitment awareness ($\beta_3= 0.029$, $p > 0.05$), valuable operational improvement ($\beta_{11}= 0.032$, $p > 0.05$), and business effectiveness ($\beta_{19}= 0.024$, $p > 0.05$). Prior research indicates that while innovation may be of great economic value, the most sustainable value lies in the abilities of businesses to generate improvements and innovations in the future (Daveri & Parisi, 2015). Innovating in products and services presupposes sharing knowledge in order to create something new (not necessarily something new to the world). Moreover, innovations tend to be more sustainable if professional further develop these new abilities into resources for further action (Lin & Wu, 2014). Thus, hypotheses 3a-3c were not supported.

The results also indicate that employee commitment awareness has a significant positive impact on valuable operational improvement ($\beta_{25} = 0.267$, $p < 0.05$), and firm performance ($\beta_{31}= 0.198$, $p < 0.05$). Employee commitment awareness refers to employees' dedication working for the organization and striving to achieve its objectives. As determined by Jain and Gulati (2016), operational outcome in term of employee commitment awareness leads to greater organizational outcome in terms of productivity. Hypotheses 4 and 6 were thus supported. In addition, the findings show that valuable operational improvement has a positive significant influence on business effectiveness ($\beta_{28}= 0.240$, $p < 0.05$) and firm performance ($\beta_{32}= 0.207$, $p < 0.05$). This finding is consistent with Yang et al. (2015) who concluded that operational improvement is related to problem-solving skills, actions for enhancing performance, and reliable methods. It also displays the common characteristics of other capabilities such as knowledge and skills. Moreover, valuable operational improvement is related to change in productivity and profit. It also has an impact on short and long-term firm competitiveness and performance (Schmitt & Klarmer, 2015). Therefore, hypotheses 5 and 7 were supported.

Nevertheless, the findings show that business effectiveness has a positive significant influence on firm performance ($\beta_{32}= 0.233$, $p < 0.05$). The firm is able to improve business effectiveness by increasing the amount of output into input in a proportion that is likely to make it attain its objectives and goals. Ways of improving the efficiency of operations includes reducing material, labor, energy, and time in the working process while maintaining constant output or increasing output while maintaining constant input (Oumlil & Juiz, 2016). Therefore, hypothesis 8 was supported. As can also be seen in Table 3, technology learning capability has a moderating effect on the relationships between strategic human resource development capability and its consequences. The results indicate that the interaction between technology learning capability and employee competency focus has a positive significant effect on business effectiveness ($\beta_{20}= 0.152$, $p < 0.10$). This means that hypothesis 9c was supported. Technology learning capability plays an important role enhancing organizational quality decision and strategic implementation and can force human resource accounting transfer capability.

The interaction between technology learning capability and strategic individual learning has a positive significant effect on valuable operational improvement ($\beta_{13}= 0.132$, $p < 0.10$). Hypothesis 10b was thus supported. This is in line with Sutanto's (2017) study in which it was found that, as a competency, firm's learning capability impacts product innovativeness and improves performance. The greater the technology learning capability effect, the greater organization innovation and operation improvement. Accordingly, the interaction between technology learning capability and innovation creativity development has a negative and insignificant effect on employee commitment awareness ($\beta_6=-.024$, $p > 0.05$), valuable operational improvement ($\beta_{14}= -.016$, $p > 0.05$), and business effectiveness ($\beta_{22}= -.072$, $p >$

0.05), which means that hypotheses 11a-11c were not supported. Factors that influence technology learning capability include individual motivation to learn, team dynamics and organizational culture practices. They all have a significant effect on technology learning capability (Price et al., 2010). Given the variety of strategies for operating successfully, there may be fatigue in learning about them.

Additionally, the results regarding the two control variables indicate that firm size does not have a significant effect on employee commitment awareness, valuable operational improvement, business effectiveness and firm performance. That said, a larger firm might have more resources than a smaller firm, which might moderate the relationship between human resource development and firm performance (Radvila & Šilingienė, 2020). Firm size, however, has been found to affect a firm's image and reputation as well as its ability to implement marketing strategy (Oumlil & Juiz, 2016). Moreover, ownership does not have a significant effect on employee commitment awareness, valuable operational improvement, business effectiveness and firm performance. The ownership of a manufacturing firm is significant in that company-owned units have a higher human resource management intensity than franchised units. Yet, according to Brand and Croonen (2010), franchised units have a higher human resource performance than company-owned-units.

Human resource directors and managers should enhance sharing and utilizing the knowledge and experience of their employees to create new working processes that generate business competitive advantages. Firms should encourage employees' creative thinking in new ways of operating and allocate a robust budget to create, research, and develop new products and processes, which will help them attain excellence. A culture of innovation and strong financial backing are also likely to increase employee commitment, operational development, and business productivity, and therefore a firm's competitiveness as a sign the firm means business. Firms should never lose track of the fact that that its human capital is a valuable resource that needs clear motivation and guidelines. Companies should therefore have systematic and concrete human resource planning and management so as to make the most of its workforce. Moreover, an open working environment will help businesses have their operations be in line with the development of their human resource capability and achieve sustainable competitive advantage.

5. Conclusion

This study investigated the influence of three dimensions of strategic human resource development capability (employee competency focus, strategic individual learning, and innovation creativity development) on firm performance as mediated by employee commitment awareness, valuable operational improvement, and business effectiveness with technology learning capability as a moderator. The instrument used was a questionnaire. The sample selection consisted of managing directors and managing partners in the Thai ICT industry. A total 389 samples were collected. The results indicate that employee competency focus, strategic individual learning, and innovation creativity development have a partial significant positive effect on employee commitment awareness, valuable operational improvement, and business effectiveness. Moreover, all the consequences have a significant positive effect on firm performance. Employee commitment awareness has a significant positive effect on valuable operational improvement, which has a significant positive effect on business effectiveness. Technology learning capability operates as a partial moderator on the relationships between employee competency focus and strategic individual learning on business effectiveness and valuable operational improvement.

Finally, human resource development capability and each of its dimensions are essential internal factors for promoting employee training and development activities. This study contributes to the practice of managing directors and managing partners in the field of strategic human resource development capability. There are limitations to this study. Firstly, the measurements of all the constructs in this research are newly developed with some modifications based on the literature reviewed and related theories. Secondly, the measurements are developed using content validation by business experts. Thus, the findings may not be able to fully explain the whole population. Moreover, while the relatively small sample size warranted to test assumption by linear regression, this may affect the hypothesis testing. Future research may employ other sampling populations with differentiation in types and characteristics in order to compare the results and outcomes. Moreover, other research methods could be used.

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Impact of Environmental Information Disclosure on Corporate Debt Financing in China

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Abstract

How to effectively curb corporate environmental pollution remains a challenge for all stakeholders. China is no exception. One way to force companies to reduce the impact of their operations on the environment is to link their loan funding capacity to the quality of environmental information disclosure; a device known as green credit mechanism. This paper empirically tests the correlation between the quality of enterprise environmental information disclosure and their debt financing ability. The sample consists of 351 listed companies in heavy polluting industries on the Shanghai Stock Market. Content analysis was used to quantitatively analyze the environmental information disclosed in these companies' social responsibility reports (or their environmental reports and sustainable development reports) for the period 2016-2018 and measure the environmental information disclosure level. Short-term loan, long-term, and total loan increments were used as explanatory variables to explore the correlation between the level of environmental information disclosure and debt financing. It was found that the level of environmental information disclosure among the companies sampled varies greatly and that there is a significant positive correlation between the level of environmental information disclosure of the sampled companies and their borrowing capability. Only 143 firms out of the 351 examined produced reports. The paper puts forward some suggestions to improve the level and quality of environmental information disclosure.

Keywords: Environmental Information Disclosure, Debt Financing, Polluting industries, Green Credit Policy

1. Introduction

Starting in the 18th century with the industrial revolution in England, large-scale machine-based production has since rapidly developed on the back of exponential scientific and technological achievements that have greatly improved labor productivity (Sorooshian & Panigraphi, 2020) and created wealth on a large scale (Nurdiana & Landing, 2021). These developments, however, have not taken place without costs to the environment. Indeed, by almost all accounts, the world is witnessing a continuous deterioration of the ecological environment due to the extensive mode of production and search for ever-faster economic growth that characterized today's economies (Aguas, 2019). While everybody is, to one degree or another, responsible for the deterioration of the environment and should be personally concerned, enterprises, it is believed, should bear the main responsibility for the current environmental problems (Aguas, 2019). More organizational accountability is needed.

One way to force companies to play a greater role in reducing the deterioration of the environment is to require them to disclose environmental information to their stakeholders (Cai

& Xu, 2011). The goal is for them to publicly claim that they fulfill their responsibility in regard of environmental resources and can be trusted to engage in effective environmental management (Li et al., 2018). Of course, whether this is a valid claim or not depends in a large part on the efficacy of the environmental information disclosure system (Zhu & Li, 2017). There are several benefits associated with disclosing environmental information. One, as underlined by the signal transmission theory, is that enterprises which actively and comprehensively disclose environmental information are transmitting a positive image of actively fulfilling social responsibilities to the society and stakeholders (Low, 2016). Another, one directly related to this benefit, is that organizations with a positive image are more likely to increase their financing opportunities (Dong, 2018). In other words, Environmental information can affect a firm's borrowing capacity (Hu et al., 2018). Its ability to raise capital, either through equity financing or debt funding, will be facilitated, today more so than ever before, given the increasing pressure placed on banks by society not to finance projects seen as heavily contributing to climate change. Therefore, in order to attract the attention of external investors and garner more support in terms of external funds, companies will be eager to transmit positive signals to the outside world through environmental information disclosure.

This study focuses on environmental information disclosure in the context of China, where bank loans are the most important debt financing channel for companies. Of the two forms of debt funding, bond financing is mainly selected by the government and some large state-owned enterprises. The reason loans remain the main financing method for most companies is that, compared with bond financing, loan funding is faster and more convenient. Whereas Chinese enterprises usually need to go through complex procedures, such as applying to the relevant regulatory agencies for approval, when issuing bonds, loan applications can be directly negotiated between the borrower and the lender, making the procedure much simpler and faster. Moreover, it has been shown that the cost advantage of bond financing of listed companies is not significant (Zhang, 2006) and in some cases can even be higher than the cost of loan funding (Li & Sun, 2013).

It should be noted first that the Chinese environmental information disclosure system is relatively recent and therefore still contains imperfections (Zhao, Zhang, & Zheng, 2015). It did not start until 2010, when the Ministry of environmental protection issued guidelines for environmental information disclosure of listed companies. Known as the Exposure Draft, it clearly stipulates when listed companies should publicly disclose environmental information and outline the method to publish information (Zhao 2015). Among other consequences, this means that many enterprises in China may still be providing low environmental protection due to weak environmental information disclosure requirements and/or enforcement. Another reason may be a lack of awareness of the benefits associated with thorough disclosure and a failure to have yet realized the significance of green financing for organizational development. At present, in spite of a large body of literature on environmental information disclosure, there are relatively few studies on the correlation between the quality of environmental information disclosure and corporate debt financing ability in the context of China (Hu & Ma, 2020). Scholars have yet to form a systematic theoretical analysis framework or reach unified conclusions on this issue in relation to Chinese firms.

Specifically, this paper seeks to test the impact of the level of environmental information disclosed by Chinese firms on their debt financing or, to put it another way, to explore the

relationship between environmental information disclosure and debt funding (bonds and loans). The research hinges upon the following question: Do firms with a sound environmental performance enjoy greater financing capacity as a result? The sample consists of companies operating in heavy polluting industries and listed on the Shanghai Stock Market. It is important to note at this juncture that the choice of companies operating in industries highly pollutive is obviously no coincidence; of all the firms involved, they should be the most concerned as they are the main contributors to climate change. Using the content analysis method to quantitatively analyze the environmental information disclosed, the study looks at their corporate social responsibility reports (or environmental and sustainable development reports) during the period 2016-2018 and assesses their environmental information disclosure level and its correlation with their debt financing. The paper also puts forward some suggestions to improve the environmental information disclosure system both from a government and enterprise perspectives to achieve green and sustainable development.

2. Literature Review and Conceptual Framework

Before discussing specific relevant prior literature, it is necessary first to briefly consider the variables used in this paper, starting with the independent variables. The independent and control variables are then discussed.

- Dependent Variables

Long-Term and Short-Term Borrowing Debt – Bank loan financing is a common form of debt funding for all kinds of enterprises (Pang, Yu, & Xu, 2020). Since the focus of the present study is on green credit, funding in this study mainly comes from banks. A standard measurement method for corporate debt financing capacity is the ratio of the total loan balance to the total assets at the beginning of the period (Ni, 2016). However, while this ratio reflects the financing ability of enterprises as a whole, from a debt-maturity perspective, it cannot clearly explain whether the long-term or short-term debt financing ability of a firm will be affected by the quality of its environmental information disclosure. Therefore, based on the debt maturity structure, this paper also selects the long-term loan balance to beginning total assets ratio to measure a firm's long-term loan financing ability. The ratio of the balance of short-term borrowings to the total assets at the beginning of the period ratio will be used to measure the financing ability of short-term borrowings.

- Independent Variable

Environmental Disclosure Information Score – At present, there is no unified index system at home and abroad to measure the level of environmental information disclosure (Gao et al., 2013). Due to the late start of environmental information disclosure in China, there is no database for listed companies to publicly disclose environmental information, so it is necessary to manually collect and sort out environmental information disclosure information. Therefore, referring to the method used by Shu and Zhang (2014) in their study, the paper utilizes "content analysis" to analyze the reports publicly disclosed by enterprises, with the contents of the reports divided into hard disclosure items and soft disclosure items to determine the score of each item and sum them up to get the overall score. This score is used to measure the environmental information level of enterprises.

- Control Variables

Company Size – Due to a robust flow of capital, large-scale listed companies generally have strong debt financing ability. In addition, since they are owned by the public to whom they are accountable, they are under stricter scrutiny and supervised by more government agencies and the public than private firms. As a result, they are more inclined to disclose environmental information and eager to establish a positive social image (Wu & Wang, 2016). In this paper, company size is expressed by the logarithm on the average total assets of the enterprise.

Profitability – Profitability is an important indicator to measure the financial situation of a firm. It is among other consequences the guarantee that an organization can repay its loans in full and on time. Unsurprisingly, Xiang and Chi (2020) determined that in China, banks are more inclined to provide preferential financing to enterprises with strong and sustained profitability as it substantially lowers the risk of default. In this paper, profitability is expressed by the rate of return on net assets.

Financial Leverage – As an investment strategy, leverage (borrowed capital) is used as a funding source when investing to expand a firm's asset and generate base returns on risk capital. Leverage thus refers to the amount of debt a firm uses to finance assets. If a firm is described as highly leveraged, the firm has more debt than equity. When the debt financing ratio of an organization is too high, its solvency is weak (Wang, Wang, & Su, 2019). Such conditions make it more likely that firms with a high level of debt will experience financial problems. In the event an enterprise goes bankrupt, the performance of the loans of the bank will be affected. Banks are therefore more cautious in lending to highly leveraged enterprises. Therefore, this paper uses the average asset liability ratio to represent financial leverage (Li, 2020).

Operational Capacity – The operational capacity of an enterprise reflects operational risk. The higher the operation and management level of the enterprise, the smaller the operation risk it faces and the better its operation performance (Cui & Ma, 2014). Therefore, when assessing credit risk, banks are more willing to provide financial support to firms with strong operational ability. This paper uses the total asset turnover rate to express the operational capacity of an enterprise (Sheng, Zhao, & Chen, 2020).

Table 1: Summary of Variables

	Name	Symbol	Definition
Dependent Variables	Total Borrowing Debt	ΔTBD	Increment of total lending debt in t+1 period divided by the total assets at the beginning of the period (Ni, 2016).
	Long-Term Borrowing Debt	ΔLBD	Increment of long-term borrowing debt in t+1 period divided by the total assets at the beginning of the period (total assets at the beginning of the period) (Ni, 2016).
	Short-Term Borrowing Debt	ΔSBD	Increment of short-term borrowing debt in t+1 period divided by the total assets at the beginning of the period (Ni, 2016)
Independent Variable	Environmental Disclosure Information Score	EDI	The sum of the total scores of environmental disclosure information (Shu & Zhang, 2014)
	Company Size	SIZE	Natural logarithm of the average total assets of the year (Ni, 2016).

Control Variables	Profitability	ROE	Corporate net profit for the year divided by average owner's equity in the current year (Wu & Wang, 2016).
	Financial Leverage	LEV	The average total liabilities of an enterprise divided by the average total assets in the current year (Li, 2020).
	Operational Capacity	Turnover	Operating income divided by the average total assets in the current year (Sheng, Zhao, & Chen, 2020).
	Term Structure of Assets	AT	Non-current assets divided by average total assets in current year (Liu, 2015).
	Net Profit Cash Flow	CFPS	Cash flow per share from operating activities divided by net profit (Liu, 2013; Li, 2019).

- Related Literature

Zhu and Cai (2017) comprehensively analyzed the impact of environmental information disclosure on debt financing amount, debt financing term structure and debt financing cost in the context of Chinese green credit policy. Their findings indicate that the environmental information disclosure behavior of enterprises (i) improves the degree of information asymmetry between banks and enterprises, (ii) reduces the credit risk of banks, and (iii) therefore helps enterprises obtain more debt financing and long-term financing. The results are similar to those of Cheng (2019) and Zhang (2021). Sun and Wang (2020) studied the factors influencing the debt financing of enterprises. They found that difficulties obtaining corporate debt financing essentially are related to a lack of financing channels, insufficient bank credit support, imperfect guarantee mechanism, high debt financing costs, and unreasonably high proportion of debt financing. Their findings are consistent with those shown in the studies of He and Hou (2010), LIGO (2010), and Li and Bin (2012).

Hu and Ma (2020) investigated the relationship between corporate social responsibility, social trust, and debt financing efficiency. They concluded that when studying how to improve the efficiency of debt financing and solve the problem of corporate capital, the performance of corporate social responsibility can significantly improve the efficiency of debt financing. They also determined that, in this relationship, social trust (including reputation trust, institutional trust, and relationship trust) plays a partial intermediary role and that the action period is different. Seeking to show that corporate environmental information disclosure is an important way for enterprises to convey corporate environmental performance to stakeholders, Zhou and Liu (2021) selected listed companies in A-share heavy polluting industries in Shenzhen as research samples and studied whether the level of environmental information disclosure had an impact on the environmental performance in the following year. Their research shows that the more information disclosed, the better the environmental performance in the following years. There is a strong correlation between the level of enterprise environmental information disclosure and enterprise environmental performance. An improvement in a firm's level of environmental information disclosure can lead to an improvement of its environmental performance in the following years.

Shen and Li (2010) proposed that the method for disclosing enterprise environmental information should be adapted to the scale of the enterprise. They argued that whereas large-scale listed companies should embrace independent reports, medium-sized enterprises could

add relevant items in their financial statements or disclose related information in a note to their financial statements. As to small enterprises, they could use the method of narrative disclosure. Zhao et al. (2015) studied a large sample data consisting of 4712 listed companies in heavy polluting industries over the period 2006-2013 and established a performance evaluation system based on the environmental information disclosure system of these companies. The performance of their environmental information disclosure systems was statistically analyzed. Through empirical tests, it was found that company size, profitability, the marketization process, the nature of state-owned equity, the proportion of independent directors, the size of the supervisory board, the educational background of senior executives, and the proportion of senior executives were all significantly positively correlated with the performance of the environmental information disclosure systems.

Yao and Wang (2016) argued that firms with high levels of environmental information disclosure should be distinguished from enterprises with poor environmental performance and be financed at a lower cost. They determined that the negative correlation between the two was significantly enhanced by such a green credit policy. Shen and Liu (2021) studied the relationship between corporate social responsibility reporting and public debt financing in relation to the A-share listed companies on the Shanghai and Shenzhen Stock Exchanges (except for the financial industry). They determined that the disclosure of corporate social responsibility report significantly improves the success rate and scale of public debt financing. Voluntary disclosure has a significant positive impact on public debt financing. Compared with listed companies that did not issue a social responsibility report, companies that actively disclosed their corporate social responsibility reports enjoyed higher success rates of public debt financing and obtained higher financial support. The higher the quality of corporate social responsibility reports, the greater the positive impact on the choice and scale of corporate public debt financing. This phenomenon is particularly significant in areas with a high level of marketization. While in these areas, disclosing corporate social responsibility reports can significantly promote public debt financing, in areas with a low marketization level, it has no significant impact. Based on all the above literature reviewed, the following conceptual framework can be developed:

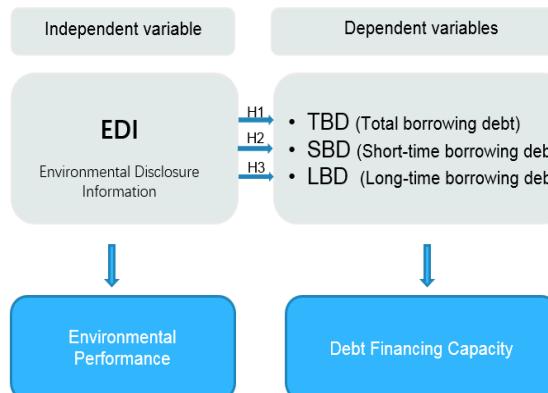


Figure 1: Conceptual Framework

(Source: Created by author for this study)

- Research Hypothesis

As noted in the introduction to this study, in China, bank loans are the most important debt financing channel for listed companies. Since a sound environmental performance and a high

level of environmental information disclosure are evidence of a strong motivation for sustainability, these enterprises are preferred by financial institutions and their financing capacity will be improved accordingly. Based on the above analysis, the following assumption can thus be formed:

H1: *The level of environmental information disclosure is positively correlated with an enterprise's total debt financing capacity.*

When commercial banks make loan decisions, they not only consider the debt scale, but also the length of debt maturity. If long-term borrowing debt and short-term borrowing debt are not reasonably coordinated in advance, enterprises may face excessive debt repayment pressure at some time, and even fall into financial difficulties. Therefore, it is of significant importance to plan debt maturity rationally. Hypotheses 2 and 3 can thus be proposed as follows:

H2: *There is a positive correlation between the level of enterprise environmental information disclosure and long-term debt financing ability*

H3: *There is a positive correlation between the level of enterprise environmental information disclosure and short-term debt financing ability*

4. Research Methodology

A green credit policy aims to strengthen financial institutions' awareness of environmental risks. With regard to a company's external financing, in China, loans, bank loans in particular, remain the main source of funding. Since the credit decision of commercial banks is increasingly based on the environmental performance of borrowing enterprises, environmental information disclosure is therefore likely to impact their borrowing capacity. Recall from above that the research question was articulated as follows: Do firms with a sound environmental performance enjoy greater financing capacity as a result? In order address this query, this paper selected A-share listed companies in eight heavy polluting industries on the Shanghai Stock Market. The sample is based on the Guidelines for Industry Classification of Listed Companies, which was initially issued by the China Securities Regulatory Commission (CSRC) in 2001.

This was also how Shen and Li (2010) selected the sample they used in their study. As reported by Liu (2013), highly polluting industries have been merged into eight categories as listed in the Classified Management Directory of Environmental Protection Verification Industries of Listed Companies, published by the Ministry of Environmental Protection in 2008. Accordingly, in the present study, the author selected all the companies listed on the Shanghai Stock Market under these eight categories for the period 2017-2019 as the research sample. Using China Stock Market Accounting Research (CSMAR) solution database, the financial data for the period 2017-2019 cover only 143 companies out of an initial group of 351 companies as the other failed to produce reports. This study used the content analysis method as expounded by Shu & Zhang (2014). This method is employed to refine the content related to environmental information contained in the Global Reporting Initiative (GRI) guidelines into 46 indicators mainly about enterprise management system and environmental protection measures. The reports publicly disclosed for each enterprise was then analyzed and each corresponding indicator determined and assigned a value (0 or 1). Specifically, in order to measure the level of environmental information disclosure, the nonquantitative data in the report was digitized, the score of each item determined, and the overall score synthetized. The

score range of environmental information disclosure of each sample company ran from 0 to 96 points. The process of information transmission takes time and space and the time and space for individuals to obtain information are different (Shen et al., 2020). Information is asymmetric as not everyone receives it at the same time. After the disclosure of environmental information, enterprises need time to transmit information to stakeholders to present a favorable social image and create more financing opportunities.

Thus, the timing of the release of the financial results of an enterprise may be affected by the environmental information disclosure. Accordingly, the author manually collected the environmental information disclosure data of the sample companies from 2016 to 2018 through the Corporate Social Responsibility report and independent reports. The content disclosed were scored based on the scoring rules of content analysis. The scores of the various indicators were then summed up to obtain the score of environmental information disclosure of the enterprise. Empirically, this paper used multiple linear regressions to identify the relationship between the environmental information disclosure score and debt financing ability, and further verify the implementation effect of green credit policy.

- Model Specification

Taking the level of enterprise environmental information disclosure as an independent variable and the increment of enterprise debt financing as the dependent variable, an empirical study was conducted using the statistical method of regression analysis. On the basis of the corresponding hypotheses and research variables, the regression models designed in this paper are as follows:

$$(1) \Delta TBD = c + \beta_1 * EDI + \beta_2 * SIZE + \beta_3 * ROE + \beta_4 * LEV + \beta_5 * Turnover + \beta_6 * AT + \beta_7 * CFPS + \epsilon$$

$$(2) \Delta LBD = c + \beta_1 * EDI + \beta_2 * SIZE + \beta_3 * ROE + \beta_4 * LEV + \beta_5 * Turnover + \beta_6 * AT + \beta_7 * CFPS + \epsilon$$

$$(3) \Delta SBD = c + \beta_1 * EDI + \beta_2 * SIZE + \beta_3 * ROE + \beta_4 * LEV + \beta_5 * Turnover + \beta_6 * AT + \beta_7 * CFPS + \epsilon$$

Where:

β is the regression coefficient of each variable; C the constant term; ϵ a random error term.

4. Data Analysis and Results

- Descriptive Statistics

As Table 2 shows, based on information the score of environmental disclosure of heavy polluting companies listed on Shanghai A-share market, the highest score is 96 and the lowest 0. The average score of the sample is 21.467 and the median 17, indicating that the environmental information disclosure level of those listed companies operating in heavy polluting industries is generally low. The standard deviation is 16.944, indicating that the level of environmental information disclosure can vary significantly and has high volatility. In terms of debt maturity, the proportion of long-term debt in the total amount of debt funding obtained is 60 percent and the proportion of short-term debt 40 percent. This means that in terms of long-term and short-term debt portfolio, the companies in the sample prefer long-term financing and opt for long-term loans.

Table 2: Descriptive Statistical Analysis

Variable	N	Mean	Median	Std. Deviation	Variance	Minimum	Maximum
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ΔTBD	405	0.010	0.000	0.107	0.012	-0.514	0.742
ΔLBD	405	0.006	0.000	0.075	0.006	-0.296	0.694
ΔSBD	405	0.004	0.000	0.073	0.005	-0.512	0.272
EDI	405	21.467	17.000	16.944	287.116	2.000	76.000
SIZE	405	23.450	23.321	1.479	2.189	20.729	28.507
ROE	405	0.082	0.067	0.098	0.010	-1.232	0.542
LEV	405	0.495	0.492	0.184	0.034	0.100	1.324
TURNOVER	405	0.662	0.577	0.425	0.181	0.000	3.562
CFPS	405	5.700	1.988	23.469	550.792	-43.876	317.159
AT	405	0.590	0.597	0.202	0.041	0.000	0.968

- Correlation Analysis

The results shown in Table 3 indicate that the correlation coefficient of total borrowings, long-term borrowings and short-term borrowings with environmental information disclosure are all significant at the 1% level. At the same time, the three coefficients are positive, which preliminarily verifies the three hypotheses. In addition, since the correlation coefficient in the table is lower than 0.7, this means that there is no serious multicollinearity between the explanatory variables.

Table 3: Coefficient Matrix of Pearson Correlation Test

Variable	ΔTBD	ΔLBD	ΔSBD
ΔTBD	1		
ΔLBD	0.734**	1	
ΔSBD	0.717**	0.053	1
SIZE	0.079	0.011	0.105
ROE	0.165**	0.047	0.194**
LEV	0.012	0.038	-0.022
TURNOVER	0.029	0.041	0.000
CFPS	-0.062	-0.026	-0.064
AT	0.004	0.035	-0.031
EDI	0.544**	0.358**	0.432**

**. Correlation is significant at the level of 1% (2-tailed)

- Multiple Linear Regression Analysis

The regression results of the three hypotheses for all the samples are shown in Table 4. In the first two models, the R-square values exceed 20%, indicating that the regression model has passed the goodness of fit test. The p value corresponding to the F-test statistic is 0. This means that the above regression equation has passed the significance test. The DW statistic is close to 2, which can eliminate the influence of autocorrelation between variables. Therefore, Hypothesis 1 and Hypothesis 2 are verified and valid. In the third model, the R-square shows that the goodness of fit is not particularly good. The reason may be that since the scores of environmental information disclosure are collected manually, there may be some gaps between the scoring standards and the actual environmental performance of enterprises, thus affecting the data goodness of fit. At the same time, the corresponding p value is approximately 0, indicating that there is a significant positive correlation between them at the significance level of 1%. Hypothesis 3 is valid. In addition, the significance of regression coefficients in the financial leverage model is not strong, with some positively correlated and some negatively

correlated. One possible reason for the positive correlation is that companies with low financing constraints prefer debt financing. The main reason for the negative correlation may be that banks will conduct risk assessment for enterprises with high asset liability ratio, which means that when a firm has a high debt ratio, the bank will limit the amount loaned to that firm.

Table 4: Regression Analysis Results

Variable	(Model 1) TBD		(Model 2) SBD		(Model 3) LBD	
	Beta	Sig.	Beta	Sig.	Beta	Sig.
Constant	0.161	0.040	0.015	0.799	0.147	0.019
SIZE	-0.009	0.012	-0.001	0.719	-0.008	0.005
ROE	0.158	0.001	0.126	0.000	0.032	0.390
LEV	0.013	0.640	-0.001	0.959	0.014	0.526
TURNOVER	-0.010	0.384	-0.013	0.101	0.004	0.682
CFPS	0.000	0.820	0.000	0.754	0.000	0.566
AT	-0.055	0.037	-0.057	0.003	0.002	0.929
EDI	0.004	0.000	0.002	0.000	0.002	0.000
	R Square=0.344 F=29.079 P(F)=0.000 D-W=2.175		R Square=0.244 F=17.888 P(F)=0.000 D-W=1.878		R Square=0.148 F=9.630 P(F)=0.000 D-W=2.151	

5. Discussion, Conclusion, and Recommendations

In light of the green credit system in place in China, this paper analyzed the impact of company environmental information disclosure on their funding ability, using the data of companies operating in heavily polluting industries listed on the Shanghai Stock Market during the period 2017-2019 to do so. One of the main findings is that the level of environmental information disclosure among the companies sampled varies greatly. For one thing, while some companies have been disclosing environmental information, more than half of them have failed to do so during the period considered as only 143 of the 351 sampled firms surveyed in this paper issued independent reports. For another, among those that have reported action taken to mitigate their environmental impact, the level of disclosure is quite uneven.

Although the Shanghai Stock Exchange and the Environmental Protection Administration provide environmental disclosure guidelines, there is no compulsory disclosure requirement. Companies have a great deal of autonomy in their disclosure of environmental information. They choose their own environmental information content according to their own preferences, so they are more inclined to disclose favorable content, which, among other consequences, means that the content disclosed is relatively random, selective, and arbitrary. The result is that information effectiveness was poor, only a few issued environmental reports or disclosed environmental information in detail in social responsibility reports, and the level of environmental information disclosure was seriously polarized. This causes great inconvenience to information users. This begs the question of why the firms sampled were not active in preparing independent reports to disclose environmental information.

This is largely due to the absence of enforcement mechanism or to put it another way to a lack of binding requirements on environmental information disclosure. Indeed, to date, there is no regulation specifically forcing firms to disclose information on the measures they may take to lessen their impact on the environment, this in spite of the fact that, as noted in the introduction to this paper, all the companies surveyed in this research operate in heavy polluting

industries. Given their classification as main contributors to climate change, it seems common sense that they should be the first companies to be obligated to report their efforts to lower their impact on the environment. Yet, while some may feel that they have a moral obligation to do so, clearly, it is not the case with many of them that fail to disclose information. It is important to note at this juncture that, given the growing pressure of consumers and growing public concerns over climate change it can be surmised that the firms that are still not reporting any information may have yet to take any action as environmental information disclosure would contribute to a negative image.

In other words, they simply do not disclose information because they have nothing positive to disclose. Assuming this is the case, this makes enforcement even more pressing. Short of binding regulations obligating them to report what they do (assuming they do something) and short of a penalty system if they report no action, this is unlikely to change. In short, the pressure has to come from the government as enterprises have failed to summon and demonstrate a capacity for self-regulation. Not only do firms are not obligated to disclose information but there is also no provision to impose penalty. Pressure could also come from consumers and the public at large. This, however, presupposes concerted and coordinated efforts by environmentally minded groups. There is no evidence of such groups on a large scale, which therefore seriously limits the possibility of public pressure. All that said, pressure may come from banks through the green credit system as this study has shown. This is precisely the second main finding of this study. The environmental information disclosure level of the sampled companies is correlated with their borrowing capability, both long-term and short-term debt funding. It was found that the higher the disclosure level, the stronger the financing capability. Compared to enterprises with lower environmental disclosure information scores, enterprises with higher environmental disclosure information scores were able to secure more bank loans; this, as a result of the green credit system established by banks and other financial institutions, which favors firms that disclose environmental information and are therefore presumably active on the climate change front as we just saw. Banks may perceive them as more sustainable in the long term.

For one, they are less subject to major changes in environmental regulations as they are proactive. These include not only domestic laws but perhaps more importantly international provisions, which may impose carbon taxes or prohibit them from exporting. For another, they are less likely to be affected by a consumer boycott or sudden costly legal requirements. In addition, banks are also well aware that damages caused by extreme weather events are increasingly more costly and may in some cases destroy the assets collateralized; hence their eagerness to see companies taking steps to limit such risks. Another key finding, one directly related to the second finding is that the sampled companies prefer long-term financing, which from a bank's perspective presents more risk as the remote future is by definition less predictable than the near future. As uncertainties pile up and visibility decreases, risks rise, including all the operational risks discussed above. In summary, the green credit policy effectively links the corporate debt financing ability with environmental disclosure information and encourages enterprises that intend to raise funds to disclose environmental information more actively and better improve their environmental performance. The green credit policy also has sent a positive signal to the market, influencing on the allocation of credit resources between the environmentally polluting companies and environmentally friendly companies. A

lot more could happen, though, if environmental information disclosure was mandatory and strictly enforced.

- *Recommendations for Governments:*

Environmental issues have strong externalities. It must rely on systems and regulations to link the interests of the company with environmental protection to effectively urge enterprises to fulfill their environmental responsibility. The environmental information disclosure system would then be an effective way to improve the level of corporate environmental disclosure information and enhance the impact of environmental disclosure information on capital markets. So, the government should adopt binding environmental information disclosure regulations and set clear requirements for the content, form and time of disclosure. All requirements for environmental disclosure information should be mandatory with no exception permitted. Finally, the government should strengthen supervision. The government regulatory authorities should check whether the disclosure content is complete and true. At the same time, penalties should be strengthened and imposed on companies that intentionally conceal major environmental pollution accidents.

- *Recommendations for Listed Companies:*

Due to the voluntary nature of environmental information disclosure, a large number of enterprises fail to engage in self-disclosure. Yet, with the increasing concern of society with environmental problems, companies must improve their awareness of environmental disclosure information. Managers should have a long-term strategic vision and fully understand the economic benefits brought about by environmental information disclosure so as to achieve a win-win situation for both environmental and economic benefits. Employees' role should also be enhanced and environmental education and training provided to enhance their awareness in terms of environmental protection. If an environmental protection performance were included as part of an enterprise performance assessment, this would prompt firms to improve the quality of environmental information disclosure.

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The Impact of Perceived Organizational Support Factors on Public Service Outcomes: Evidence from Bangladesh

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Abstract

This quantitative research study aims to assess the influence of the factors of perceived organizational support on public service innovation outcomes in Bangladesh, where public organizations are finding it increasingly difficult to provide adequate services on the back of growing demands amid a rising population. The support factors considered in this study include team cohesion, rewards and recognition, technological support and replication scope. Data was collected through a structured survey questionnaire distributed to innovation team members at the district and 'upazila' administrative levels. 372 questionnaires were validated. The concept of 'Innovation Teams' emerged in 2010, when the Bangladesh government issued a circular to form 'Work Improvement Teams' in all ministries, divisions, departments, and field administration, which were later turned into innovation team. A series of test, including the Kaier-Meyer-Oklin Test and the Bartlett's Test for Homogeneity of Variance, were conducted for content homogeneity, acceptability, and reliability. Results from the multiple regression analysis showed that each of the factors of perceived organizational support had a positive impact of on public service innovation outcomes. Recommendations to policy formulators for building a solid strategy and expanding perceived organizational support to boost public service innovation outcomes were made.

Keywords: Perceived Organizational Support, Team Cohesion, Rewards and Recognition, Technological Support, Replication Scope, Public Service Innovation Outcomes.

1. Introduction

For public organizations in Bangladesh, providing adequate services against a background of growing demands from a rising population and a low number of public service providers has been a real challenge. Indeed, by all accounts, public organizations in Bangladesh do not often function according to citizen's expectations. People are very much dissatisfied with the current manual, time-consuming, and expensive public service delivery system. The inefficiency of the dispatch section (Siddiqui, 2006), problems using modern technologies (e.g. computer, laptop, tablet, smart phones, internet,), the lack of technology, the lack of resources, the lack of proper training, and corruption are cited as the main obstacles to ensuring smooth, timely, and harassment-free services from the public organizations of Bangladesh (Hassan, 2015). The low service recipient/service provider ratio also contributes to the difficulties providing proper services to the mass of people. The International Monetary Fund (IMF) and the World Bank (WB), among a string of international organizations, have been sounding the alarm for years. Donor agencies are also urging reforms to ensure quick, easy, smooth, time-saving public services to citizens throughout the country.

Admittedly, the government of Bangladesh has a huge burden on its hands trying to fulfill the pressing demands of the public. While there has been a few initiatives, such as the adoption of the Right to Information Act and a Charter of Duties, in response to the public outcry to overcome the challenges faced by the public administration, a novel approach needs to be introduced, one that promotes the innovative and creative abilities of public organizations (Hassan, 2015). This is the best time to show and reinvent governmental organizations to deal with changing demands and show accountability to citizens (Nusair, Ababneh, & Bae, 2012). For effective pro-people and customer-oriented public services, innovation appears to be one of the best alternatives. Specifically, what is needed is team level innovation through perceived organizational support. This will enable civil servants to use new tools for applying the New Public Management (NPM) concept (Hassan, 2015).

The concept of 'innovation teams' first emerged in 2010, when the Bangladesh government issued a circular to form Work Improvement Teams (WIT) in all ministries, divisions, departments, and field administration. WITs were later turned into innovation teams (Gazette, 2013). The rational was that innovative abilities and creative attitudes were vital factors that could help public organizations meet the challenges they were facing (Andriopoulos, 2006). They are seen as great motivators of team members (Shumshunnahar, 2021). An essential feature for innovation in an organization is the attitude towards the team and the individuals that form it. Innovation teams require organizational support, which is perceived to influence public service innovation outcomes.

This study focuses on the impact of perceived organizational support factors on public service innovation outcomes in Bangladesh, which include team cohesion, rewards and recognition, technological support, and replication scope on public service innovation outcomes. It seeks to address the following research question: What is the influence of team cohesion, rewards and recognition, technological support, and replication scope on public service innovation outcomes? There are very few studies on influential perceived organizational support factors and on the relationship between these factors and public service innovation outcomes in the context of Bangladesh. This study intends to bridge the gap and contribute civil service improvements in Bangladesh as well as in other developing countries.

2. Literature Review

- Public Service Innovation Outcomes

Public service innovation (PSI) is a long-term commitment that will result in observable changes and improvements in performance and results in the public sector (McGann, Blomkamp, & Lew, 2018). PSI's goal is to organize and provide services to citizens at a reasonable cost and promptly, with the government using public funds wisely and prudently (Hage, 1999; Gupta, 2018). The core principles of introducing innovation in public services are increasing customer engagement and satisfaction through digital web portals, ensuring the best possible customer access (reducing visitors), delivering services at a low cost/value for money (reducing costs), and improving online for better use of technology and modern equipment for providing faster services (Shumshunnahar, 2021). Government offices are to implement new approaches, such as a "one-stop" approach, which will make services more accessible and minimize the number of visitors to offices (Mustika, Rahardjo, & Prasetya, 2019). An effective performance routinely requires adherence to predetermined qualitative features of the service (Hoegl & Gemuenden, 2001). A team's efficiency is determined by sticking to the planned innovation project aim from start to finish (Hülsheger, Anderson, & Salgado, 2009).

- Measuring Public Service Innovation Outcomes

Three indicators have been acknowledged to measure the efficiency of public service innovation outcomes: Reduced Time, Reduced Costs and Reduced Visits, (South-South Galaxy, 2019). Encapsulated under the TCV acronym (time, costs, and visits), these indicators were introduced under the ‘Access to Information’ initiative (A2I) as an evaluation system from the perspective of service recipients. Carried out to comprehend the changes brought about by the move to online services, TCV studies are aiding government offices to improve their efficiency and develop more user-friendly e-services and online services. They essentially focus on innovations meant to alleviate difficulty in accessing certain services. By 2019, 102 TCV studies on streamlined, digitalized, and doorstep innovation services had been completed under A2I. Improvements are reported to have saved roughly 66% of the time necessary, 66% of the total cost involved, and 38% of the trips required (South-South Galaxy, 2019).

- Perceived Organizational Support

The evaluation of employees’ performance level is referred to as perceived organizational support (POS) and emphasizes organizational ethics and performance in terms of their well-being (Eisenberger, Huntington, & Hutchinson, 1986). It focuses on the interactions between employees and employers (Eisenberger et al., 1986). The perception of organizational support is fundamentally a give-and-take connection between the firm and the job, emphasizing quality relationships. POS is generally defined as the level at which an organization values its employees' contributions and cares about their well-being and its people have faith in it (Kurtessis et al., 2017). The core elements of POS applied to this study are (i) team cohesion, (ii) rewards and recognition, (iii) technological support, and (iv) replication scope. They will be discussed next.

Team Cohesion

Team cohesion refers to the extent to which team members are able to share useful information, engage in frequent discussions, and learn from one another (Gelbard & Carmeli, 2009). Cooper and Mullen (1994) identified three factors of cohesion: team members' interpersonal attractiveness, dedication to the team task, and group pride/team spirit. The quality of team cohesion indicates how committed team members are to staying on the team (Beal et al., 2003). Team cohesion is critical for POS, where information flows, constructive debates, new learning processes, and the production of innovative knowledge are all present (Gelbard & Carmeli, 2009). Moreover, team cohesion allows team members to handle several points of view, undertake in-depth investigations, and address various issues from various perspectives (Hope et al., 2011). Team cohesion also helps to distribute authority among members (Elbanna, 2006). Hoegl and Gemuenden (2001) found that a team's ability to complete a task is determined by how well and effectively team members collaborate and interact.

Without team cohesion creativity and innovation can hardly be achieved (Hoegl & Gemuenden, 2001). There is a strong link between team cohesion and innovation outcomes. Team's togetherness allows them to deal with the ambiguity and numerous issues that come with working under harsh condition. The efficacy and success of both the team and the organization are dependent on team cohesion (Salas et al., 2015). Team cohesion motivates team members to maintain a shared relationship, stay together, and develop a desire to collaborate (Casey-Campbell & Martens, 2009). On the other end of the spectrum, the prevalence of disbelief, hatred, disrespect, or other issues may lead an individual to believe that there is no unified emotion inside the team, which reduces employee motivation and participation in teamwork and negatively impacts the organization's innovative outcomes (Salas et al., 2015).

H1: Team cohesion is positively associated with public service innovation outcomes.

- Rewards and Recognition

As tangible incentives, rewards and recognition are effective in increasing performance (Board, 2007). Employees' dedication is motivated by 'rewards and recognition' (Danish & Usman, 2010). Rewards can be used in financial or non-financial forms (Bowen, 2000). Organizations with a structured recognition and incentive system have a competitive advantage as an effective incentive and recognition system increases staff productivity, resulting in improved organizational outcomes (Deeprose, 1994). A company that has a structured employee performance recognition and performance-based reward system and focuses on its implementation, is more likely to have a working atmosphere conducive to innovation (Freedman, 1978; Gallus & Frey, 2017). A perfect, effective, and current system of rewards and recognition can help members of the innovation team to be more creative and innovative. Incentives, rewards, and recognition can dramatically influence employee creativity (Moser & Nicholas, 2013). The following hypothesis can therefore be formed:

H₂: Rewards and recognition are positively associated with public service innovation outcomes

- Technological Support

Computers, laptops, smart phones, printers, internet wi-fi, software, and other technological support are among the services that an organization typically provides to its employees in order for them to work efficiently. Indeed, technology has become a requirement for achieving organizational success. Mobile or electronic banking systems can also be used to pay for applications and other certificate processing expenses. Modern businesses are aware of the importance of providing technological assistance to their staff and understand that to get optimum benefits, employees' technological skills must be updated and reinforced on a regular basis. Technology support ensures that firms perform better than those that serve customers manually (Martin-Rojas, Garcia-Morales, & Garcia-Sanchez, 2011). Every firm today requires technology assistance to handle common difficulties (Carayannisa, Popescub, & Sippc, 2006). To reach organizational goals, technology should have management support (Fernandes, 2006). Of course, government offices require technology assistance as well in order to streamline service delivery processes (Štemberger, Manfreda, & Kovačič, 2001). The one-stop service delivery concept is quite popular nowadays, and electronic methods have been used for these services. Based on the above, the following hypothesis can be formed:

H₃: Technological support is positively associated with public service innovation outcomes

- Replication Scope

When the decision is made to embrace an innovation with a minor alteration or adaptation, the modification process is critical. The philosophical logic behind replication is to turn a small success into big ones. The goal of reproducing a successful formula, adopting, or repeating an application is to make rapid progress in a short period of time (Winter and Szulanski (2001) gave the example of a bank that successfully used the same successful application across all its branches. Replication is sometimes more successful than true innovation because it applies the original formula and then refines while minimizing the effort as it replicates it (Winter & Szulanski, 2001). Once a successful service delivery approach has been established, the same procedure might be reproduced to stimulate outcomes on a national, international, and intra-organizational level. As a result, replication implies both mistreatment and effectiveness (March, 1991). Not only may other companies' projects be duplicated and replicated, but so can the same organization's own innovation. To replicate an innovation, interested enterprises or organizations must first establish a process that defines the application of knowledge, service

categories, consultation and regulation procedure, as well as the demand and supply of the reproduced innovation (Winter & Szulanski, 2001).

H4: Replication scope is positively associated with public service innovation outcomes

On the basis of the above literature review, the following conceptual framework was formed:

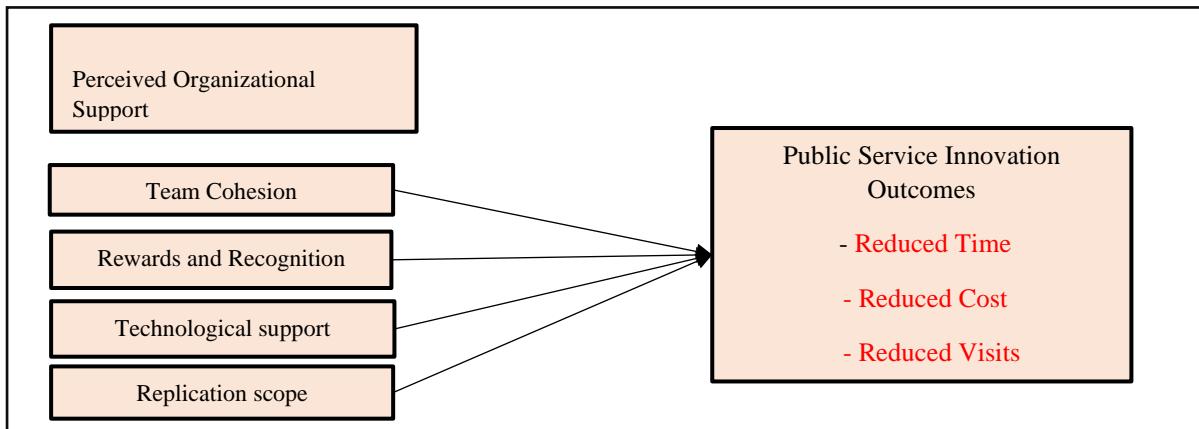


Figure 1: Conceptual Framework (Developed by authors for this study)

3. Methodology

- Population Size and Sample Frame

The population for this quantitative research consisted of administrative innovation teams at the field level, i.e., at the district and 'upazila' (sub-district) levels. The concept of 'innovation teams' emerged in 2010, when the Bangladesh government issued a circular to form Work Improvement Teams (WIT) in all ministries, divisions, departments, and field administration, which were later turned into innovation teams (Gazette, 2013). Each innovation team is composed of a chief innovation officer and five members who are civil servants of the People's Republic of Bangladesh. The basic responsibility of each innovation team member is to work toward bringing quality changes, i.e., develop an internal working system, in particular a service delivering system.

Different scholars will have a different opinion about the sample size drawn from a reliable population (Cooper & Schindler, 2003). Researchers can reduce the sampled number without negotiating the level of accurateness if the drawn sample size is greater than 5% of the total population. The total population for this study consisted of 64 innovation teams at the district level and 492 at the upazila level. Accordingly, the target sample was 28 (5% of 556). When using a multiple regression analysis in a multivariate study, the sample size can be 10 times bigger than the number of variables studied. Thus, since the number of variables in this study was 19, the minimum sample size should be 190 (19*10).

- Data Collection and Validity

A two-part questionnaire was used in this study. The first part covers the respondents' demographics (gender, age, educational level, total service length, length of membership of innovation team). Part two consists of specific close-ended questions on the factors influencing perceived organizational support and public service innovation outcomes. A six-point even numbered Likert scaling (ranging from 1 to 6 where, 1 stands for 'strongly disagree' and 6 for 'strongly agree') questionnaire was used to collect data through postal, electronic mail and direct communication. The Likert scale is the most commonly employed scale among the

various scales in survey research (Cook, 1980). Using an odd number scale increases the odd to pick a midpoint as an answer, which provides a neutral option for respondents. To rate the extent to which this study investigated what it claimed to investigate, i.e., the extent to which this investigation led to an accurate observation of reality, confirmatory and exploratory factor analyses were conducted. Thus, before sending the survey, a pretesting of 50 questionnaires was conducted for content analysis with a response rate of 96 percent. An Exploratory Factor Analysis (EFA) for acceptability was conducted to ensure reliability. A Cronbach's alpha coefficient (the coefficient of reliability or consistency) of 0.7 or higher indicates acceptable internal consistency (the value measures how closely related a set of items are as a group). The Cronbach's alpha value in this study was 0.851 and therefore deemed acceptable.

To measure face and content validity at the development stage, the Item-Objective Congruence (IOC) index developed by Rovinelli and Hambleton (1977) was used. Items were rated by four content experts from Thailand and Bangladesh. 500 questionnaires were then distributed. A total of 372 respondents responded, with a response rate of 74.4 percent, which was determined as adequate for this study. Bartlett's Test for Homogeneity of Variance was used to test if there were an homogeneity of variances across the samples. The critical value of chi square is 9.488. If the Bartlett test statistic is greater than this critical value, there is a significant difference in the variances. If the Bartlett test statistic is less than this critical value, there is not a significance difference. In this study, since the chi square value was lower, there was no significant difference in the variances.

Finally, a test of adequacy sampling, known as the Kaier-Meyer-Oklin (KMO) Test was also conducted. The test measures how suited the data in this study is for factor analysis and returns values between 0 and 1. The rule of thumb is that values above 0.6 indicate that the sampling is adequate. Therefore, since the KMO index in this study is greater than 0.6, the sampling is suited for factor analysis. To analyze the data and test the hypotheses, a multiple regression analysis was conducted.

4. Results

As indicated in Table 2 above and as we just saw, the Cronbach's Alpha was more than 0.7 (0.851) for perceived organizational support, and the correlation item total more than 0.3 for team cohesion, rewards and recognition, technological support, and replication scope (0.736, 0.722, 0.749, and 0.806 respectively). Thus, each factor of perceived organizational support has good reliability.

Table 2: Reliability and Validity of Constructs

Variable	Component	Number of Items	Reliability Test		Factor Loading
			Cronbach's Alpha		
Perceived Organizational Support	Team Cohesion	5	0.736	0.851	0.672
	Rewards & Recognition	3	0.722		0.734
	Technological Support	4	0.749		0.745
	Replication Scope	5	0.806		0.521
Public service Innovation Outcomes	Relevance	3	0.698	0.888	0.540
	Effectiveness	3	0.713		0.925
	Reduced Time	3	0.746		0.738
	Reduced Costs	3	0.706		0.825
	Reduced Visits	3	0.726		0.779

As can be seen in Table 3, the percentage of female responders (14.8%) reflects the low proportion of female officers in Bangladesh's field administrative innovation teams. The generally low level of female civil officials in Bangladesh primarily accounts for this low percentage. The average age of innovation team members is 38 years old. A small percentage of innovation team members (.8%) holds a bachelor's degree, which is insignificant as most of them hold a higher degree (a Master or above). The average duration of service is nine years. On average, members of the innovation teams had at least 19 months of experience.

Table 3: Descriptive Statistics

Gender		Age	Educational Level			Total Service Length	Length of Membership of the Innovation Team
Male	Female	Average	Bachelor	Master	Above Master	Average	Average
317	55	37.36 years	3	268	101	9.02 years	19.23 months
85.2%	14.8%		.8%	72%	27.2%		

- Regression Analysis

As Table 4 shows, the regression analysis was found statistically significant ($F= 112.379$ at the level of $p<0.000$). The Adjusted R Square was .475 and R Square was .479 from which the factors explain 47.5 percent of the total variance of public service innovation outcomes, a figure deemed good enough for social science research. The Durbin Watson statistic was 1.939 for the model, which confirmed that there was no auto correlation.

Table 4: Model Summary

Model Summary	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	
Model 1	.692 ^a	.479	.475	.35311	1.939	
Anova						
Model 1		Sum of Squares	df	Mean Square	F	Sig.
	Regression	42.037	3	14.012	112.379	.000b
	Residual	45.635	366	.125		
	Total	87.672	369			

a. Predictors: (Constant) POS

b. Dependent Variable: PSIO

Collinearity statistics in Table 5 indicate that the VIF value was 1.737 (which is less than 10) and the tolerance value .576 (which is greater than 0.10), which confirms that there was no multi collinearity. Besides, no heteroscedasticity was found in the scatter plot of the regression standardized residual and standardized predicted values. Perceived organizational support has a significant positive influence on public service innovation outcomes. The four perceived support factors (team cohesion, rewards and recognition, technological support, and replication scope) ($\beta=.125$, $t=2.511$, $p<.000$) were shown to be strong predictors of public service innovation outcomes.

Table 5: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error				Tolerance	VIF
1	(Constant)	1.030	.222		4.638	.000		
	POS	.119	.047	.125	2.511	.000	.576	1.737

a. Dependent Variable: PSIO

- Hypothesis Testing

Table 6 shows that Team Cohesion (TC) was found to be a strong predictor of public service innovation outcomes ($\beta=.074$, $t=1.788$, $p<.000$). This was also the case with Rewards and Recognition (RR) ($\beta=.038$, $t=1.136$, $p<.000$) and Technological Support (TS) ($\beta=.038$, $t=1.308$, $p<.000$). As to Replication Scope (RS), it was found to be the strongest predictor among the four indicators of POS of public service innovation outcome ($\beta=.407$, $t=10.537$, $p<.000$).

Table 6: Coefficients and Collinearity Test

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error				Tolerance	VIF
1	(Constant)	2.686	.195		13.794	.000		
	TC	.074	.042	.092	1.788	.000	.684	1.462
	RR	.038	.033	.056	1.136	.000	.741	1.350
	TS	.038	.029	.064	1.308	.000	.761	1.314
	RS	.407	.038	.551	10.573	.000	.672	1.489

a. Dependent Variable: PSIO

- Correlation Matrix

Whether there is positive, negative, or no association between two variables can be denoted by the correlation matrix. The range for this matrix is -1 to +1 which means absolute negative or positive relations. Close to 1 denotes a stronger association and close to 0 a weaker association in the correlation coefficient. As Table 7 indicates, there are correlations between all the concepts.

Table-7: Correlation Matrix

Correlations		TC	RR	TS	RS	PSIO
TC	Pearson Correlation	1	.405**	.424**	.505**	.360**
RR	Pearson Correlation		1	.392**	.442**	.304**
TS	Pearson Correlation			1	.380**	.200**
RS	Pearson Correlation				1	.597**
PSIO1	Pearson Correlation					1

**. Correlation is significant at the 0.01 level (2-tailed)

5. Discussion, Conclusion, and Policy Recommendations

This study aimed to assess the influence of the four elements of perceived organizational support (team cohesion, rewards and recognition, technological support, and replication scope) on public service innovation outcomes in Bangladesh, where public organizations are finding it increasingly difficult to provide adequate services in the face of the growing demands of the rising population. Data was collected from innovation team members at district and 'upazila' administrative levels. It was found that all the support elements had a significant positive effect on public service innovation outcomes.

Firstly, the extent and strength of team bonding inside and between members are outcome determinative. The stronger team cohesion, the higher the outcomes. Since an optimistic attitude and accommodating gestures foster team bonding and, as a result, innovation outputs, government offices and policymakers should focus on a progressively transformational leadership and management style cultivating a brotherly and friendly environment. A non-judgmental, non-punishing, and trust-generating environment will enable innovation team members to freely brainstorm in full confidence and creatively.

Secondly, rewards and recognition are potent predictors of public-sector innovation outcomes. They serve as a motivator and a source of satisfaction for innovation team members and improve public service innovation outcomes. In Bangladesh, there is no official or direct financial or non-financial rewards and recognition structure for members of innovation teams. Besides, public employees are overwhelmed with daily tasks and innovation team members' lack of financial advantages may demotivate them. Yet, the Bangladesh government has made innovation a high priority and created two significant awards; the 'Public Administration Award' and the 'Digital Bangladesh Award.' Both reward successful innovative efforts.

Thirdly, technological support also has a significant positive impact on the outcomes of public service innovation. Authorities in Bangladesh have been providing technological support to innovation team members, including computers, laptops, and uninterrupted internet, without which any improvement would virtually be impossible. That said, it is important to note that while this is the case in urban centers, government offices in remote areas still struggle to get basic technological support, including required faster internet speed, smartphones, and printers, the lack of which make innovation and a smooth delivery of public services almost impossible. Authorities should deal with these situations as innovative digital public services not only save time and reduce costs but also are the only way to offer the public a one-stop service delivery process.

Finally, out of the four elements of perceived organizational support, replication scope has the highest positive impact on the outcomes of public service innovation. For developing countries like Bangladesh, innovation can be costly and time-consuming. Replicating successful innovation projects and initiatives is therefore seen as a viable option for patronizing public service innovation outcomes. The banking industry provides a coherent illustration of a service delivery sector replicating successful innovation. However, before replicating innovation projects, groundwork is required, and a proper guideline for replicating national or worldwide innovation projects should be established to ensure that the originality of the service delivering innovation works is preserved. The specific socioeconomic and geographical factors of a location are also critical for replicating the breakthrough as innovation that works in one place may not be working in another. In other words, the issue of its transportability is critical as it may require some key changes so as to fit with the local culture. Therefore, the designated ministries should be involved in determining whether or not the idea is replicable and transportable. If the innovation is related to the ministries of education, health, or agriculture, the choice will be made by the relevant ministry.

- *Policy Recommendations*

Based on all the above, the following recommendations can be made:

- Policymakers should design a replication plan that stimulates novel ideas and showcases and scales up innovations and their institutionalization in a way that does not stifle the original innovation process.
- There should be a strategy for allocating budgets for up-to-date technology for public offices and innovation team members, which will expedite the innovative works and public service innovation outcomes as well.
- Policymakers should create a formal structure of rewards and recognition for innovation team members, such as a specific innovation incentive policy, financial benefits, fair pay, and linking innovation performances with placement and promotion. These will work as stimulant and motivation.
- The government should introduce one-stop service centers at the district and sub-district levels.
- A customer/service seeker feedback procedure should be set up to find out the gap between expected and perceived services. This will help to improve the specific service delivering process.
- Finally, a capacity building strategy for civil servants should be formulated with an emphasis on team building, leadership development, empathy building, innovation techniques, and service simplification.

- *Implications*

This study contributes to the literature on public service innovation outcomes and the issue of perceived organizational support in a developing country as it seeks to measure public service innovation outcomes through assessing team-based performance. While the Bangladesh government had been financing public sector innovation for the last twelve years, the outcome of that investment has not been fully measured. This study will help policy formulators to build a more coherent and encompassing public service innovation strategy. As evidence that perceived organizational support influences and positively impacts innovation outcomes, this study will encourage innovation policies and provide an incentive for the government to take the measures which will encourage organizational support in favor of innovation.

- *Limitations and Future Research*

Due to a lack of time and resources, this study did not cover the operational, regulatory, and financial areas of the innovation teams, which also strongly bear on the evaluation of public service innovation outcomes. Since the model explained about 50 percent of the variances, there may thus be unexplained factors not covered by this study. In order to draw a more comprehensive picture of public service innovation outcomes in Bangladesh further studies can be done combining central and local administrations. Moreover, in giving priority to service recipients/seekers and further evaluating the quality of services, another model can be established, including a comparative analysis of before and after application of innovation. Such a model may account for the 50 percent unexplained variance as more variables would be added in the study.

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Topics discussed:

1. **Mission Statement**
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- Objectivity:
 - Articles submitted for review should be reviewed objectively solely based on the expertise of reviewers; and
 - Key criteria to be considered as part of the review process should include among others the articulation and coherence of the arguments and the strength of the evidence provided.
- Acknowledgement of Sources:
 - Reviewers should identify any important relevant published work that was not cited by the authors as part of the references; and
 - Reviewers are also expected to bring to authors' attention any substantial similarity or overlap between the article reviewed and any published work of which they have personal knowledge.

Duties of Editor-in-Chief

- Confidentiality:
 - As part of AJMI "double blind" peer review system, the Editor-in-Chief shall take all necessary steps to protect the identity of author(s) and reviewers throughout the review process.
- Conflicts of Interest:
 - In the event the Editor-in-Chief has a personal stake in the publication of an article, the Editor-in-Chief should recuse himself/herself from the review process for that article and a member of the Editorial Board should be nominated by the Editorial Board to step in.
- Objectivity:
 - Decisions regarding the publication of an article submitted for review should be made objectively; and
 - Critical factors to consider in deciding whether to publish an article should include, among others: the level of contribution of the article to its field; the quality of articulation of the arguments; and the strength of the evidence provided.
- Publication Decisions
 - As mentioned above, AJMI does not accept articles for review that have been published or are under consideration for publication in another journal;
 - AJMI Editor-in-Chief is ultimately responsible for deciding which of the articles submitted to the journal should be published;
 - Decisions should be guided by the recommendations of AJMI Editorial Board and constrained by legal requirements regarding libel, copyright infringement and plagiarism;
 - In making decisions, the Editor-in-Chief should always confer with other editors or reviewers.
 - The Editor-in-Chief is committed to taking any reasonable steps to identify and prevent the publication of articles where misconduct has occurred. In the event of documented violation of any of the above-mentioned AJMI policies, the following sanctions shall be applied:
 - (i) immediate rejection of the infringing article;
 - (ii) immediate rejection of every other submission submitted to AJMI by any of the author(s) of the infringing article; and
 - (iii) prohibition against all subsequent submissions to AJMI by the author(s), either individually or in combination with other authors of the infringing article, as well as in combination with any authors. The prohibition shall be imposed for a minimum of two years.

- In cases where the violation of any of the above policies is found to be particularly egregious, AJMI reserves the right to impose any sanction beyond those described above, which AJMI would deem appropriate under the circumstances.

6. RESEARCH COMPONENTS

The article should include the following components:

- An introduction
- A review of the relevant literature
- An outline of the research methodology/ research design
- Research findings
- A discussion of the results
- A conclusion and policy recommendations/ recommendations to managers

An emphasis should be placed on the discussion of the findings, the conclusion and policy recommendations/ recommendations to managers.

7. AJMI STYLE GUIDE

All of the following requirements need to be met before an article can be sent to reviewers.

If the formatting of a submitted paper does not match these requirements, **the paper will be returned without review for correction and re-submission.**

1. Format

- Must be a Word-compatible document (not a .pdf) and use the American Psychological Association (APA) Referencing Style as shown below (see sub-sections 6 and 7).

2. Title Page

- Uploaded separately from the abstract and body.
- Manuscript title (not in all capital letters).
- Title, name, affiliation and email address of all authors.
- Indicate clearly who is the corresponding author for journal communication.

3. Abstract

- Not more than 250 words.
- Should not include any information that would identify the author(s).
- Bold, Times New Roman, 12 point, no indentation.

4. Keywords

- Three to six keywords are required at the time of submission.

5. Body of the Paper

- A4 page size.
- Margin of 1" (2.5cm) on all four sides.
- Title of Article: Times New Roman font, 20 point.
- Section Heading: First letter of each word in capitals, bold 12 point font.
- Body Text: Times New Roman font, 12 point, single space between sentences.

6. In-Text Citations

- All in-text citations included throughout the article must have a corresponding full reference at the end of the manuscript body.
- Only direct quotes need a page number (not paraphrases).

• Direct Quotes

- *One Author*

Author's Last name (Year) stated that "direct quote" (page number).

Isenberg (2007) stated that “international dispersion is on the rise” (p. 56). **Or**

“Direct quote” (Last name, Year, page number)

“International dispersion is on the rise” (Isenberg, 2007, p. 56).

- *Two Authors*

First author’s Last name and second author’s Last name (Year, page number) mentioned that “direct quote” (page number).

Isenberg and Kerr (2007) mentioned that “international dispersion is on the rise” (p. 56). **Or**

‘Direct quote’ (first author’s Last name & second author’s Last name, Year, page number).

“International dispersion is on the rise” (Isenberg & Kerr, 2007, p. 56).

- **Block Quotes**

If a quote runs on for more than 40 words:

- Start the direct quotation on a new line
- Indent the text roughly half an inch from the left margin
- Remove any quotation marks

Example:

As Krugman (2019) stated:

Maybe the larger point here is that there tends to be a certain amount of mysticism about trade policy, because the fact that it’s global and touches on one of the most famous insights in economics, the theory of comparative advantage, gives it an amount of mind space somewhat disproportionate to its actual economic importance. (p. 3).

- **Parenthetical Citing**

- *One Author*

Author’s Last name (Year) in-text parenthetical citation (paraphrase).

Isenberg (2007) argues that cross-border migration is increasing.

or

Paraphrase (Last name, Year)

Cross-border migration is increasing (Isenberg, 2007).

- *Two Authors*

First author’s Last name and second author’s Last name (Year) paraphrase.

Kerr and Isenberg (2007) argued that cross-border migration is increasing.

or

Paraphrase (first author’s Last name & second author’s Last name, Year).

Cross-border migration is on the rise (Isenberg & Kerr, 2007).

- *Three to Five Authors*

All authors’ Last names (Year) paraphrase.

Kerr, Isenberg, and Steward (2007) argued that cross-border migration is increasing.

or

Paraphrase (all authors’ Last names, Year).

Cross-border migration is increasing (Isenberg, Kerr, & Steward, 2007).

For all subsequent in-text paraphrases, first author’s Last name followed by “et al.” and the publication year.

Isenberg et al. (2007) found that the event resulted in thousands of people flocking to the border.

or

The event resulted in thousands of people flocking to the border (Isenberg et al., 2007).

Full References

The following formatting rules apply:

- References appear at the end of the manuscript body in alphabetical order by the first word in the reference (usually the author's last name, sometimes the title).
- All references must have a corresponding in-text citation in the manuscript.
- If more than one work by an author is cited, list them by earliest publication date first.
- If the list contains more than one item published by the same author(s) in the same year, add lower case letters immediately after the year to distinguish them (e.g. 1983a).
- If there is no author, the title moves to the author position (filed under the first significant word of the title).
- Reference list entries should be indented half an inch or 12 mm (five to seven spaces) on the second and subsequent lines of the reference list for every entry - a hanging indent is the preferred style (i.e. entries should begin flush left, and the second and subsequent lines should be indented).
- Double-space all reference entries.

Follow APA Referencing Style format for each source type listed as shown below. For any source type not shown below, go to the APA website for references.

- Book
 - *One Author*
Author, F. M. / Organization. (Year). *Topic Title*. City: Publisher.
Nagel, P. C. (1992). *The Lees of Virginia: Seven generations of an American family*. New York: Oxford University Press.
 - *Two Authors*
Author, F. M., & Author, F. M. (Year). *Topic Title*. City: Publisher.
Nagel, P. C., & Sampson, T. (1995). *Seven generations of an American family*. New York: Oxford University Press.
 - *Three Authors*
Author, F. M., Author, F. M., & Author, F. M. (Year). *Topic Title*. City: Publisher.
Nagel, P. C., Sampson, T., & Hubbard, A. J. (1992). *The Lees of Virginia: Seven generations of an American family*. New York: Oxford University Press.
- Journal
Author, F. M. (Year). Title of article. *Title of Journal*, vol. (issue), pp xxx-xxx.
Turner, R. A. (2007). Coaching and consulting in multicultural contexts. *Consulting Psychology Journal: Practice and Research*, 59(4), 241-243.
- Website
Author, F. M./ Organization. (Year of Publication). Web page title. Retrieved (Date) from:
URL Address.
Bogati, S. (2013, October 14). Hospitality Industry in Nepal. Retrieved November 3, 2018, from: <http://hospitalityindustryinnepal.blogspot.com/>
- Newspaper
Author, F. M. / Organization (Year, month, day published). Title of article. *Title of newspaper*, page.
Parker, T. D. (2009, August 3). Getting rid of side stitches. *The Washington Post*, p. E1, E4.

7. Formatting Figures and Table

There are two different styles for graphics in APA format: **Figures** (charts, images, pictures) and **Tables**.

- **Figures**

- The first graphic (chart, drawing, or image) will be labeled as Figure 1 and be the first one mentioned in the article.
- Subsequent ones will follow in the appropriate numeral order in which they appear in the article.
- Follow APA Referencing Style format for each source type listed as shown below. This means that both the Title and the Source are written below the Figure.



Figure 1: Name of Picture

Source: Author's Last name OR Organization's name (Year, Page number OR Online)
Khoman (2017, p. 137)

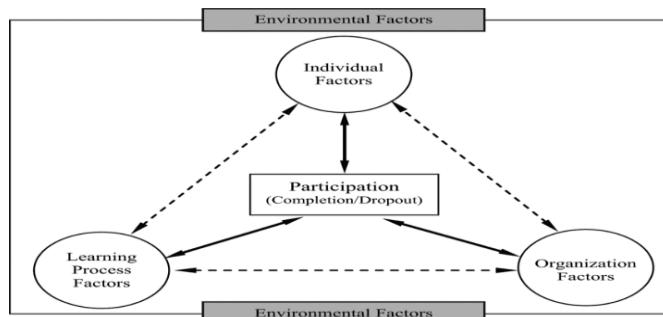


Figure 1: Conceptual framework

Source: Author's Last name OR Organization's name (Year: Page number OR Online)
Wang (2019: p. 45)

- **Tables**

Tables are labelled separately to Figures and should follow the instructions below.

- The first Table will be labeled as Table 1 and be the first Table mentioned in the article.
- Subsequent ones will follow in the appropriate numeral order in which they appear in the article. This means that Tables are labelled separately to Figures.
- The APA Referencing Style format for a Table differs to that of a Figure. A Table has the Title above the Table, and the Source will be listed below.

Table 2: Domestic Tourism in Ayutthaya and Sukhothai in 2004

Type of Data (2004)	Ayutthaya	Sukhothai
Visitor Thai Foreigners	3,023,933	1,915,975 1,107,958

Source: Author's Last name OR Organization's name (Year: Page number OR Online)
Tourism Authority of Thailand (2005: Online)

For any source type not shown above, go to the APA website for references.