THE IMPACT OF SUSTAINABILITY CONCEPT ON SUPPLY CHAIN DYNAMIC CAPABILITIES

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Abstract: The basic aim of current study is to investigate the empirically influence of SSCM practices on the Supply chain dynamic capabilities (SCDC) and organizational sustainable performance (OSP) indicators "(economic performance, environmental performance, social performance)" through the mediation effect of SCDC on the relationship of SSCM practices and OSP in the restaurant industry of Thailand. For this purpose, data was collected from the 210 supply chain managers by using the simple random sampling technique. For data analysis Smart PLS 3.2.8 software and PLS Structural Equation Modeling (SEM) approach was employed. The SEM analysis has shown, SSCM practices has a significant association with the SCDC, and SCDC also partially mediated within the relationship of SSCM practices and organizational sustainable performance. Moreover, the findings of the current study also shown that organizations could realize that the effect of SC dynamic capabilities practices. The current research also contributes a body of knowledge in the way of empirical findings.

Key words: supply chain dynamic capabilities, sustainable supply chain management, organizational sustainable performance

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Introduction

In the contemporary environment, supply chain management (SCM) has become one of the main sources for the firms to increase their performance, and even their cost when the firms face the more competition from the market (Jermsittiparsert and Rungsrisawat, 2019). Nevertheless, with the several emerging issues, like, transparency of the firms, benefits of the employees, environmental protection and concern with the security. To handle of these issues, there is need of time for the firms to transforms a better supply chain (SC) model. Moreover, firms also need to build a friendly environmental SC model to achieve or reach the harmony with the nature. The firms which gain a competitive advantage and lead in the international markets have good level SC practices in their systems.

The sustainable supply chain management (SSCM) is entirely based on the combination of the SCM and sustainable theory. In the same vein, the digitization and globalization has posted a most challenges for the modern SCM with respect to dynamicity which could require dynamic capabilities (DC) which are higher in the supply chain management (SCM). The linkage of the SSCM and SC has concerned with a parallel environmental condition and creating the concept of the DC in field

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of SSCM a reasonable optimal. At last, the research based on how to improve the DC of SC to achieve the competitive advantage of the firms and sustainable performance based on after the deep understanding of SC is considered to be high valuable topic. Most of the research on the SSCM has been conducted on developed countries. Whereas, the research on the developing countries has a limited attention as a SSCM Thus after seeking the contribution of this sector in Thailand, the sustainability of this sector is played an important. So that the market share of this industry with respect to social and economic perspective could be remain stable.

Literature Review

The SSCM practices has been comprises internal and external practices of the firms that are used to make the supply chain within the organizations more sustainable with respect to three dimensions of the sustainability (Morali and Searcy, 2013). The firms which have good practiced about the sustainable supply chain are able to enhance their sustainable competences. Various scholars have been done a various researches on the SCM practices. Nonetheless, a little attention has been reviewed in the extant literature on SSCM practices and case analysis has been used to discussed about the practices through diversified industries and has been explored the practices in the manufacturing industries (Verma, 2014; Lenort & Besta, 2009). Various studies have been conducted who investigated that how the SSCM practices could increase the sustainable performance. A study conducted on the manufacturing firms by the Zailani, Jeyaraman, Vengadasan, and Premkumar (2012) who found that SSCM practices have positive and significant association with the sustainable performance, especially from the social perspective and economic perspective. In the same vein, the positive effect of SSCM on the sustainable performance. Thus after seeking this associate association it is hypothesized that:

H1: *SSCM practices have a significant association with the organizational sustainability performance*

Previous researches on the dynamic capabilities have shown that it has a positive and significant effect on the business performance. It is further investigated by Eriksson (2014) that dynamic capabilities has the abilities to gain the competitive advantage and hence also provide help to gain the performance of the industry. As, currently the dynamic capabilities are relatively considered to be a new concept, and there is also a limited researches how it could effect to sustainable performance. A study explored by Brun et al. (2013) on the luxury industry and found the positive impact of supply chain dynamic capabilities on the sustainable performance and on the new products of firms. On the other hand, various other researchers also analyzed this relationship through the various specific dimensions and found that strategic cooperation ability could help to increase the sustainable advantage of firm. Thus, based on this it is hypothesized that:

H2: *Supply chain dynamic capabilities have significant association with the organizational sustainability performance*

The SSCM would provide help to achieve the competitive advantage which are short term, which in the turn could be boost with the further development of the dynamic capabilities (Brun et al., 2013; Mesarč, 2018). The combination of both of SSCM and dynamic capability is limited with respective to empirical research. All kind of information in is provided by the customer orientation and participation in the SSCM practices (Dangol and Kos, 2014), and to some of the extent encourage the dynamic capabilities and improve the sustainable performance. In addition, Ernst and Kim (2002) further explored that spillover and cultivation of the firm's capability in global supply chain has shown that firms are able to gain the knowledge and resource's from various chain members and therefore has improved their capability Ernst and Kim (2002) also elaborate that trust of the supply chain partner is considered to be a vital in dynamic capabilities of the firms. Therefore, based on this, it is hypothesized that:

H3: *SSCM practices have a significant association with the supply chain dynamic capabilities.*

It is proposed by Hazen, Cegielski, and Hanna (2011) that SSCM practices might not be considered as the source of competitive advantage. In addition, (Dubey et al., 2017) further argued that SSCM could impact on the competitiveness of the enterprise through the mediating linkage. With respective to the resource base view, dynamic capabilities could be often mediate the sustainable resources to improve the performance. Guiffrida, Datta, Kim, and Min (2011) further investigated that dynamic learning capability could be more effectively mediate the impact of the sustainable practices on the performance. On the other hand, various other scholars also explored the relationship among the supply management, dynamic capabilities and business performance. The researcher has started their work from the dynamic and proposed that the relationship of the supplier has a positive effect on the flexibility of the production and optimization of the product, hence improve the sustainable performance. They further also confirmed the combined effect of dynamic capabilities within the supplier and firm efficiency relationship. Thus based on this, it is hypothesized that:

H4: *Supply chain dynamic capabilities partially mediate the relationships between SSCM practices and organizational sustainable performance.*

Methodology

The present study is cross sectional and correlational in nature because the data was collected on time. A quantitative approach through using the self-administered questionnaire was used to investigate the relationship between the exogenous, mediator and endogenous variable in the restaurant industry of Thailand. The primary data for the current study has been collected by using the five point Likert

Scale from strongly agree=1 to strongly disagree=5. For measure all the variable the questionnaires were taken from the extant literature or studies. Five items for the SSCM practices has been adopted from the various studies. Similarly, five items have been adopted for the supply chain dynamic capabilities. Moreover, three items were measured to the economic performance that was adopted from the previous studies. Three items for the environmental performance has been adopted from the several studies (Cory, 2009; Luthra and Haleem, 2015; Yakovleva et al., 2012; Zhu and Sarkis, 2006). Lastly, three items for the social performance has been adopted from the studies of (Adivar et al., 2010; Tajbakhsh and Hassini, 2015; Vachon and Mao, 2008). For the data collection, questionnaire translated both in the English and Thai language. At the time of study, there was almost 900 supply chain managers were working in Thailand five star hotels. The samples size 269 supply chain managers for the current study was selected by using the (Krejcie and Morgan, 1970).

Data Analysis

Several prior studies adopted partial least square – structural equation modelling (PLS-SEM) approach in testing the direct and indirect relationship of variables (Buil et al., 2018; Lim and Loosemore, 2017; Singjai et al., 2018). Therefore, the research hypotheses of present research were assessed through PLS-SEM. The measurement and structural model of the study were assessed by using Smart PLS 3 software. PLS-SEM approach is appropriate in case of non-normal data or small sample size. Before assessing the model, the construct reliability and validity must be established (Hair et al., 2014). Therefore, first, we assessed the convergent validity and discriminant validity of the measurement model. Table 1 presents the measurement model of the study.

Table 1: Measurement Model of the study

Measurement Scale	Items	Loadings	Cronbach's Alpha	AVE	CR
Economic Performance	EcoP1	0.707	**0.72**	**0.57**	**0.80**
	EcoP2	0.826			
	EcoP3	0.725			
Environmental Performance	EnvP1	0.791	**0.73**	**0.52**	**0.76**
	EnvP2	0.542			
	EnvP3	0.803			
SC Dynamic Capabilities	SCDC1	0.729	**0.79**	**0.54**	**0.86**
	SCDC2	0.702			
	SCDC3	0.792			
	SCDC4	0.759			
	SCDC5	0.695			
SSCM Practices	SSCMP1	0.758	**0.75**	**0.50**	**0.83**
	SSCMP2	0.748			
	SSCMP3	0.697			
	SSCMP4	0.747			

	SSCMP5	0.578			
Social Performance	SocP1	0.745	**0.71**	**0.52**	**0.76**
	SocP2	0.723			
	SocP3	0.699			

All the factor loadings that are less than 0.5 are deleted from the model in order to establish the indicators reliability. All the constructs have cronbach's alpha > 0.70, average variance extracted (AVE) > 0.5 and composite reliability (CR) > 0.60 that established the convergent validity of the model (Hair et al., 2014). For discriminant validity, in the fornell and larcker criterion, the diognal values represents the square of AVE that must be greater that the constructs' correlation with other variables and in the HTMT analysis all the values should be less than 0.85 (Hair et al., 2017). Similarly, the results of the Fornell and larcker criterion (in Table 2) and HTMT analysis (in Table 3) have established the discriminant validity of the construct.

Table 2: Fornell and Larcker Criterion for Discriminant Validity

	EcoP	**EnvP**	**SCDC**	**SSCMP**	**SocP**
EcoP	**0.755**				
EnvP	0.436	**0.722**			
SCDC	0.522	0.437	**0.736**		
SSCMP	0.434	0.51	0.563	**0.709**	
SocP	0.353	0.686	0.407	0.472	**0.722**

Table 3: HTMT Analysis for Discriminant Validity

	EcoP	**EnvP**	**SCDC**	**SSCMP**	**SocP**
EcoP					
EnvP	0.761				
SCDC	0.728	0.629			
SSCMP	0.624	0.748	0.720		
SocP	0.609	0.554	0.593	0.730	

Findings and Discussion

In order to test the hypotheses, PLS-SEM was applied using Smartpls 3.0. The model contains four endogenous variables i.e. SC dynamic capabilities (mediator) and economic performance, environmental performance and social performance (dependent variable) that establish the substantiality of the Model. Table 4 presents the results of PLS bootstrap algorithms that confirms the significant direct relationship of SSCMP with SCDC (β = 0.563, t value = 12.517, p value = 0.000), economic performance (β = 0.21, t value = 3.18, p value = 0.002), environmental performance (β = 0.386, t value = 6.40, p value = 0.000) and social performance (β = 0.357, t value = 5.57, p value = 0.000). The findings also revealed the significant positive relationship of SSDC with economic performance (β = 0.407, t value = 5.91, p value = 0.000), environmental performance (β = 0.22, t value = 3.12, p

value = 0.002) and social performance (β = 0.21, t value = 2.91, p value = 0.004). Thus, considering direct relationship, all the hypotheses are supported in this study. These results are consistent with studies of (Hasan, 2013; Huatuco et al., 2013), who found the SSCMP as a significant predictor of sustainability performance in various countries.

Table 4: Direct Effect

Hypothesis	Beta	S.E	T Value	P Value	CI^{BCa} Low	CI^{BCa} High	Decision
SCDC -> EcoP	0.407	0.069	5.905	0.000	0.248	0.524	Supported
SCDC -> EnvP	0.220	0.071	3.117	0.002	0.075	0.346	Supported
SCDC -> SocP	0.205	0.070	2.913	0.004	0.065	0.339	Supported
SSCMP-> EcoP	0.205	0.065	3.179	0.002	0.077	0.330	Supported
SSCMP -> EnvP	0.386	0.060	6.403	0.000	0.256	0.489	Supported
SSCMP -> SCDC	0.563	0.045	12.517	0.000	0.468	0.637	Supported
SSCMP -> SocP	0.357	0.064	5.571	0.000	0.226	0.467	Supported

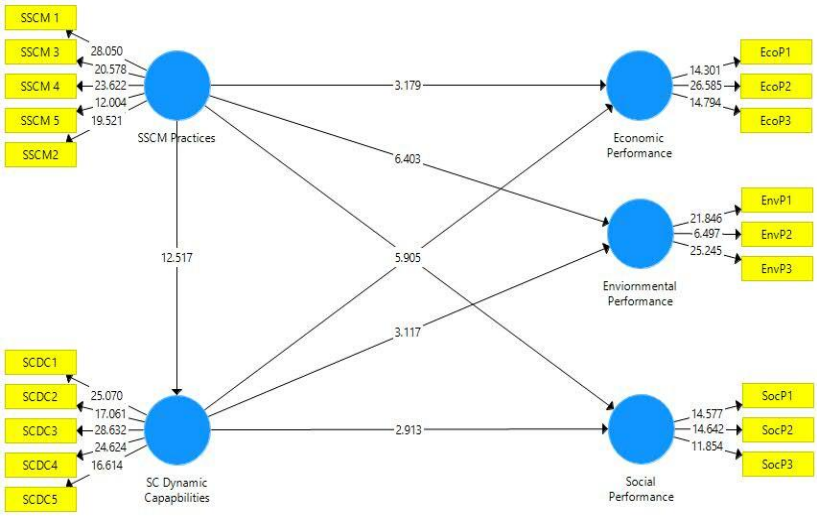

Figure 2: Standardized Beta Coefficients of the Structural Model

Similarly, the findings (see Table 5) inferred that SC dynamic capabilities partially mediates the relationship of SSCMP with economic performance (β = 0.229, t value = 5.18, p value = 0.000), environmental performance (β = 0.124, t value = 3.09, p value = 0.002) and social performance (β = 0.115, t value = 2.86, p value = 0.004). These findings suggest that SSCMP and SCDC have substantive direct impact on organization's sustainability performance. In addition, the SCDC partially mediates the relationship between SSCMP and all the three dimensions of business sustainability performance (i.e. economic, environmental and social performance). These results replicate the findings of several prior studies (Clifford et al., 2010; Paulraj et al., 2008); who found the significant indirect role of SC

dynamic capabilities in enhancing organization's sustainability performance through SSCM activities. These findings not only provide the mechanism for enhancing organization's sustainability performance, but will also motivate the managers to adopt the SSCM practices to enhance their competitive strength and overall business performance.

Table 5: Indirect Effect

Hypothesis	Beta	S.E	T Values	P Values	CI^{BCa} Low	CI^{BCa} High
SSCMP -> SCDC -> EcoP	0.229	0.044	5.181	0.000	0.129	0.31
SSCMP -> SCDC -> EnvP	0.124	0.040	3.085	0.002	0.032	0.195
SSCMP -> SCDC -> SocP	0.115	0.040	2.859	0.004	0.031	0.191

Conclusion

Finally, this study concluded that the SSCMP enhance the sustainable performance of the company and dynamic capabilities of supply chain enhance this relationship. Thus, this study recommended to the policymakers that they made the policies to enhance the supply chain effect on the performance of the organization. The presents study contributes to the existing literature in several ways. First, it provides the empirical evidence of the relationship between SSCM practices and organization's sustainability performance in the context of restaurant industry in Thailand that strengthen the findings of prior studies (Hoejmose and Adrien-Kirby, 2012; Saenz et al., 2015). Second, this study is amongst the few that explore the SSCM practices relationship with organization's sustainability performance in developing countries specifically Thailand. It also extends the literature and provide generalizability to the findings of prior studies that focused on developed countries (Silvestre, 2015). Finally, our findings provide empirical support to indirect effect of SC dynamic capabilities in the relationship of SSCM practices with sustainability performance and adds knowledge to the existing literature.

The present research provides considerable implications to the practitioners specifically related to restaurant industry. First it provides the mechanism of enhancing business sustainability performance through SSCM practices. Second, it encourages the managers to adopt SSCM by establishing it link with overall business performance from past studies. This will motivate them and enhance their confidence in implementing sustainability activities in their existing SCM system. Finally, this research will help the restaurant managers in enhancing their competitive advantage through sustainable supply chain management initiatives.

Limitations and Future Research

This research has some limitations since it has a cross-sectional design and the data obtained make inferences about the responses at one time only. However, a longitudinal study is preferred to assess change in responses at different point of time and to establish the causal relationships among variables. Furthermore, the

data was collected from Thai restaurant SC managers. Thus, future research should enlarge the sample and balance the number of purchasing and other managers, to conduct a comparative analysis between two groups of managers. Moreover, this study uses parcel sum of squares or multidimensional construct using in this study to draw the overall conclusion about latent variables. Therefore, it is recommended that the prior studies should analyze the whole model by focusing on each dimension of the construct.

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WPŁYW KONCEPCJI ZRÓWNOWAŻONEGO ROZWOJU NA MOŻLIWOŚCI DYNAMICZNE ŁAŃCUCHA DOSTAW

Streszczenie: Artykuł przedstawia wyniki badań empirycznego wpływu praktyk SSCM na wskaźniki dynamiki łańcucha dostaw (SCDC) i wskaźniki zrównoważonej wydajności organizacyjnej (OSP) „(wyniki gospodarcze, środowiskowe i społeczne)" poprzez efekt mediacji SCDC w sprawie związku praktyk SSCM i OSP w branży restauracyjnej w Tajlandii. W tym celu zebrano dane od 210 menedżerów łańcucha dostaw przy użyciu prostej techniki losowego próbkowania. Do analizy danych zastosowano oprogramowanie Smart PLS 3.2.8 i podejście PLS Structural Equation Modeling (SEM). Analiza SEM wykazała, że praktyki SSCM mają znaczący związek z SCDC, a SCDC również częściowo

pośredniczą w relacji między praktykami SSCM a zrównoważoną wydajnością organizacyjną. Ponadto wyniki obecnego badania pokazały również, że organizacje mogą zdawać sobie sprawę, z efektu praktyk dynamicznych zdolności SC. Obecne badania przyczyniają się również do poszerzenia wiedzy w zakresie ustaleń empirycznych.
Słowa kluczowe: możliwości dynamiczne łańcucha dostaw, zrównoważone zarządzanie łańcuchem dostaw, zrównoważona wydajność organizacji

可持续性概念对供应链动态能力的影响

摘要:本研究的基本目的是通过中介效应研究SSCM实践对供应链动态能力(SCDC)和组织可持续绩效(OSP)指标"(经济绩效，环境绩效，社会绩效)"的经验影响SCDC对泰国餐饮业SSCM惯例与OSP之间关系的看法。为此，使用简单的随机抽样技术从210个供应链管理者中收集了数据。为了进行数据分析，采用了SmartPLS3.2.8软件和PLS结构方程模型(SEM)方法。SEM的分析表明，SSCM实践与SCDC有着显着的联系，并且SCDC也部分地在SSCM实践与组织可持续绩效之间的关系中起到了调节作用。而且，当前研究的结果还表明，组织可以意识到SC动态能力实践的效果。当前的研究还以经验发现的方式提供了知识体系。
关键字:供应链动态能力，可持续供应链管理，组织可持续绩效