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The Impact of Strategic Skills on Supply Management Performance

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Abstract–

This study examines the antecedents and consequences of purchasing performance. Based on a study of the literature three antecedents of purchasing performance have been identified, namely benchmarking, standardization, and purchasing characteristics. The outcome of purchasing performance produces business performance. A survey with a sample of 200 subjects was conducted within the fast moving consumer goods industry, or more specifically in the food and beverage sector, in Thailand, which is one of the fastest growing markets in Southeast Asia. The hypothesized model has been tested using a structural equation modeling approach. The findings from this study are interesting, and suggest that there is significant support for the hypothesized model in which all the antecedent variables (benchmarking, standardization, purchasing characteristics) have a direct impact on purchasing performance and business performance, in addition to an indirect impact on business performance mediated through purchasing performance. Research findings imply that firms can improve their purchasing and business performance through an increased emphasis in benchmarking, standardization and purchasing characteristics.

Keywords–Benchmarking, Standardization, Purchasing Characteristics, Purchasing Performance, Business Performance, Fast-Moving Consumer Goods.

I. INTRODUCTION

The role of purchasing in supply chain management is very important as it forms an intermediate step in the supply chain connecting suppliers with internal purchasing customers who, in turn, provide products and services for external customers. The importance of the purchasing function can easily be understood if one also considers that purchased goods and services typically represent from 50-70% of a company's revenues. The proportion of turnover spent on purchased inventory items is even higher for retail and wholesale companies, sometimes exceeding 90 percent. Consequently, purchasing decisions have a huge potential impact on the firm's end product and overall business performance, as purchasing is responsible for obtaining the materials, parts, supplies, and services needed to produce a product or provide a service. Even so, the importance of purchasing is more than just the cost of goods purchased; other important factors include the quality of goods and services and the timing of deliveries of goods or services, both of which can have a significant impact on firm performance.

The research question addressed in the present study is: *"What are the antecedents and consequences of purchasing performance?"* This study has four objectives. The primary objective is to examine the antecedents of purchasing performance and business performance. The second objective is, to examine the consequences of purchasing performance. Three key antecedents of purchasing performance were identified from the literature: benchmarking, standardization, and purchasing performance. So the study will examine, for example, the indirect effect of standardization on business performance mediated by purchasing performance. For the purchasing characteristics, researchers have produced a range of models and typologies which attempt to identify the various developmental stages of purchasing. The third purpose of this study is to examine empirically the relationship between purchasing characteristics and business performance. Finally, the study will examine the direct effect of purchasing performance on business performance.

II. LITERATURE REVIEW

2.1 Benchmarking in Purchasing

Benchmarking has been defined as "the search for industry best practices that lead to superior performance" [1]. Purchasing managers may use benchmarking to improve purchasing performance in several ways. Benchmarking could be used as a tool to identify more advanced purchasing practices, to set challenging purchasing performance goals, or to acquire a better understanding of the company's purchasing strengths and weaknesses relative to competitors, and implement improvement activities based on existing needs [2]. However, few studies have addressed the implementation of benchmarking in the supply function and its impact on purchasing and business performance.

2.2 Standardization in Purchasing

Standardization of materials can also increase purchasing performance by improving the delivery reliability from suppliers and reducing the obsolescence cost of materials. By reducing the number of vendors and improving the relationships with suppliers, both of which can prevent unexpected delays, delivery reliability can be increased. A great reduction of obsolescence costs can be expected from standardization of materials across several product ranges and between product generations [3].

A second source of standardization described in the literature pertains to the standardization of the procedures implemented in procuring the goods and services for manufacturing (i.e. pre-set procedures and reference material for performing normal daily purchasing tasks such as ordering, expediting, selection of suppliers, and receipt and inspection of goods). As with the standardization of materials, the standardization of purchasing procedures is a potential point of cost savings for companies [3]. Because there is a lack of empirical evidence about the impact of standardization of materials and purchasing procedures (standardization in purchasing) on purchasing and business performance, this paper fills an important gap in the purchasing literature in the food and beverage industry in Thailand.

2.3 Purchasing Characteristics

Drawing upon research into the role of the purchasing function, four variables are expected to influence different purchasing configurations and business performance can be identified [5, 6]. These variables capture information on the role of purchasing in strategic planning, its status in the eyes of top managers, the level of internal integration and skill development. The following section explains how each variable was defined and why it is likely to influence the configuration of a purchasing function:

2.4 Purchasing Performance Measurement

There are ten different purchasing performance measurement areas in their handbook [7]. Also, [8] and [9] recommended measurement areas that are derived from purchasing effectiveness and purchasing efficiency. Purchasing effectiveness is defined as the extent to which, by choosing a certain course of action, a previously established goal or standard is being met. Further, purchasing efficiency is defined as the relationship between planned and actual sacrifices made in order to be able to realize a goal previously agreed upon. This construct was based on [10] objective criteria for evaluating purchasing performance and included the quality of materials purchased, on-time delivery, and actual versus target material costs. This construct also included an indicator that referred to materials' inventory performance and another referring to internal customer satisfaction.

2.5 Business Performance Measurement

[11] show how different supplier-buyer relationships can deliver differing levels of firm and financial performance. Production performance assesses the firm's performance on dimensions of product quality, delivery speed, delivery reliability and flexibility of production, using scales adapted from [12]. Financial performance was assessed on the basis of return on investment, return on sales, profit growth, and return on total assets [11, 14]. [15] found a positive relationship between benchmarking in purchasing, strategic purchasing and business performance in their empirical study. Therefore it is hypothesized that benchmarking in purchasing has a positive impact on the firm's business performance. However, the effect of benchmarking on corporate performance can be direct and/or indirect, i.e. mediated by the positive effect of purchasing performance on corporate performance. Hence:

H1. *Benchmarking has a positive impact on purchasing performance*, and

H2. *Benchmarking has a positive indirect impact (mediated by purchasing performance) on business performance.*

A further hypothesis can be advanced in order to test H2. Business performance is the result of the actions of the individual business areas that comprise a company, i.e. production, marketing, finance, purchasing. Improvements in purchasing performance should have an effect on business performance. Thus the third hypothesis proposes a positive relationship between purchasing performance and business performance:

H3. *Purchasing performance has a positive impact on the firm's business performance*

In the research on the impact of the standardization of materials and purchasing procedures on purchasing and business performance [16] argued that standardization in purchasing has a significant positive effect on both purchasing and business performance. Thus, standardizing materials and purchasing procedures is important and may help firms to meet their materials expenditure targets, and increase the quality of materials, on-time delivery from suppliers, and inventory performance. Thus the following hypothesis has been derived:

H4. *Standardization in purchasing has a positive impact on purchasing performance.*

Potentially, the most important finding of their research (as mentioned above) was that standardization in purchasing has an indirect effect on business performance. Since business performance was affected by a large number of factors, it would not be surprising if the effect of standardization in purchasing on business performance is small. Hence,

H5. *Standardization in purchasing has a positive indirect impact (mediated by purchasing performance) on business performance.*

The literature argues that different types of purchasing configuration will tend to lead to different performance outcomes [13, 15]. In their study of outsourcing decisions also [17, 18] found that the strategic focus of supply or what may be referred to as "purchasing configuration" can have an effect on the success of the chosen strategy. Hence,

H6. *The characteristics of the purchasing function have a positive impact on purchasing performance, and*

H7. *The characteristics of the purchasing function have a positive indirect impact (mediated by purchasing performance) on business performance.*

III. RESEARCH METHOD

The target population of this study consisted mainly of purchasing and sourcing managers and those who work in the supply management area and are familiar with the purchasing function in the Thai Food and Beverage industry. A simple random sampling technique was employed to gather the data in this study based on the directory of Federation of

Thai Industries (FTI). The data was collected through e-mail and face-to-face interviews with the respondents; they were typically the decision maker of the firms on supply chain and purchasing functions that were most knowledgeable about the firms' procurement activities as indicated by their positions, which was established before the questionnaire was handed over to them.

A total number of 200 subjects were targeted for this study. The size of the sample has a direct impact on the appropriateness and the statistical power of the Structural Equation Model [19]. A list of around 200 respondents from the industry was made up of supply chain managers and purchasing managers/supervisors. Based on the sample size criteria recommended by [20] for Structural Equation Modeling (SEM), 20 respondents per parameter were drawn. The conceptual model in this study was composed of 10 parameters including three first order constructs i.e. Benchmarking, Standardization, Purchasing Performance, and two second order constructs i.e. Purchasing Characteristics and Business Performance. Purchasing Characteristics included Strategic Purchasing, Purchasing Status, Internal Integration and Purchasing Skills, while Business Performance was measured by Perceived Financial Performance and Perceived Production Performance. Hence, the sample size required was (10 parameters * 20 per parameter) 200 subjects.

The researcher adopted the measurement scales based on earlier empirical studies to make an initial list of items. Then the researcher tested the first draft of the questionnaires with a pilot group consists of 30 people who work as purchasing managers, supply chain managers and supervisors. The purpose of the pilot study was to verify whether the scales adopted were relevant and understandable by the respondents. Respondents were asked to rate their level of agreement on a five-point Likert scale, where 1 represented "strongly disagree" and 5 represented "strongly agree". In addition, three elements of business performance were measured by the position of their company with respect to its competitors on a five-point scale, where 1 represented "well below" and 5 represented "well above".

IV. DATA ANALYSIS

A total of 200 questionnaires were sent out and only 99 completed surveys were returned, of which only 89 surveys were usable. Table 1 shows the distribution and summary responses. The overall response rate was 38 %.

Table I Survey Response Rate

	Response Categories	**Total %**
Total Number of Questionnaires	200	100
1.1 Total Completed Questionnaires	99	49.5
1.2 Total Valid Questionnaires for Data Analysis	89	44.5
1.3 Total Late Responses	10	5

Non-Response Biases

A verification of non-responses and late responses were carried out prior to testing the model. To determine the non-response or late-response biases in the data, the researcher tested by comparing early and late respondents, following the technique suggested by [21] and [22]. The F-test and t-test were performed to check whether there were significant differences between these two group means. These results in Table 2 show that there are no significant differences between the early and late or non-respondents.

Table II Comparison of Early and Late Responses

Construct	***F-Statistics: Test for Equality of Variances Assumed (P-value)***	***T-Statistics: Test for Equality Variances Assumed (P-value)***	***T-Statistics: Test for Equal Variances Not assumed (P-value)***
Company size	0.209 (0.649)	-1.865 (0.065)	-1.677 (0.123)
Benchmarking	0.035 (0.852)	0.498 (0.62)	0.626 (0.542)
Standardization in Purchasing Function	0.049 (0.825)	-0.258 (0.797)	-0.245 (0.811)
Purchasing Function Characteristics	1.625 (0.205)	0.363 (0.718)	0.595 (0.559)
Purchasing Performance	1.66 (0.201)	-0.345 (0.731)	-0.529 (0.604)
Business Performance	1.674 (0.199)	-0.968 (0.335)	-1.232 (0.24)

*(*Significant at 0.05 confidence levels)*

Respondent Demographics Profile

A brief overview of the respondents' profile is depicted in Table 3. In which over 80% of the respondents classified themselves as in manufacturing firms. The largest percentages of the respondents (approximately 60%) have been operating their businesses in Thailand for between 11 and 50 years. Around 83% of the firms had over 500 employees, while 17% has fewer than 500 employees.

Table III Description of Respondent Firms

Demographic Profile	Number of respondents	Percentage of respondents
Main operation		
Distributor	6	6.1
Manufacturing	87	87.9
Wholesaler	2	2
Retailer	3	3
Other	1	1
Products		
Milk Producer	17	17.2
Coffee	7	7.1
Beer	11	11.1
Snack	13	13.1
Fruit Juice	13	13.1
Frozen food	6	6.1
Instant food	1	1
Ice cream	4	4
Flavor and Fragrance	1	1
Multiple kind of food and beverage	14	14.1
Tobacco	3	3
Liquor	2	2
Creamer	2	2
Drinking Water	5	5.1
Company size		
500 or less	36	36.4
501 - 2,500	46	46.5
2,500 or more	17	17.2
Company Age		
10 or less	17	17.2
11 -50	63	63.6
50 or more	19	19.2

Reliability Assessment

Establishing construct reliability shows that each of the multiple indicators of a construct covary appropriately. The traditional measure of reliability is Cronbach's-α [22] which assumes that the indicators are measured without error. Values for Cronbach's-α range from 0 to 1 with α–values greater than 0.70 considered acceptable [23]. Cronbach's-α will be calculated for each of the constructs in the model. If Cronbach's-α is less than 0.70, items that caused a significant drop in α will be deleted. The value for α will be recalculated until an acceptable level could be obtained.

Table IV Research Constructs and Reliability Index

Construct	No. of Items	Cronbach's Alpha
Benchmarking in purchasing function	3	0.923
Standardization function characteristic	2	0.816
Purchasing function characteristic:		
Strategic Planning	5	0.813
Purchasing Status	3	0.730
Internal Integration	6	0.895
Purchasing Skills	4	0.916
Purchasing performance	5	0.924
Business performance:		
Perceived Production Performance	4	0.915
Perceived Financial Performance	4	0.917

As the results shown in the Table 4, Cronbach's Alpha of each construct including Benchmarking, Standardization, Purchasing Function Characteristics, Purchasing Performance and Business Performance were greater than threshold level of 0.70.

Analysis of Measurement Model (Confirmatory Factor Analysis)

Structural equation modeling (SEM) is a statistical technique that combines elements of both multiple regression and factor analysis. SEM is often used to specify the phenomenon under study in terms of linkages between constructs and their indicators, and provides the researcher with a straightforward method of dealing with multiple relationships simultaneously while providing statistical efficiency. SEM incorporates observed (indicator) and unobserved (latent) variables. The measurement models specify how the latent variables are measured in terms of the indicator variables as well as addressing the reliability and validity of the indicator variables in measuring the latent variables or hypothesized constructs. The Structural Equation Model provides an assessment of predictive validity, specifies the direct and indirect relations among the latent variables, and describes the amount of explained and unexplained variance in the model [24]. In SEM there is no single test of significance that can absolutely identify a correct model given the sample data. Many goodness-of-fit criteria have been established to assess an acceptable model fit. Consequently, several authors recommend presenting a number of indices to support model fit [25].

Analysis of Moment Structure (AMOS) has been used to perform structural equation modeling (SEM) for the purpose of testing the model. AMOS creates a structural equation model by extending standard multivariate analysis methods, including multiple regression models, with observed and latent variables. Hence, in this study the model testing was performed in two distinct phases: (1) Testing the measurement model through confirmatory factor analysis to establish validity and unidimensionality of the measured constructs; and (2) Testing the Structural Model to verify the hypothesized paths specified. Results of the test of the measurement model are reported below:

When viewing the model's goodness-of-fit indices that incorporated the correlation across all the items, a good fit is apparent regarding each of the measures of fit. The χ^2 =147 (D.F. = 67) is significant at p = 0.000. But χ^2 /DF is highly sensitive to the sample size. The current study deals with a relatively small sample size of only 99 subjects. [26] points out, the Comparative Fit Index (CFI) and Incremental-Fit Indexes (IFI) are more appropriate when the sample size is small. CFI and IFI were 0.920 and 0.922 respectively. Also, other indices were within the recommended threshold level. Root Mean Square Residual (RMR) was equal to 0.03 [27, 28]; these results are indicative of adequate goodness-of-fit of the data to the hypothesized model (see 29, 30, 31 and 32).

Construct Validity

Convergent validity is demonstrated when a set of alternative measures accurately represents the construct of interest [33]. The convergent validity was assessed based on the level of significance for coefficients. If all the individual construct coefficients are significant, then the indicators are effectively converging to measure the same construct [34]. Therefore, as all the coefficients for all constructs in the model were large and significant (p>0.001), this provides strong evidence of convergent validity (see Table 5).

Table V Regression Weights

			Standard Coefficient	Standard Error	Critical Ratio.	P value
BMK2	**<---**	**BMK**	**1.075**	**0.07**	**15.281**	*******
BMK3	**<---**	**BMK**	**0.985**	**0.084**	**11.698**	*******
SDD1	**<---**	**SDD**	**0.943**	**0.203**	**4.642**	*******
ITI	**<---**	**PFC**	**1.021**	**0.151**	**6.758**	*******
STP	**<---**	**PFC**	**0.868**	**0.12**	**7.227**	*******
PPF3	**<---**	**PPF**	**1.287**	**0.124**	**10.41**	*******
PRO	**<---**	**BP**	**0.959**	**0.104**	**9.203**	*******
PPF5	**<---**	**PPF**	**0.967**	**0.119**	**8.101**	*******
PPF4	**<---**	**PPF**	**1.186**	**0.115**	**10.281**	*******

Discriminant validity among the latent variables and their associated measurement variables can be assessed by fixing (i.e. constraining) the correlation between pairs of constructs to 1.0, then re-estimating the modified model [35]. This procedure essentially converts a two-construct model into a single-construct model. The condition of discriminant validity is met if the difference of the chi-square statistics between the constrained and standard models is significant (1 d.f.). The chi-square difference tests indicated that discriminant validity exists among all of the constructs (see table 6).

Table VI Discriminant Validity

		Chi-Square statistic					
		Constrained		Unconstrained			
	Correlation	model	(df)	model	(df)	Difference	p-value
Benchmarking with:							

Standardization	0.43	1.7	4	47.3	5	45.6	0.000
Purchasing Function Characteristics	0.74	12.1	8	50.9	9	38.8	0.000
Purchasing Performance	0.47	33.5	13	77.7	14	44.2	0.000
Business Performance	0.55	9	4	300.2	6	291.2	0.000
Standardization with:							
Purchasing Function Characteristic	0.42	7.5	4	58.7		51.2	0.000
Purchasing Performance	0.26	11.1	8	85.2	9	74.1	0.000
Business Performance	0.23	14.9	8	294.7	7	279.8	0.000
Purchasing Function Characteristics with:							
Purchasing Performance	0.87	18.2	13	58.3	14	40.1	0.000
Business Performance	0.70	12.2	4	184.6	6	172.4	0.000
Purchasing Performance with:							
Business Performance	0.64	7.9	8	298.7	5	290.8	0.000

Analysis of Structural Model and Hypotheses

The model's chi-square statistic was significant with χ^2 of 157.5 (df= 70) at p = 0.000. But, due to the over-sensitivity of the chi-square test to sample size, other fit indices need to be examined. As noted above, CFI and IFI can be used in case of small samples, and are 0.912 and 0.914 respectively, which was greater than 0.90 [36]. The Root Mean Square Residual (RMR) was 0.03, which was equal to the recommended level of 0.030, indicating a good fit [37, 38]. Overall, the adequacy of the model fit has been demonstrated. The findings of the hypothesized paths are summarized in Table 7.

First, in relation to H_1 (*Benchmarking has a positive impact on purchasing performance.*) the structural model identified the relationship between *Benchmarking* (BMK) and *Purchasing Performance* (PPF) as having the value of Critical Ratio (C.R) equal to 4.388, the p-value is 0.000 (Support at p<0.05). This implies that Benchmarking has positive impact on Purchasing Performance. This result suggests that purchasing managers that invest resources in establishing a formal procedure to benchmark the purchasing process and purchasing performance achieve higher levels of purchasing performance than firms with lower levels of investment.

Second, with reference to H_2 (*Benchmarking has a positive indirect impact (mediated by purchasing performance) on business performance*), the structural model identified the relationship between *Benchmarking* (BMK) and indirect impact (mediated by purchasing performance) *on Business Performance* (BP) by a path coefficient ($\gamma \cdot \beta$ = 0.37*0.62) of 0.228 with a Critical Ratio (C.R) of 5.339; the p-value is 0.000 which provides support at the p< 0.05 confidence level. This implies that Benchmarking has positive indirect impact (mediated by Purchasing Performance) on Business Performance. In the long term, implementation of benchmarked practices should result in an improvement of the company's corporate performance.

Table VII Summation of Hypotheses Results

	Construct	Hypothesis	Construct	Estimate Regression Weight	Standard Error	Critical Ratio	P- Value	Result
H1	Benchmarking	--->	Purchasing Performance	0.367	0.084	4.388	***	Support at p<0.05
H2	Benchmarking	Mediated by PPF	Business Performance	0.228	0.008	5.339	***	Support at p<0.05
H3	Purchasing Performance	--->	Business Performance	0.622	0.099	6.289	***	Support at p<0.05
H4	Standardization	--->	Purchasing Performance	0.221	0.122	1.815	0.07	Support at p<0.07
H5	Standardization	Mediated by PPF	Business Performance	0.137	0.012	4.052	0.07	Support at p<0.07
H6	Purchasing Function Characteristic	--->	Purchasing Performance	1.033	0.161	6.409	***	Support at p<0.05
H7	Purchasing Function Characteristic	Mediated by PPF	Business Performance	0.642	0.02	6.350	***	Support at p<0.05

Third, in relation to H_3 (*Purchasing Performance has a positive impact on the firm's Business Performance*), the structural model identified the relationship between *Purchasing Performance* (PPF) and *the firm's Business Performance* (BP) as having a value of Critical Ratio (C.R.) at 6.289, and the p-value equal 0.000. this provides support for the hypothesis at the p<0.05 confidence level. Hence H3 was supported. This result implies that when purchasing

performance levels increase, there is also improvement in business performance indicators of perceived production performance (product quality, delivery quality, delivery reliability and flexibility of production) and perceived financial performance (return on investment, return on sales, profit growth and return on total assets.

Fourth, in relation H_4 (*Standardization in purchasing has a positive impact on Purchasing Performance.*), the structural model identified the relationship between *Standardization in Purchasing* (SDD) and *Purchasing Performance* (PPF) as having a Critical Ratio (C.R.) of 1.815, and had a p-value equal to 0.070. This is a confidence level of p=0.07. This implies that Standardization in purchasing has a positive impact on Purchasing Performance with a 93% confidence level. This is not highly significant. This may be because there has been little attention paid to the role of standardization in some Thai firms, or because firms that do pay attention to the standardization of the purchasing function might not enjoy higher performance.

Fifth, with respect to H_5 (*Standardization in purchasing has a positive indirect impact (mediated by purchasing performance) on Business Performance*), the structural model shows that *Standardization in purchasing* (SDD) has a positive indirect impact *(mediated by purchasing performance) on Business Performance* (BP) but the p-value is higher than the 0.070 confidence level. The path coefficient ($\gamma \cdot \beta$ = 0.22*0.62) is 0.137 with a Critical Ratio (C.R.) of 4.052. This implies that Standardization has a positive indirect impact (mediated by purchasing performance) on business performance at the 93% confidence level. The situation is similar to that in the case of H4, and some firms might not place an emphasis on standardization in the purchasing function, or may not enjoy better purchasing performance or business performance.

Sixth, H_6 (*Purchasing Function's characteristics has a positive impact on purchasing performance*), is supported at the p<0.05 confidence level. The relationship between *Purchasing Function's characteristics* (PFC) and *purchasing performance* (PPF) has a value of Critical Ratio (C.R) of 6.409, and the p-value is equal 0.000. This implies that Purchasing Characteristics have a positive impact on Purchasing Performance. That means that from the perspective of top management in Thailand, the purchasing function has a major role in driving overall firm performance.

Seventh, and finally, with reference to H_7 (*Purchasing Characteristics have a positive indirect impact (mediated by purchasing performance) on business performance*), the structural model found that *Purchasing Function Characteristics* (PFC) have a positive indirect impact *(mediated by purchasing performance) on business performance* (BP), with a path coefficient ($\gamma \cdot \beta$ = 1.03*0.62) of 0.642 and a Critical Ratio (C.R) of 6.350. The p-value is 0.000 which is less than the 0.05 confidence levels. This implies that Purchasing Characteristics have a positive indirect impact (mediated by purchasing performance) on business performance.

V. CONCLUSION AND RESEARCH IMPLICATIONS

This study set out to answer the research question: *"What are the antecedents and consequences of Purchasing Performance?"* in the Thai Food and Beverage industry. The study showed that benchmarking in the purchasing function has a significant positive impact on purchasing performance. The research also confirmed the notion that firms with high levels of purchasing performance also achieve high levels of business performance. Accordingly, the results of testing the structural equation model indicated that there is a positive indirect effect of benchmarking on business performance. The implications for purchasing managers are clear; implementation of benchmarking improves performance. More specifically, benchmarking the purchasing process and the purchasing performance assures high levels of quality of incoming materials, on-time delivery of purchase orders, achievement of inventory goals, timely response to internal customer inquiries, and overall internal customer satisfaction. This result will in turn improve business performance.

As a result of this study we have a better understanding of how standardization in purchasing, operationalized as standardization of materials and purchasing procedures, can impact a firm's purchasing and business performance. The results of this research indicate that standardization in purchasing has a significant positive effect on both purchasing and business performance but with a confidence level only 93%. Thus, some organizations in the Thai Food and Beverage industry might not recognize the importance of standardization in the purchasing function. But in the future, or in further studies, it should be possible to test other categories in the Thai manufacturing industry or expanding to a broader sample, as a low response rate, mentioned in the analysis, may have affected the results. In any event it seems likely that standardizing materials and purchasing procedures is important and may help firms to meet their materials expenditure targets, and increase the quality of materials, on-time delivery from suppliers, and inventory performance. Potentially, the most important finding of this research is that standardization in purchasing has an indirect effect on business performance.For purchasing characteristics, the study showed that the characteristics of the purchasing function in Thai firms has a significant positive impact on purchasing performance and it implies that it has indirect effect on business performance. From the analysis, one item was dropped in order to produce a good fit, which was the purchasing status. So, the strategic purchaser will have a positive effect on the overall performance of the firm by using strategic planning, developing and fostering cross-functional integration and playing a key strategic role in the integration of the internal organization and the customer. Then the integration ability of the purchaser can help the overall firm performance by providing efficient linkage or integration among its various internal functions.

The implications of this study are also important because the results suggest that firms can improve their purchasing performance through an increased emphasis in benchmarking of the purchasing process and performance. They should also pay more attention to standardization to gain higher purchasing and business performance. And the research also found that the Purchasing Characteristics have a positive effect on purchasing and business performance. These findings are useful for practitioners seeking to improve the performance and standing of the purchasing function by identifying its characteristics.

Purchasing will have to become a regular player on the team, rather than a provider of "support". Key suppliers will also have to join the team. The growing reliance on suppliers to provide goods and services formerly sourced internally is placing new demands on effective supply management. The purchasing manager should become a manager of the supply chain, integrating the organization's internal and external operations, rather than keeping them separate.

Also, from a manager's perspective, there are benefits associated with elevating the purchasing function from a non-strategic to a strategic function. For Thai Food and Beverage firms, these benefits include increased opportunities for the purchasing function to contribute to the long term profitability of the firm. Leading firms seek to have strategic purchasing functions. The present research provides a have better understanding of the purchasing function in the Thai context, although different results might be found in different contexts.

VI. LIMITATIONS AND FUTURE RESEARCH

The theory that formed the basis of this research was drawn from Europe and America. Therefore, there might be some variation in Thai context. There was very little research available in the context of Thailand about supply chain management. Also, the sample was drawn from a particular industry, so it might not be representative of all industry in Thailand. Extending such a study to a broader base might be much more difficult and cause difficulty in data collection.

There may also have been a certain negligence, or inattention, on the part of the respondents. Because there has been hardly any research on the purchasing function in Thai industry, most of the respondents may not have realized the benefit of completing the questionnaire; with time limited the researcher could explain the purpose of the research to only a limited number of respondents.

For future research, to extend the model to other industries in Thailand, the researcher may start with other respondents in the FMCG industry before moving on to test other industries. The framework may be needed to be changed or adapted to be suitable for the target industry. The present study of purchasing may help researchers and managers who want to improve purchasing and find secure methods for that improvement.

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