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The role of human resource management and supply chain process in sustainable business performance

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A B S T R A C T

The objective of this study is to examine the role of HRM and supply chain to promote business performance (BP) sustainability in Thai textile firms. Meditating role of employee skills and raw material is examined. Therefore, the relationship between HRM, supply chain, employee skills, raw material and BP sustainability was examined. Population of the study is textile firms of Thailand. Employees of these textile firms were selected as respondents. 300 questionnaires were distributed among the textile firms of Thailand. Results of the study shows the positive role of HRM in BP sustainability. Better practices of HRM have the ability to promote BP sustainability. HRM has a positive role in employee skills development which further enhances BP sustainability. Moreover, supply chains in textile firms also play a major role to promote BP sustainability. Better supply chain increases the availability of raw material which causes BP sustainability.

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1. Introduction

Sustainability in the textile business performance (BP) is most important for the firms. BP sustainability is the major part of textile firms which has direct influence on the overall performance of the textile industry. As the collective sustainable performance of textile firms has a major role in overall textile company's performance. It is crucial for the textile industry because better performance is the basis of success and survival in the current market. Now the number of textile firms are trying to promote sustainability in the performance (Francisco, Cajé, Semaan, & Pacheco, 2017) as the sustainability in the performance increases the consistency in the performance as well as all other operations of the textile firms which shows positive role in the overall industry performance collectively. Small textile firms have a central role in the textile industry in a number of countries. In a few countries, textile is the backbone of the economy. As the Agri based countries are investing heavily in the textile sector and in response to the investment, it increases the overall performance. However, high performance for the short term cannot fulfill the objective of the study, therefore, sustainability in the performance is required. Infecting the sustainability in long term performance is needed to get the success in competition. Thailand is one of the countries with high importance of textile firms. Because Thailand is producing cotton in huge amounts which is used for textile purposes. Thailand is Included in top countries of textile producing quality. Therefore, the importance of the textile sector of Thailand has a crucial role (Jubaedah, Yulivan, & Hadi, 2016; Mariam, 2019). Textile sector of Thailand is producing products both for the domestic use and export purpose. The Thai textile firms are producing a high quantity of

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textile products which is more than their domestic need. Therefore, Thailand is also exporting the textile to various other countries. The volume of Thai textile is quite high which is exported to other countries. Thailand is exporting the major portion of their textile products to China and various other countries. This export to China and other countries produces high revenue for the economic development of Thailand, that is the reason, Thai government promoting textile firms. Now the number of textile firms in Thailand is increasing which is showing the increase in exports. As given in the previous investigations, exports have a significant role for the textile firms in Thailand (Prasetyani, Abidin, Purusa, & Sandra, 2020). However, most of the firms in Thailand are lacking in sustainable performance. Low level of sustainability in the textile industry in Thailand has a negative role in overall performance. Although the performance of Thai textile firms is high, this performance can be further increased with the help of better sustainability in the performance. Previous studies show that sustainability in textile is one of the most crucial issues (Yadav, Luthra, Jakhar, Mangla, & Rai, 2020). Hence, the textile sector requires a significant level of strategies to enhance sustainable BP. According to the current study, sustainability in the performance of textile firms can be increased with the help of human resource management (HRM). Better HRM has the ability to increase the employee skills which shows a positive role to enhance sustainability in the performance. As HRM has a major role in performance of the employees (Kashoob & Jais, 2020), Moreover, the second element which can increase the substantiality in the performance is supply chain. In the textile sector, the supply chain process has a central role among the firms. Better supply chain can increase the performance as well as sustainability in the performance. However, a low level of supply chain can decrease the sustainability in the performance of textile companies. Better supply chain enhances the raw material availability of the manufacturing. Hence, both HRM and supply chain are the major factors having influence on sustainable BP in Thailand. Therefore, the objective of this study is to examine the role of HRM and supply chain to promote BP sustainability in Thai textile firms. The relationship between HRM, supply chain, employee skills, raw material and BP sustainability was examined. Meditating role of employee skills and raw material is examined. Number of studies examined BP sustainability (Addison et al., 2020; Demartini, Orlandi, Tonelli, & Anguita, 2016), however, in rare cases any study documented the mediating role of employee skills and raw material. Previous studies have not examined the effect of HRM and supply chain to expedite BP sustainability in Thai textile firms. Hence, the current study filled an important gap in the literature.

2. Literature Review

In Thailand, the textile industry is a key revenue generator among various other industries. It plays a vital role to boost the economic development in Thailand. There are various other industries having a significant effect on the economy of Thailand, however, apart from other industries, textile industry is the key having great influence on the economy. The importance of the textile industry in Thailand is also highlighted in previous studies (Jubaedah et al., 2016; Roosmini, Andarani, & Nastiti, 2010). However, sustainability of BP is most vital in the performance of Thai textile firms. Textile industry performance requires several important elements. The sustainability of performance is most important which requires a special role of various factors. The textile industry is one of the industries which requires better skills of employees. Skilled workforce is always important for the firms. Better skills of employees can be better attained through HRM practices. Therefore, this study examined the effect of HRM in employee's skills development which led to higher performance. Only the achievement of higher performance is important, the requirement of sustainability is the need of the current era. Furthermore, this industry also required better raw materials. Timely provision of raw material is important to get an objective in which the supply chain is the most important part of this process. Therefore, to enhance the employee skills, HRM is required and to enhance the raw material availability, supply chain is required. The relationship between HRM, supply chain, employee skills, raw material and BP sustainability is shown in Fig. 2.

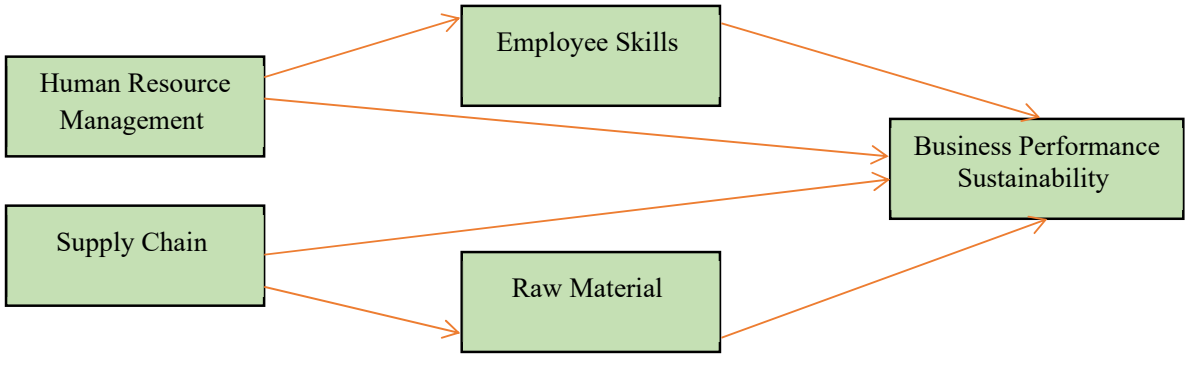

Fig. 2. Theoretical framework of the study showing the relationship between HRM, supply chain, employee skills, raw material and BP sustainability

2.1 HRM and Employee Skills

HRM is one of the strategic methods to the actual management of various people in a corporation or organization such that they assist their business improvement with a competitive advantage. It is planned to maximize employee performance in service of an employer's strategic objectives. It is a vital part of business activities. It has a direct relationship with the employees of the organization. Because employees are the key element of any organization, that is the reason, HRM is most important. Without the performance of employees, the success of companies is not possible. To provide better employee skills, HRM has a vital role. As HRM practices increase the employees performance (Chan, Shaffer, & Snape, 2004; Rodwell, Kienzle, & Shadur, 1998). Therefore, HRM has an important link with employee skills development.

Hypothesis 1. HRM has a positive effect on employee skills.

2.2 HRM and BP Sustainability

HRM has a positive role to enhance BP sustainability. Better implementation of HRM practices has the ability to increase BP sustainability. HRM affects the performance through several ways. First of all, it affects the training and development activities of the employees. Better training of the employees shows a positive effect on performance (Razzaq, Maqbool, & Hameed, 2019). Furthermore, HRM affects the performance by recruiting new employees. By examining the needs of employees, better HRM employs talented people which may contribute to increasing the performance of the company. A capable team of human resources can train and recruit competent employees. Moreover, HRM also focuses on examining the performance of the employees. The HR team warns the employees who do not perform better and rewards those employees who perform better. Therefore, BP sustainability is always influenced by the HRM practices (Jiang, Lepak, Hu, & Baer, 2012; Sels et al., 2006).

Hypothesis 2. HRM has a positive effect on BP sustainability.

2.3 Supply Chain and Raw Material

Supply chain is one of the processes which consist of all the operations or procedures from raw material to finished goods and to deliver to the customers. It involves all the steps to the delivery of goods from company to consumer. In the case of textile companies, it also has an important effect on the product development. It is the vital part of every organization which has an effect on every aspect of the company (Ul-Hameed, Mohammad, Shahar, Aljumah, & Azizan, 2019). Supply chain has a relationship with the raw material in textile firms. Better supply chain activities also enhance the raw material availability. As it involves all the steps in the company, therefore, it has a major role to enhance the raw material availability. As the connection between raw material availability and supply chain is already found in the literature (Becker, Carbo, & Langella, 2010).

Hypothesis 3. Supply chain has a positive effect on employee skills.

2.4 Supply Chain and BP Sustainability

There is a major relationship between supply chain and BP sustainability. Better supply chain operations are the guarantee of better performance of business activities. As the timely delivery of goods to the customer increases the satisfaction and increases the attraction among the customers to purchase the same company product. Especially, in supply chain operations, the performance of each operation is vital, the error in one operation may delay the whole project. Therefore, better productivity of the supply chain department has a positive role to enhance BP sustainability. As supply chain and business performance is highlighted in literature with direct relationship (Chi, Kilduff, & Gargeya, 2009; Rajaguru & Matanda, 2009; Jermsittiparsert, Namdej, & Somjai, 2019).

Hypothesis 4. Supply chain has a positive effect on BP sustainability.

2.5 Employee Skills, Raw Material and BP Sustainability

Employee skills are the major part of employee performance. Highest performer employees always show positive and motivated skills which lead to the business. In the textile firm of Thailand, the skills of employees have a vital role to enhance BP. Therefore, textile companies should enhance the employee's skills. As given in the previous studies, employee skills have a positive role to enhance BP (Lee, Lee, & Kang, 2012; Tsai, Edwards, & Sengupta, 2010). Furthermore, raw material also has a positive role to enhance BP sustainability. Increase in the performance of the supply chain has the ability to increase the availability of raw material which further increases the performance of business. As the raw material in textile companies has major importance for product development (Ghituleasa, Dorogan, Carpus, Bulacu, & Enciu, 2020; Rajme-Mendez, Markhoff, Vos, & Kindt, 2019).

Hypothesis 5. Employee skills have a positive effect on BP sustainability.
Hypothesis 6. Raw material has a positive effect on BP sustainability.
Hypothesis 7. Raw material mediates the relationship between HRM and BP sustainability.
Hypothesis 8. Supply chain mediates the relationship between HRM and BP sustainability.

3. Research Method

A questionnaire was designed to examine the relationship between HRM, supply chain, employee skills, raw material and BP sustainability. The current study measured the relationship between five variables; HRM, supply chain, employee skills, raw material and BP sustainability. The measures for these variables were obtained from previous studies. All the measures were adapted and used in the data analysis. Measures were adapted because all the measures were used from various articles and studies were conducted in different countries, therefore, there was a need to adapt the questionnaire as per need. Therefore, this study conducted a survey for data collection (Bowling, Bond, Jenkinson, & Lamping, 1999). Population of the study is textile firms of Thailand. Employees of these textile firms were selected as respondents. The managerial employees of textile firms were selected for data collection. The lower level employees were not considered in this study for data collection. As the managerial employees always provide better feedback. 300 questionnaires were distributed among the textile firms of Thailand. For data collection, this study used a simple random sampling technique (Siuly, Li, & Wen, 2011) which is most important to collect the data. From the total 300 questionnaires, 180 questionnaires were received. Few questionnaires were not fully accommodated, therefore, excluded from the study. Questionnaires used in this study were grounded on the Likert scale. The Likert scale is most appropriate for the data collection and to collect the opinion and views of people. Hence, the current study used Likert scale from strongly disagree to strongly agree to collect data from the employees of textile firms.

4. Research Findings

Data statistics has an important role in data analysis. Table 1 shows the data statistics. It also shows the missing value (Aydin & ŞENOĞLU, 2018) and any other error in the data before data analysis. Moreover, outlier in the data is also given in Table 1 which shows that data has no outlier, therefore, data is accurate to proceed for analysis.

Table 1
Data Statistics

	No.	Missing	Mean	Median	Min	Max	SD	Kurtosis	Skewness
HRM1	1	0	3.52	4	1	5	1.167	-0.488	-0.526
HRM2	2	0	3.01	4	1	5	0.989	-1.729	-1.43
HRM3	3	0	3.484	4	1	5	1.132	-0.485	-0.493
HRM4	4	0	2.944	4	1	5	1.222	-0.653	-0.5
SC1	5	0	3.372	4	1	5	1.202	-0.868	-1.391
SC2	6	0	3.466	4	1	5	0.927	-1.636	-0.524
SC3	7	0	3.516	4	1	5	1.136	-0.52	-0.464
SC4	8	0	2.938	4	1	5	1.139	-0.496	-0.525
ES1	9	0	3.673	4	1	5	1.324	-0.68	-0.721
ES2	10	0	3.592	4	1	5	1.227	-1.671	-1.573
ES3	11	0	3.57	4	1	6	1.286	-0.899	-0.429
ES4	12	0	3.534	4	1	5	0.955	-0.586	-0.513
ES5	13	0	3.552	4	1	5	1.24	-0.853	-0.474
ES6	14	0	3.552	4	1	6	1.283	-0.707	-0.41
RM1	15	0	2.97	4	1	5	1.15	-1.578	-1.474
RM2	16	0	3.596	4	1	5	1.151	-0.544	-0.513
RM3	17	0	3.547	4	1	5	1.139	-0.405	-0.584
RM4	18	0	3.493	4	1	5	0.942	-0.709	-0.508
RM5	19	0	3.422	4	1	5	1.221	-0.912	-0.39
BPS1	20	0	3.601	4	1	5	1.197	-0.634	-1.533
BPS2	21	0	3.556	4	1	5	1.158	-1.569	-0.504
BPS3	22	0	3.659	4	1	5	1.323	-0.696	-0.711
BPS4	23	0	3.592	4	1	5	1.245	-0.709	-0.562
BPS5	24	0	3.52	4	1	6	1.252	-0.811	-0.439
BPS6	25	0	3.605	4	1	5	1.162	-0.499	-1.585
BPS7	26	0	3.991	4	1	5	0.937	1.005	-1.001
BPS8	27	0	3.915	4	1	5	0.987	0.128	-0.785
BPS9	28	0	3.417	4	1	5	1.133	-0.756	-0.463

Note: HRM = “Human Resource Management”; SC = Supply Chain; ES = Employee Skills; RM = Raw Material; BPS = Sustainability

This study used the most popular software and data analysis technique for data analysis. As in the data analysis process, Partial Least Square (PLS) was used for data analysis (Henseler et al., 2014; Henseler, Ringle, & Sarstedt, 2015; Henseler, Ringle, & Sinkovics, 2009; Reinartz, Haenlein, & Henseler, 2009). Given in Figure 3 that; HRM is measured through four items. Supply chain is measured through four items. Employee skills are measured through six items and raw material is

measured through five items. Finally, BP sustainability is measured through six items. It is found that scale items for HRM, supply chain, employee skills, raw material and BP sustainability is above 0.5 which is the minimum threshold level in the current study. Factor loadings for HRM, supply chain, employee skills, raw material and BP sustainability is given in Table 2.

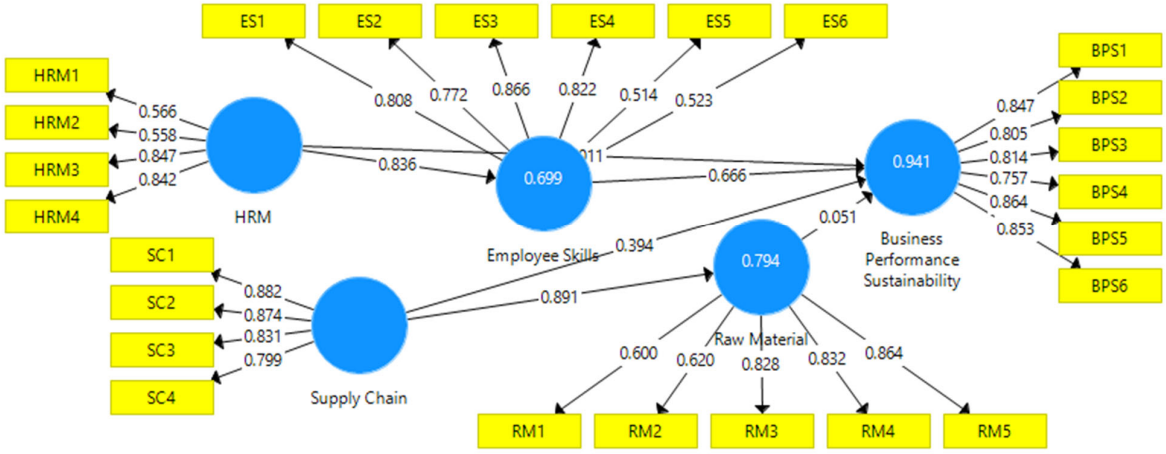

Fig. 3. Measurement Model

Table 2
Factor Loadings

	Business Performance Sustainability	Employee Skills	HRM	Raw Material	Supply Chain
BPS1	0.847				
BPS2	0.805				
BPS3	0.814				
BPS4	0.757				
BPS5	0.864				
BPS6	0.853				
ES1		0.808			
ES2		0.772			
ES3		0.866			
ES4		0.822			
ES5		0.514			
ES6		0.523			
HRM1			0.566		
HRM2			0.558		
HRM3			0.847		
HRM4			0.842		
RM1				0.6	
RM2				0.62	
RM3				0.828	
RM4				0.832	
RM5				0.864	
SC1					0.882
SC2					0.874
SC3					0.831
SC4					0.799

Note: HRM = "Human Resource Management"; SC = Supply Chain; ES = Employee Skills; RM = Raw Material; BPS = Sustainability

Given in Table 3, composite reliability (CR) and average variance extracted (AVE) should be above 0.7 and 0.5 (J. Hair, Hollingsworth, Randolph, & Chong, 2017). It is proved that CR for HRM, supply chain, employee skills, raw material and BP sustainability is above 0.7. Moreover, AVE is also above 0.5 for HRM, supply chain, employee skills, raw material and BP sustainability. Finally, discriminant validity is highlighted in Table 4 (Fornell & Larcker, 1981).

Table 3
Reliability and Convergent Validity

	Alpha	rho_A	CR	AVE
Business Performance Sustainability	0.905	0.907	0.927	0.679
Employee Skills	0.821	0.86	0.869	0.535
HRM	0.716	0.789	0.803	0.514
Raw Material	0.822	0.865	0.868	0.574
Supply Chain	0.868	0.87	0.91	0.718

Note: HRM = "Human Resource Management"; SC = Supply Chain; ES = Employee Skills; RM = Raw Material; BPS = Sustainability

Table 4
Cross-Loadings

	Business Performance Sustainability	Employee Skills	HRM	Raw Material	Supply Chain
BPS1	0.847	0.781	0.748	0.765	0.812
BPS2	0.805	0.705	0.619	0.659	0.775
BPS3	0.814	0.801	0.668	0.693	0.726
BPS4	0.757	0.741	0.607	0.669	0.674
BPS5	0.864	0.843	0.709	0.741	0.76
BPS6	0.853	0.83	0.714	0.723	0.758
ES1	0.814	0.828	0.651	0.696	0.712
ES2	0.769	0.772	0.614	0.651	0.679
ES3	0.863	0.866	0.705	0.727	0.775
ES4	0.833	0.852	0.703	0.691	0.76
ES5	0.337	0.514	0.537	0.497	0.324
ES6	0.339	0.523	0.426	0.442	0.336
HRM1	0.257	0.373	0.566	0.426	0.272
HRM2	0.261	0.4	0.558	0.414	0.256
HRM3	0.777	0.732	0.847	0.786	0.777
HRM4	0.787	0.75	0.842	0.819	0.776
RM1	0.387	0.51	0.522	0.6	0.392
RM2	0.398	0.505	0.523	0.62	0.397
RM3	0.783	0.73	0.816	0.828	0.765
RM4	0.771	0.721	0.814	0.832	0.765
RM5	0.751	0.722	0.692	0.884	0.866
SC1	0.743	0.715	0.694	0.837	0.882
SC2	0.746	0.729	0.705	0.774	0.874
SC3	0.809	0.75	0.75	0.743	0.831
SC4	0.794	0.714	0.627	0.659	0.799

Note: HRM = "Human Resource Management"; SC = Supply Chain; ES = Employee Skills; RM = Raw Material; BPS = Sustainability

Section two of the PLS shows the structural model in Fig. 4 in which the relationship between variables was examined (F. Hair Jr, Sarstedt, Hopkins, & G. Kuppelwieser, 2014; J. F. Hair, 2010; J. F. Hair, Ringle, & Sarstedt, 2013; J. F. Hair, Sarstedt, Pieper, & Ringle, 2012; Hair Jr, Hult, Ringle, & Sarstedt, 2016; Hameed, Basheer, Iqbal, Anwar, & Ahmad, 2018). It shows the direct effect of HRM on BP sustainability. It also shows the direct effect of HRM on employee's skills. Furthermore, it shows the direct effect of the supply chain on raw material. The direct effect of the supply chain was also examined on BP sustainability. Results given in Table 5 shows that HRM has a positive effect on employees' skills and BP sustainability. It is showing that increase in HRM quality has a positive role to enhance employee skills which further has a positive effect on BP sustainability. Moreover, supply chain has a positive effect on raw material and BP sustainability. Better supply chain process shows a positive role to promote raw material and BP sustainability. Better management of raw material has a positive role to promote raw material which further increases the BP sustainability. As raw material also has a positive effect on BP sustainability.

Table 5
Direct Effect Results

	(O)	(M)	SD	T Statistics	P Values
Employee Skills → Business Performance Sustainability	0.666	0.669	0.032	20.556	0
HRM → Business Performance Sustainability	0.011	0.011	0.005	2.189	0.038
HRM → Employee Skills	0.836	0.836	0.021	39.802	0
Raw Material → Business Performance Sustainability	0.051	0.044	0.018	2.769	0.005
Supply Chain → Business Performance Sustainability	0.394	0.386	0.052	7.581	0
Supply Chain → Raw Material	0.891	0.891	0.012	71.675	0

Note: HRM = "Human Resource Management"; SC = Supply Chain; ES = Employee Skills; RM = Raw Material; BPS = Sustainability

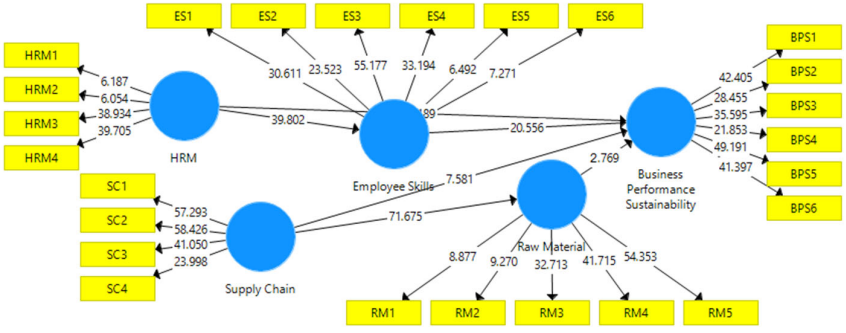

Fig. 4. Structural Model

After the direct effect, this study examined the indirect effect of employee skills and raw material. This study examined the mediation effect of employee skills between HRM and BP sustainability. The mediation effect of raw material was examined between supply chain and BP sustainability. Results are given in Table 6 which is examined through the instructions of Preacher and Hayes (2008). It is found that the mediation effect of employee skills between HRM and BP sustainability is significant with t-value 18.693. Thus, employee skills reflect the positive effect of HRM on BP sustainability. On the other hand, the mediation effect of raw material was examined between supply chain and BP sustainability which is insignificant with t-value 0.767. Thus, raw material does not reflect the positive effect of the supply chain on BP sustainability. Indirect effect histogram is given in Figure 5. The r-square is 0.941 as given in Fig. 3 showing strong effect of HRM, supply chain, employee skills and raw material business performance (Chin, 1998).

Table 6
Indirect Effect Results

	(O)	(M)	SD	T Statistics	P Values
HRM → Employee Skills → Business Performance Sustainability	0.557	0.559	0.03	18.693	0
Supply Chain → Raw Material → Business Performance Sustainability	0.045	0.039	0.059	0.767	0.444

Note: HRM = "Human Resource Management"; SC = Supply Chain; ES = Employee Skills; RM = Raw Material; BPS = Sustainability

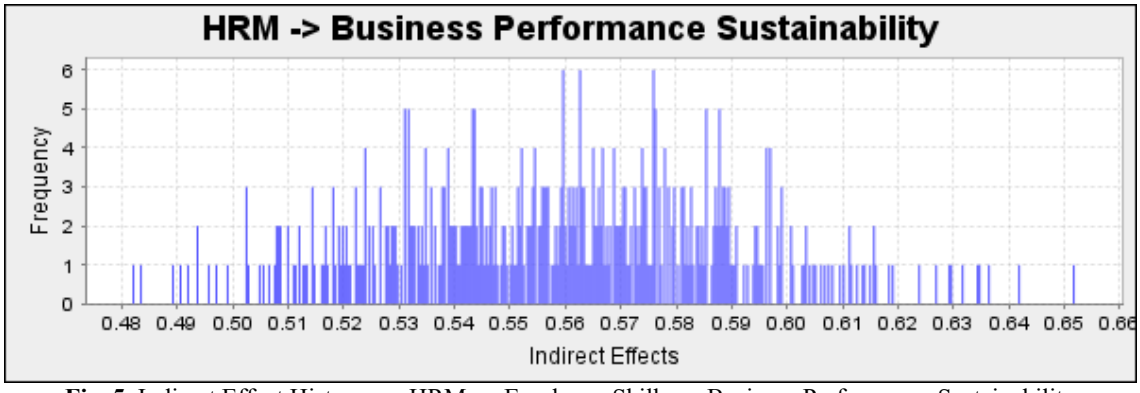

Fig. 5. Indirect Effect Histogram: HRM → Employee Skills → Business Performance Sustainability

5. Conclusion

The relationship between HRM, supply chain, employee skills, raw material and BP sustainability was examined. The objective of this study was to examine the role of HRM and supply chain to promote business performance (BP) sustainability in Thai textile firms. The role of employee skills and raw material is examined. Results of the study delivered many valuable insights for the literature and textile firms. According to the results of this study, both HRM and supply chain are major contributors of textile firm BP. Increase in the quality of supply chain and HRM practices has a positive role in BP of textile firms in Thailand. Results of the study shows the positive role of HRM in BP sustainability. Outcomes of the study shows that performance of the Thai textile firms can be increased with the help of HRM practices. Better practices of HRM has the ability to promote BP sustainability. Higher quality HRM is the most important for the textile companies to increase their performance. HRM has a positive role in employee skills development which further enhances BP sustainability. Moreover, supply chain is also an instrument to foster performance of textile companies. Supply chain in textile firms also plays a major role to promote BP sustainability. Better supply chain increases the availability of raw material which causes BP sustainability. Furthermore, HRM has a positive effect on employees' skills. Increase in employees' skills shows a positive role to enhance performance. Supply chain has a positive effect on raw material delivery which causes an increase in performance.

6. Implications of the Study

This study has contributed to the literature because this study examined the valuable relationship between HRM, supply chain, employee skills, raw material and BP sustainability. In rare cases any study examined the combined effect of HRM and supply chain on sustainability of BP. This relationship was not examined previously in the textile firms of Thailand. The effect of HRM was examined on employee skills in the presence of BP sustainability. Moreover, the effect of the supply chain was first examined on raw material in the presence of BP sustainability. Furthermore, this study also examined the mediation effect of employee skills between HRM and BP sustainability. The mediation effect of raw material was examined between supply chain and BP sustainability. This mediation effect has a vital contribution to the literature. This study also has vital practical implications for the textile companies. According to the current study results, textile companies can enhance the performance by enhancing the HRM and supply chain.

7. Limitations and Future Directions

First, the current study considered two major factors to examine the effect on BP sustainability in the textile firm of Thailand. These factors include HRM and supply chain. Future study should consider other important factors along with HRM and supply chain. Furthermore, this study examined the mediation effect of employee skills and raw material. The mediation effect of employee performance should also be considered in the current study. Because HRM has a major role to increase or decrease the performance of employees.

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