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The role of innovative ideas in business sustainability: Evidence from textile industry

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ABSTRACT

The objective of the current study was to examine the role of innovative ideas in business sustainability. The mediating role of innovative process, innovative production and innovative supply chain was also examined. Therefore, the relationship between innovative ideas, innovative process, innovative production, innovative supply chain and business sustainability was examined. Data was collected from the employees of textile companies. As the Indonesian textile companies were under investigation in the current study. Data was collected from Indonesian textile company employees. 300 questionnaires were sent to the textile companies with the help of email. Hence, email surveys were preferred with the help of questionnaires. Results of the study highlights that the innovative ideas had a major role in business sustainability. Introduction of new ideas inside the boundaries of the organization expedites the business sustainability. Additionally, innovative ideas have a positive effect on innovative production and innovative supply chains. Moreover, innovative production and innovative supply chain have a positive effect on business sustainability. Therefore, innovative ideas increase the innovative production and supply chain which further shows a positive effect on business sustainability.

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1. Introduction

Business sustainability has a vital role among the organizations as the sustainability in the business has a major role in the firm's success (Jermstittiparsert, 2020, 2021). Sustainable business always leads to higher business performance, however, low level of sustainability in the business has a negative role in business. Sustainability means the consistency in the performance of business. A business must have sustainable business in the market, otherwise the competitors may capture the market share which causes the performance to decrease. Therefore, sustainability in the business has importance in the current business market (Rossi, Bertassini, dos Santos Ferreira, do Amaral, & Ometto, 2020). The current study is based on the business sustainability in the textile sector of Indonesia. Textile sector of Indonesia has vital potential in the textile market; however, the performance of the Indonesian textile sector is not sustainable. This sector of Indonesia is lacking with the level of sustainability which is showing a negative role on business activities. Better performance of this sector requires a significant level of business sustainability (Bellucci, Bini, & Giunta, 2020). Indonesia's textile as well as garment industry enjoyed significant growth through 2019 with exports having value achieved at US\$13.8 billion, an upsurge from US\$10 billion in 2018 as well as making the country the largest textile manufacturer in the world. The exports of the Indonesian textile sector are shown in Fig. 1.

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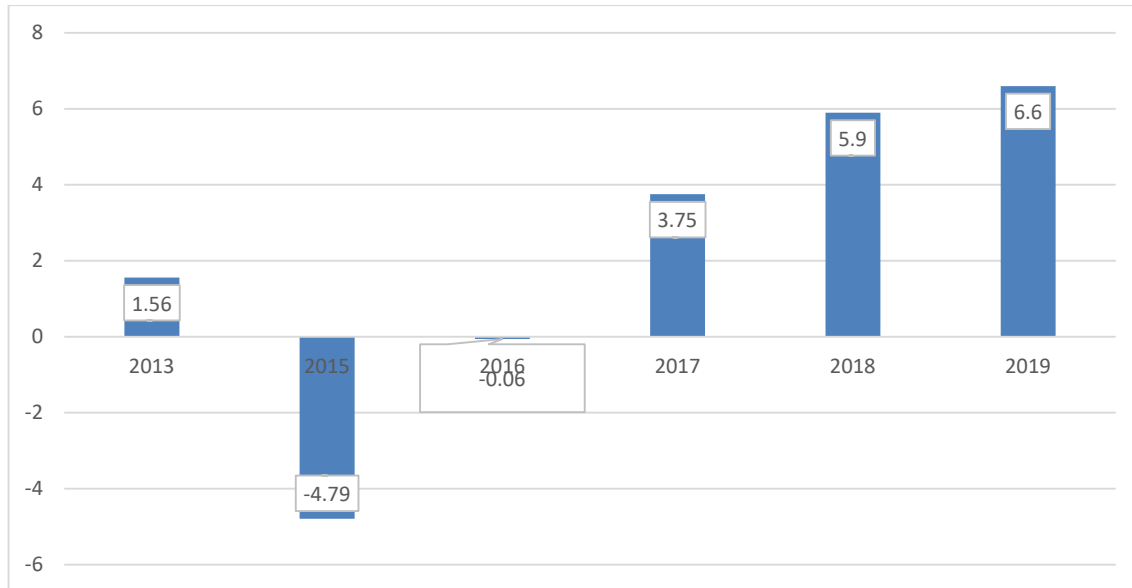


Fig. 1. Indonesian Textile Sector Exports

Therefore, the Indonesian sector of textile has significant growth in the market. That is the reason this sector is vital for the government of Indonesia. Because this sector has an important role in the economy of Indonesia. Economic development of Indonesia has a positive effect on the business performance as well as business sustainability. Growth of the Indonesian textile sector also shows the positive role in economic development. As this industry is quite important in various income generating activities for the people which causes to increase the business performance (Salman et al., 2020). Therefore, the Indonesian textile industry has decent importance (Rohani et al., 2020). However, better sustainability in the business can be achieved with the help of sustainability among the operations. To achieve sustainability in business, a company always requires better sustainability in each area of the organization. While product development, it is required to achieve sustainability in all operations. For instance, while developing a product, it has many steps, in this direction each step must be sustainable with better performance. Therefore, sustainability in the operations is required (Gholami et al., 2020; Shou et al., 2019) to achieve higher sustainability in the overall operations of the company. In this regard, business sustainability in the textile sector is most important to achieve with the help of achieving sustainability in the business operations. Sustainability in the operations required sustainability in the innovation process. Innovation is the vital element of all organizations (Hameed et al., 2018; Razzaq et al., 2019). Innovation in the process is required for business sustainability. Moreover, innovation in production is also required among the textile companies to enhance business sustainability. Furthermore, innovation in supply chain activities is also key to gain sustainability in the business. However, to bring innovation in process, production and supply chain, it requires innovative ideas. Innovative ideas have the potential to lead innovation processes, innovation in production and innovation in supply chain. Therefore, the objective of the current study is to examine the role of innovative ideas in business sustainability. In this way, the relationship between innovative ideas, innovative process, innovative production, innovative supply chain and business sustainability was examined. Number of studies have examined the sustainability in the innovation (Bellucci et al., 2020; Manning et al., 2019; Ševkušić et al., 2020), however, the role of innovative ideas is not examined by the previous studies. Especially, the relationship discussed in the current study is not properly discussed in relation to the textile industry.

2. Literature Review

Innovation is based on the unique idea which is applied to enhance the performance of various organizational operations. The improvement in innovation has a major role on performance of the organization. Business always requires better ideas to improve the performance of business. Innovative is the application of ideas to improve the process, product or services at reduced cost (Hameed et al., 2018). Innovation is the new idea which has the potential to enhance the quality of the products, process or services at low cost. As cost is the major concern of organizations, that is the reason companies always try to reduce the cost by implementing better technology. Most of the customers always consider the price of the product while purchasing the product. Therefore, while applying new ideas for innovation, the cost is the major concern. Similarly, it is also important for the textile companies, the introduction of new ideas has major importance. Because innovation has a vital role in textile companies to foster the operations (de Oliveira Brasil et al., 2016; Gökmen & Hamşioğlu, 2011). Therefore, this study is concerned with the investigation of innovative ideas to examine the effect on business sustainability. Moreover, this study also considered the role of innovative process, innovative production and innovative supply chain. Hence, the relationship between innovative ideas, innovative process, innovative production, innovative supply chain and business sustainability was examined as shown in Fig. 2.

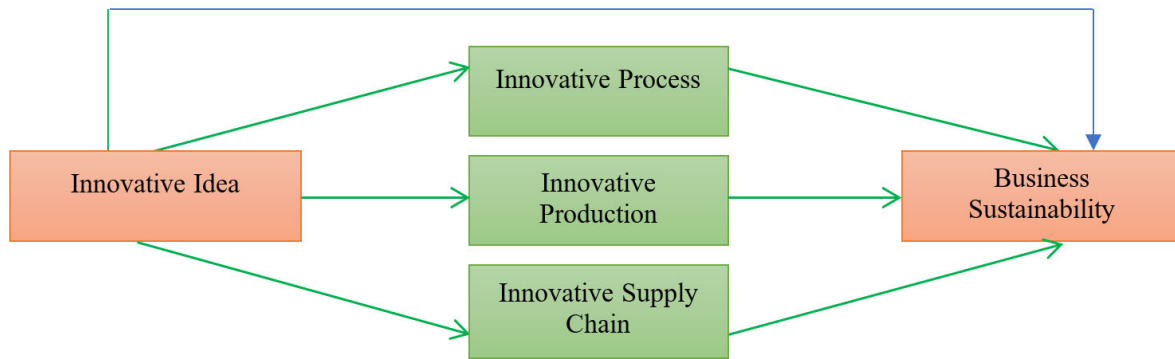


Fig. 2. Theoretical framework of the study showing the relationship between innovative idea, innovative process, innovative production, innovative supply chain and business sustainability

2.1 Innovative Idea and Business Sustainability

There are several operations that remain working for twenty-four hours to complete the process in textile companies. Manufacturing of clothes requires many steps. To deal with all these steps in a perfect way, innovative ideas are always required. Because each step has significant cost which contribute to the overall process of the product. In this direction, introduction of new ideas to the process may decrease the overall cost. It also decreases the error which has the potential to increase the performance. In addition to this, innovative ideas also decrease the overall time to manufacture a product. Thus, all the advantages of innovative ideas such as low cost, better quality and less time led to the sustainability in the business. Sustainability means to be consistent in the performance. As in the higher competition of the textile industry, it is mandatory to enhance the increase in the level of consistency in the performance. A bit longer and consistent performance is required for the textile companies to enhance the performance. Survival of the business, particularly, the survival of the business in the textile companies is not easy. Because both the local and international market is quite tough in which higher performance is required in relation to the quality as well as quantity. Hence, innovation and business sustainability have important relationships which lead to the performance (Dentchev et al., 2016; Evans et al., 2017).

Hypothesis 1. Innovative ideas have a positive role in business sustainability.

2.2 Innovative Idea, Innovative Process and Business Sustainability

Innovative ideas lead to the innovative process among the organizations. Because according to the various scholars working in innovation management, the definition of innovation is related to something new in the product, process or services. For example, according to Hameed et al. (2018), process innovation is a major part of innovation along with the innovation in production and services. Hence, this direction shows the process innovation has a relationship with innovative idea management. The process of manufacturing clothes in the textile industry is one of the lengthy processes which requires significant cost as well as time, in this process application of innovation ideas has major influence. Innovative ideas and innovative processes have a relationship (Fu et al., 2019). Therefore, innovative idea performance is required to enhance the overall performance. Furthermore, innovative processes lead to higher sustainability in business. This shows that innovative ideas are required to increase the business sustainability. Thus, innovative ideas lead to the innovative process and innovative processes lead to business sustainability. An innovative process has a relationship with business sustainability (Fükő et al., 2020).

Hypothesis 2. Innovative ideas have a positive role in the innovative process.

Hypothesis 3. Innovative processes have a positive role in business sustainability.

2.3 Innovative Idea, Innovative Production and Business Sustainability

Innovative ideas are not only connected with the innovation process, but it also has a positive role in innovative production. In textile companies, the production is the major part of manufacturing products. Not only in textile companies, in all types of company's production is the major part to manufacture final products for customers. The production in textile companies required a better level of innovation. Increase in the innovative ideas increase the innovative production. Innovative ideas and innovative production have major relationships (Scaramellini et al., 2017). Furthermore, an increase in innovative ideas increases the business performance as the innovation has a positive role to foster the business performance (Fernando et al., 2019).

Hypothesis 4. Innovative ideas have a positive role in innovative production.

Hypothesis 5. *Innovative production has a positive role in business sustainability.*

2.4 Innovative Idea, Innovative Supply Chain and Business Sustainability

Finally, it is evident from the literature that innovative ideas also have a relationship with the supply chain. In textile companies, supply chain has crucial importance to carry on all the operations. Better innovative ideas lead to better performance. As supply chain has major importance for the companies (Ul-Hameed, Mohammad, Shahar, Aljumah, & Azizan, 2019) which lead to the business performance. Increase in the innovative supply chain through innovative ideas has a positive role to enhance business sustainability. As mentioned by Luthra, Kumar, Zavadskas, Mangla, and Garza-Reyes (2020) that supply chain and business sustainability has important connections which lead to business success. Furthermore, this study used the mediating role of innovative process, innovative production and innovative supply chain which is reflected in following hypothesis.

Hypothesis 6. *Innovative ideas have a positive role in innovative supply chains.*

Hypothesis 7. *Innovative supply chains have a positive role in business sustainability.*

Hypothesis 8. *Innovative process mediates the relationship between innovative ideas and business sustainability.*

Hypothesis 9. *Innovative production mediates the relationship between innovative ideas and business sustainability.*

Hypothesis 10. *Innovative supply chain mediates the relationship between innovative ideas and business sustainability.*

3. Methodology

Research design of the current study is cross-sectional because data were collected from one point of time and nature of the current study is also cross-sectional based (Lou et al., 2010). Hence, by using cross-sectional research design, the current study used a quantitative research approach. As quantitative research is better to test the study hypotheses. This study is based on hypothesis development and testing with the help of statistical tools; therefore, a quantitative research approach is suitable to achieve the objective of this study. The relationship between innovative ideas, innovative process, innovative production, innovative supply chain and business sustainability was examined by developing a research questionnaire. A research questionnaire with the help of scale items was designed for data collection. Questionnaires were used to collect primary data. Development of the scale was based on the five key variables: innovative ideas, innovative process, innovative production, innovative supply chain and business sustainability. Each variable was measured by using a specific number of scale items. This study could not develop the scale items for any of the variables. However, all the scale items were used from the previous studies to test the effect of innovative ideas on business sustainability. In the development of the questionnaire, this study chooses Likert scale because it is important for the collection of views and opinions of individual people. Finally, after the development of the questionnaire, the current study started the data collection by distributing the questionnaires. 300 questionnaires were used in the survey for data collection. As the Indonesian textile companies are under investigation in the current study. Data was collected from Indonesian textile company employees. 300 questionnaires were sent to the textile companies with the help of email. In this process of data collection, the current study used cluster sampling (Ul-Hameed, Mohammad, & Shahar, 2018) which is suitable in the current nature of the study. After developing different clusters, this study used simple random sampling for questionnaire distribution (Kaur, Patil, Shirk, & Taillie, 1996) among the textile companies of Indonesia. Finally, 170 questionnaires were returned by the current study.

4. Research Findings

Various statistical tools are available in the field of statistics for data analysis. From all the statistical tools, the current study used the most appropriate tool for data analysis. In this study Partial Least Square (PLS) is most suitable for data analysis which is used by several previous studies in the literature (Hair et al., 2012, 2013, 2014; Iqbal & Hameed, 2020; Ul-Hameed et al., 2018). However, before to apply the PLS for data analysis, the current study examined the missing value in the data (Aydin & ŞENOĞLU, 2018). It is given in Table 1. None of the questionnaire has missing value. After the examination of missing value, this study further proceeded for the data analysis through Smart PLS 3.

In the next step of analysis, this study applied confirmatory factor analysis (CFA) with the help of PLS. In CFA, the factor loadings were examined. Fig. 3 shows that; innovative ideas were measured by using seven scale items. Innovative process was measured by using three scale items. Innovation production was measured by using three scale items. Innovative supply chain was measured by using three scale items. Finally, business sustainability was measured by using eight scale items. Hence, a total 24 scale items were used in the current study. It is found that all the scale items have factor loadings above 0.7. However, only one item has factor loadings below 0.7 but above 0.6. Along with Figure 3, Table 2 also shows the factor loadings.

Table 1
Data Statistics

	No.	Missing	Mean	Median	Min	Max	SD	Kurtosis	Skewness
II1	1	0	3.554	3	1	7	0.823	4.49	0.839
II2	2	0	3.185	3	1	7	1.558	-0.146	0.209
II3	3	0	3.631	4	1	7	1.565	0.015	0.195
II4	4	0	3.262	4	1	7	1.739	-0.672	0.161
II5	5	0	3.477	4	1	7	1.29	0.844	-0.08
II6	6	0	3.446	4	1	7	1.404	0.641	0.045
II7	7	0	3.385	4	1	7	1.536	-0.123	0.027
IP1	8	0	3.769	4	1	7	1.476	0.396	0.117
IP2	9	0	3.708	4	1	7	1.725	-0.446	0.173
IP3	10	0	3.554	4	1	7	1.436	0.942	0.48
I PRO1	11	0	3.523	4	1	7	1.589	0.001	0.263
I PRO2	12	0	3.677	4	1	7	1.337	0.998	0.381
I PRO3	13	0	3.554	4	1	7	1.579	0.054	0.199
ISC1	14	0	3.431	4	1	7	1.312	0.626	-0.013
ISC2	15	0	3.646	4	1	7	1.503	0.364	0.24
ISC3	16	0	3.462	4	1	7	1.618	0.026	0.171
BS1	17	0	3.569	4	1	7	1.539	0	0.061
BS2	18	0	2.954	3	1	5	1.115	-0.629	-0.111
BS3	19	0	2.969	3	1	5	1.022	-0.064	0.328
BS4	20	0	3.092	3	1	5	0.94	0.15	-0.189
BS5	21	0	3.2	3	1	5	0.98	0.499	0.084
BS6	22	0	3.246	3	1	5	0.842	0.359	-0.343
BS7	23	0	3.046	3	1	5	0.919	-0.125	-0.337
BS8	24	0	3	3	1	5	0.977	-0.037	0.304

Table 2
Factor Loadings

	Business Sustainability	Innovative Idea	Innovative Process	Innovative Production	Innovative Supply Chain
BS1	0.686				
BS2	0.857				
BS3	0.847				
BS4	0.795				
BS5	0.83				
BS6	0.792				
BS7	0.781				
BS8	0.869				
II1		0.854			
II2		0.904			
II3		0.853			
II4		0.834			
II5		0.859			
II6		0.91			
II7		0.892			
IP1			0.859		
IP2			0.914		
IP3			0.927		
I PRO1				0.885	
I PRO2				0.869	
I PRO3				0.947	
ISC1					0.856
ISC2					0.928
ISC3					0.929

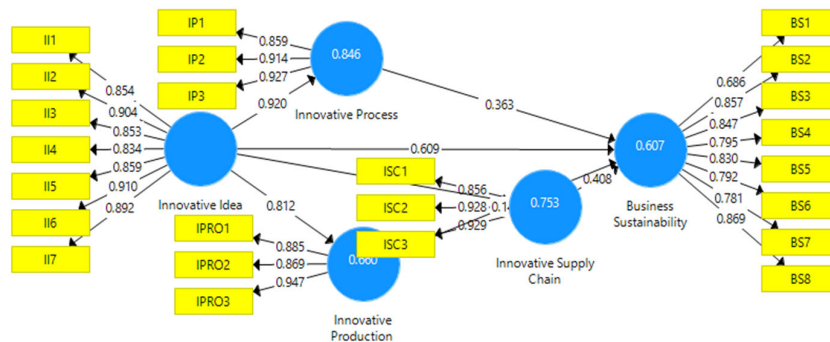


Fig. 3. Measurement Model

In addition to the factor loadings, in the next step, the current study examined the composite reliability (CR) and average variance extracted (AVE). Discriminant validity was assessed through cross-loadings (Fornell & Larcker, 1981) which is shown in Table 4. It is shown in Table 3 that all the variables; innovative ideas, innovative process, innovative production, innovative supply chain and business sustainability have CR above 0.7. Moreover, it is also shown in Table 3 that all the variables; innovative ideas, innovative process, innovative production, innovative supply chain and business sustainability have AVE above 0.7. Hair et al. (2017) recommended that all the variables should have CR above 0.7 and AVE above 0.5. CR and AVE above 0.7 and 0.5 respectively is the indication of the achievement of convergent validity.

Table 3
Reliability and Convergent Validity

	Alpha	rho_A	CR	AVE
Business Sustainability	0.924	0.933	0.938	0.654
Innovative Idea	0.948	0.948	0.957	0.762
Innovative Process	0.883	0.884	0.928	0.811
Innovative Production	0.884	0.888	0.928	0.812
Innovative Supply Chain	0.889	0.891	0.931	0.819

Table 4
Cross-Loadings

	Business Sustainability	Innovative Idea	Innovative Process	Innovative Production	Innovative Supply Chain
BS1	0.89	0.753	0.782	0.759	0.831
BS2	0.857	0.677	0.599	0.581	0.63
BS3	0.846	0.593	0.482	0.479	0.582
BS4	0.794	0.46	0.392	0.393	0.443
BS5	0.828	0.484	0.404	0.4	0.491
BS6	0.792	0.502	0.458	0.466	0.52
BS7	0.781	0.512	0.443	0.405	0.52
BS8	0.869	0.697	0.602	0.495	0.612
II1	0.686	0.854	0.765	0.717	0.7
II2	0.616	0.904	0.848	0.752	0.748
II3	0.645	0.853	0.815	0.722	0.754
II4	0.697	0.834	0.827	0.764	0.712
II5	0.673	0.859	0.751	0.661	0.835
II6	0.634	0.91	0.838	0.656	0.801
II7	0.631	0.892	0.771	0.688	0.748
IP1	0.522	0.819	0.866	0.727	0.687
IP2	0.703	0.849	0.909	0.801	0.856
IP3	0.594	0.816	0.926	0.852	0.752
IPRO1	0.587	0.773	0.875	0.888	0.754
IPRO2	0.55	0.677	0.693	0.867	0.618
IPRO3	0.598	0.74	0.802	0.947	0.736
ISC1	0.67	0.739	0.767	0.801	0.856
ISC2	0.673	0.849	0.8	0.677	0.928
ISC3	0.678	0.764	0.742	0.654	0.929

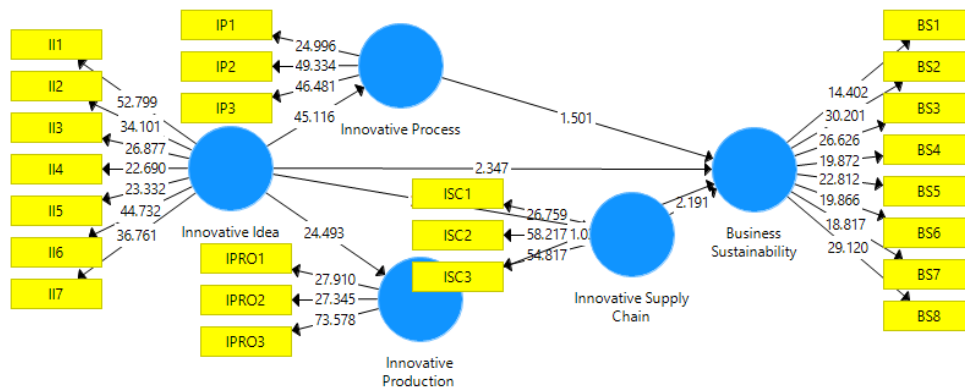


Fig. 4. Structural Model

Inner model of PLS is given in Fig. 4. According to this model, the direct effect of innovative ideas is examined in relation to business sustainability. The direct effect of innovative ideas is also examined on the innovative process. Along with this, the direct effect of innovative ideas was examined on innovative production and supply chain. Moreover, after the examination

of the direct effect on innovative process, innovative production and innovative supply chain, the direct effect of innovative process, innovative production and innovative supply chain was examined on business sustainability. This process was examined with the help of PLS bootstrapping (Henseler & Chin, 2010; Henseler & Fassott, 2010; Henseler et al., 2009; Reinartz et al., 2009). Results of the study shows in Table 5 which indicates that innovative ideas have a positive effect on business sustainability. Innovative ideas also have a positive effect on innovative processes and innovation production. This innovative idea has a positive role in the innovative supply chain. Thus, innovative ideas have a positive effect on innovative processes, innovative production, and innovative supply chain. Hence, increase in innovative ideas increases the innovative process, innovative production, and innovative supply chain. Finally, an innovative supply chain shows a positive role in business sustainability. As an innovative supply chain has a positive effect on business sustainability. Furthermore, it is found that innovative processes and innovative production have no effect on business sustainability.

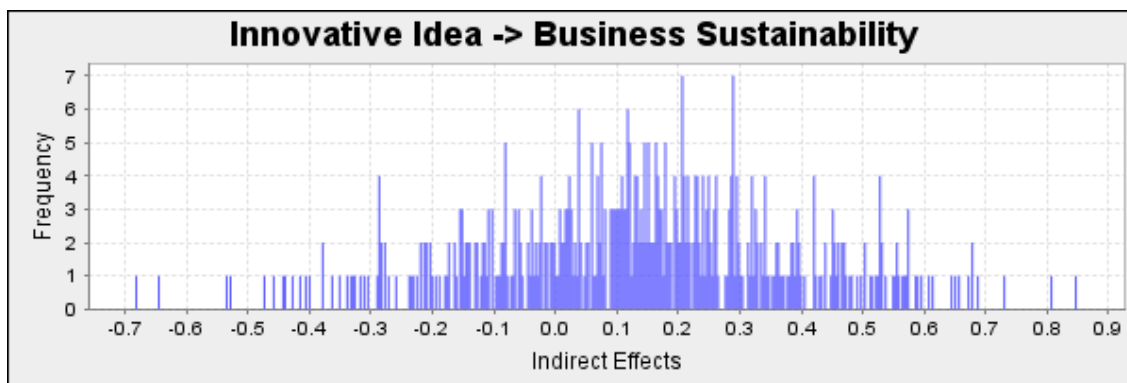
Table 5
Direct Effect Results

	(O)	(M)	SD	T Statistics	P Values
Innovative Idea → Business Sustainability	0.609	0.617	0.26	2.347	0.019
Innovative Idea → Innovative Process	0.92	0.921	0.02	45.116	0
Innovative Idea → Innovative Production	0.812	0.817	0.033	24.493	0
Innovative Idea → Innovative Supply Chain	0.868	0.867	0.026	32.834	0
Innovative Process → Business Sustainability	-0.363	-0.357	0.242	1.501	0.134
Innovative Production → Business Sustainability	0.145	0.142	0.141	1.03	0.303
Innovative Supply Chain → Business Sustainability	0.408	0.399	0.186	2.191	0.029

In Table 6, the mediation effect was examined. The mediation effect of the innovative process was examined between innovative ideas and business sustainability. The mediation effect of innovative production was examined between innovative ideas and business sustainability. Moreover, the third mediation effect of innovative supply chains was examined between innovative ideas and business sustainability. Results of the study shows that the mediation effect of innovative production between innovative ideas and business sustainability is not significant. The mediation effect of innovative production between innovative ideas and business sustainability is also not significant. The mediation effect of innovative supply chain between innovative idea and business sustainability is significant with t-value 2.206. T-value is above 1.96 which shows that an innovative supply chain reflects the positive effect of innovative ideas on business sustainability. This mediation effect is also given in Figure 5. Finally, this study also examined the r square. This study has 0.607 r-square value for business sustainability. It shows that all the variables; innovative ideas, innovative process, innovative production and innovative supply chain are expected to bring 60.7% change in business sustainability. This r-square value showing the variance in business sustainability is moderate (Chin, 1998).

Table 6
Indirect Effect Results

	(O)	(M)	SD	T Statistics	P Values
Innovative Idea → Innovative Process → Business Sustainability	-0.334	-0.328	0.223	1.494	0.136
Innovative Idea → Innovative Production → Business Sustainability	0.118	0.117	0.116	1.013	0.312
Innovative Idea → Innovative Supply Chain → Business Sustainability	0.354	0.345	0.161	2.206	0.028



5. Conclusion

This study is an investigation related to innovative ideas and business sustainability. The objective of the current study was to examine the role of innovative ideas in business sustainability. For this purpose, the relationship between innovative ideas, innovative process, innovative production, innovative supply chain and business sustainability was examined. In addition to this, the mediating role of innovative process, innovative production and innovative supply chain was examined. To examine these relationships; data were collected from the employees of textile companies. Data were collected from Indonesian textile

company employees in Indonesia. Results of the study found valuable insights for the textile companies. According to the results, innovation is the most influential element which causes increased business performance. Innovation leads to the sustainability of the business and provides better strength to the companies to compete in the market. The process of innovation generates various ideas which further lead to the business operations. Results of the study highlighted that innovative ideas have a major role in business sustainability. Majorly, the business sustainability depends on innovation which leads to novelty. Introduction of new ideas inside the boundaries of the organization expedites the business sustainability. As the business sustainability is key to the business, therefore, it requires innovative ideas for better performance. Furthermore, innovative ideas have a positive effect on innovative production and innovative supply chains. It is found that innovative ideas are one of the major parts of any organization including textile companies which shows a positive role to increase sustainable business. Along with this, improvement in the supply chain sustainability also shows a positive effect on business sustainability. Moreover, innovative production as well as innovative supply chain has a positive effect on business sustainability. Increase in innovative products and innovative supply chain increases the business sustainability. Therefore, innovative ideas increase the innovative production and innovative supply chain which further shows a positive effect on business sustainability. Hence, innovative ideas have a vital role in business sustainability among the Indonesian textile companies.

6. Implications of the Study

Several implications of the current study are based on the relationship between innovative ideas, innovative process, innovative production, innovative supply chain and business sustainability. This relationship among the textile companies along with the business sustainability was not previously discussed. Therefore, this is a vital addition in the literature of SMEs. It also contributed to the innovation. In rare cases, any study has highlighted the direct relationship between sustainable business and innovative ideas. The other theoretical implication of the current study is that; this study examined the three-mediation effect. The first mediation effect of the innovative process was examined between innovative idea and business sustainability. The second mediation effect of innovative production was examined between innovative ideas and business sustainability. Finally, the third mediation effect of the innovative supply chain was examined between innovative ideas and business sustainability. Hence, the current study has several contributions to the body of literature. Practically, this study has valuable contributions for management of textile companies. As the current study suggested that innovative ideas should be enhanced by the textile companies to enhance the business sustainability. Textile companies can enhance the business by promoting innovative processes, innovative production and innovation supply chain.

7. Limitations of the Study

Apart from the valuable results for the practitioners, the current study has few limitations. The limitations in the current study could be the future directions. First, this study could not cover all the major aspects of innovation in relation to the textile companies. Therefore, other aspects of innovation are also important to handle business sustainability. For instance, Industry 4.0 is one of the most important innovative work in the current decade, therefore, various practices of Industry 4.0 should also be included in the current study model. Second, the current study results show the information availability has no effect on business sustainability. Generally, information from the market also has insights to handle the business performance. Therefore, future study should investigate why information availability has no effect on the business sustainability.

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