International Journal of Psychosocial Rehabilitation, Vol. 24, Issue 05, 2020
ISSN: 1475-7192

How Technological Innovation Mediates between Strategic CSR and SMES Performance in Manufacturing Sector: Evidence from Malaysian Manufacturing Sector

Dr. Adedokun Mary Olufunke and Dr. Hassan Danial Aslam

Abstract--- *Corporate social responsibility (CSR) is not only important for large firm, it is equally important for small and medium enterprises. As Small and medium enterprises (SMEs) are taking much pressure from the buyer for successful implementation of strategic CSR practices. However, the main objective of the study is to investigate the mediating role of technological innovation between strategic CSR and SMEs performance in Malaysia to make sure the effective implementation of strategic CSR practices, which can enhance the SMEs performance. The study has distributed the 500 questionnaires among manufacturing SMEs respondent, and collected the valid 200 questionnaires for further analysis. The PLS-SEM technique has employed to evaluate the data. The study revealed the positive link between strategic CSR and SMEs performance. Furthermore, the study also found the mediating role of technological innovation between strategic CSR and SMEs performance. In respect of implications, the current study suggested that the owner / managers of SMEs need to work on CSR practices, these practices can improve the technological innovation, as technological innovation is highly important for higher SMEs performance.*

Keywords--- *Technological Innovation, CSR, SME.*

I. INTRODUCTION

SMEs are considering growth engine for any country economy (Imran, Aziz, & Hamid, 2017b). The SMEs are source for employment generation and innovation (Imran, Aziz, & Hamid, 2016). The large firms also dependent on small and medium firms in large numbers. However, the SMEs performance is the main concern of the present study. In this regard, there are many researchers are conducted to find the influential factor, which can influence SMEs performance positively. Some of them have pointed that strategic corporate social responsibility practices are influential concern for any small and medium business (Bocquet, Le Bas, Mothe, & Poussing, 2019). Furthermore, some of studies stressed that it much pressure from the buyer to implements the CSR practices (Zhou, Zhang, & Zhang, 2019). However, the successful implementation of CSR can enhance the SMEs performance (Bocquet, Le Bas, Mothe, & Poussing, 2017). As we know SMEs performance is important for the survival of SMEs, which are providing employment and innovation.

Moreover, some of studies stated that technological innovation specially in manufacturing SMEs is important for

Dr. Adedokun Mary Olufunke, Department of Adult and Community Development, Faculty of Education, Ekiti State University, Ado Ekiti. E-mail: mary.adedokun@eksu.edu.ng
Dr. Hassan Danial Aslam, Department of Management Sciences, The Islamia Univeristy of Bahawalpur, Pakistan. E-mail: hassan.danial@iub.edu.pk

DOI: 10.37200/IJPR/V24I5/PR201796
Received: 13 Feb 2020 | Revised: 07 Mar 2020 | Accepted: 23 Mar 2020

SMEs to cope up the dynamic environment or intensive competition (Ruiz-Palomo, Diéguez-Soto, Duréndez, & Santos, 2019). As past literature suggested that innovation is the key for any country economy generation, furthermore, it is also source for firm growth up to expectation. Besides, the CSR and innovation link found by few studies, in detail, according to Bocquet et al. (2019) CSR link with technological innovation. Basically, technological innovation is a key factor for any firm competition (McAdam, Reid, Harris, & Mitchell, 2008). Moreover, technological innovation cannot ignore those firms which want to develop themselves for sustainable competitive advantage (Hillemane, 2012). Furthermore, technological innovation has potential to convert small firms into medium or large firms (Imran, Aziz, & Hamid, 2017a). Anyhow, as past studies stated that CSR is the main element for any firm competitiveness (Hillemane, 2012). As of now, from the stockholder perspective, CSR refers to social responsibility to employees, consumers, communities and financial liabilities of stockholders. On the other hand, the SMEs should need to improve the technological innovation capability to meet the diverse needs of stockholders (Bagheri, Mitchelmore, Bamiatzi, & Nikolopoulos, 2019). Though, most of scholars believes that CSR is a corporate strategy, hence, the CSR behaviour can positively affect technological innovation of SMEs.

Furthermore, there are limited studies which investigate the combine effect of strategic CSR and technological innovation on SMEs performance in a framework. Besides, there is also lack of research which investigate empirically the mediating role of technological innovation between strategic CSR and SEMs performance in context of Malaysia. Based on above discussion, the present study is going the conduct the empirical research on mediating role of technological innovation between strategic CSR and SMEs performance in Malaysian context.

The structure of the paper would be as follows. The second part will be literature review of the proposed variables and states the study hypothesis. The third section will cover the methodology of the paper. The fourth section will evaluate the data analysis. The last section will discuss the results and conclude the study.

II. LITERATURE REVIEW AND HYPOTHESES

This section covers the published literature to discuss the relationship among the variables. Furthermore, literate review proposed the hypothesis on the basis of past studies supports in this section as well.

Strategic CSR and SMEs Performance

As per social corporate theory, the CSR is not only important for large firms, it is equally important for all firms including SMEs (Back, 2018). However, the lesser studies have observed in SMEs as compare with large firms (Bocquet et al., 2017). Basically, as we know, SMEs have limited resources, knowledge, a less closeness with stakeholders, hence, they are well not aware about CSR (Murillo & Lozano, 2006). However, this literature gap is pointing out for further detail research in context of SMEs. Basically, according to CSR the SMEs should engage in local communities, manage stakeholders, create a good working environment and presser local resources (Back, 2018). Though, CSR can provide the competitiveness to companies, if the owner-manager can implement the CSR practices effectively (Bocquet et al., 2019). However, the CSR can be the best approach to enhance the SMEs performance. Furthermore, most of past studies also suggested the positive link between CSR and SMEs performance (Bocquet et al., 2017). Hence on the basis of past literature, the following hypothesis is proposed.

DOI: 10.37200/IJPR/V24I5/PR201796
Received: 13 Feb 2020 | Revised: 07 Mar 2020 | Accepted: 23 Mar 2020

H1: There is positive relationship between strategic CSR and SMEs performance.

Mediating Role of Technological Innovation

According Bocquet et al. (2017) CSR divide into two type such as strategic and responsive. These both types can distinct economic impact. Thus, CSR is important for innovation when innovation is important for firm development (Bagheri et al., 2019). However, some of studies suggested that CSR can strongly influence to SMEs performance. On the other hand, past studies proved the positive link between CSR and SMEs performance. As of now, limited literature found on the link between CSR and SMEs performance. May be one of the reasons is to neglect the innovation between CSR and SMEs performance (Bocquet et al., 2019). Considering the technological innovation during the investigation of CSR and SMEs performance relationship. As many researchers have found the positive link between innovation and SMEs performance (Liu, Mu, Hu, Wang, & Wang, 2018). However, the technological innovation is missing link between CSR and SMEs performance. Secondly, technological innovation has strong positive relationship with SMEs performance (Zhou et al., 2019). Thirdly, the CSR must strategic with technological innovation. Thus, the present study proposed the following hypothesis.

H2: There is mediating role of technological innovation between CSR and SMEs performance.

Research Framework

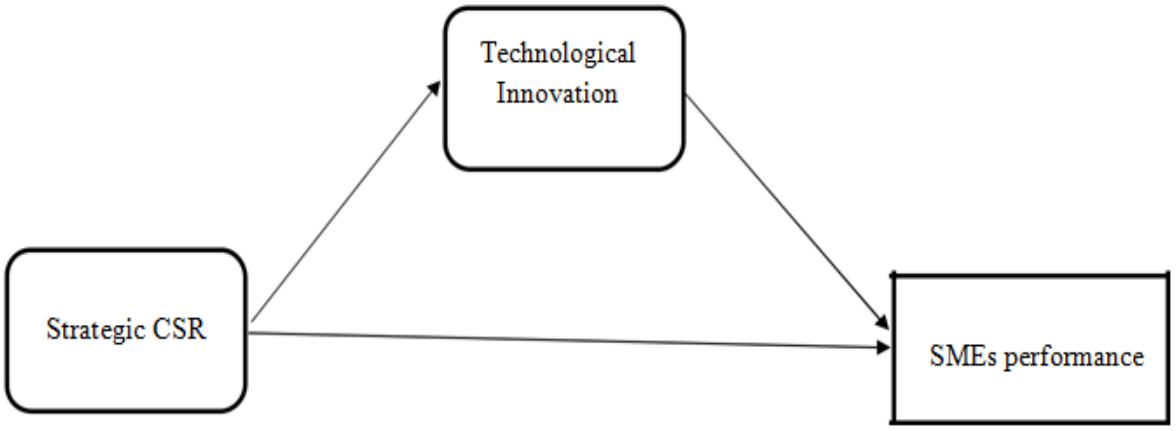

Figure 1: Research Framework

III. METHODOLOGY

The study has taken manufacturing sector of Malaysia, more superficially those SMEs are considered for data collection which are practicing CSR. According to small and medium corporation Malaysia, most of manufacturing SMEs consisting in leather plastic industry, furniture industry, electronic circuit and conductor industry, food industry and auto parts industry (Malaysia, 2020). However, these industries situated in Penang, Ipoh and Johor Bahru. Furthermore, those firms have taken which fulfil the SMEs definitions such as according to SME corporation that manufacturing SMEs should have sales turnover of less than RM25 million or full-time employees of less than 150. The G*Power test has applied to derived the sample sized, the test has found the 107 sample size of the study (Faul, Erdfelder, Buchner, & Lang, 2009). Moreover, increased the sample size as per Salkind (1997)

DOI: 10.37200/IJPR/V24I5/PR201796
Received: 13 Feb 2020 | Revised: 07 Mar 2020 | Accepted: 23 Mar 2020

recommendation to avoid the sampling error, lost mail and uncooperative subjects. (Malaysia, 2020). However, the 500 questionnaires have been distributed among the target SMEs industries such as leather plastic industry, furniture industry, electronic circuit and conductor industry, food industry and auto parts industry.

The individual level has considered for this study. The scale distribution, the convenience sampling has been employed. However, the 250-questionnaire returned and consider for further analysis. The sample size is considered enough for data analysis, as Roscoe (1975) stated that sample size larger than 30 and less than 500 is considered appropriate. The 7-point Likert has used in this study.

The scale of strategic CSR is adopted from Back (2018). The technological scale adopted from the study of Bagheri et al. (2019) with 9items and lastly, the SMEs performance scale has adapted from the study of Back (2018).

IV. DATA ANALYSIS

The partial least structural equation modelling has been employed for this study. The smartPLS-3 has employed to evaluate the data through PLS-SEM technique. The two-step approach of PLS-SEM has follows.

Measurement Model

In this section the data reliability and validity has been checked. The reliability of data has been checked on the basis of Cronbach alpha, composite and average variance extracted based, their values should be 0.70, 0.70 and 0.50 respectively. The all values have achieved according to said criteria, the result can see in table-1.

The validity of data has been checked to use the Fornell & Larcker Criterion, Cross Loadings and HTMT criteria. In Fornell & Larcker Criterion the values of constructs should higher than other constructs in diagonal, same as in cross loading the values of items should higher than other items in diagonal. Furthermore, more latest criteria's HTMT, according to HTMT criterion, the all values should not more than 1. Hence, the values have recorded within the threshold values. The result can see in tables-2, 3, & 4.

Table 1: Reliability of Constructs

Construct	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
SMEs performance	0.687	0.702	0.803	0.505
Strategic CSR	0.605	0.636	0.78	0.544
Technological Innovation	0.735	0.752	0.832	0.553

Table 2: Fornell & Larcker Criterion

Constructs	SMEs performance	Strategic CSR	Technological Innovation
SMEs performance	0.711		
Strategic CSR	0.571	0.744	
Technological Innovation	0.409	0.507	0.737

DOI: 10.37200/IJPR/V24I5/PR201796
Received: 13 Feb 2020 | Revised: 07 Mar 2020 | Accepted: 23 Mar 2020

Table 3: Cross Loadings

Items	SMEs performance	Strategic CSR	Technological Innovation
SMEsP1	0.721	0.374	0.320
SMEsP2	0.680	0.294	0.188
SMEsP3	0.698	0.302	0.330
SMEsP5	0.742	0.561	0.306
SCSR1	0.435	0.731	0.328
SCSR2	0.363	0.684	0.246
SCSR7	0.379	0.757	0.399
SCSR8	0.501	0.799	0.490
TI1	0.340	0.519	0.814
TI2	0.294	0.327	0.718
TI3	0.261	0.179	0.674

Table 4: HTMT

Construct	SMEs performance	Strategic CSR	Technological Innovation
SMEs performance			
Strategic CSR	0.606		
Technological Innovation	0.735	0.66	

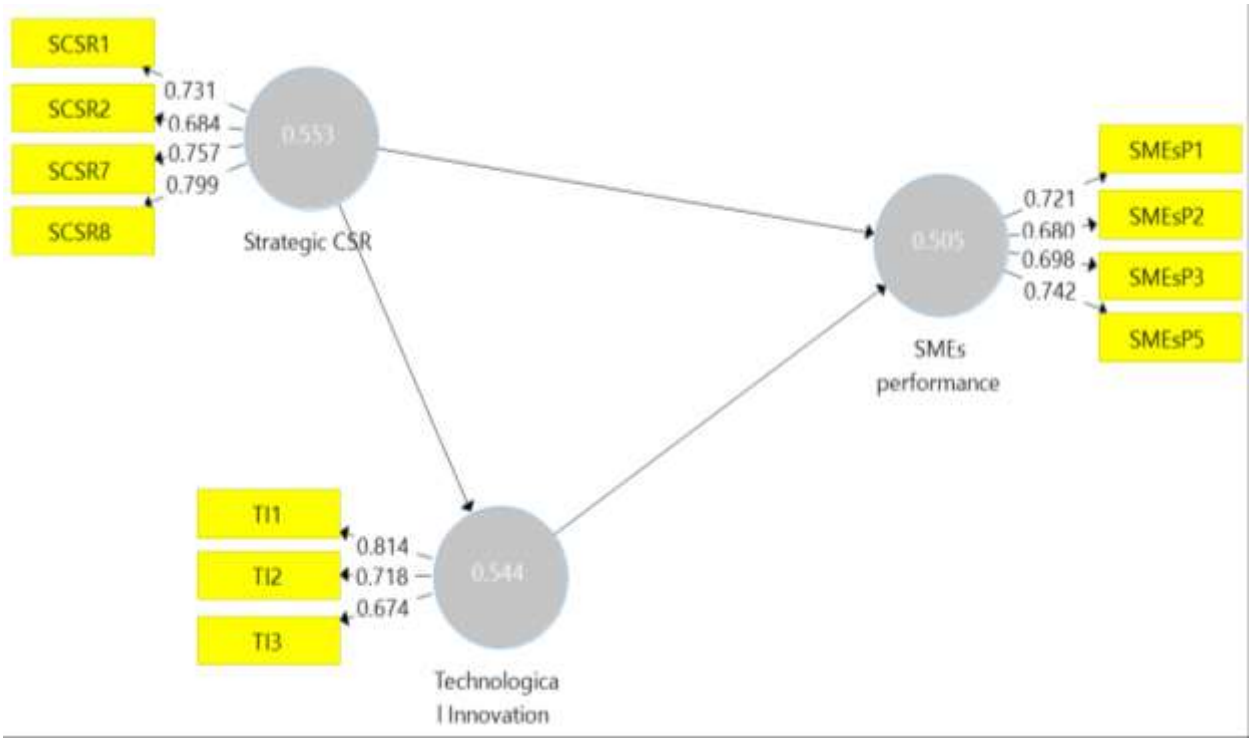

Figure 2: Measurement Model

Structural Model

In this section the decision has been made on the basis of path co-efficient, other words, the proposed hypothesis of study has accepted and rejected. Hence, the bootstrapping has run at 5000 sub-sampling on 1.96 t- statistic at 0.05 significance level. Thus, the result can be seen in table-5, table-6 and figure-3.

DOI: 10.37200/IJPR/V24I5/PR201796
Received: 13 Feb 2020 | Revised: 07 Mar 2020 | Accepted: 23 Mar 2020

Moreover, in respect of effect size, the values should be 0.02, 0.15 and 0.35 respectively show small, medium and large effect size. Hence, the contribution of strategic CSR found around 0.271 in SMEs performance, which is called medium effect size. On the other side, the contribution of technological innovation into SMEs performance counted around 0.029, which is called small effect size. The result can see in table 7.

Table 5: Direct Relationship

Hypothesis	Beta	Standard Deviation	T Statistics	P Values	Decision
H-1: Strategic CSR -> SMEs performance	0.571	0.05	11.439	0.000	Accepted

Table 6: Indirect relationship (Mediation)

Hypothesis	Beta	Standard Deviation	T Statistics	P Values	Decision
H2: Strategic CSR -> Technological Innovation -> SMEs performance	0.161	0.081	1.979	0.048	Accepted

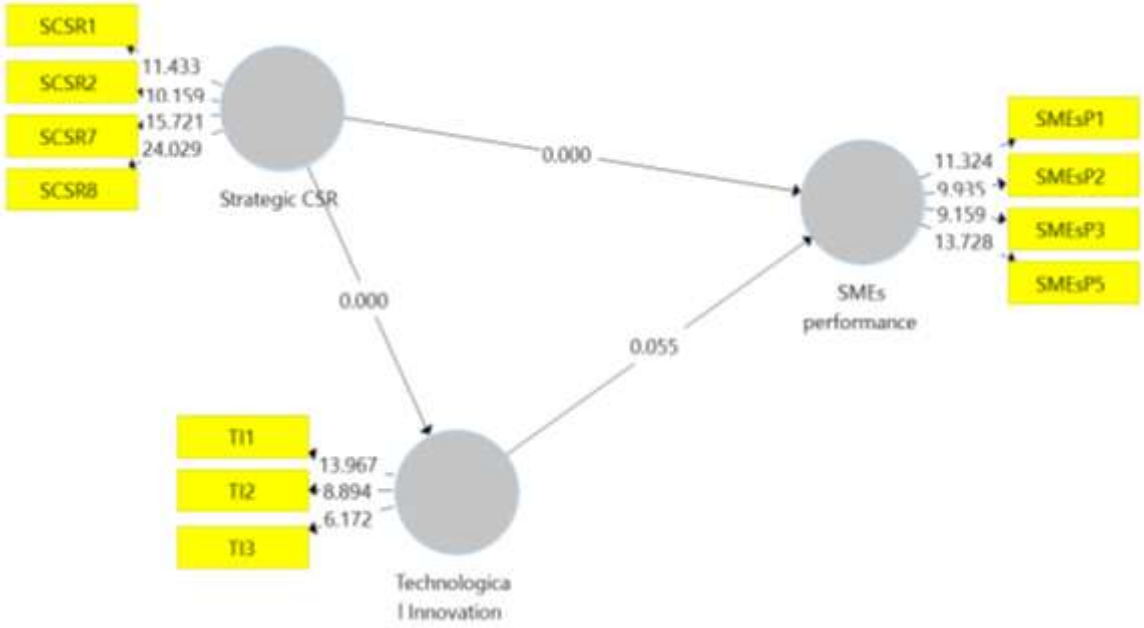

Figure 3: Structural Model

Table 7: Effect Size

Constructs	SMEs performance	Strategic CSR	Technological Innovation
SMEs performance			
Strategic CSR	0.271		0.347
Technological Innovation	0.029		

Model Fitness

This study has used the indices of SRMR, NFI and RMS Theta to prove the model fitness. The value of SRMR should be between 0 to 1; the value of NFI value should not more than 0.90. Furthermore, the value of RMS should be less than 0.12. The result found satisfactory and can see in table However, the result can be found in table 4. According to this result the current study has confirmed the general model fitness.

DOI: 10.37200/IJPR/V24I5/PR201796
Received: 13 Feb 2020 | Revised: 07 Mar 2020 | Accepted: 23 Mar 2020

Table 8: Model Fit

Fitness Indices	Quantity	Desirable Value
SRMR	0.076	Less than 0.08
NFI	0.840	More than 0.90
rms Theta	0.110	Less than 0.12

Measurement Model

In this section the data reliability and validity has been checked. The reliability of data has been checked on the basis of Cronbach alpha, composite and average variance extracted based, their values should be 0.70, 0.70 and 0.50 respectively. The all values have achieved according to said criteria, the result can see in table-1.

The validity of data has been checked to use the HTMT criteria. According to HTMT criterion, the all values should not more than 1. Hence, the values have recorded within the threshold values. The result can see in table-2.

Table 1: Reliability of Constructs

Construct	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
SMEs performance	0.687	0.702	0.803	0.505
Strategic CSR	0.605	0.636	0.78	0.544
Technological Innovation	0.735	0.752	0.832	0.553

Table 2: Discriminant Validity of Constructs

Construct	SMEs performance	Strategic CSR	Technological Innovation
SMEs performance			
Strategic CSR	0.606		
Technological Innovation	0.735	0.66	

Structural Model

In this section the decision has been made on the basis of path co-efficient, other words, the proposed hypothesis of study has accepted and rejected. Hence, the bootstrapping has run at 5000 sub-sampling on 1.96 t-statics at 0.05 significance level. Thus, the result can be seen in Table-3 and Table-4.

Table 3: Direct Relationship

Hypothesis	Original Sample (O)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values	Decision
H-1: Strategic CSR -> SMEs performance	0.571	0.05	11.439	0.000	Accepted

Table 4: Indirect relationship (Mediation)

Hypothesis	Original Sample (O)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values	Decision
H2: Strategic CSR -> Technological Innovation -> SMEs performance	0.161	0.081	1.979	0.048	Accepted

Discussion and Conclusion of the Study

This study aimed to investigate the mediating role of technological innovation between strategic CSR and SMEs

DOI: 10.37200/IJPR/V24I5/PR201796
Received: 13 Feb 2020 | Revised: 07 Mar 2020 | Accepted: 23 Mar 2020

performance. The present study has found the positive link between strategic CSR and SMEs performance, accepted the hypothesis 1. Furthermore, the study found the mediating role of technological innovation between strategic CSR and SMEs performance, thus, second hypothesis accepted too.

On the basis of above findings, the study concluded that technological innovation has vital role to enhance the SMEs performance, as well as carrying the effect of strategic CSR towards SMEs performance. This indicates CSR has influential role in enhancement of SMEs performance in context of Malaysia. Hence, this is suggested that the owner / managers of SMEs need to focus on the strategic CSR thinking, which is not only useful for firm performance but equally important for technological innovation. As we know, technological innovation is crucial for SMEs development and maximize their profit up to accepted level.

The Government of Malaysia need to oversee the SMEs for their effective arrangement regarding CSR. Furthermore, SMEs should not only produce the maximum products, they should have responsibility to work on strategic CSR to minimize the environmental damage. Moreover, owner / manager need to invest in volunteer services such as education, health etc. to fulfil the legal, economic and ethical CSR responsibilities.

In respect of limitation, this study has adopted cross sectional approach, the future researches can adopt the longitudinal approach. Moreover, the future studies can validate this study on large scale sample size. Furthermore, this study has taken manufacturing sector, the future studies can validate this study into service sector. Lastly , future studies can consider other factors into the current study framework such as management support and innovation performance of SMEs.

REFERENCES

[1] Back, P. (2018). On the relationship between corporate social responsibility and competitive performance in Brazilian Small and Medium Enterprises-empirical evidence from a stakeholders' perspective.

[2] Bagheri, M., Mitchelmore, S., Bamiatzi, V., & Nikolopoulos, K. (2019). Internationalization Orientation in SMEs: The Mediating Role of Technological Innovation. *Journal of International Management, 25*(1), 121-139.

[3] Bocquet, R., Le Bas, C., Mothe, C., & Poussing, N. (2017). CSR, innovation, and firm performance in sluggish growth contexts: A firm-level empirical analysis. *Journal of Business Ethics, 146*(1), 241-254.

[4] Bocquet, R., Le Bas, C., Mothe, C., & Poussing, N. (2019). Strategic CSR for innovation in SMEs: Does diversity matter? *Long Range Planning*, 101913.

[5] Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G* Power 3.1: Tests for correlation and regression analyses. *Behavior research methods, 41*(4), 1149-1160.

[6] Hillemane, B. S. M. (2012). Technological innovation in Indian SMEs: need, status and policy imperatives. *Current opinion in creativity, innovation and entrepreneurship, 1*(2).

[7] Imran, M., Aziz, A., & Hamid, S. (2016). Moderating role of environmental turbulence on the relationship between entrepreneurial orientation, business networks orientation, export market orientation and SMEs export performance: a research framework. *Journal of Business Management, Commerce & Research, 4*, 15.

[8] Imran, M., Aziz, A., & Hamid, S. (2017a). The relationship between entrepreneurial orientation, business networks orientation, Export market orientation and SME export performance: A proposed research framework. *International Journal of Academic Research in Business and Social Sciences, 7*(10), 230-248.

[9] Imran, M., Aziz, A., & Hamid, S. (2017b). Total quality management, export market orientation and firm export performance: A conceptual framework. *International Journal of Academic Research in Business and Social Sciences, 7*(9), 591-601.

DOI: 10.37200/IJPR/V24I5/PR201796
Received: 13 Feb 2020 | Revised: 07 Mar 2020 | Accepted: 23 Mar 2020

[10] Liu, Z., Mu, R., Hu, S., Wang, L., & Wang, S. (2018). Intellectual property protection, technological innovation and enterprise value—An empirical study on panel data of 80 advanced manufacturing SMEs. *Cognitive Systems Research*, *52*, 741-746.

[11] Malaysia, S. C. (2020). SMEinfo. Retrieved from http://www.smeinfo.com.my/about-sme

[12] McAdam, R., Reid, R., Harris, R., & Mitchell, N. (2008). Key determinants of organisational and technological innovation in UK SMEs: an empirical study. *International Journal of Entrepreneurship and Innovation Management*, *8*(1), 1-14.

[13] Murillo, D., & Lozano, J. M. (2006). SMEs and CSR: An approach to CSR in their own words. *Journal of Business Ethics*, *67*(3), 227-240.

[14] Roscoe, J. T. (1975). *Fundamental research statistics for the behavioral sciences [by] John T. Roscoe*.

[15] Ruiz-Palomo, D., Diéguez-Soto, J., Duréndez, A., & Santos, J. A. C. (2019). Family Management and Firm Performance in Family SMEs: The Mediating Roles of Management Control Systems and Technological Innovation. *Sustainability*, *11*(14), 3805.

[16] Salkind, N. J. (1997). Exploring research (3 rd.). *Bartlett, JE, Kotrlik, JW, and Higgins, CC (2001)."Organizational Research: Determining Appropriate sample Size in Survey Research". Information Technology, Learning, and Performance Journal*, *19*(1), 43-50.

[17] Zhou, G., Zhang, L., & Zhang, L. (2019). Corporate Social Responsibility, the Atmospheric Environment, and Technological Innovation Investment. *Sustainability*, *11*(2), 481.

DOI: 10.37200/IJPR/V24I5/PR201796
Received: 13 Feb 2020 | Revised: 07 Mar 2020 | Accepted: 23 Mar 2020