THE IMPACT OF TECHNOLOGY, ENTREPRENEURSHIP AND CONSUMER ATTITUDES ON FIRM PERFORMANCE

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Abstract: The study aims to examine the influence of technological advancement, entrepreneurial orientation and change in consumer attitude on the firm performances of Small and Medium-sized Enterprises (SMEs) based in the UK. By reviewing previous literature, it has been noted that all of these variables are linked with firm performance. However, it is important to know whether the relationships hold in the context of UK-based SMEs. Thus, this research contributes to the existing scholarship by statistically addressing the case of SMEs operating in the UK while focusing on technology, entrepreneurship and consumer attitudes. The study has adopted a quantitative methodology with a descriptive and a correlation design and a sample size of 145 employees belonging to different industries. It applies frequency analysis, correlation and regression analysis to analyse the results. The study found that there is a significant positive effect of technology advancements, entrepreneurial orientation and consumer attitudes on firm performance at 0.05 level. The results also showed that SMEs in the UK need to focus on the three factors to grow and improve their competitiveness.

Keywords: Technological advancement, Entrepreneurial orientation, Customer attitude, Firm performance, SMEs, UK.

DOI: 10.17512/pjms.2021.23.1.02

Article history:
Received March 04, 2021; *Revised* April 28, 2021*; Accepted* May 09, 2021

Introduction

Small and Medium Enterprises (SMEs are the backbone of a country's economy, as reported by Lidya (2019). Factor like technology determines how far SMEs will progress over time. From laptop computers with Internet capabilities to online file storage, Web-based applications and printers, technological changes impact SMEs across various industries (Brookins, 2019). Technology has the potential to SMEs in adverse and positive ways; the result depends on the objectives of a corporation, the products that the company chooses to apply, and how good the employees and the

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managers familiarise themselves with the new systems (Chege, Wang and Suntu, 2019).

Companies are said to have Entrepreneurial Orientation when they manifest and support entrepreneurial behaviour frequently enough so that this behaviour can be used to define organisational attributes and characteristics (Covin and Wales, 2019). As an organisational attribute, Entrepreneurial Orientation portrays a company's managerial decision-making practices, strategic behaviour and philosophies (Anderson, Covin and Slevin, 2009). According to Wales (2016), Entrepreneurially-oriented companies exhibit and support a continued design of new entry over a period, which is generally characterised by risk-taking, innovativeness and proactiveness. In addition to the factors mentioned before, some other dimensions may be assessed, such as isolation or in aggregate according to Covin and Wales (2012); nonetheless, some scholars have also recommended measuring both individual and aggregate effects for determining the Entrepreneurial Orientation of a company (Miller, 2011; Wales, 2016).

Customers are arguably the most important stakeholders of a business, as the customer's contribution, whether high or low, determines the success of an organisation (Poudel, Carter and Lonial, 2018). A change in consumer attitude is likely to change the way a company conducts its business. If the consumer target market is more inclined towards high technology, the company will have to adjust accordingly (Oke, Burke and Myers, 2007). An example can be noted of the company Nokia, which failed to comply with the changing consumer attitude and was subject to hefty losses. Therefore, it is recommended that the companies keep track of the latest social trends and requirements of the consumers to develop products/services accordingly (Muhonen, Hirvonen and Laukkanen, 2017).

SMEs are significantly important for the United Kingdom (UK), as their parliament recognised 5.7 million SMEs operating in the nation, which make up 99% of business overall (Rhodes, 2018). SMEs in the UK have fewer than 250 employees, and they are different from other countries, such as the USA, where a company with 500 employees will also be considered an SME (Labs, 2019). SMEs in the United Kingdom are known to have an annual turnover of less than £40 Million. There are usually two types of SMEs present in the United Kingdom, according to FSB (2019); firstly, there are household industries or traditional cottage industries; these types of industries are generally found in rural or semi-urban areas (Hall, 2018). The second type of companies is known as 'Modern SMEs', which are innovative with technology playing a significant role in their operations; these companies generally provide solutions to old problems (Rhodes, 2018; FSB, 2019).

The present study aims to determine the influence of Technological Advancement, Entrepreneurial Orientation and Change in Consumer Attitude on the firm performance

of SMEs based in the UK. It is observed that the influence of Technological Advancement, Entrepreneurial Orientation and Change in Consumer Attitude on firm performance has been explored individually, and the conclusive explanation in the context of the UK is also lacking (Poudel, Carter and Lonial, 2018; Tajeddini, 2010; Sohoo and Yadav, 2017). Therefore, the objective of the present study is to understand the previous literature regarding the topic and analyse the topic statistically by conducting a survey.

Literature Review

SMEs have to work closely with their clients to provide the services or products that add value for the consumers (Brookins, 2019). Providing a product or service, which started from a general idea, requires the business employees to collaborate and external vendors (Chege, Wang and Suntu, 2019). Instant messaging and E-mail started the revolution of online collaboration and sharing. With the capability of connecting instantly, getting feedback and share information, instant messengers and e-mail are valuable technological assets for SMEs (Brookins, 2019). Web-based project management programs enable the SMEs to keep track of their projects, update information about team members and clients, delegate tasks, share documents, and track time in real-time (Chege, Wang and Suntu, 2019). Through these tools, a central hub can be created for companies where all information is available regardless of an employee's location.

Technology advancement gives an opportunity to SME employers and employees to work from home, from the road and even from across the country (Seidel, 2019). This allows SME employers the opportunity to hire capable candidates from all over the globe; technology can thus help the business gain a competitive advantage in the world market. An example of this technology use can be observed when the established USA firms hire cheaper staff from countries like India for their customer service department (Ross, 2014). Technology has enabled businesses to connect with consumers directly via social network, blogs and E-mail. The SMEs can take advantage of this by gaining instant feedback from the consumers and applying them to their firm as they see fit (Seidel, 2019).

The online store added usage brought by the technological revolution presents a great opportunity for SMEs (Poudel, Carter and Lonial, 2018). Clothing, accessories, crafting and painting companies can benefit from the online stores greatly. Consumers have shifted massively towards e-commerce in recent years in the UK; this also saves money for SMEs for setting up many physical stores (O'Dea, 2019). Through online stores, small businesses can reach a far greater market than their area. Employee training is also affected through technology; while the new employees will embrace the

technology in training, the old and aged employees may feel reluctant (Brookins, 2019).

Technological advancements have also allowed SMEs to preserve their sensitive consumer or business information by providing secure online platforms (Seidel, 2019). The productivity of the employees can be improved from technological advancements. The modern software allows the employees to access more information than manual modes (Ross, 2014). The employers can also reduce the number of labours required, thus making the costs of the company lower. The managers can track the activity of the employees via an online portal and decide the bonuses and other benefits accordingly (Durowoju, 2017).

Apart from the benefits discussed above, some drawbacks of technology regarding firm performance are also evident. Although the internet is a good opportunity for a business to itself, nonetheless, some issues arise, such as maintaining a website, search engine optimisation, staying up to date with the changes in the technology and dealing with customer inquiries (Kooser, 2015). Issues may be faced while updating the technological aspects of the company, as the things related to technology get outdated over time; therefore, the company has to bear with additional costs (Poudel, Carter and Lonial, 2018).

Based on the identified advantages and disadvantages of technological shifts, the current study formulates the following hypothesis to be tested:

H_1: There is a significant relationship between Technology Advancement and Firm Performance

Entrepreneurial orientation is among one of the most established and important topics in the domain of managerial inquiry and entrepreneurship. The essentiality of entrepreneurial orientation to the performance and survival of companies has been recognised in numerous entrepreneurship-related literature (Shan et al., 2016; Hult et al., 2003; Covin and Slevin, 1986). Emphases have been on assessing the association between firm performance and Entrepreneurial orientation since there is a belief that organisations with stronger Entrepreneurial orientation achieve much more than those companies that do not implement an Entrepreneurial orientation approach (Wiklund & Shepherd, 2003; Tat et al., 2007). Companies with a high level of Entrepreneurial Orientation tend to constantly monitor and scan the operating environment that they are in to discover new strengths and opportunities to gain a competitive advantage (Sahoo and Yadav, 2017). Most of the researches have been conducted to examine the positive influence of Entrepreneurial Orientation on firm performance (Sahoo and Yadav, 2017).

Entrepreneurial orientation is the process that defines the entrepreneurs' traits in an organisation, such as risk-taking, proactiveness and innovativeness (Al-Dhaafri et al.,

2016). Entrepreneurial orientation describes the organisational level, which supports entrepreneurial decisions and procedures through the action of strategy-making of the SME (Wiklund & Shepherd, 2003). Entrepreneurial orientation includes a readiness to search for risks, be more aggressive and proactive, innovate, and take self-directed actions than competitors toward new market prospects (Jiang et al., 2016). Hence, Entrepreneurial Orientation can somewhat describe strategic managerial behaviours that allow the firm to gain a competitive advantage by being more open to innovations, proactive of market opportunities, and tolerant to risk (Sahoo and Yadav, 2017).

Hence, from a wide-ranging review of previous studies, it can be concluded that Entrepreneurial Orientation has been enlisted through 5 proportions, namely: proactiveness, competitive aggressiveness, innovativeness, autonomy and risk-taking (Sahoo and Yadav, 2017). Thus, entrepreneurial orientation can be important for SMEs to realise new tactical opportunities and compete with other companies. If SMEs have more capacity for proactiveness, competitive aggressiveness, innovativeness, autonomy and risk-taking, they will likely accomplish higher firm performance and gain a more significant competitive advantage (Shan et al., 2016).

The traditional idea of entrepreneurial activity or entrepreneurship has been regarded as a one-time act that involves the creation of a new venture, service or product; or an act the creatively destructs or challenges existing services/products (Tajeddini, 2010). Today, rather than an event that creates value, entrepreneurship is more viewed as a process that is rooted in the culture of an organisation's culture that helps to exploit an opportunity (Hult et al., 2003).

Building on the importance given to entrepreneur, the current study has developed the following hypothesis to be tested:

H_2: There is a significant relationship between Entrepreneurial Orientation and Firm Performance.

The production and operations conducted by any firm are for consumers at the end of the value chain (Fitzsimmons, 1985). Therefore, a company needs to know consumers' attitude towards their brand to determine the improvements that need to be made (Oirere, 2015). If a consumer's attitude changes towards a brand in a negative way, then the company's performance will be altered, as the firm's workers will feel that their efforts are not being rewarded (Clark and Saxberg, 2019). The company's management has the responsibility to change the course of operations in case of negative feedback from the consumers (Poudel, Carter and Lonial, 2018). If an SME is underselling its products, then it should consider changing the tactics to change the consumer attitude towards the company in a positive way (Tajeddini, 2010). To change the consumer attitude, the management should be responsible for consumer perceptions, as it defines the standing of the company in the eyes of the users (Clark

and Saxberg, 2019). 90% of the buys are deemed impulsive; therefore, if a brand has a decent image in the view of the consumers, then they will be inclined towards buying from that brand (Forbes, 2018). If the consumer perception about the company improves, so does the performance level of the firm, as the employees will be more encouraged by the positive influence (Clark and Saxberg, 2019). Following the findings of Clark and Saxberg (2019), the current study tests the below-outlined hypothesis:

H_3: There is a significant relationship between Change in Consumer Attitude and Firm Performance

To analyse the changing consumer attitude, the SMEs can compile relevant data to interpret from the study of Long (2019). Surveys can be conducted to determine the cause of a negative change in consumers' attitude; it can be determined through a survey whether the negative influence is due to a product, operation or employee (Forbes, 2018). Once the reasons for the negative change in attitude are found, then a plan of action should be set up; these plans of actions may include changing the product or service style, employee training or cultivating customer loyalty etc. (Long, 2019). Numerous companies try to reach customers through emotional marketing to change their attitude towards the firm (Rahman, Yaacob and Radzi, 2016). Research by well-known psychologist Daniel Kahneman determined that most of the decision-making by consumers in purchasing is driven by subconscious shortcuts and irrational (Forbes, 2018). However, in a huge number of cases, emotional marketing campaigns have been unsuccessful. Emotional advantages only work if the emotional aspects are rooted in the company's product or service experience (Long, 2019).

Making changes is likely to be costly for SMEs; however, in the long run, the plan of action may prove to be beneficial (Kooser, 2019). Sharing of information within the company is important; the correct information should be conveyed to the responsible parties to make them perform better in order to improve the consumer attitude towards the brand (Rahman, Yaacob and Radzi, 2016). Information sharing could help an employee perform better, a customer service representative provides better services and makes the marketing team more effective, etc. (Poudel, Carter and Lonial, 2018). After the relevant measures are taken, the level of success should be measured; this measuring of success can lead the company to greater objectives and gain the company consumer loyalty (Oirere, 2015).

The entrepreneurial orientation of a company is determined by the competency of the managers to implement innovation in their value chain (Shan et al., 2016). Efficient ways of conducting business are developed from a progressive value chain (Muhonen, Hirvonen and Laukkanen, 2017). Therefore, the link between Entrepreneurial Orientation and Technological advancement is formed through innovation. One of the

key factors of being innovative today is using technology to gain a competitive advantage (Tsai, 2004). SMEs with Entrepreneurial orientation can use technology advancements by using efficient methods to conduct their operations, such as online project management systems, online stores, advanced manufacturing machines, etc. (Poudel, Carter and Lonial, 2018).

Technological advancements and change in consumer attitude have a very prominent linkage (Carter, 2019). How well a company utilises technological advancements determines the consumers' attitude towards the firm (Beall, 2017). Companies, that fail to adapt to technological changes, often end up on the negative side of the consumer attitude (Carter, 2019). Examples can be noted of companies Kodak and Nokia that failed to comply with the advancing technology and lost their market in the process. Whereas Entrepreneurial orientation and change in consumer attitude are not directly linked; however, they may be linked through the quality of the product or service (Wales, 2013). If implementing an entrepreneurial orientation improves the quality of the product or service, then the consumer attitude will change positively and vice versa (Poudel, Carter and Lonial, 2018).

Further, there are theoretical frameworks that have rationalised the relationship between the variables used in the hypotheses. Firstly, the linkage between Entrepreneurial Orientation and Firm performance is established in Figure 1. The study by Zehir, Can, and Karaboga (2015) states that the five elements of Entrepreneurial orientation, i.e. proactiveness, competitive aggressiveness, innovativeness, autonomy and risk-taking, have an impact on innovation performance and differentiation strategy, which in turn influence the Firm performance.

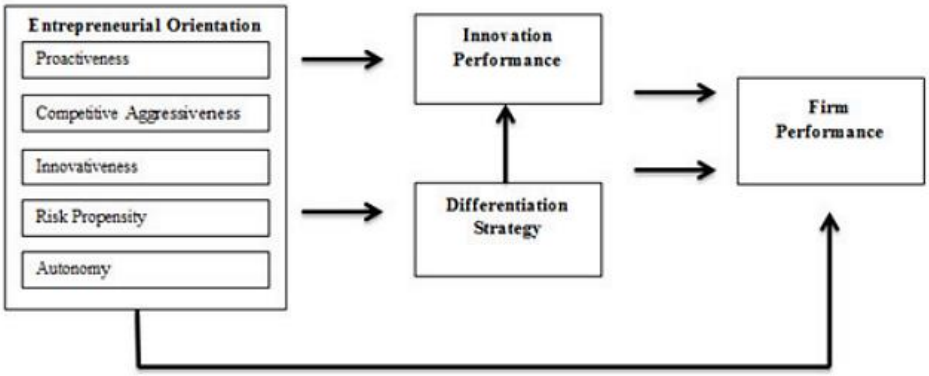

Figure 1: Link between Entrepreneurial Orientation and Firm Performance
Source: Zehir, Can and Karaboga (2015)

In figure 2, it is shown that Technological innovation or advancement has an influence on Firm Performance; this theory has been suggested by Wang, Cheng and Shen (2015). As established in the literature above, technological advancement directly impacts firm performance (Chege, Wang and Suntu, 2019).

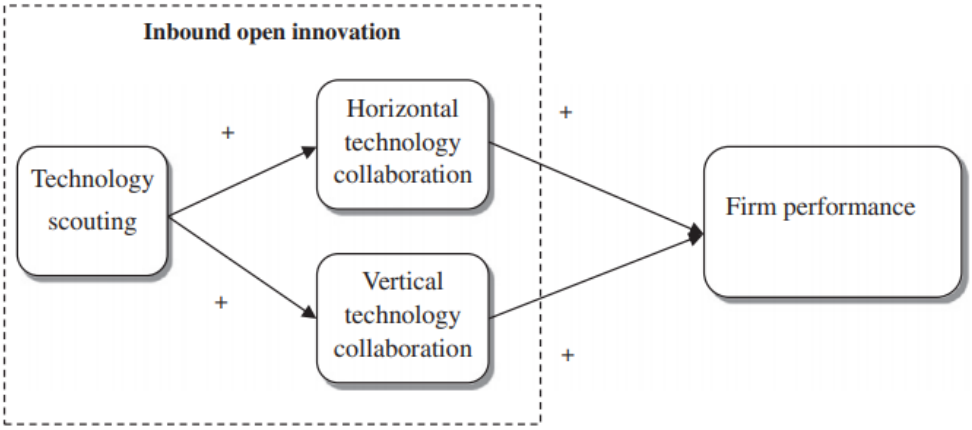

Figure 2: The link between Technology advancement and Firm performance
Source: Wang, Cheng and Shen (2015)

Furthermore, the theory of planned behaviour links the change in consumer attitude and firm performance. This theory is used as it states that the characteristic of a company, such as intention, determines the behaviour of a consumer (Martin, 2017).
In light of the above theories and literature review, the research framework for the present study as per the authors' view is formed as:

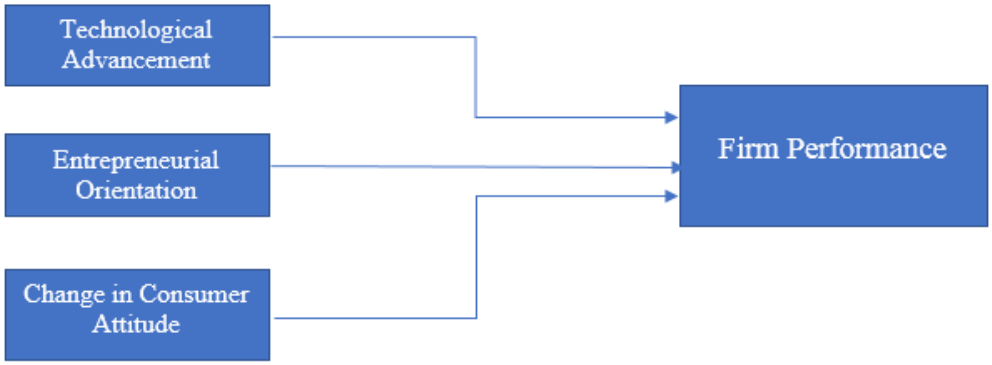

Figure 3: Conceptual Framework

The conceptual framework of the study proposes a significant impact of technology advancement, entrepreneurial orientation and change in consumer attitude on firm performance in UK-based SMEs. It further assumes a positive impact on the outcome, i.e. greater technological advancement, more focus on entrepreneurship and change in consumer attitude to improve SMEs performance.

Methodology

In this section, the research approach and design, along with the sampling size and data collection techniques, are defined. The hypotheses are also discussed in this section.

The present study examines the influence of Technological Advancement, Entrepreneurial Orientation and Change in Consumer Attitude on firm performance through a quantitative study. The selection of quantitative study was made since the cause and effect relationship is analysed between the variables. According to Williamson et al. (2018), a quantitative study relies on numerical data to measure various statistical tools. A Positivist research philosophy has been applied; numerous authors have stated that positivist philosophy helps a researcher in accomplishing suitable research design, objectives and aims (Antwi and Hamza, 2015; Blaxter, Hughes, and Tight, 2010; Saunders, Lewis, and Thornhill, 2016). Therefore, with the adoption of the positivist philosophy, data was investigated concerning the causal relationship among the present study variables. To sum up, positivist philosophy with a quantitative approach has been used to solve the research problem.

The research design for the present study is mixed, with both descriptive and correlational designs applied. A descriptive design includes description and observation of behaviour with no influence on it. Descriptive design is adopted in the present study in order to enable the collection of data via questionnaires. Previous studies on the topic have also been based on a descriptive design (Adam, Mahrous and Kortam, 2017; Durowoju, 2017; Oke, Burke and Myers, 2007). Correlational design is mainly used in the present study is to provide statistical evidence for the research objectives (Cohen, Manion and Morisson, 2013).

The sampling size chosen in this study is 145 (i.e., 145 respondents for the survey). In the model by Cohen (1992), at least 59 respondents must be chosen if there are three associations in the research framework. 59, is deemed low by the researcher; therefore, 145 employees operating in different UK-based SMEs, operating in multiple industries/sectors, are chosen to find conclusive evidence. Initially, the research targeted more than 200 respondents; however, complete and correct responses were received only from 145 respondents.

The data is collected through a multiple-item questionnaire survey, which enables the researcher to gain the latest and first-hand knowledge regarding the topic (Emilien, Weitkunat, and Lüdicke, 2017). The sampling technique used is convenience; through this method, the most convenient respondents are reached, and the data is collected without much hassle (Etikan, Musa and Alkassim, 2016). The sample population, as indicated above, are the employees of SMEs in the UK. After the collection of data, appropriate tests are applied using statistical tools to determine the influence of the three predictors on firm performance.

The ethical values are related to the standards of methodology, which the researchers adopt to gather the data. Since the present research is primary, ethical issues may arise (Halej, 2017). The present study collects data from the respondents voluntarily; moreover, no sensitive personal information is collected from the respondents, while the respondents are made aware of the impact that this present study. Furthermore, regarding ethical consideration, all the relevant authors are given credit for their work by using appropriate referencing.

Results and Discussion

This section intends to present detailed insight on the influence of Technological Advancement (TA), Entrepreneurial Orientation (EO), and Change in Consumer Attitude (CA) on the firm performance (FM) of SMEs based in the UK. For this purpose, the chapter first discusses the respondents' characteristics and the frequency analysis of each of the four research variables. Furthermore, the second part of the chapter addresses the research question of the study by presenting the correlation and regression analysis.

In total, 145 employees have responded to the circulated questionnaire survey. Out of which, it has been found that 84 of them were female while 61 were male participants.

Further, the majority of the respondents (55 out of 145) were aged between 38 and 47 years, while 46 of them revealed to be between age 58 and 67 years. Moreover, 31 of them were found to be between 48 and 57 years. 5 and 8 employees who responded to the survey questions were aged between 28 and 37 years and 68 years and above.

When asked about which industry they belong to, the majority of the respondents reflected to be from manufacturing SMEs while 21 indicated to be from retail companies. 52 of them belonged to an IT firm while only 17 of the totals reflected to be from 'other' industry type.

Lastly, the respondents revealed that the majority of them earn between the range of £10,000 and £35,000 that is 42% of the total. It is followed by the £35,000 - £50,000 income range.

Technological Advancement

In the case of technological advancement, the study of Siedel (2019) indicates that it facilitates SME employers and employees to work from home or from any part of the world. There were mainly three statements under this head. The 108 respondents believe that having continuous technological change improves their company's internal communication system. Furthermore, 99 of the totals also indicated that the use of technology in their business has made the employees a lot more productive and efficient. Lastly, 105 participants strongly agreed that this technology has mainly brought ease of work for their company and has largely improved the processes.

Table 1. Technological Advancement

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
Having continuous technological advancement in your company improves communication within the organisation.	1	1	14	21	108	145
The use of technology makes employees more efficient.	2	2	18	24	99	145
Technology has brought ease of work process for the company	2	1	12	25	105	145

Entrepreneurial Orientation

According to Al-Dhaafri et al. (2016), Entrepreneurial Orientation is a process that describes the traits of the entrepreneurs in terms of their risk-taking behaviour, proactiveness and innovativeness. It is organisational-level support towards the entrepreneurial decisions and processes with the help of the SME's strategic actions (Wiklund & Shepherd, 2003). Hence, in the case of this variable, three statements on the Likert scale had been added to the questionnaire. Around 82 employees of SME's strongly agree that freedom is given by the managers for innovation and efficient production of their firm. In addition, 81 respondents strongly believe that the organisation's risk-taking ability has a better chance of success, while 38 of the totals

agree with the statement. Lastly, it has also been found that 84 and 36 of the respondents strongly agree and agree that being proactive in their firm can often lead to situations that give solutions to a future problem.

Table 2. Entrepreneurial Orientation

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
In your company, the freedom given by managers to innovate increases the efficiency of the organisation.	1	4	18	40	82	145
The risk-taking ability of your organisation gives a better chance of success.	1	4	21	38	81	145
Being proactive in your organisation can often lead to situations that give solutions to future problems.	1	4	20	36	84	145

Change in Consumer Attitude

It has been found in the literature that in case there is a change in the attitude of the consumers, there are great chances of changes in the performance of the company (Clark and Saxberg, 2019). Hence, in the case of this research variable, the three statements on the Likert scale have been asked to the survey participants. The results from the same indicate that 65 of them strongly believe that having a negative change in consumer attitude makes the employees of their organisation feel less motivated. At the same time, 61 of the totals also strongly agree that the consumer perception of their organisation mainly boosts the innovativeness among the employees. Furthermore, the majority of the respondents strongly agree that the work processes of their firms usually cause a change in consumer attitude.

Table 3. Change in Consumer Attitude

	Strongly Disagree	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**	**Total**
Having a negative change in consumer attitude makes the employees of your organisation feel less motivated.	3	14	24	39	65	145
Knowing consumer perception of your organisation increases the innovativeness of the employees.	1	16	26	41	61	145
The work procedure of your organisation causes a change in consumer attitude.	3	14	27	41	60	145

Firm Performance

In order to measure the firm performance, there are three statements asked in the questionnaire. The results from the same indicate that 64 of the respondents strongly agree and 39 agree, and there is an increase in sales after the innovation of the product and services. Furthermore, 71 of the 145 participants strongly believed that appreciation was given to the employees' creativity often result in a rise in the company's overall production. Lastly, 99 of the total respondents indicated that changes in the attitude of the consumers had increased the number of customers for the company.

Table 4. Firm Performance

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
Sales have increased after innovating a method of production or service in your organisation.	3	14	25	39	64	145

In your company after encouraging employees to be creative, the number of products or services has increased.	6	6	33	29	71	145
Change in consumer attitude has increased or decreased the number of customers for your company.	1	6	16	34	88	145

To assess the relationship between TA, EO, CA and FM, the following table for Pearson correlation has been extracted. Based on the found results, the test results are significant at the 0.01 level of significance. It can be interpreted as the significant positive relationship between technological advancement and the firm's performance with a coefficient of 0.318, indicating a weak association. Similarly, in the case of the relationship between entrepreneurial orientation and firm performance, the test results are also found significant and reflect a coefficient of 0.361. Moreover, the relationship between change in consumer attitude and firm performance is also found to be significant and reflects a strong association between the two variables with a correlation coefficient of .792.

Table 5. Correlations

		Technological Advancement	**Entrepreneurial Orientation**	**Change in Consumer Attitude**	**Firm Performance**
Technological Advancement	Pearson Correlation	1	0.157	.205*	.318**
	Sig. (2-tailed)		0.060	0.013	0.000
	N	**145**	**145**	**145**	**145**
Entrepreneurial Orientation	Pearson Correlation	0.157	1	.253**	.361**
	Sig. (2-	0.060		0.002	0.000

	tailed)				
	N	**145**	**145**	**145**	**145**
Change in Consumer Attitude	Pearson Correlation	.205*	.253**	1	.792**
	Sig. (2-tailed)	0.013	0.002		0.000
	N	**145**	**145**	**145**	**145**
Firm Performance	Pearson Correlation	.318**	.361**	.792**	1
	Sig. (2-tailed)	0.000	0.000	0.000	
	N	**145**	**145**	**145**	**145**
**. Correlation is significant at the 0.05 level (2-tailed).*					
***. Correlation is significant at the 0.01 level (2-tailed).*					

For assessing the influence of the independent variables (TA, EO, CA) on the dependent variable (FM), the linear regression model has been formulated using regression analysis. The results from the same indicate that the fitted model is found to be significant at the 0.01 level and confirms the combined impact of all three variables on the firm's performance of SMEs. Moreover, the r-square value of 0.675 reflects that the model explains 67.5% variation in the performance of SMEs due to changes in the independent variables.

Table 6. Model Summary

Model	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**
1	0.675	0.668	0.44761
ANOVA			
Model		**F**	**Sig.**
1	Regression	97.601	.000[b]
a. Dependent Variable: Firm Performance			
b. Predictors: (Constant), Change in Consumer Attitude, Technological Advancement, Entrepreneurial Orientation			

Moreover, in the case of the individual impact, each predictor variable's beta coefficient reveals to be significant at the 0.01 level. In the case of technological advancement, the beta of 0.167 shows that a unit change in this variable will ultimately change the performance of the firm by 0.167. On the other hand, a beta of EO shows a value of 0.142, suggesting that a 0.142 variation is expected in the FM due to changes in the company's EO. Moreover, in the case of the changes in consumer attitudes, the beta of 0.531 indicates the strongest individual impact of consumer behaviour on the performance of SMEs.
Thus, the study is able to reject each of the above null hypotheses and accepts the alternate.

Table 7. Coefficients

Model		Unstandardised Coefficients		Standardised Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.651	0.302		2.155	0.033
	Technological Advancement	0.167	0.056	0.146	2.953	0.004
	Entrepreneurial Orientation	0.142	0.046	0.156	3.117	0.002
	Change in Consumer Attitude	0.531	0.037	0.723	14.344	0.000
a. Dependent Variable: Firm Performance						

These findings are aligned with the literature findings, as studied in previous chapters. Several other authors have also confirmed the strong positive relationship of TA, EO, CA with FM (Sahoo and Yadav, 2017; Seidel, 2019; Poudel, Carter and Lonial, 2018; Clark and Saxberg, 2019).

Conclusion

The research has examined the influence of technological advancement, entrepreneurial orientation and change in consumer attitude on SMEs' firm performances based in the UK. In this regard, a considerable number of studies have been reviewed in this research, highlighting the importance of these variables on firm performance. Further, theoretical frameworks are included to elucidate how firm performance is affected. In order to achieve the objective of the research, a quantitative research approach was adopted using correlation and descriptive research designs with

a sample size of 145 employees. With the help of the appropriate methodology, the results are obtained, which are in accordance with the hypotheses set by the researchers. It is found that there is a significant positive relationship between technological advancement and firm performance. Similarly, in the case of the relationship between firm performance and entrepreneurial orientation, a significant relationship is observed. In addition, the association between firm performance and change in consumer attitude is also found to be significant and show a strong relationship between the two variables. Therefore, technology, entrepreneurship and consumer attitude, all three variables are relevant to firm performance. Thus, these variables should be given importance by UK-based SMEs.

Moreover, the results also provide managerial implications for SMEs to realise the importance of integrating new trends of technology within their operations for higher customer satisfaction. For example, many small businesses have emerged their online platforms instead of being physically present in a region (Smith, 2020). Accordingly, this saves them fixed costs until their operations expand to afford them and simultaneously benefit from the integration of technology in the initial period (Smith, 2020). UK's SMEs can follow the same trend to include technological advancements on a low budget within their operations. Also, the fact that entrepreneurial orientation is so closely related to firm performance; it is deduced that individual's with certain skills and competencies, such as innovativeness, risk-taking ability and having a pro-active nature, should be hired by SMEs to enhance the business performance. Further, it can also be deduced that individuals with such capabilities can opt to start-up their businesses, which will be profitable in the near future.

Other recommendations for SMEs to perform successfully and maintain their position among the giant multinationals are the use of advanced technology within the new realm of industry 4.0, as opined by Lampropoulos, Siakas Anastasiadis (2019); Priyono (2016). The authors explain that even though investing in tools like IoT (Internet of Things), cloud computing, artificial intelligence, and other machine learning algorithms of data analytics incurs a huge cost. However, this cost is a one-time payment to sustain longer companies (Lampropoulos, Siakas and Anastasiadis, 2019). This also helps SMEs increase their prominence among other industry players by catering to customer needs and strategically implementing operations based on customer trends and market preferences. Further, through increasing use of ICT, such as WhatsApp, companies can successfully structure their projects towards success (Priyono, 2016).

Another article in the journal of Scientific Papers Economics and Sociology also explained SMEs' importance in regional developments (Zumbusch and Scherer, 2013). Therefore, the government should increasingly provide incentives to entrepreneurs

trying to start their businesses, especially when it is in the ICT domain (Zumbusch and Scherer, 2013). Finally, as for the entrepreneurs, the study of Mohamed, Ibrahim and Shah (2017) indicated that women entrepreneurs are significantly striving for success and empirically linked firm performance with women's entrepreneurial orientation as they plan and organize before implementing strategies executing operations. This shows the increasing trends of women independently working to build their businesses. Hence entrepreneurs are advised to plan before investing in anything strategically.

Even though the current study provides a number of empirical implications for SMEs' managers, it should be noted that the study's scope is focused on UK-based SMEs only. This limits the study to include comparative analysis with other regions for robust findings. Other limitations are related to the methodology of the study, which perceives the relationship between main variables objectively and fails to define why such a relationship exists. Hence future studies in the same domain are recommended to expand the scope of their study and focus on more than one region. Furthermore, future studies are also recommended to view the same topic subjectively for qualitative analysis.

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WPŁYW TECHNOLOGII, PRZEDSIĘBIORCZOŚCI I POSTAW KONSUMENTÓW NA DZIAŁALNOŚĆ FIRM

Streszczenie: Badanie ma na celu zbadanie wpływu postępu technologicznego, orientacji przedsiębiorczej i zmiany nastawienia konsumentów na wyniki firm małych i średnich przedsiębiorstw (MŚP) z siedzibą w Wielkiej Brytanii. Przeglądając poprzednią literaturę, zauważono, że wszystkie te zmienne są powiązane z wynikami firm. Jednak ważne jest, aby wiedzieć, czy relacje te utrzymują się w kontekście brytyjskich MŚP. W ten sposób badanie to wnosi wkład do istniejącego stypendium poprzez statystyczne odniesienie się do przypadku

MŚP działających w Wielkiej Brytanii, koncentrując się na technologii, przedsiębiorczości i postawach konsumenckich. W badaniu przyjęto metodologię ilościową z projektem opisowym i korelacyjnym oraz próbą liczącą 145 pracowników z różnych branż. Wykorzystuje analizę częstotliwości, analizę korelacji i analizę regresji do analizy wyników. Badanie wykazało, że na poziomie 0,05 istnieje istotny pozytywny wpływ postępu technologicznego, orientacji na przedsiębiorczość i postaw konsumenckich na wyniki firm. Wyniki pokazały również, że MŚP w Wielkiej Brytanii muszą skupić się na trzech czynnikach, aby się rozwijać i poprawiać swoją konkurencyjność.

Słowa kluczowe: postęp technologiczny, orientacja na przedsiębiorczość, nastawienie klienta, wydajność firmy, MŚP, Wielka Brytania.

技术，企业家精神和消费者态度对企业绩效的影响

摘要：该研究旨在检验技术进步，企业家取向和消费者态度的变化对总部位于英国的中小型企业（SME）公司业绩的影响。通过回顾以前的文献，已经注意到所有这些变量都与企业绩效相关。但是，重要的是要了解这种关系是否适用于总部位于英国的中小企业。因此，这项研究通过统计解决在英国经营的中小型企业的案例，同时侧重于技术，企业家精神和消费者态度，为现有奖学金做出了贡献。这项研究采用了具有描述性和相关性设计的定量方法，并从145个样本中抽取了来自不同行业的员工。它应用频率分析，相关性和回归分析来分析结果。研究发现，技术进步，企业家取向和消费者态度对企业绩效在0.05水平上具有显着的积极影响。结果还表明，英国的中小企业需要关注三个因素来发展和提高竞争力。

关键字：技术进步，创业导向，客户态度，企业绩效，中小型企业，英国。