THE IMPACT OF RAPID CHANGES ON SMALL AND MEDIUM-SIZED ENTERPRISES (SMES) IN THE IT SECTOR DUE TO COVID-19

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Abstract

This research investigates the impact of COVID-19 on the SMEs' performance. There have been rapid changes in the operations, functionality, leadership, entrepreneurship, job risk and earning. However, there is no conclusive evidence if the SMEs operating in the London has benefited more or adversely affected by the emergence of COVID-19. This cross-sectional research considered 30 SMEs (mainly operating in the IT sector) to investigate the research problem. The quantitative analysis is carried out to attain the mathematical objectivity for establishing the correlation and regression among the variables of interest. Results confirmed that there is strong negative correlation between the COVID-19, and all considered variables, except for the job risk. In other words, the job risk further escalated with the worsen situation of COVID-19. The results also showed that there are some limited advantages such as commute expense and office utility expenses has reduced, however, the work-life-balance has stressed employees further.

Keywords: *COVID-19, Entrepreneurship, Leadership, Job risk, SMEs.*

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COVID-19'DAN DOLAYI KÜÇÜK VE ORTA BÜYÜKLÜKTE İŞLETMELER (KOBİ) ÜZERİNDEKİ HIZLI DEĞİŞİMLERİN BT SEKTÖRÜ ÜZERİNDEKİ ETKİSİ

Öz

Bu araştırma COVID-19'un KOBİ performanları üzerindeki etkisini ortaya koymaktadır. Operasyonlarda, işlevsellikte, liderlikte, girişimcilikte, iş riskinde ve kazançta hızlı değişiklikler oldu. Bununla birlikte, Londra'da faaliyet gösteren KOBİ'lerin Covid-19'un ortaya çıkışından daha fazla fayda sağladığına ya da olumsuz etkilendiğini dair kesin bir kanıt bulunmamaktadır. Bu kesitsel çalışma, araştırma sorunsalını araştırmak için 30 KOBİ'yi (Çoğunlukla BT sektöründe faaliyet gösteren) dikkate almıştır. Kantitatif analiz, ilgili değişkenler arasında korelasyon ve regresyonun kurulmasına yönelik matematiksel objektifliğine ulaşmak için yapılmaktadır. Sonuçlar, COVID-19 ile iş riski dışında dikkate alınan tüm değişkenler arasında güçlü bir negatif korelasyon olduğunu doğrulamıştır. Bir başka değişle, COVID 19'un kötüleşen durumu ile iş riski daha da arttı. Sonuçlar ayrıca işe gidip gelme gideri gibi bazı sınırlı avantajların olduğunu ve ofis hizmet giderlerinin azaldığını, ancak iş-yaşam dengesinin çalışanları daha da strese soktuğunu gösterdi.

Anahtar Kelimeler: COVID 19, Girişimcilik, Liderlik, İş Riski, KOBİ'ler.

1. INTRODUCTION

Small and Medium-sized Enterprises (SMEs) has a pivotal role to certain extent in improving economic growths at both; national and international level (Kot et al. 2019; Kot et al. 2020). This research study covers Small and Medium Sized Enterprises (SMEs) facing rapid changes in activities and operations including supply chain and external factors on account of COVID-19, particularly influencing the IT sector.

This study identifies the rapid changes, problem statement, structure of process, market value and future prospects of Small medium-sized enterprises affected by COVID-19 in the field of information technology (IT).

The pandemic already caused major dislocation among small businesses. The probability of closure was negatively related to the duration of the crisis predicted. The hazard of COVID-19 is financial disaster for millions of individuals and small companies, but some small enterprises of the technology sector are benefiting from these considerable changes (Davies, 2020).

It is important for small businesses and entrepreneurs to think about changing and adjusting strategies while experiencing changes in consumer habits to explore ways to meet the new market demands. With customers going online in response to coronavirus restrictions IT SMEs learn how to quickly shift their network to fast-track, evaluate, and introduce new mobile apps, pages, and touchpoints as per the sufferings of different organisations like education, health, fashion, food etc.

The COVID-19 has resulted in a worldwide closure of schools. About 1.2 billion kids are out of the classroom worldwide. As a result, education has radically changed with the distinctive emergence of e-learning, where teaching is carried out remotely and on digital platforms which shows that online learning has improved information retention and take less time. Many small medium-sized online learning platforms provide cheap and free access to their services to overcome these circumstances. Although some educationists believe that the unplanned and rapid transition to online learning would result in a poor user experience that is unfavourable to sustained growth without training, inadequate capacity, and little planning. Contrary to that, I assume that a new hybrid education model will emerge, with substantial benefits due to the further acceleration of the introduction of information technology in education, and that online education will eventually become an integral part of school education (Li and Lalani, 2020).

The full consequences of COVID-19 are still unclear but it is clear that there is already a substantial effect on small online businesses. Emerging data shows a major change, as shoppers cut back their shopping in stores and go online instead. In much less time, all kind of businesses may create a working e-commerce website because of the availability of vast IT SMEs. In China, online shopping has risen 15 to 20 percentage and in Italy, e-commerce has risen 81 percent. The same trend has increasingly been adopted by US customers. As the COVID-19 pandemic spread, it overtook a retail chain 's effort to refining the current website for e-commerce. Like staff around the world, the team needed to quickly learn how to communicate when working remotely. For IT SMEs the process of designing an e-commerce website is as important as its rapid launch. Because it enables businesses to monitor the progress that counts in order to learn, adapt, and drive quality improvement. This is particularly important because e-commerce presence is not a discreet initiative, but much more a programme of continuous development (Arora et al. 2020).

The coronavirus pandemic is causing large-scale loss of life globally which has also generated a major economic crisis, with a halt in production and a collapse in consumption. It is affecting both the supply and demand sides of the economy in many ways, especially SMEs. On the supply side, small businesses are witnessing a decline in capacity utilisation and availability of labour. In addition to this, supply chains are disrupted which lead to shortages of parts and intermediate products. On the demand side, the drastic and unexpected loss of demand and revenue for small and medium-sized businesses is having a significant effect on their ability to operate, creating severe liquidity shortages. Furthermore, customers experience income loss, fear of contagion and increased uncertainty, which in turn decreases investment and consumption (OECD, 2020).

1.1. Problem Statement

Small medium-sized enterprises (SMEs) are facing uncertainty in manufacturing and operations due to COVID-19, as there is insufficient data on strategies to withstand crisis situation. The entrepreneurial venture is affected to some extent. There is no conclusive evidence regarding rapid shift in the mode of online businesses that is causing sustainability and/or instability in the internal and external environmental factors of IT businesses.

1.2. Aim

The aim is "to investigate the impact of COVID-19 on the performance of the SMEs operating in London."

1.3. Research Objectives

• To examine the various interlined variables *(such as entrepreneurship, leadership, job risk, functionality, earnings, and supply chain activities)* related to SMEs performance and their positionality during the COVID-19.

• To identify the leverage and disruption IT sector operations faced during the lockdown because of spread of corona virus.

• To determine the effects of the Coronavirus on potential entrepreneurs and upcoming SMEs.

2. LITERATURE REVIEW

Small medium-sized enterprises(SMEs) SMEs are classified as companies with a maximum of 250 employees and an annual turnover not exceeding EUR 50 million, according to the European Union (2003), while in the United States, an SME may have up to 1,200 employees. In addition, small companies can be categorized as they have less than 50 employees and maximum turnover could be EUR 10 million. (Decker et al. 2006).

In most countries, SMEs form the majority of businesses. According to the Small Business Administration (SBA) report, 99.9 per cent of U.S. businesses were comprised of small enterprises. Likewise, in Australia SMEs make up 98% of all businesses, produce one-third of the total GDP (Ward, 2020).

Small and medium-sized enterprises (SMEs) are about leadership that makes small businesses competitive and leads the company to long-term stability and places internal and external stakeholders on the road to success with some common challenges (Iwasaki, 2018). The leaders of small and medium-sized businesses need to consider elements inside and outside their sector and create a resilient organisation (Hussain and Asghar, 2019). Intrinsic motivation is the cornerstone of entrepreneurship that creates and organises a business company to deal with the odds with all of its difficulties in profit making, vision and strategy.

2.1. Entrepreneurship

An entrepreneur is an individual who establishes a company with the intention of making a profit and also regarded as the origins of new ideas or innovators, by replacing old with a new innovation in the market. Entrepreneurship, along with all of its complexities, is the willingness and readiness to create, organise and operate a business venture to make a profit. There are four types of entrepreneurship; small business, scalable start-up, large

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company and social entrepreneurship (Kent et al. 2009).

2.2. Leadership

The prime objective of a business is to maximise profit (Haque et al. 2020). Leadership is the practise of motivating workers to achieve corporate goals and quality in organisation (Naylor, 1999). Aspiring leaders must determine the above contribution to fit into every form of business, circumstances, community and person. To lead effectively in the future, it is beneficial to have a detailed understanding of an organisational style's purpose and vision. Leadership strategy requires the strong character and selfless determination (Jenkins, 2013). Moreover, it is the combination of production of human resources, environmental scanning, information system, organisational control and the formulation of policies. Authentic leaders are hopeful and optimistic (Haque et al. 2020), even in the times of uncertainties.

3. The COVID-19 PANDEMIC HAS HIT SMES AT AN UNPRECEDENTED SPEED AND SCALE IN THE FOLLOWING SECTORS:

3.1. Effect on Earning

Recent research in the United Kingdom on the potential effect of the crisis on company-sized employee earnings indicates that the decrease in earnings are substantially higher for workers in smaller firms than larger firms, while majority of younger employees are at unemployment risk (Bell et al., 2020). Not to mention that low-income employees, minority business owners and less skilled business owners are also vulnerable to the crisis (McKinsey, 2020a).

3.2. Jobs at Risk

The ILO COVID-19 and Workplace Monitor (ILO, 2020) reveals that global employment in the sectors most at risk is highly concentrated in firms with fewer than 10 workers. Moreover, a recent report on the effect of the pandemic in Europe (McKinsey, 2020a) explores that at least two out of three jobs at risk are in small and medium-sized enterprises and more than 30 percent of all jobs at risk are in micro-enterprises consisting of nine or fewer workers. Job risk could lead to develop a stress. Stress in a simple term is defined as a common response to attack driven from the disturbance of body's natural equilibrium (Haque and Aston, 2016; Haque et al. 2018; Haque et al. 2020).

3.3. Effect on Supply Chain

The coronavirus epidemic has shown the fragility in the legality, durability and

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sustainability in SMEs supply chains (Lin and Lanng, 2020). SCs around the world have undergone an unparalleled series of shocks triggered by the spread of the COVID-19 (Ivanov, 2020). Recent data from *Tradeshift*, a global supply chain management tool, shows the effect to which extent the trade and demand affected that predicts that the effects of the initial shock will continue to exist in the coming months.

3.4. SME Debt

Many of the policy initiatives introduced during the COVID-19 crisis to maintain companies follow debt financing instruments. As a result, SME debt can increase markedly. This could pose challenges to business solvency, especially in countries that already exhibited high debt leverage in private firms (ECB, 2020).

3.5. Recovery Rate

Another significant point concerns the issue of how to rebound from larger companies for SMEs. It's too early to address the question for many countries where lockdown is either imposed or is only progressively uplift.

4. IMPACT OF COVID-19 ON SMALL AND MEDIUM-SIZED ENTERPRISES (SMES) IN INFORMATION TECHNOLOGY (IT) SECTOR

The coronavirus (COVID-19) pandemic triggers widespread fear and economic hardships for small medium-sized enterprises across the globe. The situation is shifting swiftly, number of individuals considered to assemble in a single location has decreased from thousands, to hundreds, to ten. Universities, colleges, restaurants, gyms, malls, movie theatres have been closed for an uncertain period of time, adding to the difficulty of many people working or studying remotely. The COVID-19 Pandemic has caused drastic changes in industries, and Information Technology (IT) is the major among them. As most organisations have gone digitalised, this has moved into high gear to satisfy the sudden demand for online work and collaboration solutions. Due to the requirement for various kinds of apps and websites for all sorts of organisations as per the need for time, the crisis is profoundly affecting the small IT businesses.

4.1. Healthcare

IT provides a forum for public health agencies to access the data needed to track the spread COVID-19 pandemic. For example, the 'Worldometer' offers a real-time report on the actual number of individuals reported to have COVID-19 worldwide, including regular new

cases of the disease, distribution of disease by nations and seriousness of disease (recovered, critical condition or death) (Ting et al. 2020).

The small hospital industries were able to take advantage of the worldometer initiative and look for small tech houses that can create apps or websites to maintain the list of their patients by which they can easily take preventive measures to keep their own resources in mind.

4.2. Education

The spread of COVID-19 compelled the educational institutions to shutdown worldwide. This tested their preparedness to deal with a crisis that needs the aid of advanced technology to allow successful online learning, including hardware and software. This closure stimulated the creation of online learning environments in order not to hinder learning. (ref) Schools and universities have been involved as how to offer better online course material, engage learners and perform evaluations. Therefore, COVID-19 has evolved them to invest in online learning methods by approaching to IT SMEs as they can design desirable online learning systems, including web-based applications to distribute, monitor and manage internet courses such as whiteboards, chat rooms, polls, quizzes, discussion forums, and surveys that allow instructors and students to interact side by side and share content of the course online according to the requirement of educational institutions (Mukhtar et al. 2020).

4.3. E-Commerce

COVID-19 has been shifting environment for Ecommerce. Retail businesses around the world are being affected through rapidly changing customer behaviour to supply issues. As shopping centres were closed due to lockdown, small retailers were searching for a choice to meet their target market, which was fulfilled by the help of small medium-sized software houses providing an online marketplace where sellers and buyers could manage their logistics and supplies. Different SMEs channels offered them an ability to keep their companies going in tough times by creating the perfect business conditions across their network to fast-track, evaluate, and introduce new mobile apps, pages, and touchpoints (Columbus, 2020).

Small companies follow online platforms to market their products as per the demands for basic and general goods. Consumers are more inspired than ever to stay home and shop online. E-commerce pattern and habit is being developed and reinforced by millions of consumers before the vaccine is introduced (Hanif, 2020).
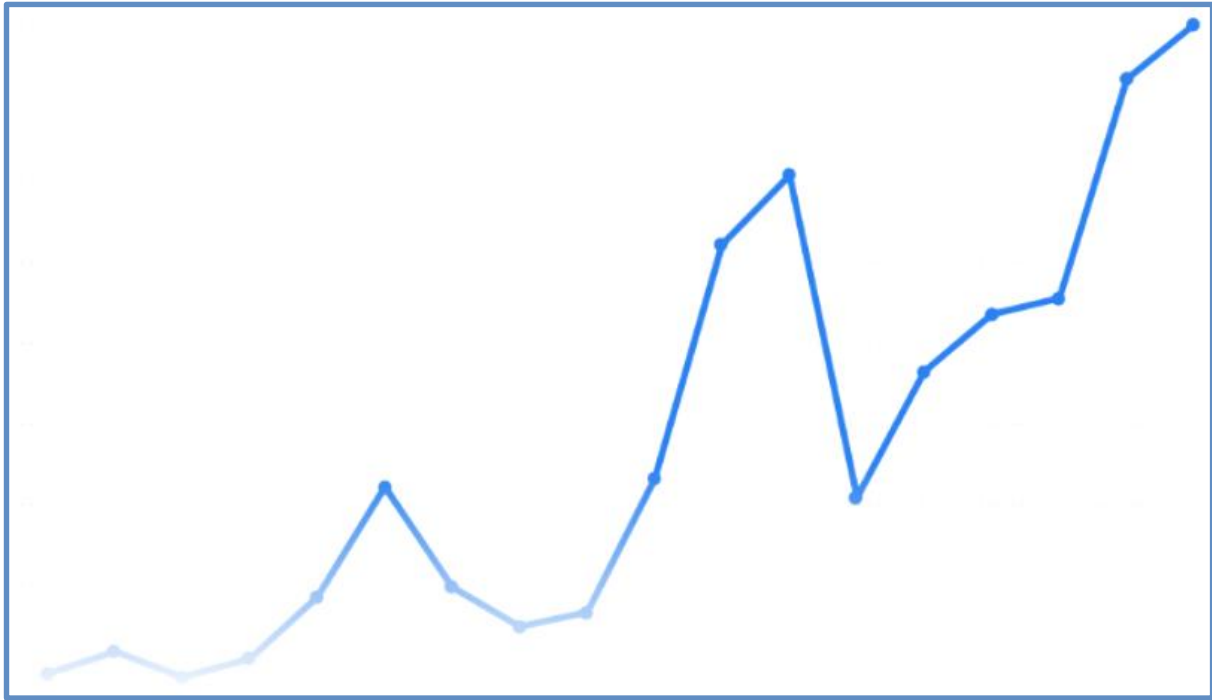
Source: (Clement, 2020)

Retail networks witnessed an unparalleled rise in global traffic between January 2019 and June 2020, surpassing even traffic levels from the holiday season. Overall, retail websites produced nearly 22 billion visits in June 2020, up from global visits of 16.07 billion in January 2020 (Clement, 2020).

The IT industry is projected to have a massive market boom from US$ 131 Billion in 2020 to US$ 295 by 2025 in the next five years. The key reason for this economic growth is the increased demand for software and social media channels due to deadly virus (Market Data Forecast, 2020). Additionally, a lot of other opportunities opened up in the IT industry, such as the increasing need for technology of the 5th generation (5 G). All types of organisations face different types of challenges (Ślusarczyk and Haque, 2019). This will help to improve links that sustain the remote interactions. This has been the highest priority due to the pandemic for many organisations. All of these resources allow individuals to keep in contact with their family members, online shopping, virtual research, and hold conference meetings and work at the same time. The economy will also grow because people have realised the value of the Internet and technology during these crises, as this allows us to remain safe.

The inductive-deductive approach of Sekaran and Bougie (2012) used in this study led to the formation of following hypotheses:

H1: *Entrepreneurship in COVID-19 affects the SMEs' performance.*

H2: *Leadership in COVID-19 affects the SMEs' performance.*

H3: *SMEs' functionality in COVID-19 affects the SMEs' performance.*

H4: *Job risk in COVID-19 affects the SMEs' performance.*

H5: *Earning in COVID-19 affects the SMEs' performance.*

H6: *Supply chain activities in COVID-19 affects the SMEs' performance.*

5. RESEARCH METHODOLOGY

Research is a systematic and step-by-step process (Sekaran and Bougie, 2012). The core of every research lies in the methods and its appropriate justification (Haque et al. 2018). This is a cross-sectional research because it aims to complete in less than a year with only one-time interval (Haque and Aston, 2016). The longitudinal designs are used when the same respondent is included twice in the study in two different intervals (Haque and Aston, 2016). Thus, cross-sectional is preferred because there is single time interval.

The research philosophy is the set of belief a researcher follows (Saunders et al. 2013). Positivism (quantitative), interpretivism (qualitative), pragmatism (mixed) and realism (mixed relevancy) are types of philosophies (Saunders et al. 2013). This research follows positivist philosophy as the emphasis of the research is to attain mathematical objectivity. In other words, the correlation between the research variables are expressed through numeric rather than focusing on the qualitative perspective. Hence, this study is categorized as the quantitative study because the statistical and numerical significance is the main theme. Thus, it aims to explore factual truth (quantitative perspective) rather than useful truth (qualitative perspective) (Faizan et al. 2019).

Since, this research falls into scientific paradigm therefore the relationship between research variables are examined through establishing research hypothesis, which is conceived through the Sekaran and Bougie (2012) proposed "hypothetico-inductive-deductive" method. This means that the hypotheses are established at the start of the research through the research question and using the statistical test, data was deduced to reach specific conclusion.

Sample set is the sub-set of the population (Sekaran and Bougie, 2012). Hence, it is essential to determine the sample size in the research. In this research, sampling framework includes the entire IT SMEs operating in the UK. Within the sampling framework, the representative sample set are the SMEs operating in the London. Research is always about depth rather than width (Urbański and Haque, 2020). Thus, to ensure there is specificity about

the results, sample set is determined through inclusion and exclusion criteria. As a part of inclusion criteria, only SMEs operating in the IT sector within the London were selected so that the research could be carried in depth while all the other types of SMEs were excluded.

According to Roscoe (1975), the representative sample size depends on the type and nature of the research. However, the rule of thumb is a sample size between 30 and 500 is sufficient to draw logical conclusion. Following, the same approach, the sample size of this research is 30, which is the minimum required to complete the survey. After determining the sample size, next step was to consider a sampling technique for gathering the data. According to Haque et al. (2018), the fair representation of the sample is often attained through combining different sampling techniques. It helps in reducing the over-reliance on one particular method. Hence, this research, different non-probability sampling techniques were combined. In order to justify the preference of non-probability over probability, it is important to know that in the probability sampling each event has equal chance of selection whereas no-equal chances of selection means non-probability sampling technique (Sekaran and Bougie, 2012). Since, this research is carried on small proportion thus, it is not realistic with the time constrain to use the probability sampling. Hence, non-probability is preferred in this study. As a part of non-probability sampling, the convenience, snowball (referral) and networking techniques are combined so that as many as possible participants could be gathered. The use of different techniques also helps in reducing over-reliance on one method. Furthermore, the gatekeeper's approach is considered to attain formal consent from the participating organisations and circulation of the research instrument.

Research instruments enable the researchers in gathering the data (Saunders et al. 2013). There are different types of research instruments used for gathering data, however, based on the nature (which is quantitative) of this study, survey is selected method. The survey was formed through Googledoc so it was an online survey following DAB (demographic-attitudinal-behavioral) questions. DAB means that the first section of the survey contains question related to demographic characteristics including gender, age, income, qualification and so on. The second section contains the attitudinal questions seeking their attitude and knowledge towards the research phenomenon, followed by behavioural question as to how they see, act and react to certain aspects.

The reason for using on-line survey was because of the COVID-19, the personal visits were not ideally suitable. Often the companies were working from home and therefore, the on-line was preferred over in-person survey. The questions were based on the 5-points rating

scale (1=strongly disagree, 2= disagree, 3=neither agree or disagree, 4=agree and 5-strongly agree). The reason for using ordinal scale was to give the respondents a range of degree for expressing their thoughts while ensuring there is neutrality option, in case they are undecided. The formal consents were attained through gatekeepers, using own networking and connections to reach out participants. LinkedIn proved an important social platform for this purpose.

Since, this is quantitative study, therefore, sophisticated statistical tool was used to quantify and express the relationship between variables. SPSS 24.0 software was used to numerically express the significance of relationship. For the reliability of the survey instrument, Cronbach's alpha was used and KMO Bartlett test for the validity of the instrument. Since, the Cronbach's alpha scored 0.763, thus, the reliability is good. Moreover, the KMO Bartlett's scored 0.812, reflecting good validity of the research instrument. It was followed by the Shapiro-Wilk test to assess whether the data was normally or abnormally distributed. Based on the test, it was found that data was normally distributed $(0.23 > 0.05)$, hence, parametric (Pearson's correlation) test was preferred over non-parametric (Spearman's correlation) test. Furthermore, multiple regression is used for linear regression instead of single regression.

6. RESEARCH ETHICS

Research ethics are an important aspect of research, ensuring that appropriate standards are embraced which requires a great deal of collaboration between several different individuals in various disciplines and organisations, while ethical standards promote values such as transparency, responsibility, mutual respect and fairness that are central to collaborative work (Resnik, 2011). As research is conceived, it is important to balance many ethical considerations such as:

6.1. Informed Consent

It is the main ethical element of conducting research. It means a person knowingly, willingly, intelligently and in a clear manner and manifestly, grant his consent. Free and informed consent must include an introduction to the study and its purpose, as well as a description of the selection of the subjects and the methods to be followed (Fouka and Mantzorou, 2011).

6.2. Securing Anonymity and Confidentiality

It means, when the identity of the subject cannot be connected to personal answers,

anonymity is covered. If the researcher cannot guarantee anonymity, he/she must discuss confidentiality, which is the researcher's handling of private information in order to protect the privacy of the topic. The respect and protection of respondents, subjects and teammates should also be prior to ensuring that their privacy is not damaged (BBAMBA, 2015).

The ethical considerations were maintained throughout the research. It was ensured that the confidentiality of the respondents is not compromised at any stage of the research. It was also clarified that the participation is voluntary, which means no monetary rewards.

7. RESULTS AND DISCUSSION

Table 1: Case Processing Summary

		N	%
	Valid	30	100.0
Cases	Excluded[a]	0	0.0
	Total	30	100.0

a. Listwise deletion based on all variables in the procedure.

Table 2: Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.763	.752	5

The Cronbach's alpha score is 0.763, which is greater than 0.7 (minimum acceptable value in social sciences), thus the items of the survey are reliable (0.763 > 0.7). In other words, research instrument is acceptable because it is 'free from measurement error'.

Table 3: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.812
Bartlett's Test of Sphericity	Approx. Chi-Square	5235.143
	Df	13
	Sig.	.000

Test results showed that 0.812, which is greater than par acceptable value (0.7), thus, the instrument is valid

Table 4: Descriptive Statistics

Demographic Variables	Descriptive Statistics					
Gender	**Male** 58%			**Female** 42%		
Age	**18-28** 32%	**29-38** 36%		**39-48** 18%	**49 or Above** 14%	
Education	**High School** 11%	**Bachelor** 61%		**Master** 19%	**Diploma/Other** 9%	
Experience	**> 1 year** 5%	**1-2 years** 15%	**3-5 years** 55%	**6-8 years** 9%	**9-10 years** 6%	**11 or Above** 10%

The above descriptive tabled showed that majority of the participants are male (58%) in the age bracket between 29-to-38 (36%), having bachelor's degree (61%) and 3-to-5 years' experience (55%) (Table 4).

Table 5: Correlations between COVID-19 and variables of interest

Correlation Variables	Pearson Correlation	Sig Value	Results	Interpretation
COVID-19 & Entrepreneurship	-0.811	0.000	$P < \alpha$	***
COVID-19 & Leadership	-0.722	0.002	$P < \alpha$	**
COVID-19 & SMEs functionality	-0.859	0.004	$P < \alpha$	**
COVID-19 & Job risk	0.747	0.000	$P < \alpha$	***
COVID-19 & earnings	-0.719	0.001	$P < \alpha$	**
COVID-19 & Supply chain	-0.786	0.000	$P < \alpha$	***

Shapiro-wilk test confirmed the data is normally distributed therefore parametric Pearson Correlation test used and it is found that there is strong significant negative correlation between COVID-19 and all variables of interest including; entrepreneurship (r=-0.811), leadership (r=-0.722), SME's functionality (r=-0.859), earnings (r=-0.719), and supply chain activities (r=-0.7816) except job risk, (r=0.747; Table 5) which has a positive relationship.. Thus, this means that over 70% variation in the all variables are caused by the COVID-19. Moreover, results established significant evidence against the null hypotheses (p=.000<0.05;

Table 5, where ***=highly significant). Hence, all variables are confirmed to have significant association with the environmental change due to COVID-19. All variables showed to have negative relationship, indicating that due to COVID-19. However, the positive correlation with Job risk means that the higher the COVID-19 situation, the higher is the risk of losing jobs (p=.000<0.05; Table 5).

After establishing the correlation, next step was to identify the multiple regression to measure which variable has higher or lower regression.

7.1. Multiple Regressions

The model summary revealed that R2 for both countries is over 0.6, which means that over 60% variation in the logistic enterprises' performance is caused by predictors such as limited knowledge, implementation barriers, recognition of potential changes, benefit appearance time period, preparing staff of changes, and other priorities than introduction of industry 4.0. In depth, it showed that 63.4% variation in Canada and 61.2% variation in Poland, the variables in questions (predictors) cause variation in the logistic enterprises' performance (Table 2).

Table 6: Model Summary[a,b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.652[b]	.643	.612	1.17501

a. Predictors: (Constant), Entrepreneurship, Leadership, SMEs functionality, Job risk, Earnings, Supply Chain Activities

b. Dependent Variable: SMEs' Performance

Table 7: ANOVA[a,b]

Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	95.584	1	29.811	28.05	.000[b]
1	Residual	71.693	29	1.761		
	Total	167.277	30			

The model summary showed R2 (regression)=0.643 (Table 6), which is acceptable in the social science research whereas ANOVA model confirmed F= 28.05 for the SMEs, indicates the model's explanatory power 28.05% (Table 7). Furthermore, the sig value is less

than alpha (=0.000 < 0.05), confirming the model is statistically significant. In other words, the model is a good fit.

Table 8: Coefficients[a,b]

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	1.578	.621		2.541	.001
Entrepreneurship in COVID-19	.073	.009	.53	8.111	.000
Leadership in COVID-19	.429	.067	.39	7.342	.000
SMEs functionality in COVID-19	.322	.062	.29	5.193	.000
Job risk in COVID-19	.327	.092	.32	3.554	.001
Earnings in COVID-19	.176	.079	.15	2.227	.001
Supply chain activities in COVID-19	.166	.078	.14	2.128	.002

a. variables of interest

b. Dependent Variable: SMEs' Performance

The threshold value for t-test is greater than 1.96. Thus, it is found that entrepreneurship in COVID-19 has statistically significantly affected the SMEs performance in London (t-value: 8.111> 1.96; p=.000<0.05; Table 8). Hence, we do not reject hypothesis 1. This is a new finding and partially support work of Kent et al. (2009) that uncertainties and complexities at entrepreneurial level significantly affect the performance of SMEs. Furthermore, leadership in COVID-19 has statistically significantly affected the performance of SMEs operating in London (t-value: 7.342> 1.96; p=.000<0.05; Table 8). We do not reject hypothesis 2. Hence, the work of Jenkins (2013) is confirmed that the leadership in different situations has a significant role in determining the performance of the SMEs. It is also evident that the SMEs' performance is significantly affected by the functionality of SMEs in COVID-19 (t-value: 5.193> 1.96; p=.000<0.05; Table 8). Again, we do not reject hypothesis 3. This study supports the work of Bell et al. (2020) and McKinsey (2020b) that earning of the SMEs as well as individuals are significantly affected by COVID-19. Study also found that Job risk in COVID-19 has statistically significantly affected the SMEs performance in London (t-value: 3.554 > 1.96; p=.000<0.05; Table 8). We do not reject hypothesis 4. This study supports the work of ILO (2020) and McKinsey (2020a) that job risk has increased due to COVID-19 and it has adversely influenced the performance of SMEs. Further, the earnings of firms have

reduced in COVID-19 affecting the SMEs performance (t-value: 2.227 > 1.96; p=.000<0.05; Table 8). We do not reject hypothesis 5 and hence, support the work of McKinsey (2020b). Lastly, results confirmed that supply chain activities in COVID-19 has statistically significantly affected the SMEs performance (t-value: 2.128 > 1.96; p=.000<0.05; Table 8). We do not reject hypothesis 6. The supply chain activities are significantly affected by the COVID-19, which led to reduce the efficiency and performances of different SMEs in London, therefore, present findings support work of Lin and Lanng (2020).

Using funnel approach, it was found from the survey that the limited benefits of the lockdown has been the working from home, reduction of expenses on the employees part and the business expenditures such as the use office utility bills etc. has reduced for the companies. Nevertheless, these benefits are only handful while the negative impact has been higher. It is also found that work-life-balance has disturbed more as employees have to work additional hours. This supports the arguments of Zehra and Faizan (2017).

8. CONCLUSION

This study concludes that SMEs play a significant role in contributing towards the economy of the country. The results confirmed that there is a strong negative correlation between the COVID-19 and the variables of interest. It was found that apart from job risk all other variables namely; entrepreneurship (r=-0.811), leadership (r=-0.722), SME's functionality (r=-0.859), earnings (r=-0.719), and supply chain activities (r=-0.7816) has a significant strong negative correlation with the COVID-19. This means that due to COVID-19, all above-mentioned attributes are negatively affected. There is reduction in each of them. Interestingly, job risk has found to have a positive correlation (r=0.747), confirming that higher the COVID-19 situation, the higher are the risk of losing jobs. This means that with the escalation of the COVID-19 cases, there are more and more lay-offs. It is therefore concluded that all considered variables have significant linkage with the environmental change such as COVID-19.

It is also sum-up from this study that entrepreneurship in COVID-19 has statistically significantly affected the SMEs performance (t-value: 8.111> 1.96). There was no previous study to confirm this attribute, which means new knowledge contributed. Present study partially supports work of Kent et al. (2009) that complexities and uncertainties at entrepreneurial level affect significantly the SMEs' performance. Similarly, leadership in COVID-19 found to have strong regression in the SME's performance (t-value: 7.342> 1.96). Therefore, our findings

confirmed that the work of Jenkins (2013), which is SMEs' performance is determined by the constantly changing role of leaders in different situations. Furthermore, it is concluded that the functionality of SMEs in COVID-19 has a significant impact on the SMEs' performance (t-value: 5.193> 1.96). We support the work of Bell et al. (2020) and McKinsey (2020b) also that the earning of both firms and employees are significantly affected by COVID-19. Moreover, the job risk has escalated in the COVID-19, which has significantly affected the SMEs' performance (t-value: 3.554 > 1.96). Same was concluded by ILO (2020) and McKinsey (2020a). Earnings has reduced (t-value: 2.227 > 1.96). Lastly, we found supply chain activities in COVID-19 has statistically significantly affected the SMEs performance (t-value: 2.128 > 1.96). There is a reduction in the performance and efficiency therefore, present findings support work of Lin and Lanng (2020).

Moreover, it is concluded that there are some benefits too, but these are limited. Commute and utility expenses has reduced. However, the work-from-home is additional stress, which means we support work of Zehra and Faizan (2017).

9. RECOMMENDATIONS

Based on the study findings, it is recommended that the SMEs shall consider the introduction of ABC Model (proposed by Haque and Oino, 2019). Awareness-Balance-Control (ABC) would be useful for reducing the stress of employees while working from home. There should also be the proper introduction of 24/7 on-line IT support so that the flow of operations is not affected. The use of contingency approach should be introduced as rather than laying-off employees, there should be reduction in the hours of employees and a rotation policy. There is also a suggestion that the SMEs shall work on improving the ethical leadership attributes of the leaders so that entrepreneurs are more considerate. The earnings have reduced significantly and there are uncertainties about job. Hence, there should be a new system of 'employment insurance certainty' to assure that some sort of protection is given to the workers.

It is recommended to the future researchers to ensure that there are interviews with the experts and the employees to gain more deeper insight. The interviews will help in unearthing some of the embedded hidden truths that are not visible from the quantification of results. The feelings and expressions are better understood when explored from the qualitative lens. The sample size of the study shall be improved so that there is higher generalizability of the results. It would increase the reliability and validity of the findings.

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