Technological Adoption and Organizational Performance of SMEs in Sri Lanka

W.J.A.J.M Lasanthika[1],H.D. Pavithra[2]

[1,2]*Department of Business Management, Faculty of Business Studies and Finance, Wayamba University, Sri-Lanka*

janani@wyb.ac.lk[1], dash.pavi@gmail.com[2]

Abstract

Modernity is rapidly accelerating, causing changes in every single element of the world, starting from individuals, organizations, and then influencing a country as a whole. Today, technological changes have become more frequent than ever. In Sri-Lanka Small and Medium Enterprises (SMEs) are one of the major contributors of employment generation and source of living for the Sri Lankan citizens thus increasing the country's GDP growth. Even if so, the slowness associated with technology adoption among the SMEs, might be one of the prime grounds hindering the optimum organizational performance of SMEs. Therefore, the purpose of this study is to evaluate the level of technological adoption within the SMEs in Sri-Lanka while investigating the impact of technology adoption on the overall organizational performance of SMEs. The author has followed a qualitative research approach to investigate deeply on the subject matter. The study was conducted by interviewing 06 SME owners and managers in Western, North-western and Sabaragamuwa provinces, Sri-Lanka. The purposive sampling technique was followed in selecting the respondents, where the author's inclusive criteria were to select the SMEs that have already adopted technology for at least two years. In order to generate solutions for the study a thematic analysis was followed where 05 major themes were generated as: theme 01-Decision for adoption, theme 02- technology adoption process, theme 03- Level of technology adoption, theme 04- Impact on organizational performance and theme 05- Improving technology adoption. The findings obtained through the analysis point out that the level of technology adoption in SMEs depend on the functions performed by and relevant to that particular organization and they involve in step-by-step implementation of technology. Moreover, the findings highlight SMEs in Sri-Lanka often adopts the basic

levels of technological applications in their organizations. Further the results of the study conclude that technology adoption has an overall positive impact on the organizational performance of SMEs in Sri-Lanka. The findings of the study will guide SMEs in the technology adoption process as well as help the government in implementing different strategies to uplift technology adoption among the SMEs.

Keywords: *Small and Medium Enterprises (SMEs), Technology Adoption, Organizational Performance, Qualitative research, Sri-Lanka*

1. Introduction

Globalization and rapid changes in the business environment each and every day and minute forces countries, organizations and individuals to adopt new forms and methods of conducting businesses along with the living patterns. In the recent years the technological revolution has become faster than ever influencing the social, conomic and cultural aspects of the world. Especially in terms of the business world the rapid expansion of technological innovations has resulted in forcing organizations to change their methods of performing businesses. According to Peter Drucker (2009) all enterprises represent the main catalyst of economic development. Small businesses contribute intensely in achieving the underlying goals to any national economy. SMEs in Sri-Lanka play a vital role in contributing to the employment generation and GDP of the country while acting as the backbone of the country as stated by the Sri-Lankan government. (Gunawardana, 2016) Hence the growth of SMEs in Sri-Lanka directly impacts on the economic development of the industrialized nations like Sri-Lanka. Technological adoption refers to the process of choosing to acquire and adopt a brand-new transformation. (Straub, 2009) Bringing technological revolution is not just an interest of increasing the profits, but also about the growth of SMEs and creation of employment opportunities. Even though technology keeps on updating and modernizing frequently there is a slowness in technology adoption in Sri-Lanka in terms of both individuals and organizations more specifically SMEs. Quick technological advancement and intensive competition forces companies to look at different ways to set themselves apart from the rest, especially in terms of small and medium enterprises (Ramachandran et al., 2019) Many researchers have already conducted studies on factors influencing technology adoption in Sri-Lanka in terms of

e-commerce, e-marketing, various computer applications, etc. However, the level of technology adoption among the SMEs and its impact on the overall organizational performance is unanswered and only few research has been conducted addressing it. Further the technological adoption process of SMEs in Sri-Lanka is less elaborated and focused in researches which is crucial in delivering a better understanding on technology adoption among SMEs. Thus, the researcher focuses on conveying the research gap found in the previous literature while reaching the major objectives of the research study which is to investigate the level of technological adoption of SMEs in Sri-Lanka and to observe the impact of technological adoption on the overall organizational performance of SMEs in Sri-Lanka through a qualitative research study that will cover up six SMEs belonging to different industries such as food, textile, finance, etc.

The outcome of the study will contribute in supporting the SME owners in implementing technology inside their organizations indicating the steps that are followed by SMEs in technology adoption and how those decisions for implementation were initiated along with the factors that will support and challenge the process of adoption. Further the study highlights the benefits of technology adoption on the SMEs organizational performance, helping the interested parties to identify the generated positive results of technology. Through the findings the government will have a broader overview on the actions that can be initiated to encourage technology adoption within the Sri-Lankan SMEs, so as to improve the economic development of the country.

2. Literature Review

2.1 Defining SMEs

SMEs have been described under various perspectives by different countries, authors and institutions around the globe. Divergent yardsticks are used to define SMEs such as employee number, amount of capital invested, nature of the business and annual turnover. According to the article 2 of the annex of recommendation 2003/361/EC as cited by the European Commission, (2015) SMEs in Europe are organizations that do not employ more than 250 persons and which have an annual turnover not exceeding Euro 50 million and possess an annual balance sheet with a value less than or equal to 43 million. In Sri-Lanka, according to the national policy framework for SME

development prepared by the Ministry of Industries and Commerce, SMEs are defined based on the number of employees and annual turnover as follows: In the manufacturing sector if the number of employees is more than 50 and less than 300 and if the annual turnover is between Rs.251-750 million then those organizations are known as medium scale organizations however if the number of employees is between 1 to 50 and if the annual turnover is less than Rs.250 million those are known as micro and small scale organizations. (Gunawardana, 2016).

2.2 Importance of SMEs organizational performance

Over the past few years, the importance of the organizational performance of SMEs has become an overriding topic throughout different nations across the world emphasizing the value created by them in achieving the overall growth and development of an economy. As indicated in the World Trade Report, 2016 as cited by Bayraktar and Algan,2019 SMEs represent 95% of businesses in the world while contributing for more than half of the total employment. Abundant journals and research articles have been developed to highlight the importance of performance of small and medium enterprises in different parts of the world immensely. In line with Berry 2007 as noted by (Keskgn et al., 2010) SMEs plays a key role in almost all the economies however their part is on spotlight in developing countries. According to research the MSMEs in India represent 80% of the total number of industries and potentially produce 8000 value added products. (Pawar and Sangvikar, 2019) A research article done on the importance and challenges of SMEs: A case of Pakistani SMEs has emphasized why SMEs are important to their nation by providing several reasons as to such as employment generation, use of local resources, entrepreneurship development, conservation of foreign exchange, capital formation and equal distribution of income. (Arshad, 2020) Nowadays the significance of SMEs is not only limited to the developing countries as a whole but a high concentration is provided on how development can be achieved in rural areas in the developing countries as a promotion of SMEs performance. According to a study conducted from (Manzoor, Wei and Sahito, 2021) it was found that SMEs has the ability to fit in with the rural entrepreneurs' requirements of developing their quality of life.

2.3 Technology Adoption

Technology adoption has obtained an escalating fame in recent years due to high globalization and rapid expansion of innovation. Diffusion of Innovation (DOI) theory which was introduced by Roger in 1960's derives the first definition associated with technology adoption; accordingly it can be termed as the physical acquisition of technological equipment and the implementation of innovation based on the decision to adopt. (Roger 1995 as quoted by Sarosa, 2012) However, Saros 2012 argued that this Roger's definition on technological adoption is not sufficient since it doesn't explain how actually technology is adopted and used. The second definition on technological adoption is obtained from the research of (Thong and Yap, 1995), technological adoption is expressed as use of information technology as a support for the performance of businesses. As stated by Sarosa (2012) the second definition is much more similar to the third definition of technological adoption which states that it is the method of using innovation by an intended user. (Boving & Boker 2003 as cited by Sarosa, 2012) The author of the study will apply the definition of Thong & Yap (1995) where technological adoption refers to the application of technology for business support to conduct the research further.

To identify the level of technological adoption a number of researchers and practitioners have developed theoretical frameworks to assess how organizations and people make decision associated with technological adoption. Given below are some of the theoretical framework that are used for evaluating the technological adoption:

Diffusion of Innovation Theory (DOI): Diffusion of Innovation Theory which was introduced by Roger in 1962 is one of the oldest social science theories. This focuses on the behavioral aspects of technological adoption. Under the DOI model he identified that there are five factors that influence the adoption of technology and innovation such as relative advantage, compatibility, complexity, trialability and observability. (Behavioral Change Models,2019)

Technology-Organization-Environment Framework (TOE): It was pointed out that the process by which an organization adopts and use technology depends on the technological context, organizational context and environmental context. Accordingly, the adoption of technology in the firms are affected by technological, organizational

and environmental factors. Given this situation the framework will continue to provide valuable guidance for the researchers. (Baker, 2012) The TOE framework has a strong theoretical basis, solid empirical support and has been used to study technology adoption of innovations. (Abed, 2020)

Technology Acceptance Model (TAM): In line with Davis, 1989 as quoted by Lee, Hsieh and Hsu, 2011 TAM focuses on the user's attitude and apply the perceived ease of use (PEOU) and perceived usefulness (PU) in understanding the user acceptance in technological innovations. Supplementarily the author has claimed that PEOU and PU as the preliminary factors of behavioral intentions to adopt information and communication technology by the individuals as well as organizations.

2.4 Technology Adoption and Organizational Performance of SMEs

Organizations will be able to make their operations sustainable if they can gain an advantage in a competitive environment, the key factor for its information technology adoption. SMEs have a key role in the economy especially completing the shortcomings of large businesses. As a result of the competitive world that makes things more and more difficult, SMEs need to adapt the condition of time. For this purpose, with the help of technology SMEs will be able to sell the right product to the right market at the lowest cost. (Ertugrul, Ege and Oztas, 2017) A research conducted in Nigeria on the impact of technological innovation on the profitability of SMEs concluded that there is a relationship between technological innovation and SMEs performance. It mentions that it becomes necessary for SMEs in the manufacturing industry to intensify their innovation activities so as to create a competitive advantage which will further improve their turnover and profitability. Moreover, technological adoption results in the growth of the firms and employment opportunities. (Akinwale, Adepoju and Olomu, 2017) An article conducted on the organizational performance of SMEs in Ghana highlighted that since the Ghanaian economy highly depends on the organizational performance of SMEs as of other developing countries the government of Ghana has created various fund schemes helping SMEs in adopting the new innovation and technology with the intention of increasing the organizational performance of SMEs which will ultimately create benefits to the nation such as employment generation, improving the living standards and achieving an overall sustainable development in the economy. (Afriyie,

Du and Ibn Musah, 2019) According to Zahra and Nielsen 2002 as quoted by (Ryu, Baek and Yoon, 2021) if SMEs seize technological capabilities that could not be followed by their rivals, they have the ability to nurture better organizational performance while promoting successful internationalization.

3.Methodology

Adopting the right methodology is an essential element in the process of conducting a research study. Accordingly, here the researcher has engaged in a qualitative research study to address the two research questions on what is the level of technological adoption and what is the impact of technology on the overall performance of SMEs in Sri-Lanka. As per research conducted on SMEs in Pakistan a unique characteristic that set apart qualitative from quantitative research is that, it indicates that there are several realities in the universe for a single phenomenon where every person distinguishes, clarifies, and acknowledges differently based on his/her knowledge and expertise. (Ahmad et al., 2021) Here the researcher has followed an exploratory study to investigate the real-world scenarios of technology adoption. The researcher has incorporated in-depth interviews as the research strategy since personal interviews have the ability of deriving more worth-while information regarding the subject matter in addressing why and how questions. The interview guide was prepared in English and Sinhala languages which include three major parts such as as: part one- demographic features of the SMEs, phase two includes two sub parts as 2.1 which consist of questions regarding the decision to adoption and 2.2 on implementation of technology and part 03 includes the impact of technology adoption on the overall organizational performance. The interviews were conducted through telephone calls, where the maximum time incurred for an interview was approximately 45 minutes. Correspondingly the author has selected six individual SMEs in Sri-Lanka that operate in different industries as the sample size which conducted business operations for at least 2 years respectively. SMEs for the study were selected based on purposive sampling technique which is a non-random sampling method. The sample of six SMEs was selected based on the saturation point. The number of respondents in qualitative research can only be determined during the data analysis, if iteration occurs in interviewee stories it means the data has reached the saturation point (Moshood,

Adetoun and Akkpa, 2014) The study area of the research was limited to three provinces in Sri-Lanka namely Western province, North-Western province and Sabaragamuwa province.

Table 1: Respondents (Enterprise) demographic information

	SME 01	**SME 02**	**SME 03**	**SME 04**	**SME 05**	**SME 06**
Designation	Head administration & accounting	CEO	Manger and Head HR	CEO	CEO	CEO
Industry of Operation	Supermarket Chain	Fast food	Apparel	Financial	Handbag producers	Food
Types of Business	Local	Local	International	International	International	Local
Year of establishment	1926	2017	2018	2011	2017	2017
Year technology adopted	2005	2017	2019	2014	2017	2019
Number of employees	120-150	20-30	180-230	10-12	8-10	10-15

Source: Author's Work ,2021

4.Data Analysis and Discussion

The technique for analysis of data in this study is known as Thematic Analysis. The procedure of recognizing themes or patterns in a set of qualitative data is known as thematic analysis. (Rozmi et al., 2020) The author followed six major steps of data

editing, data familiarization, code generalization, code classification, theme generation and theme finalization in generating the final themes of the study. These themes aid the researcher in addressing the research questions of the study. Below is a detailed analysis on the themes generated in conducting the research study. The study evolves around five central themes derived through the data analysis.

Theme 01: Decision for Adoption

Theme one of the research studies shows the decisions involved by the SMEs owners in the adoption of technology, which highlight which factors created the need for adoption and which elements influenced the decision for the technology adoption. As per the data collected it was identified that some SMEs face the need for technology adoption as well some adopt technology as a result of numerous factors that influence the organization towards adoption. Therefore, the theme 'Decision for Adoption' was derived through the sub themes of 'Need for Adoption' and 'Factors influencing Adoption'.

Accordingly, the sub theme need for adoption was derived based on thirteen sub-sub themes such as 'time issues' where the respondents pointed out that the failures associated with time in manual method generated the need for the decision for adoption, *"If we, did it manually it is a very difficult task, time is consuming, long queues are formed" (SME 01)*

'Number of employees' is another factor that generate the need for technology, as specified by the SME owners without technology they would have to recruit to a large number of employees for work, "*Earlier before these programming machines were properly installed in the organization, we had to recruit a high number of employees for these jobs" (SME 05)*

As per the respondents the need for 'High skills requirement' in the traditional method of business led SMEs towards the decision for adopting technology. "*So, if we want to check whether a currency is a counterfeit or not the employee should have a good knowledge and experience to check it by hand" (SME 04),*

'Marketing limitations' is another constraint that created the need for adoption as stated by SME 02, *"There was only a very small board in front of our house saying that we bake cakes"*,

'Omission problems' existed in the traditional method is another major issue that generated the need for technology adoption, as indicated by respondents' omissions had led to miscalculation within the organization *"Actually, there were times we were not able to make a proper calculation because some of the fabrics used were being omitted without our knowledge." (SME 03)*

Likewise, the findings indicated that 'supervision issues', 'more effort', 'customer dissatisfaction', 'competition', 'technology as a trend', 'productivity issues' and 'difficulties cause in the manual method' led towards the need for technology adoption.

On the other hand, the sub theme 'factors considered for technology adoption' was used to generate the theme decision for adoption. Factors considered for technology adoption indicate the major features and facts taken into consideration when making the decision for technology adoption. Thereby the author has identified seven major factors considered when making the decision for technology adoption by the Sri-Lankan SMEs. When deciding to adopt technology SME owners were concentrated regarding the 'efficiency' as per the SME owners the main factor that encouraged adoption is efficiency, "*To be exact, efficiency was the most encouraging factor. We wanted to be efficient in our day-to-day work." (SME 04)*

Other than that, SMEs in Sri-Lanka concentrated on 'Ease' and 'User-friendliness' of the technological applications when deciding to adopt technology. Based on the respondents it is important for the SMEs to ensure that the technological applications adopted are providing the facility to ease the operations of the organizations while it is user friendly. *"Usability, and the ability to make employees get related to the system easily within a short period", "The ability to provide information quickly when employees need them." (SME 01)*

Cost a somewhat a huge concern in adoption of technology. Especially in industrialized countries like Sri-Lanka since most of the technological equipment's, tools and applications are imported the cost of these are considerably high. Therefore, almost all

the SME respondents engaged in conducting a 'cost benefit analysis' *"I have a thing like this as an organization. Once we decide to use something we first analyze whether we will receive any return from it, what benefits we have and then so it's like that." (SME 04)*

All in one package, Accuracy and Anytime data access were the other major factors considered in the decision for technology adoption.

Theme 02: Technology Adoption Process

Through the second theme the author has elaborated the supporting and challenging factors that SMEs in Sri-Lanka will have to face during the implementation of technology within the organization while providing an insight regarding the technology implementation process. Once the decision to adopt technology has been clearly made by the SME owners their next initiative is to engage in the adoption process of technology. When involving in the adoption process SME owners will have to pass through certain boundaries and hurdles while there some factors that would encourage them to hold on the technology adoption process within their SMEs. Hence the theme 'technology adoption process' is evolved around three sub themes namely; 'Supporting factors', 'Challenging factors' and 'Implementation of technology'

The researcher has identified supporting factors as the elements that encourage SMEs in the adoption of technology within their organization. These seven factors identified as supporting factors makes the implementation of technology much easier and more convenient for the SME owners. The author found it interesting that most of the SMEs didn't face any financial barrier in the process of adopting technology. As per the respondents once the decision for adoption was made the capital required for it was collected. So 'no financial barrier' is a major supporting factor. *"Here is the thing anyway we had the financial strength." (SME 01) "Before I started to use technology inside the organization, I collected a certain amount of our business profit and allocated it to be invested on technology" (SME 06)*

'Technical support from 3rd party' and 'family support' are also some supporting factors that motivates SMEs to adopt technology within their organizations. Many SMEs have obtained the technical support and aid from the outsourced companies. *Yes, we have*

outsourced them at the initial point when the computer system was installed, they physically visited whenever an issue arises since we were not familiar with the system (SME 03)

While some obtained the support of their families, relatives and friends. *"We faced it quite easily since my father had a good knowledge in machineries and was well experienced in programmed machines since he worked in the garment industry." (SME 05)*

Mostly as specified by the SME owners and managers having competent employees in the organization has become a strength to the organization. *knowledge we have employees those who have a good knowledge. "Now this new young generation is much more advanced in terms of technology. So, from that side we have strength." (SME 04)*

However, when compared to these supporting factors the researcher has identified that there are certain factors which act as a barrier or a constraint for the process of technology adoption. Accordingly based on the data collected the author has identified that there are seven challenging factors as well. One of the greatest limitations for the adoption of technology as specified by the SME owners was the 'network limitations.' As per the respondents they always face numerous issues associated with network connection which makes things difficult when adopting technology. Mostly SMEs have problems associated with poor internet connection interrupting the actions performed through technological equipment's *"The thing is nothing else, but as you know everything related to technology depends on networks, we mostly need this internet technology without any interruptions. We face a lot of network issues with low connectivity." (SME 02)*

Every single respondent emphasized that there was no any support from the government in the process of adopting technology within SMEs. Therefore, the researcher identified it as a challenging factor which resist the adoption process. *To be frank we didn't receive any support from the government. We did it all by ourselves. (SME 06)*

Mostly SMEs faced the issue of 'reluctance for change' within the organization, where SME employees didn't like the idea of replacing their jobs with technology since there were issues associated with familiarization. *Challenges mean like employee training*

issues and they were reluctant in accepting technology Now when we adopt technology, we have to train employees. employee training problems. Challenges mean like employee training issues and they were reluctant in accepting technology. (SME 01)

Another barrier for the adoption of technology is the 'initial cost' of adoption, SMEs that adopts technology will go through a high initial investment when integrating technology to the organization. However, the SME owners emphasized that the initial cost incurred was worth the benefits they enjoy afterwards as a result of technology *"Initially of course the financial cost is high. One of the reasons is due to the high initial cost" (SME 06) "To take technology of course the cost is high" (SME 01)*

Moreover, some other challenging factors that the author was able to identify include 'data entry issues', 'environmental issues' and 'technical issues'.

Once the SME owners go through all the challenges with the aid of supporting factors, they will engage in the implementation process. Here the author found that SMEs even though they fall into the same category of business classification there are certain difference even among SMEs in process of implementing technology. Accordingly in accordance to the respondent provided details there are seven sub-sub themes that falls into the Sub theme of Implementation of Technology. When implementing technology some SMEs specified that they had a certain degree of technological integration within their organization from the very beginning of starting the business.*We started using technology from the very initial point of starting our business. so that's why I think we used technology in our business from the start itself (SME 02).*

However, most of the SMEs at the initial stage didn't have any significant technological adoption and also many SMEs follow a step-by-step logical method for the adoption of technological application and equipment's within their organizations which resulted in a better outcome.

"It didn't happen at once, it involved steps, where we came forward step by step. At once it is not an evolution, it comes gradually so we introduced little by little, then problems did not arise since we didn't do it all together, so no big issue came in the way. So, you did it step by step? Yes, that's correct." (SME 01),*"That means we actually*

started the organization in 2018 but when we started to adopt technology for most of our business activities by like 2019, October, I guess" (SME 03)

'Training employees' and 'Technical assistance' are crucial elements in the technology implementation of SMEs. Crafting the employees' skills and competencies to meet the technological application requirements was necessary during the implementation according to the respondents. Further in order to ensure the smooth application of technology within the SMEs, SME owners pointed out that technical assistance was crucial in the implementation. *"About 02 employees were trained within 02 months and through those trained employees the others were trained" (SME 01)*

"Even now if a problem arises on our system, if we call them, they will solve our issue, they don't come to us. We have this "AnyDesk" software through which they remotely log to the system and solve our issue. So, this AnyDesk helps them to log on to our system once we provide them a password". (SME 03)

Theme 03: Level of Technology Adoption

Theme three indicates the types of technological applications used within the SMEs and the areas in which technology is being adopted in the organization. Here the author refers to the level of adoption as the types of technological applications used in the organization along with the areas in which technology has been adopted by the SMEs. Accordingly based on the data gathered by interviewing the SME owners the theme level of technological adoption was generated by the two sub themes 'Types of applications' and the 'areas of implementation'. There are different technological innovations around the world here the author has provided full concentration in obtaining thorough understanding regarding the specific and common types of technological application utilized by SMEs. Further through the collected facts the author has found the areas in which technology is specifically used by the SMEs within their organization as a whole. The researcher was able to identify the Sri-Lankan SMEs that integrate the basic types of technological applications and equipment. Further the area in which technology is adopted in SMEs totally depends on the importance of that particular function to the existence of the organization. The table given below indicates the type of applications adopted by the SME owners and the areas in which the SMEs normally adopt technology.

Table 2: Level of technology Adoption

Theme	Sub theme	Sub-sub theme
Level of technology adoption	Type of applications	Computer System
		Computers
		Internet
		Fingerprint machines
		Facebook page
		Accounting System
		Microsoft applications
		Electronic payment system
		Advanced technological equipment's
		CCTV Cameras
		Online Website
		Design applications
		Instagram
		Computer network
		Billing system
		Google marketing
		Computerized records
		WhatsApp
		Barcode system

	Areas of implementation	Inventory management
		Online store management
		Marketing management
		Employee management
		Finance management
		Supplier management
		Customer management
		Online banking
		Designing
		Security
		Production management
		Cash management
		Market analysis

Source: Author's Work ,2021

Theme 04: Impact on Organizational Performance

The most prominent theme in the study is theme four, impact on organizational performance. This theme highlights the importance of adopting technology within the SMEs in Sri-Lanka. The author generated the theme based on two sub themes which is 'outcomes of technology usage' and 'impact on performance'. The researcher was able to identify that the overall impact on the organizational performance of SMEs as a result of adopting technology is positive even though there is a high initial cost in adopting technology for the SMEs in Sri-Lanka, as specified by the SME owners once it is adopted the more positive rewards are obtained as an organization. Therefore, the outcomes of technology usage will indicate the positive vibes of using technology as a SME while the impact on performance will present the result of using technology on the organizational performance as a SME.

Accordingly, the author was able to identify that there are fourteen outcomes of technology adoption of SMEs. One of the major outcomes of utilizing technology on organizational activities involved the capability of perform multiple tasks at once. SMEs could perform the multiple functions of the organization without any issues compared to the traditional methods of performing business activities. *"Actually, I decided that if I am to use a computer system it should include all the functions in one system. So, once I said that to my friend, he came up with a suitable computer system." (SME 06)*

'Better analysis' is another advantage that SMEs enjoy as a result of using technology within their organization. As per the respondent's technology provide their businesses the capability of evaluating their facts and figures and engage in an effective analysis.

"But now this monitoring system helps us in nicely showing us how variations in exchange rates have occurred which is very easy to understand." (SME 04

'Updated information' and 'Better information recording' are also better outcomes of technology that SMEs in Sri-Lanka enjoy. Rather than the manual method the organization has the capability of performing work with more diligence due to the functions available in technological applications.

"Let's think we need to obtain a daily report. Even if the daily stock usage can be easily obtained, we can calculate the amount of stock decreased. No need to measure using a weight scale on how much kilos are left." (SME 02)

"Today with the help of our system, we are updated. For instance, we can even identify whether there are any expired items in our supermarket quickly without any time." (SME 01)

As mentioned by the SME owners and managers technology adopted by SMEs act as an 'Alert system', which also a positive result of implementing technology within the organization.

"So now it's not like that whenever we pay a bill we enter into the system, cheque numbers all those things are computerized, now if we provide a cheque other than a

cash cheque then the date when the cheque is realized all those are included in the system with the dates as to when the cheque is to be realized." (SME 03)

'More convenience', 'reduced effort', 'automatic processing', 'automatic information generation', 'reliable data', 'anytime and anywhere' and time management are some of the generous outputs of technology implementation and adoption of SMEs in Sri-Lanka. For instance, as specified by the respondents these benefits could not be enjoyed in the traditional method of conducting business. Time is gold for businesses as a result of technology implementation SMEs have the opportunity of getting the maximum out of time management. ,

"We have accurate timing and measurements which will greatly help us to increase your productivity when engaging in production than manually." (SME 06)

'Mental wellbeing' is an attractive outcome of technology as stated by the SME owner's technology has the capability of generating mental wellbeing. Since technology reduce the workload of individuals in the organization and since operational activities could be done effectively SME owners have less stress associated with work related matters.

"So, through this system now I can stay relaxed because once I go to the system, I know what are the orders that I have to fulfill next week, what items I should purchase. "(SME 06)

When observing the overall impact of technology on the organizational performance of SMEs, the author found through the data collected that technology overall results in a positive impact on the organizational performance of SMEs. The researcher identified eleven sub-sub themes related to the impact on overall organizational performance. One of the positive impacts of technology on organizational performance is 'profit improvement'. SME owners were delighted about their decision to adopt technology since it resulted in improving the profits earned by the organization.

"Through all these definitely they can increase the profit" (SME 03)

"Actually, it is like this to increase the profitability I turn into technology therefore the profit has definitely increased (SME 06)"

Another impact on overall organizational performance as a result of implementing technology is 'productivity improvement', as indicated above earlier the need for technology also aroused as a result of inefficiencies in the traditional method. So, SME that adopted technology has been successful since technology resulted in a productivity improvement.

"Greatly help us to increase your productivity when engaging in production than manually When compared to the early situation in my organization, now the organization is more efficient." (SME 06)

'Increasing market share' and 'reducing the employee cost' are the beneficial impact of technology on the organizational performance of the SMEs as identified by the author through the analysis.

"And also, when we take our online business now our products are distributed around Sri-Lanka as a result of it so the demand has increased." (SME 06)

"Due to this new technology if we have 15 employees, we can decrease it by 50%, so it saves the cost incurred for employees, and also, we can give a good service for the customers. For example, now assume we keep a security guard now we can do it by CCTV so you can understand right that cost decreases." (SME 04)

'Better communication' is an immense benefit that SMEs relish with regard to technology adoption on the overall organizational performance of SMEs. Communication has never been easier than with technological innovation and applications.

"We can easily interact with our customers and suppliers, like we don't need to visit them or they don't need to come and visit us whenever work is there." (SME 03)

"The FB page is very well managed and we update it and provide our details to our customers." (SME 05)

'Increasing customer satisfaction' and 'good service quality' are also major impacts of technology on the overall organizational performance of SMEs. As mentioned by the SME owners' customers of their organizations are more interested in engaging transactions with their organization as a result of utilizing technology to provide them

with services. Moreover, through the integration of technology in the organization SMEs have the chance of improving their service quality.

"When the customers arrive, they don't need to wait in long queues, they can quickly make the transaction and leave" (SME 01)

"We can give a good service for the customers. we try to achieve is to provide satisfactory and good service to the customers through technology" (SME 04)

Likewise, the SMEs also enjoy the benefits of increase innovativeness, facing competition successfully and reducing wastage as a result of adopting technology.

Theme 05: Improving Technology Adoption

Through the research study conducted the author has been able to identify various methods that the Sri-Lanka government and relevant authorities could initiate in order to promote and encourage SMEs in adoption of technology. These themes were generated based on the respondents' suggestions to improve technology adoption among SMEs in Sri-Lanka. Most SME owners strictly emphasized the importance proper telecommunication facilities within the country in order to improve the adoption of technology.

Table 3: Improving Technology Adoption

Theme	Sub theme	Sub-sub theme
Improving technology adoption	Method to improve technology adoption	Tax relief
		Financial benefits
		Proper network connections
		Legal requirement
		Awareness programs
		Technical assistance

		More open to the foreign market

Source: Author's Work ,2021

5.Conclusion

One of the research objectives of the study was to investigate the level of technology adoption of SMEs in Sri-Lanka. Through the analysis of the research study conducted it was concluded that SMEs adopt technology in most important areas of the organization such as inventory management, finance management and the applications such as computer systems, online websites, CCTV security systems much more are adopted by the organization. The interesting factor was according to the respondents most of the SMEs implement technology on step-by-step basis in order to make it easy for the process of familiarization. The second objective of the research was to evaluate the impact of technology adoption on the overall performance of SMEs in Sri-Lanka and the themes generated indicates that the technology result in overall positive impact in conducting the organizational function while contributing towards performance growth. Finally, it can be concluded that technology adoption contributes immensely on the organizational performance of SMEs in Sri-Lanka. Through this study the SME owners and other interested parties such as the government could obtain a comprehensive understanding on what are the outcome of technology and further the actions that could be formed in order to uplift the implementation of technology within the SMEs in Sri-Lanka. Further the theoretical contribution of the study is vast since it provides a comprehensive understanding regarding new dimensions for various factors of technology adoption and performance. One of the major limitations of the research is the number of respondents and they were limited to three provinces in the country. It would be better if the future researchers considered all the provinces of the country while considering more forms of technology adoption.

References

Abed, S. S. (2020). Social commerce adoption using TOE framework: An empirical investigation of Saudi Arabian SMEs. *International Journal of Information Management, 53,* 102118. https://doi.org/10.1016/j.ijinfomgt.2020.102118

Afriyie, S., Du, J., & Ibn Musah, A.-A. (2019). Innovation and marketing performance of SMEs in an emerging economy: The moderating effect of transformational leadership. *Journal of Global Entrepreneurship Research, 9*(1). https://doi.org/10.1186/s40497-019-0165-3

Ahmad, N., Mahmood, A., Han, H., Ariza-Montes, A., Vega-Muñoz, A., Din, M. U., Iqbal Khan, G., & Ullah, Z. (2021). Sustainability as a "new normal" for modern businesses: Are SMEs of Pakistan ready to adopt it? *Sustainability, 13*(4), 1944. https://doi.org/10.3390/su13041944

Akinwale, Y. O., Adepoju, A. O., & Olomu, M. O. (2017). The impact of technological innovation on SMEs' profitability in Nigeria. *International Journal of Research, Innovation and Commercialization, 1*(1), 74–86.

Arshad, M. Z. (2020). Importance and challenges of SMEs: A case of Pakistani SMEs. *Journal of Research on the Lepidoptera, 51*(1), 701–707.

Baker, J. (2012). The technology–organization–environment framework. In *Information systems theory* (pp. 231–245). Springer. https://doi.org/10.1007/978-1-4419-6108-2_12

Bayraktar, M., & Algan, N. (2019). The importance of SMEs on world economies. *International Conference on Eurasian Economies.* https://www.avekon.org/papers/2265.pdf

Behavioral Change Models. (2019). *Boston University School of Public Health.* https://sphweb.bumc.bu.edu/otlt/mph-modules/sb/behavioralchangetheories/behavioralchangetheories4.html

Drucker, P. F. (2009). *Innovation and entrepreneurship.* Harper Collins.

Ertugrul, I., Ege, H., & Oztas, T. (2017). A study on information technology adaptation of SMEs: The case of Denizli. *Journal of Internet Applications and Management, 8*(1), 5–20. https://dergipark.org.tr/tr/download/article-file/402697

European Commission. (2015). *User guide to the SME definition.* Publications Office of the European Union. https://op.europa.eu/en/publication-detail/-/publication/79c0ce87-f4dc-11e6-8a35-01aa75ed71a1/language-en

Gunawardana, D. P. (2016). *National policy framework for small and medium enterprises (SMEs) development.* Ministry of Industry and Commerce, Sri Lanka. http://www.industry.gov.lk/web/images/pdf/gg.pdf

Keskgn, H., Genturk, C., Sungur, O., & Kiris, H. (2010). The importance of SMEs in developing economies. *International Symposium on Sustainable Development, 2,* 183–192. https://core.ac.uk/download/pdf/153446896.pdf

Lee, Y.-H., Hsieh, Y.-C., & Hsu, C.-N. (2011). Adding innovation diffusion theory to the technology acceptance model: Supporting employees' intentions to use e-learning systems. *Educational Technology & Society, 14*(4), 124–137. https://www.ds.unipi.gr/et&s/journals/14_4/12.pdf

Manzoor, F., Wei, L., & Sahito, N. (2021). The role of SMEs in rural development: Access of SMEs to finance as a mediator. *PLOS ONE, 16*(3), e0247598. https://doi.org/10.1371/journal.pone.0247598

Mohd Ishak, N., & Abu Bakar, A. Y. (2014). Developing sampling frame for case study: Challenges and conditions. *World Journal of Education, 4*(3), 29–35. https://doi.org/10.5430/wje.v4n3p29

Pawar, A., & Sangvikar, B. V. (2019). Understanding the SME: Role and distribution in India. *International Conference on Innovation of Small Medium-Sized Enterprise.* https://www.researchgate.net/publication/340225176_Understanding_the_SME_Role_and_Distribution_in_India

Ramachandran, A. T., Ahmad, N., Miskon, S., Iahad, N. A., & Ali, N. M. (2019). Factors influencing the adoption of social media in service sector small and medium

enterprises (SMEs). In *Advances in intelligent systems and computing* (Vol. 1073, pp. 917–925). Springer. https://doi.org/10.1007/978-3-030-32523-7_70

Rozmi, A. N. A., P., N. E., Razak, A., Izhar, M., & Imran, A. (2020). Factors affecting SME owners in adopting ICT in business using thematic analysis. *International Journal of Advanced Computer Science and Applications, 11*(7). https://thesai.org/Publications/ViewPaper?Volume=11&Issue=7&Code=IJACSA&SerialNo=27

Ryu, D., Baek, K. H., & Yoon, J. (2021). Open innovation with relational capital, technological innovation capital, and international performance in SMEs. *Sustainability, 13*(6), 3418. https://doi.org/10.3390/su13063418

Sarosa, S. (2012). Adoption of social media networks by Indonesian SMEs: A case study. *Procedia Economics and Finance, 4,* 244–254. https://doi.org/10.1016/S2212-5671(12)00395-5

Straub, E. T. (2009). Understanding technology adoption: Theory and future directions for informal learning. *Review of Educational Research, 79*(2), 625–649. https://doi.org/10.3102/0034654308325896

Thong, J. Y. L., & Yap, C. S. (1995). CEO characteristics, organizational characteristics and information technology adoption in small businesses. *Omega, 23*(4), 429–442. https://doi.org/10.1016/0305-0483(95)00017-I