Mandeep Kaur

IMPACT OF TECHNOLOGY ON BUSINESS

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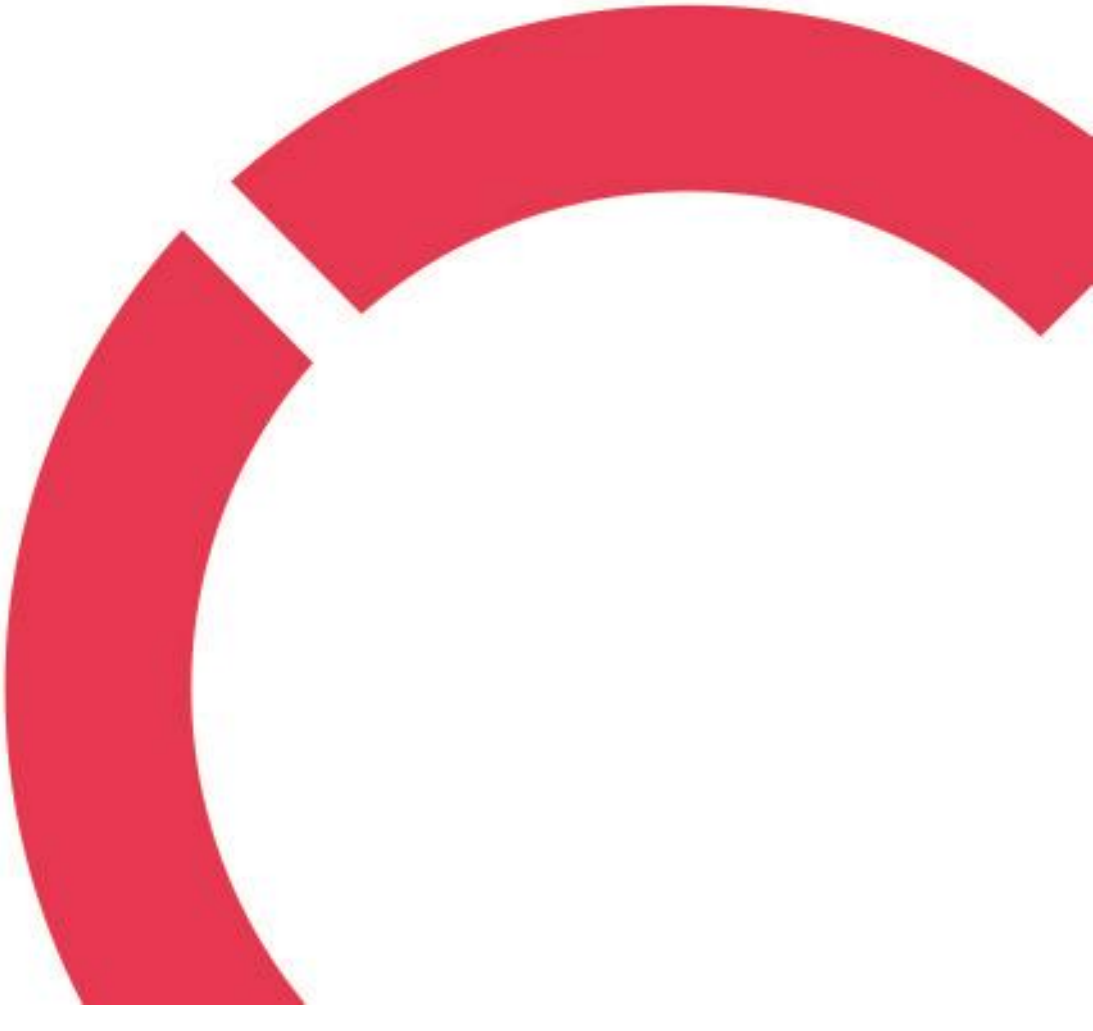

ABSTRACT

Centria University of Applied Sciences	Date April 2023	Author Mandeep Kaur
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Performance, productivity, management, policy, manpower, human resources, marketing, and sales are some of the areas where the effects of technology on businesses have been listed in the literature review section. It also describes the motivations for the technology's introduction and the potential challenges a company may experience as a result of using the technology.

The goal of this study was to determine how the introduction of technology affected various business processes. The paper also examines the opportunities and threats presented by the widespread use of emerging technologies in the corporate world. It also examines the most popular technologies used by companies.

This study employed a quantitative research strategy and a questionnaire to gather data in order to accomplish its goals. The data was then analysed in Microsoft Excel.

The outcome of the data analysis indicates that technology has a massive impact on all company operations, significantly on marketing and promotion. There is a widespread reliance on mobile phones and social media networking for business purposes. While the introduction of new technologies allows businesses to expand rapidly, it also raises the possibility of the theft of confidential data.

Keywords
Business, Cost, Data theft, E-HRM, Human Resources, Insufficient Training, Marketing, Performance, Production, Sales, Social-Media, Technology

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1 INTRODUCTION

Technology refers to the process through which a scientific notion is put into action in the real world of trade or industry, as well as to the body of instruments and other implementations created by a specific culture. Technology already exists, and it will only become better as we move forward. We must first comprehend business technology in order to grasp the function technology performs in today's enterprises. Technology for business includes the combination of computers and communication systems to assist administrative tasks (Meshack and Prusty, 2021). In today's business world, new developments in technology are happening all the time. A successful firm cannot function without the use of business technology. Technological innovation inside an organization used to be the exclusive domain of highly trained specialists who were confined to the basement and had difficulty proving their worth in terms of a company's bottom line. However, things have changed. We can clearly see how technology has become more widespread in all aspects of the company, and how technology's dependence on the business has risen. Boardroom technology should now be a continual concern because of the rise of the internet.

Rather of being decided by IT staff, business leaders directly influence and make decisions around 60 percent of all technology spending. It is fair to argue that contemporary firm’s fortunes rise, and fall based on their clever or incorrect technological decisions. Technological innovation has now permeated every aspect of business, and CEOs can attest to the fact that they now have better tools for making informed choices and that it has become an essential part of how their companies operate on a daily basis. So, it comes as no surprise to those who are aware that the correct technology, paired with timely implementation, may help a firm not only address business issues but also strengthen its competitive position. Idealists like Wal-Mart and FedEx have utilized technology not merely to address logistical issues but also to grasp new possibilities, develop new lines of distribution, and build new business models that their rivals have been obliged to embrace. Technology was used by Wal-Mart to gain a competitive advantage in supply chain management (Banker, 2022).

Rather than automating company procedures, FedEx turned to the possibilities provided by technology to control the scope of its expansion (Preet, 2021). When FedEx first introduced

its Super Tracker, it was a major factor in decreasing the number of extra dispatchers it needed to recruit (Technological Innovation at FedEx, n.d.). In these situations, the fascinating factor is that these corporations put their money into completely new tech. Furthermore, none of these breakthroughs was carried out during a period of extreme financial plenty. Large investment by FedEx even in a strong economy was a brave move. Despite this, few organizations are willing to take on such large-scale projects today. It's possible to list a number of explanations for this. One of the factors is the current economic situation. While it is fair for firms to concentrate on decreasing expenses when circumstances are tough, it is not a good strategy in the long run.

IT applications and technology have been used since the 1990s. ICT applications such as electronic commerce (e-commerce) and ERP have become essential for businesses to survive and prosper in recent years. Firms were driven to look for ways to boost their competitiveness due to the increasing competition. Only a few studies have looked at the connection between manufacturing and e-commerce. With e-commerce, businesses may lower their operating costs and increase their profits. Because of this, it may be used in the manufacturing of products and services. All the applications a business needs may be found in ERP, which is an all-in-one system. As a result, businesses are able to make decisions more quickly and adapt to changes in the market more quickly (Maditinos, Chatzoudes, and Tsairidis, 2011).

There are two types of people in the global economy: those who create and those who consume. A company would not exist or be profitable without the interaction between these two groups. Just as consumers rely on producers to fill their wants, producers rely on them to fulfil their requirements. There are markets where manufacturers offer their products, and customers go there to acquire their requirements. Since the beginning of a business, when technology was still in its infancy, there have been many instances of this. The development of business systems is impacted by advancements in technology. Information technology is transforming so quickly that it is impossible to keep up. In addition to enhancing the quality of life for individuals, advances in information technology also help to fuel global commerce. Goods and services that used to be costly and time-consuming may now be completed in a matter of days.

One way that IT plays a part in the world of internet commerce is through providing media services like the internet. A place for customers to choose the products they desire is provided via websites and applications. Additionally, these activities need additional technologies to assist the internet company, including telephone connection technology, banks that permit customer payment, media providers, and transportation agencies like the post office. For both manufacturers and customers, internet commerce is wonderful because of the efficiency, cost-effectiveness, and speed with which it can be done online.

The impact of information technology on human lives cannot be overstated. Social and technological advancements are influencing the growth of information technology. People that perceive commercial prospects in the growth of information technology, such as internet business, use it extensively. It is only a matter of time until global internet commerce becomes the norm. A lot of people use them on a regular basis, and they have done well. Online businesses make it easier for customers to receive the products and services they need. An important factor in the growth of e-commerce in various nations is the availability and accessibility of low-cost internet connections.

Technological progress is important and supportive of business operations, but it does not come cheaply; in addition, facilities in the region or location where the firm conducts business activities should be used to promote technological advancement.

ICT advancement has a huge influence on several parts of life, especially in the business sector. Changes in the way businesses are conducted are becoming increasingly prevalent across the world, and these changes are primarily focused on providing the information and extensive network systems needed to provide quicker and more dynamic accessibility. The world of business must be able to respond to customer demand for products and services immediately because of the high mobility of people. The media Internet is increasingly being used by business organizations to link sellers and buyers in order to facilitate transactions. As Deans and Kane (1992) discovered, IT is crucial to a company's performance in the face of economic uncertainty and volatility. In various regions of the globe, academics have looked at how the rise of IT has influenced start-up culture.

The study focuses on finding the impact of technology on business activities. The intention is to examine how technology affects core business processes including marketing,

management, supply chain and human resources. The transformations in technology as well as the problems that are associated with the use of technology are another concerning aspect of the study. To accomplish the study's goal, survey information was gathered from a group of 28 persons who work in various industries. The study's findings will aid organizations in understanding the effects of technology and the challenges associated with incorporating it into their operations. That way, they'll have the information they need to properly use the technology and address any problems associated with doing so.

Modern society is equally shaped and determined by digital technology and information. When comparing the business risks of two similar companies, one that is technology-dependent often has higher risks. Many different kinds of research on the impact of IT may be found in the scholarly literature. As an example, Bailey (1989) said that computers and other technology are now universal in all spheres of society, including commerce, industry, finance, education, and government.

The phenomenon of entrepreneurship has been studied extensively, and several variables have been found to influence its prevalence. Entrepreneurial people, for instance, typically exhibit multiple personality traits simultaneously, including originality, a willingness to take risks, the initiative in carrying out the steps required to implement one's ideas, and the willingness to accept full accountability for the results of one's endeavours, whether they succeed or fail (Morris and Sexton, 1996).

Products and services, markets, product costs, and product distinctiveness are all impacted by a company's information technology infrastructure. Therefore, the adoption and innovative use of IT are crucial to the success of forward-thinking businesses. In order to facilitate long-term growth and prosperity social entrepreneurship and IT is a powerful tool for sustainable progress (M Pearce, Grafman and Colledge, 2008).

These findings are significant because they apply a business model viewpoint when looking at how new technology may affect corporate innovation efforts in the future. Maintaining innovation in this way enables a more dynamic perspective of technology effect and a more proactive understanding of how people launch various courses of action. Some claim that ICT has the capacity to bring about the greatest technological revolution in the history of humanity. Snow published research in which he expressed an optimistic perspective on the

influence of information and communication technology (ICT) nearly fifty-five years ago (Snow, 1966).

Furthermore, this report combines the influence of information and communications technology (ICT) usage on company performance, while earlier analysis solely looked at the impact of IT use on business performance, ignoring information exchange tools. Research on ICT usage and business performance tends to focus on determining whether or not ICT use has an impact on business outcomes. Nonetheless, this analysis also attempts to answer the question "when, where, and how can information and communications technology (ICT) affect business performance?" by classifying all business activities and analysing the effect of technology usage on business activities.

2 THEORETICAL FRAMEWORK

An organization or thing that makes a profit by selling products or services is a business. This definition's key point is that a business is anything that runs in order to generate a profit. Although not all firms are profitable enough to do so, making money is their primary goal. Humans' demands and interests are ever-expanding as they evolve as individuals. Humans must thus look for a system that provides rewards in order to satisfy the impulses of people to succeed individually rather than just giving and taking. To some extent, the enterprise system becomes a mechanism for attaining material well-being. The business now has a strong link with the corporation, which is an organization that operates only for the benefit of its members, resulting in high earnings. There is a distinct division of labour inside a corporation that is organized in this way. Managers and staff are the terms used to describe those in charge of enforcing corporate regulations (Mgunda, 2019).

2.1 E-business

E-business is a business system that uses digital media, such as radio and television. In light of the fact that the internet is now widely accepted as a medium for e-business, the general public is under the impression that it is an internet-based business model. E-business is evolving as new electronic gadgets like smartphones and tablets become more widely available (Shaqiri, 2015).

Because the internet can be accessed wirelessly on mobile devices such as smartphones and tablets, new methods such as the Wireless Application Protocol (WAP) may be developed, allowing people to utilize the internet whenever and wherever they choose. Electronic networks and related technologies may be used to allow, optimize, enhance, alter, or originate a business process or business system to produce higher value for present or future consumers. In general, the concept makes it evident how electronic and digital technology may be used as a channel to achieve business operations and systems (exchanges of products and services) that are far superior to those achieved using traditional techniques, particularly when considering the advantages that can be perceived by people involved (stakeholders) (Indrajit, 2007).

2.2 Business technology

Business technology works to maximize the use of technology within the company in order to meet the requirements and desires of the consumers. Through the use of automation, efficiency is increased while time is conserved. Furthermore, as users may already be aware, time equals money. This means it saves money in the long term. Let us phrase it this way to give a sense of the significance of technology in business. When it comes to business technology, the goal is always to improve collaboration within and between companies. Technology like video chat programs and other forms of online teamwork software fall under this category. Furthermore, incorporating cutting-edge technology can strengthen the safety of the system. The broad word "business technology" refers to the use of and incorporation of IT into business processes. Integrating technology into a company setting is more than just having an IT staff. Management procedures, organizational framework, resources, and the regulation of technology are all part of this. All are aimed at making business more efficient by making better use of technology (Sahana, 2022).

It is hard to conceive of a thriving enterprise that doesn't use technology in some capacity. Business needs the strength of business technology if it wants to boost efficiency, provide superior goods and services, keep track of sales and assets, and advertise successfully. The term "business technology" refers to a strategy for centralizing and standardizing the administration of technological resources within an enterprise. It is a set of procedures and practices for running a business that uses technology to its advantage in order to better satisfy the needs of its customers. In order to better serve their customers and keep up with market demand, most businesses know they must constantly push not only their rivals but also themselves. Since then, many efforts have been made to "contain" IT by putting it under the supervision of IT departments and keeping costs in check.

Today's IT departments should work with other sections of the business to share their knowledge and embrace customer-focused, revenue-generating, and product-development practices from other areas of the organization. This is not a one-way street; for example, marketing teams need to take advantage of the technology management tools at their hands

to prevent cost overruns and the implementation of solutions that are incompatible with the rest of the organization's environment (Janani, 2021).

Ahead is a summary of the most widely used forms of technology in business today, all of which can facilitate the transition from more archaic to more advanced techniques. Many businesses today rely heavily on computers. They can do tasks like analyse financial data, communicate via email, and create sales slideshows all with the help of software. They can get this computer in two forms: a stationary desktop and a mobile notebook. Computers require various kinds of software, such as apps and running information, in order to carry out particular tasks. Businesses commonly use Microsoft Word, a text processor, and Microsoft Excel, a financial accounting program. Sales slideshows can also be made in a matter of minutes using presentation software like Microsoft PowerPoint or Apple Keynote. Customized software developed specifically for an organization's needs is widely used (What is business technology?).

Networking is the practice of collaborating with groups of people to exchange and disseminate resources, such as files, data, and communications. It also allows multiple computers to share the same printer or file device. It is possible for a network to link only machines in a single workplace, or it could span multiple locations. In order to grow and attract new customers, businesses require the opportunity to network with others in related industries. The most modern computers are part of some sort of network and use an internet connection to carry out their duties. Wireless networks can also be used to link printers to computers so that they can receive printing instructions. Companies can benefit greatly from establishing and utilizing networks because it facilitates the free flow of data and papers among workers. With a network, multiple devices can share one printer or one hard drive. It's possible that a network is restricted to machines within a single building. The network's spread determines how far it can reach, which could be the complete office or just a single floor (Janani, 2021).

Workers are able to keep in touch with one another about their day-to-day activities and ongoing initiatives via mail and phone networks. However, in some progressive companies, top executives are provided with company-issued smartphones in addition to their in-house "line" phones. Auto operators are a common feature of modern business phone systems, and they direct calls to the appropriate department or individual. When an employee is not in the

office, their recording can play a personalized message. Similarly, to internal phone networks, email systems are typically only accessible within an organization and may be incompatible with third-party applications. Building business connections calls for clear and concise expression of ideas. As a consequence, companies rely on the telephone to communicate with their clients and other entities. This facilitates speedy, effective, and individual interactions with clients. Long-term success and growth can be achieved through solid client care and open lines of communication within the company's workforce. These days, businesses can choose from a variety of feature-rich industrial telephone systems (Business Technology - Definition & Overview).

Financial transactions can be recorded and analysed with the help of a bookkeeping system. QuickBooks has found its largest customer base among small companies. It is simple to implement and keep running. On the other hand, larger corporations often employ SAP Business One or Sage Accpac, two accounting software options that provide greater adaptability and interoperability. Each company's scale and specific requirements will dictate the best bookkeeping solution for their business. Consult bookkeeper about the options available before making any final choices. When it comes to managing the company's salary, financial bookkeeping software is invaluable. An organization's accounting system can be used to watch income and forecast future cash amounts, among other functions. By keeping track of all business transactions, accountants can reduce the likelihood of theft and guarantee timely payments to all employees (Emma, 2019).

A company's entire stock can be managed with the help of an inventory management system. It maintains precise logs of product information, such as supply levels and sales data, and automatically adjusts for new arrivals and depletions. Businesses need a sufficient and orderly method to handle their inventory in order to maintain a stable stock level, know what they have on hand, and analyse their financial standing (Emma, 2019).

A customer relations management (CRM) system makes it possible to track a customer's relationship with a business. As soon once a client's data is obtained, the CRM will start keeping track of any subsequent interactions with that client. When a customer calls in to place an order, ask for help, or have a technical question answered, the service representative can look up the customer's information in the CRM system to see when the order was shipped, what is on backorder, and what other interactions the customer has had

with your company. A CRM is a database that keeps tabs on customers and their interactions with a business. A client relationship management system starts recording data about a prospect as soon as they are identified as a possible buyer. When a client places a purchase over the phone, the CRM software alerts the appropriate departments as to which products need to be shipped and to which address. The CRM serves as a communicator between the client and the staff, keeping everyone up to date on the order's development at all times. If an object is out of stock, the CRM will alert the buyer and prevent the purchase from being placed. Relationships with consumers can be strengthened through the use of customer relationship management systems, which collect and analyse data about each client to help businesses provide superior service (What is business technology?).

2.3 Reasons for the introduction of technology

A variety of factors influence an organization's decision to use new technology. Some of these factors are, In order to boost outputs, to improve the product, to lessen reliance on specialized labour, to keep up with the latest trends and developments, new technology is being introduced by other organizations as well, exciting to see how technology evolves and to alter the power of dynamics inside the company (Yee and Oh, 2012).

It is possible that individuals in charge of justifying new technology investments won't acknowledge all of these reasons, but research has still uncovered them. Computer and technology prices and performance have been falling at an exponential rate, which is frequently cited as another rationale for continuing to invest in new technologies. Increasingly, as the internet has grown and economies and industries have become more globalized, businesses have been investing more money into technology. According to the IS literature, organizations throughout the world should use information technology (IT) to improve their operational management and coordination while also opening up new worldwide marketplaces and enterprises (Ives and Jarvenpaa, 1991).

These reasons have fuelled the continuous investment in new technology by organizations. If a company is functioning in international markets but is failing to manage its business globally in a globally integrated way and maintain tight control over its global activities, the company will be at a significant strategic disadvantage. With the help of technology,

organizations are able to manage and control ever-more complicated and worldwide operations with more precision than before (Bartlett and Ghoshal, 1989). Some common reasons for adopting technology in business are described ahead.

Particularly among technological applications, e-commerce, and e-business stand out. The importance of technology can be evaluated along two dimensions: the creation and refinement of fundamental norms and the attainment of a competitive edge along the value chain. Many issues related to the successful completion of technology projects and the problems that can arise during their implementation have been analysed. The results of an information system or an innovation proposal are judged on their success or efficacy based on how well they meet the needs of the business and how close they come to achieving the company's stated objectives. Although this issue can be addressed acceptably, there is widespread consensus that it is difficult to discover evidence of the benefits of investment in technology (Smithson & Hirschheim, 1998).

In order to make the most of these resources, businesses must conduct an evaluation of the technology's efficacy, which will allow for the strategic alignment of the goals of the app technology and outcomes with the company's business vision. Because the firm situation is constantly changing to consider market facts and trends, the distinction and evaluation of business and technological plans as well as between business and technological structure must be ongoing processes. Inside and outside the organization, technology has been viewed as a potential replacement engine (Brynjolfsson& Smith, 2000).

The low-cost processing and trading of large quantities of information online have far-reaching implications for the organizational structure of businesses and marketplaces. Some scholars in the field of technology set out to determine what role technology plays, if any, in determining whether or not an organization's financial dealings are aligned with those occurring outside of it. This is because the company is more likely to have a suitable fit for the procedure than the market would be. Complexity is another hallmark of business processes. Internal reorganization is more likely to take place in a business where processes are more involved. Technological advancements can have an effect in both of these fields. Suppose an internal economic procedure is modified because of the high-benefit precision and complicated data-processing actions required by the technology. Companies will be able to increase the alternative worth of the advantage outside the relation and decrease the

danger of being "frozen "in the relation ex-post if they implement information systems that facilitate flexible manufacturing activities. In a similar vein, the complexity of the job will be diminished by the use of automated production processes and big datasets with inquiry capabilities. There will be a shift toward a market-based modification of proceedings that had previously been changed internally by the company. Technology represents a potentially more productive economy in this regard. After providing a broad overview of how technology will affect the framework in which economic activity takes place, academics have examined whether markets have grown more fruitful as a consequence of technology. Information asymmetry can cause market errors, but technology can help level the playing field by making it cheaper to discover information (Berliant et al., 2002).

Companies, whether using outsourcing or another method, must determine how to describe the processes they "export" to remote locations while ensuring that those operations continue to function seamlessly within the context of the overall business. In this sense, technology serves a dual purpose. On the one hand, the rapid exchange of a great deal of data facilitates real-time collaboration between departments and teams within a company. The approach of changing work across many locations is feasible and effective due to the dramatically declining costs of communication. However, technology and the mechanization process necessitate that a company's internal processes be clearly specified, monitored, and controlled. A large-scale, company-wide effort at computerization often has "presence" as one of its primary goals, especially in big organizations. When it comes to organizing, describing, and considering the ad hoc and poorly organized processes upon which work is built, information systems can be restrictive because they implement specific methods of doing tasks (Economides & Flyer, 2000).

Some academics, like Sassen, have made it their life's work to analyse the effects of the "death of distance" on everything from organizational structures to people's overall worldviews. Computers and the Internet are indispensable tools for remote management, as they allow for the identification of the most efficient distribution of workers across geographic regions, as well as the demonstration of this allocation's effectiveness, all while keeping the company's operations running smoothly. With the advent of such computer-based systems and the dramatic reduction in their costs, it is commonly hypothesized that businesses will eventually be able to "liberate" themselves from the tyranny of location.

Although economists have known for a long time that position choices have unintended consequences, location economics has only recently begun to address this issue. For this reason, financial factors form the basis of gathering models in "new economic geography" trends. Customers who place a premium on flexibility in how they put a product to use, highly bold businesses with a penchant for making unique offerings, a rise in the proportion of small-scale solutions to large-scale problems, and rising transportation costs are all characteristics of these trends. An intriguing explanation for the rise in business and national output can be found in the presence of factors linked to location models. A production function with labour, capital, and an extra word representing total factor output is proposed by standard growth models in economics. There are two ways in which these models define progress: internally, through changes to the system's resuscitation options, and outwardly, through changes to the system's overall parameter output. Productivity growth not explained by input growth is assumed to be defined by replacements in neoclassical growth models like the Solow and Swan models (Brynjolfsson& Smith, 2000).

2.4 Changes in technology

Technology is developing quickly and in many different ways; it currently permeates many facets of daily life. New technologies make it easier and more efficient to deal with a wide range of issues. As technology covers such a wide range of topics, it's difficult to put it into neat little boxes. The core of technological advancement may be broken down into four categories: the computer industry, the transportation and communication industry, the energy and natural resources industry, and the new manufacturing process industry. The company's internal performance is influenced by technological advancements in the computer industry, particularly in administration. By using a database system, businesses may categorize their information with great depth and accuracy. It is possible to utilize this method to track staff absences as well. Inventory gathering in businesses relies heavily on the database system. Rather than reducing job prospects, the rising complexity of computers has the opposite effect, since most major businesses today need computer professionals in data collecting, informatics (programming), and of course computer specialists. This is due to the significance of the availability of technology resources that the organization uses to support its operations (Issa-Salwe, Ahmed, Aloufi and Kabir, 2010).

Many businesses are outfitting their equipment, shipments, infrastructure, gadgets, and even personnel with networked sensors and actuators so they can monitor their surroundings, report their status, receive orders, and respond depending on the data they collect. The term "the Internet of Things" refers to this concept. When these organizational resources are tracked in real-time, businesses may better manage the flow of activities and minimize interruptions by responding to issues as they develop and adopting preventative measures (McNall and Stanton, 2010). Employee productivity is positively impacted by today's computers' capacity to solve complicated tasks. Computers have made it a lot easier and faster to deal with a wide range of variables that would have taken a long time to address manually. The development of a wide range of analytical applications is also helping. There is a wide range of applications available that may be tailored to meet the specific demands of different types of businesses (Cascio and Montealegre, 2016).

It is also an advantage to have safe storage and backup. The computer is error-free, so there's no need to be concerned about missing information. The movement of products inside a corporation is made easier by advancements in transportation technologies. There is a wide range of options accessible, including land, sea, and air-based services. The transportation budget is now one of the items to consider because of the growing costs and pace of development. When compared to air travel, land transport has a lower overall cost. There are several advantages to using air transportation, but they aren't worth the price and size of the cargo. The internet's rise has made communication easier to access, shifting the presence of technologies. It is now the norm to use email services that are simple, economical, and full of features. Since more and more people are using the internet on a daily basis, it is a great marketing tool. In addition, networks make it easier for workers and the board of directors to communicate with one another. They are more important than ever since they may have a big influence on building the bond between two people. In addition to the internet, television, and radio continue to be the primary mediums of mass communication that businesses rely on and promote. There are now more diversified and high-quality TV shows that include the interests of particular groups (Mgunda, 2019).

2.5 Impact of technology on performance and productivity

Even though many businesses have made technological investments in the hopes of cutting expenses and boosting output, the literature is divided on whether or not these goals have been met. Concerning the amount of productivity brought about by information technology, the existence of a "productivity paradox" has been the subject of much debate. To put it another way, there is evidence to show that, despite years of massive investment in IT, the rate of measured productivity growth has remained flat or even declined. Since productivity is measured in terms of output per unit of input, and since computers are themselves an input, the first question to address is under what circumstances increased computer intensity would be expected to increase productivity (Lehr and Lichtenberg, 2003). Rapid and successful integration of new software systems appears to be expensive. Each workstation at Microsoft costs $16,000 per year to maintain and upgrade in 1999 (Parasuraman, Valarie and Berry, 1999). A common misconception is that changing how work is done may also result in cost savings. However, the counterclaim that computers and software are productive increases is supported by data. "Futzing" is defined as the time users spend in a bewildered condition cleaning up inexplicable events and overcoming the uncertainty and alarm when computers create ambiguous signals that cease functioning (Strassman, 1997). Recent years have seen an uptick in the amount of research that investigates the IT return, which is indicative of the difficulty in determining the existence of a productivity conundrum. We may not be able to accurately gauge productivity increases from computers, which is a common rebuttal to the productivity paradox argument. However, before the benefits of computers can be fully realized, it is possible that significant modifications in supplementary infrastructure (such as human and knowledge capital and the global communications infrastructure) would be required (David, 2008).

2.6 Impact on quality

A systematic empirical study is needed to determine the proportional importance of service excellence, product quality, and price in the evaluation process. Achieving a lasting economic edge in the market with just better goods and affordable costs, however, appears to be extremely challenging, according to case studies and personal evidence This finding is based on the fact that, unlike product quality and price, service quality is much more difficult for rivals to successfully replicate. Initial studies indicated that consumers evaluate service quality by contrasting the vendor's real performance with their own mental image of what the

seller should provide. An in-depth research study corroborated this picture of service quality and provided additional support by identifying several distinct characteristics that consumers may use to evaluate the expectations-performance difference (Parasuraman et al., 1985). Leaning on the results of this study and other observational studies from a variety of fields, there are five overarching factors that consumers use to evaluate a company's performance. Dependability: the capacity to deliver the promised service dependably and accurately. Responsiveness: The readiness to aid customers and deliver service promptly. The tangibles include the appearance of the company's actual buildings, tools, people, and communication materials and the intangibles include the knowledge and politeness of workers, and their ability to install faith and confidence. In the eyes of today's business managers and engineers alike, CAD is merely an instrument to help engineers in the planning process. In the same way that engineering sketches have traditionally represented tangible forms, CAD employs computer technology and a graphical representation to do the same thing. Components can be displayed, their dimensions and shapes illustrated, potential connections between components depicted, and deformations under defined pressures shown. Once the design is finished, the engineer can inspect it from various angles by using a printer to create sketches. Because of this capacity, engineers can save a lot of time and prevent common errors during research and design. It speeds up production and cuts down on planning time, which in turn speeds up distribution and boosts quality. Producing physical products is not the only use for computer-aided design (CAD) software. Although services themselves do not take up any real space, the machinery, and buildings that bring them into doing. The CAD system's dynamic image features could be used to depict the physical qualities of, say, the repair bays in an automobile center or the chambers in an emergency medical center. No matter whether a business' primary options are items or services, providing high-quality support is crucial to long-term success (Berry, 1999).

2.7 Impact on customer satisfaction

As one of the most important underlying attitudes that can shape consumer decisions, customer happiness has long been a focus of academic inquiry in the field of marketing. Researchers in the field of marketing have relied heavily on the disconfirmation theory to

analyse customer happiness. It posits that when people evaluate how a product performs in contrast to their expectations, they experience a sense of happiness (Oliver & Swan, 1989).

Despite widespread academic backing for the disconfirmation theory, it has proven challenging to reliably apply across industries and product types. Several methods have been used to calculate customer happiness. In particular, Giese and Cote compiled meanings of happiness from earlier works in the field of marketing. They argued for the creation of context-specific happiness metrics and critiqued the lack of agreement surrounding the factors that contribute to contentment and the satisfaction concept. These methods, as opposed to measuring dissatisfaction, focus on the customer's emotive or emotional reaction to determine whether or not the customer is satisfied with the product or service. User happiness is a similar concept that has been used in the study of information systems. From a marketing perspective, an online store is just another kind of business, and to increase sales, you should focus on things like faster shipping and a more professional appearance. Satisfaction in brick-and-mortar shops may be influenced by factors that are less important in virtual stores, such as customer service and store ambiance.

E-commerce-related information systems study has adopted measures of customer happiness with computer systems and data to evaluate their experiences shopping online. Consumers are viewed through the lens of an information systems consumer in this model, with the primary emphasis being placed on the quality of the online experience. It ignores, however, concerns that arise from the retail setting. Intelligent assistance, Internet knowledge, and input advice are just a few of the other factors that research has shown to increase the likelihood that a customer will be satisfied with an online shopping experience. According to this theory, the level of happiness an online user has with a service can be summed up as the disparity between their hopes and the service's real performance with regard to system quality and information quality. Similarly, post-adoption affirmation or disillusionment with regard to pre-adoption hopes and wishes may have an effect on consumer happiness levels (Khalifa& Liu, 2002).

As a result, the vast majority of existing research has focused on only a narrow aspect of the many factors that contribute to or detract from online shoppers' overall happiness. Customers form lasting perceptions of a company largely based on their experiences with its customer service. Buyers and sellers interact face-to-face during service encounters, and researchers

have pinpointed three types of service encounters (e.g., service failure, special customer needs, and unprompted employee actions) as potential causes of customer satisfaction or dissatisfaction in the hospitality, transportation, and food service sectors. It is widely agreed that these interactions would have a negative impact on customers' happiness. The idea of tech-infused service interactions, with an emphasis on technology's ever-increasing importance in these types of interactions (Bitner et al., 2000). Authors have coined the term "self-service technology" to describe this phenomenon (SST). Many face-to-face encounters between retailers and consumers have given way to digital platforms thanks to the proliferation of web-based information systems. "Market space" refers to the "virtual world where goods and services reside as digital information and can be distributed via information-based networks" on the World Wide Web. As technology has advanced, much of the human element previously present in exchanges between retailers and consumers has given way to digital mediums. In self-service technology, incidents that involve a "technology failure," "process failure," "poor design," or "customer-driven failure" tend to leave customers feeling less than satisfied, while incidents that involve a "solution to an intensified need," "improvement over alternatives," or "accomplishment of its intended purpose" tend to leave customers feeling relieved and content. Another research using ATMs found that people's perspectives on technology influenced their plans to use these devices (ATMs) (Curran et al., 2003).

Author created a classification of the factors that contribute to or detract from a shopper's happiness after a service interaction while buying online. Included in the classification created by Massad et al. are the following categories: fundamental service delivery errors, pre-encounter client scenarios, staff traits and behaviour, IT interaction, and confidence (Massad et al., 2006). In the future, author proposed, these could be used as predictors of happiness. Previous studies have looked at what factors influence customer satisfaction when evaluating online service encounters; these include the quality of the information provided, the efficiency of the system, the friendliness of the service providers, the ease with which customers can make purchases, the security of their personal information, the value they place on privacy, the ease with which they can make returns, and the value they place on saving both time and money (Massad et al., 2006).

2.8 Impact of technology on manpower and organizational size

Boosting organizational productivity is, as we have seen, a primary rationale for spending money on technology. In order to replace labour costs and save money, machines have been utilized for this purpose for a while. An increasing number of studies in recent years has examined how the spread of digital technology has affected the dimensions of businesses. Greater reliance on IT has been linked to lower company sizes, which suggests that IT helps cut down on the demand for workers (Brynjolfsson, Malone, and Gurbaxani, 1993). The correlation holds true across many definitions and at least four different dimensions of business size. Yet, they caution that the findings should not be understood to apply to all businesses and all historical periods. This suggests that the effects of the new technology take time to fully materialize, with the biggest reduction in business size occurring one to two years after IT expenditures. This discovery may explain why prior research has revealed little to no return on IT investments in the same year they were made. Put another way, businesses may decide to outsource the production of secondary goods and rely more heavily on purchased parts and services as a result of adopting IT. The logical consequence is that consultancies are sometimes used as a source of technical support services. It should go without saying that consultancies may vary in scale from a single person's effort to multinational conglomerates like IBM or CSC. After a lag of many years, the investment in IT led to a rise in the number of clerks and managers hired. Similarly, information technology was often seen as an augmentation of human labour, particularly white-collar work, rather than a threat to its existence. While some studies have shown a decline in employment, larger analyses, such as those conducted by the United States Congress Office of Technology Assessment, have shown that technology was probably providing more jobs than it was eliminating (Eason, 2001).

It seems much easier to foresee how new manufacturing technology would affect a certain industry. Researchers created a scale to classify businesses by the degree to which their production used complicated technological processes. In this case, a high level of technological complexity suggested that machines did most of the job, while a low level of technical complexity showed that human hands were involved to a larger extent.

2.9 Impact of technology on human resources

Due to the revolutionary changes that IT has brought to businesses, human capital management has become more important and difficult (Ball, 2001). Almost every company has a Human Resources Management department, which performs primarily administrative tasks. To lessen the burden of these tasks, some companies began to electronically automate them by creating and implementing IT-oriented software applications, which eventually led to the creation of specialized Human Resource Management Systems (HRMS). As a direct consequence of this shift, HRM practitioners have increasingly relied on IT in recent years, expanding its usage to include a broader spectrum of HRM tasks. The concept of electronic human resource management was initially employed in late 1990 when online shopping was becoming more popular among businesses (Bondarouk and Ruel, 2008).

E-HRM, or electronic human resource management, is a method of conducting HRM that makes use of e-business tools in order to improve the value of the organization's management by facilitating a smoother flow of information. Organizations may be able to effectively manage a growing number of HRM procedures as technology advances, adding to the pool of available information and expertise. As a result, human resource management experts may now serve a more strategic role in helping their companies gain a competitive edge. Human resource management (HRM) and information technology (IT) interact and overlap in many ways, and as a result, HRMS has emerged to characterize these systems and activities (IT). As data processing system programming matured into standardized procedures and packages of enterprise resource planning software, HRM became more intertwined with the IT sector. Since their rise to prominence in the late 1990s, they have evolved into HRM-supporting apps for talent acquisition, flexible benefits, training, e-learning, and more (Martin, Reddington and Alexander, 2012).

A Human Resource Management System (HRMS) is a system that helps a business manage its employees and the data they generate. E-HRM, or electronic human resource management, describes the integration of technology into HR. The primary domains where HRM professionals have typically implemented IT skills are outlined by Martin et al (2012).

HR professionals may also play a role in leading initiatives to improve company culture and implement necessary structural changes. Human resource is a vital area of every business, and a company's ability to manage this area effectively may be the difference between success and failure. There is little question that introducing and implementing information technology into HR departments is a complicated subject, with varying needs for implementation and impacts depending on the nature of both the technology and the organization's human resource management goals. Organizations may get strategic benefits from establishing more virtual consumer ties via the use of ICT. As a bonus, technology may help workers get their voices heard by increasing communication and collaboration via social media. Human resource management in Africa should focus on adapting to the changing nature of interactions between HR professionals, line managers, and workers as a result of the growing use of mobile technology. However, the introduction of IT to HRM operations is often prompted by the possibility of enhancements like faster and more efficient procedures, cost savings, higher customer satisfaction, more accurate data, more transparent and consistent processes, more information availability, and the facilitation of a shift in the role of HR managers. There is often a give-and-take in the design of a human resource management system between making full use of the solution as-is and tailoring it to meet specific HRM and business requirements. Human resource managers should be consulted throughout the system's design and development phases to help plan out workflows and check for usability issues. Branding the solution so that it is consistent with the image of human resources and the company as a whole is also important.

Finally, in order to create a product that is useful and successful, it is crucial to do comprehensive testing with human resource managers. Because of this, HRM procedures will be greatly improved in many ways, including speed, efficiency, cost, accuracy, reliability, transparency, and consistency. Human resource experts are now able to make data-driven choices and provide consulting to other managers because of improvements in information technology and the widespread adoption of HRM systems. Finally, it's clear that trustworthy human resource management data has made it possible for human resource managers to take on a more consultative or strategic role. Beyond its original purpose, human resource management now helps with things like health and safety, employee benefits, and even job placement (Wachira, 2010).

The payroll module collects time and attendance information from employees, calculates their share of taxes and other deductions and produces their pay checks and tax documents on a regular schedule. In most cases, data is drawn from the modules for human resources and timekeeping in order to perform calculations for automated deposit and manual check-writing capabilities. This component may include pre-existing monetary management systems and cover all employee-related transactions. Standardized time and job-related activities are compiled in the work time. The more complex modules allow for a great deal of customization in terms of data collecting, labour allocation, and analytical tools. The major functions are cost analysis and efficiency measurements. The module for managing and monitoring employee involvement in benefit schemes is known as "benefits administration." Insurance, pay, stock options, and retirement plans are all examples of this. From applications until retirement, many more HR-related topics are covered by the HR management module. Selection, training, development, capability and skill management, compensation planning, and other associated activities are all recorded in the system, along with basic personal information such as names and addresses. Modern systems can scan applications and populate the appropriate information in a database, send out notifications to employers, and handle position administration and control. Recruitment, placement, appraisal, pay, and development are all aspects of human resource management (Adewoye and Obasan, 2012).

One of the most common ways that human resources departments find people to fill open jobs is via online recruitment. Systems for managing human resources usually include assessing how a company makes use of its employees, finding possible candidates, using company-facing listings to find people to hire and advertising to both recruiters and job seekers, as is the case with online recruitment portals and magazines (Adewoye and Obasan, 2012).

The need for a specialized Applicant Tracking System (or 'ATS') module arose in response to the high expense of manual recruiting tasks such as cross-posting inside and beyond general or industry-specific job boards and keeping a competitive exposure of vacancies. The training component allows businesses to manage and keep tabs on their staff's educational and growth opportunities. The software, which is sometimes referred to as a Learning Management System (LMS) if it is sold separately, helps HR keep tabs on workers' academic achievements and professional development while also describing the courses, books, CDs, and online resources that may be used to hone certain abilities. After then, classes may be

given at predetermined intervals, with both students and instructional materials organized and tracked in one place. Advanced LMSs provide for the approval of training, budgets, and schedules in addition to performance management and assessment data (Al-Hamad et al., 2022).

2.10 Impact of technology on marketing and sales

Data analysis and decision-making in management have been completely transformed by technological advancements. Managers may get up-to-the-moment data on sales, marketing strategies, and customer relationships, all thanks to modern computer programs. Today's data management systems are smarter and more intricate than ever before. Managers are increasingly turning to internet tools in order to keep tabs on not just their own organization but also its rivals and the opinions of their customers through Twitter, Facebook, and other social media sites (Ahearne, Srinivasan and Weinstein, 2013). Sometimes, managers need to have one-on-one conversations with workers to relay important information or provide guidance on ongoing projects. This is particularly true for sales managers and other roles where acting is crucial because choices have a direct impact on the company's bottom line. These managers may now easily reach out to staff over great distances using smartphone apps made possible by technological advancements. Sales personnel in the field may now communicate with their supervisors through text, instant messaging, and email to provide important papers and updates. Information is perhaps the most valuable commodity in the modern day. Keeping this in mind, each scrap of data in the hands of a knowledgeable person is worth its weight in gold. The online and mobile activity provides marketers with a wealth of information and companies may use that information to tailor their ads to exact preferences and behaviour (Danaher, Wilson and Davis, 2003).

It is important to note that data collection is not exclusive to cyberspace. Technology advancements like Radio Frequency Identification (RFID) are enabling retailers to monitor customers even at brick-and-mortar locations (Parkin, 2018). Once they have that data, they may utilize it to fine-tune their approach to sales. Keeping tabs on all of the consumers that enter their businesses allows them to find the high-traffic areas and optimize their point-of-sale advertising accordingly. The pure-play market is also evolving. Even something as seemingly innocuous as door-to-door salesmen may be the catalyst for profound shifts. The

cell phones that most salesmen now carry let them know precisely which doors to knock on. Their tech tells them which areas customers are interested in purchasing. In addition to improving their odds of success, their cell phones help them save time and energy (Shugan, 2004).

2.11 Re-engineering business process

For significant gains in efficiency, effectiveness, and customer satisfaction, businesses often resort to a process known as "reengineering," which entails a complete reconsideration and rebuilding of their core procedures. The goal of business process reengineering (BPR) is to make a company more competitive by enhancing its ability to innovate and carry out its daily operations. BPR can get closer to its goals of client happiness, lower operating expenses, and improved viability by taking the following measures (Davenport, 1990). Aspirations and plans for the company: The first step in any BPR effort should be to formulate goals that can be measured. The foundation for what needs to be accomplished must be agreed upon at the start, in accordance with the company's vision and purpose, whether the objective is expense reduction, improved product quality, or increased productivity. Once an objective has been established, all processes must be analysed to determine which ones are "slacking" or have room for improvement. The "red" list includes procedures that either have an immediate effect on the company's production or are in direct conflict with the company's stated purpose. The success or failure of BPR hinges on the accuracy of this determination.

Identification and evaluation of red procedure can be done once you have an inventory of processes that are dragging things down, you need to explain how they were singled out as problematic. No matter the nature of the problem, every procedure needs to be evaluated fairly in comparison to either established benchmarks in the industry or the best practices of responsibly sourced competitors (Davenport, 1990).

For BPR to be successful, an effective and up-to-date IT infrastructure is required. All of the variables contributing to the shift cannot be monitored without such a method. It is crucial to put in place information systems capable of handling the scale of the change before beginning a drastic BPR activity (Davenport, 1990).

A working prototype is always used before releasing a final version of a product. Nothing should ever be adopted on a bigger scale if it has already failed during testing. One of the most common causes of BPR project failure is a failure to recognize and embrace testing-stage constraints. The perspective of both management and staff towards the new method of operation should be evaluated (Davenport, 1990).

The last step in finishing a project successfully is managing the transformation that the BPR activities will inevitably bring about. Clear transfer into the new way of working is facilitated by up-to-date paperwork, organizational frameworks, governance models, and revised maps of power and responsibility. Reengineering a business process is a once-in-a-lifetime endeavour that can't be redone if things don't go smoothly the first time around. The input of time and money into it, along with the possibility of disenchanted workers, makes it a potentially hazardous endeavour. Involvement and support from upper-level management are crucial, and the initiative's breadth of responsibility should be expansive. We must remember that BPR is not a guarantee of achievement. There is always a chance of failing with any endeavour (Davenport, 1990).

The success of a BPR program hinges on these factors, putting the requirements of customers first and using this strategy to guide business decisions in the right way, a reduction in expenses will help the company remain competitive, all working processes are viewed from a strategic perspective, with pertinent questions posed about the current method of doing things and how it can be improved in the long run to yield more effective business procedures, there is an eagerness to concentrate on results rather than duties or rigid organizational structures. This allows for the simplification and consolidation of multiple processes into a smaller number of more efficient ones, there is a genuine effort to streamline processes by removing those that are unnecessary or produce subpar results. When a BPR initiative is viewed as a means to merely tweak and enhance already established practices, it is doomed to failure. There is no hope for achievement unless there is an unambiguous readiness to place every current procedure on the cutting block (Luenendonk, 2019).

Neither the management nor the staff shows any signs of being committed to the company for the long haul. Getting people on board is challenging, and many BPR efforts fail because

not enough time or energy is spent doing so. We are putting fewer hours into redesigning and more into automating. The procedure is sacrificed for the sake of one section. When striving for total effectiveness, a mind-set that is receptive to in-depth process analysis and ready to make any necessary adjustments is essential. As a result, too little attention is paid to the business as a whole and to the best practices of competitors (Luenendonk, 2019).

2.12 The problem of technology insertion

It is well known that technology initiatives as a whole often collapse. Implementing a new IT system is not only a major undertaking, but also the most time-consuming, costly, and irritating aspect of any IT project (Moynihan, 1997). In a similar vein, more than half of all IT system development initiatives end in failure. Working with cutting-edge technology raises the stakes because of the multiplied repercussions of lateness, expense, and missed deadlines. Failures and difficulties in implementing new technologies are not exclusive to the information technology sector. In reality, there is evidence to imply that comparable patterns and failure rates exist across many other sorts of technology, not only computers but also telephony, materials, transportation, and biotechnologies. When looking at the particular causes of IT failure, a 1998 analysis of 100 aborted IT projects showed that 87% went over budget by more than 50%, while 45% did not provide the desired outcomes (Asante, 2013). However, it is fairly uncommon for IT projects to be scrapped before a final product is released. IT artifacts are not always utilized, and there is evidence that IT initiatives have a higher failure rate than any other element of a company. Multiple studies confirm that including IT in a project increases the level of risk, which frequently may tilt the scale toward project failure, instead of project success. The high rate of system failure was not frequently foreseen among the many early projections of technology's influence on businesses. It is difficult to get reliable statistics on the rate of failure, although Gibbs claims that operational failure is at a record high of 70% (Gibbs, 1994).

An examination of the literature by Eason reveals, however, that "it began at approximately 40 percent and, despite significant advancements in the technology, has stubbornly refused to diminish through the numerous polls undertaken over the previous 30 years (Eason, 2001). While there are likely to be numerous differences in the success of various application types, one basic conclusion may be drawn: the larger and costlier the project, the greater the

likelihood of failure. In addition to complete failure, technology projects also carry the danger of missing their deadlines and going over budget. For instance, it's not uncommon for IT projects to go significantly over time and money. In a similar vein, research conducted in 1995 indicated that just 26% of all projects involving information systems are finished on schedule, under budget, and with all needs met. Nearly half of all IT initiatives ended up costing more money, taking longer to complete, and having fewer features and functionalities than were promised (Legris, Ingham and Collerette, 2003).

3 METHODOLOGY

The research design serves as the overall study's plan. This method of information gathering, and analysis will aid researchers in achieving their objectives. The amount of research that has been done on a topic is influenced by the type of research question and the usefulness of the study. The methodology of this study is intended to investigate the research issue rather than to assess the facts as they have been officially understood. Fewer researchers adhere to a critical research mindset. It takes for granted that human beings have always been the ones to traditionally create, generate, and perpetuate social reality (Myers, 2011).

3.1 Research process

It is important to note that although there are many ways to do research, they all rely heavily on one another as part of the larger study process. Although the steps of the research process may not always occur in the sequence shown below, they do follow a consistent general pattern (Zikmund, 2010). As seen below in figure 1, first when a problem occurs, a detailed definition should be done then design of the research needs to be plan. Make a sample test regarding to the problem for gathering the data about the solution from different perspectives. After gathering the data, analysing and processing of the data should be start so that researcher will finalise a solid conclusion and make a detailed report of the matter.

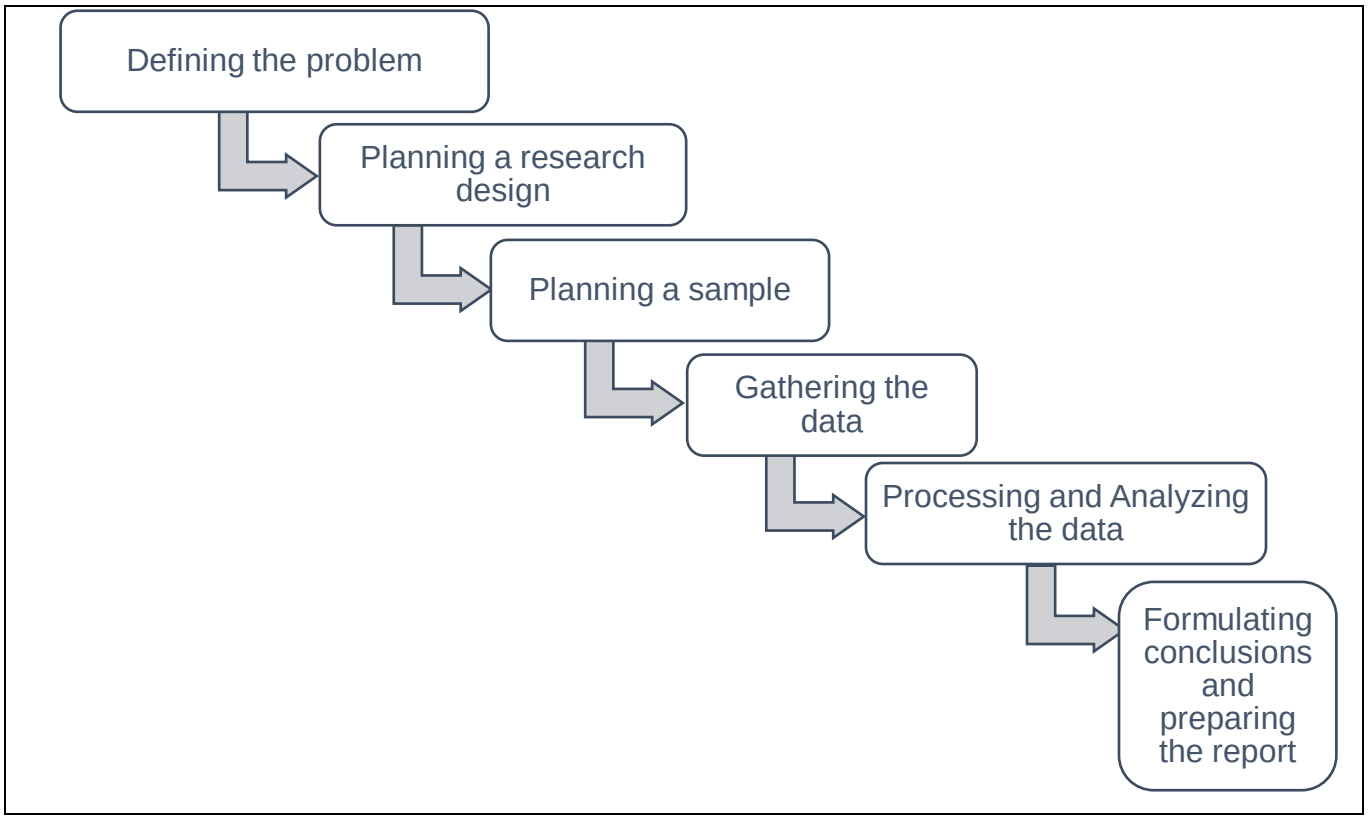

FIGURE 1. Steps of research process

3.2 Research design

The research design provides a structure for the study. Thus, a research design is an overarching strategy for implementing the study endeavour. Designing a study creates a framework within which data may be organized, analysed, and ultimately provide useful results.

3.3 Type of research

There are several ways that studies might be categorized. A total of four distinct forms of research were presented, each tailored to a different aspect of the situation (Blumberg, Cooper and Schindler, 2011).

3.3.1 Reporting research

For the sole purpose of reporting, an investigation may be conducted to account for, summarize, or compile data for statistical purposes. In addition, it requires familiarity with and experience with relevant information sources and the people who control access to those sources. Although well-acquired data might be very useful, publishing studies do not qualify the study (Blumberg, Cooper and Schindler, 2011).

3.3.2 Descriptive research

An attempt to answer "who," "what," "when," "where," and "how" is at the heart of each descriptive research. The researcher tries to characterize and define a topic, often by developing a profile of a particular set of issues (Blumberg, Cooper and Schindler, 2011). The purpose of this kind of study is not to investigate the relationship between causes and symptoms, but rather to describe the phenomena associated with certain circumstances or occurrences.

3.3.3 Explanatory research

The objective explains to formulate a theory that is both precise and applicable to broad empirical claims. Explanatory research seeks to provide an explanation for the phenomena that were only noticed in descriptive research. The researcher makes use of theory or, at the very least, hypotheses to explain the factors that led to a certain occurrence (Johansson, J. and Sparredal, J. 2005). Department of Business Administration and Social science, Lulea University of Technology, Master thesis. Studies of this kind are required if it is essential to demonstrate that one variable determines or affects the value of other variables.

3.3.4 Predictive research

Predictive research has as strong a theoretical foundation as explanatory research. This means we may foretell an occurrence by studying the preceding symptoms and coming up with an explanation for it before it happens. When doing this kind of study, the term "control" is used to describe an expected result. However, the effectiveness of a controlled study depends heavily on the complexity of the phenomena and the appropriateness of the prediction theory. The research questions indicate that this research is descriptive. The aim is to find out the impact of technology on different functions of business and how they are influenced by it.

3.4 Research approach

Quantitative research is a methodology that prioritizes numerical accuracy in data collection and analysis. Qualitative research is the process of seeking out information that may be used to quantify, characterize, and provide an explanation for some aspect of our actual experience. Quantitative research focuses on numerical variables such as quantity and frequency. It is the goal of quantitative research to find relationships and patterns that are more easily described in numerical form than in words. Most qualitative approaches are exploratory in nature and use a very small sample size of participants (Ahmad and Azman Ali, 2003).

As opposed to just calculating the correlation between two variables, this method is used when a deeper knowledge of the underlying causes and interactions at play is desired. As a result, the qualitative approach may help the investigator get useful insights by probing the process's intangible components in more depth. In this research, a quantitative approach is being used to achieve the objective of this study.

3.5 Research strategies

There are various research strategies, but they are mostly similar. Therefore, picking the best strategy for a given research is crucial. Methods like these are a common component of studies pertaining to business and management (Wedawatta et al., 2011).

Survey polls are used to gather the information that will help study teams (from choosing samples to questions and topics). It is an effective strategy for gathering extensive information from numerous sources. The selection of respondents can be based on a wide range of characteristics, including but not limited to gender, age, ethnicity, sexual orientation, socioeconomic status, and other demographic variables. In most surveys, these inquiries come first (Hesse-Biber & Leavy, 2011).

The experiment is a thorough investigation employing the general observational approach. Under strict, regulated circumstances, processes and events are examined. Every experiment follows the same fundamental principle: modify just a little portion of the testing procedure at a time while leaving the rest untouched. The scholar alters the rate of an experiment by adding a new component. Depending on the context, this may be referred to as a dependent variable, a control variable, or an independent variable. Dependent variables, on the other hand, are those that have shifted as a result of an independent variable (Novikov & Novikov, 2013).

An active study is a methodical approach to investigating and finding answers to real-world issues. The overarching goal of this study is to incorporate intricate interactions into any and all societal settings. In social groups and agencies, human and health services, businesses, and schools, continuous rounds of planned research attempt to address issues that arise in particular circumstances and places, allowing for the acquisition of measures that improve productivity and efficacy of work. As a result, it improves participants' well-being and supports social and work practices (Stringer & Aragón, 2021).

A case study is one of the most widely used research techniques in industrial marketing. The character of the topic may be a contributing factor. Relationships and groups that are more difficult to reach than, say, customer marketplaces are the study's primary focus. A case study provides insight into the character of events by focusing on a singular or limited number of things (Easton, 2010).

As a qualitative study strategy, grounded theory is well-known. The study's overarching goal is to formulate a hypothesis based on the methodical accumulation and evaluation of data. Its unique strategy for theorizing sets it apart from other quantitative techniques. According to grounded theory, data collection and analysis should be ongoing processes. It paves the way

for the presentation of unique and insightful findings that are grounded in the data, and it provides clearly delineated methods for analysing that data. Researchers are assured of their findings when they are able to point to numerous examples in the data that are consistent with the idea they have developed (Urquhart et al., 2009).

Ethnography prefers subtle, culturally rich, and engaged intricate instances of qualitative social study; the data generated are driven by everyday encounters. It combines various field methods (interviews, observations, video recording, note keeping, and study of autochthonous literature) recorded in the participants' observation. It rests on the firm belief that new knowledge is generated through intensive collaboration among scientists. Ethnographers frequently consider data as a present from informants, complete with all the ramifications that imply a trade of gifts (Falzon, 2016).

One form of surveillance research is cross-sectional investigation. The scholar monitors both the contact and the outcome of the study subjects at the same time. According to the addition and rejection factors established for particular research, participants are chosen for the study. The scholar evaluates the exposure and outcomes of the assignment after choosing the subjects. Clinical samples and community research both benefit from cross-sectional analyses of illness prevalence (Setia, 2016). In this study, the survey strategy is employed to provide answers to the research queries and achieve the study's goals.

3.6 Data collection

Data collection is the process of compiling precise data from numerous sources and evaluating it to identify trends, possibilities, and solutions to research problems, as well as to assess potential consequences. There are so many ways of data collection, some of them describe ahead.

Open-ended, focus-focused, and survey interviews are just a few examples of the various interview formats. Conversational style open-ended conversations are conducted. The detective has the option of eliciting both factual information and the respondent's interpretation of events from the critical witness. In a concentrated interview, the interviewees are questioned for a relatively brief amount of time, say an hour, with the primary goal of

verifying facts that have already been established and avoiding borderline inquiries. The queries in a survey are more organized (Parsons et al., 1993).

In this type of data gathering, the required tangible evidence, such as technical devices, artistic tools, etc., are witnessed or gathered by traveling to the location of the case study. This may entail keeping an eye on meetings, pedestrian traffic, industrial operations, classes, etc. Visual proof can be very helpful in expanding our understanding of a subject (Yin, 1993).

Organizational documents, schematics, maps, and survey data from the past are all part of this data-gathering technique. This type of data gathering can also make use of additional sources of information. Data are gathered using a variety of papers, including samples, figures, registry and formal publications, correspondence diaries, and branch literature (Yin, 1993).

Questionnaire will collect data by delivering questions to users. Questionnaires can be disseminated in print form or electronically via email and fax. In this approach, neither the researcher's intentions nor biases are considered. Additionally, the survey should not be overly drawn out or comprehensive because these factors might discourage respondents from responding. The collection of data is essential to every study since it forms the study's foundation. There are two types of information that may be used in a study: primary and secondary. Primary data are those collected directly from the population of interest by the researcher.

For this research, a survey was used to collect primary data. Likert scale questions were prepared for the purpose of collecting data. A questionnaire using a five- or seven-point Likert scale is called a "Likert scale question." So that the creator of the survey may gain a complete picture of respondents' attitudes, the scale runs from Strongly Agree to Strongly Disagree. There is always a middle option on a Likert scale, for individuals who feel ambivalent about the topic at hand. In this survey, five-point Likert questions were used, and it also contains some basic questions such as age, level of education and business sector. The research question was distributed using an online platform. A total of 28 responses were collected.

3.7 Data analysis

Data analysis is a method of analysing data in order to reach conclusions that help researchers learn more about a range of topics. It includes processing data, which makes it possible to draw accurate conclusions and meet objectives. The goal of every data analysis project should be to get actionable insights from data and base future decisions on those findings. The most important element of any study is analysing the data collected. When data is analysed, it is summed up. In this report, Microsoft Excel is used for analysing data.

4 FINDINGS

The study asked respondents about their demographic and social features, such as gender, age, and length of service to the organization and business sector. In order to better understand the issue at hand and find more practical solutions, a profile of the responders might be created.

Gender	**Frequency**	**Percentage**
Male	13	46.4%
Female	15	53.6%
Total	**28**	**100**

Table 1. Gender of respondents.

The number of male and female respondents who took part in the survey is shown in table 1 above. There were total of 28 individuals who took part, 13 men (46.4% of the total) and 15 women (53.6% of the total). The majority of the participants were women, as shown by the chart.

Age	**Frequency**	**Percentage**
Between 21 and 25	7	25%
Between 26 and 30	2	7.1%
Between 31 and 35	12	42.9%
Between 36 and 40	4	14.3%
Between 41 and 45	1	3.6%
Between 46 and 50	2	7.1%
Total	**28**	**100**

Table 2. Age of respondents.

The age range of survey respondents who actively participated is shown in table 2 above. The majority of the 28 responders were between the ages of 31 and 35, totalling 12 individuals. Similarly, the second and third greatest age groups of respondents were 21-25 and 36-40, with 7 and 4 individuals, respectively.

Education	**Frequency**	**Percentage**
Grade Twelve	4	14.3%
Certificate	3	10.7%
Diploma	1	3.6%
Degree	15	53.5%
Postgraduate	5	17.9%
Total	**28**	**100**

Table 3. Education of respondents.

Table 3 above shows the education level of the respondents. Out of 28 respondents, most of the respondents are degree holders which are 53.5% and 15 in total. The second largest number of respondents are postgraduates which are 17.9% and 5 in total.

Business sector	**Frequency**	**Percentage**
Food and Agriculture	6	21.4%
Manufacturing	3	10.7%
Wholesale and Retail	6	21.4%
Construction and Transportation	0	0%
Services	8	28.6%
Others	5	17.9%
Total	**28**	**100**

Table 4. Business sectors of respondents.

Table 4 above shows the types of business sectors in which participants are working. None of them is working in construction and transportation industry. Near about 11% of them are in manufacturing business and approximately 18 % are in other type of workplaces. The highest number of participants which is 8 (28.6%) are from the service industry and rest of are equally divided in food and agriculture sector and wholesale and retail sector.

Number of service years	Frequency	Percentage
0-1	4	14.3%
1-2	6	21.4%
2-3	2	7.1%
3-4	1	3.6%
4-5	11	39.3%
5+	4	14.3%
Total	**28**	**100**

Table 5. Period of work years of the respondents.

Table 5 demonstrates the number of service years of the respondents. 11 (39.3%) respondents are working in their profession for 4 to 5 years and 6 (21.4%) respondents are working in their profession for 1 to 2 years.

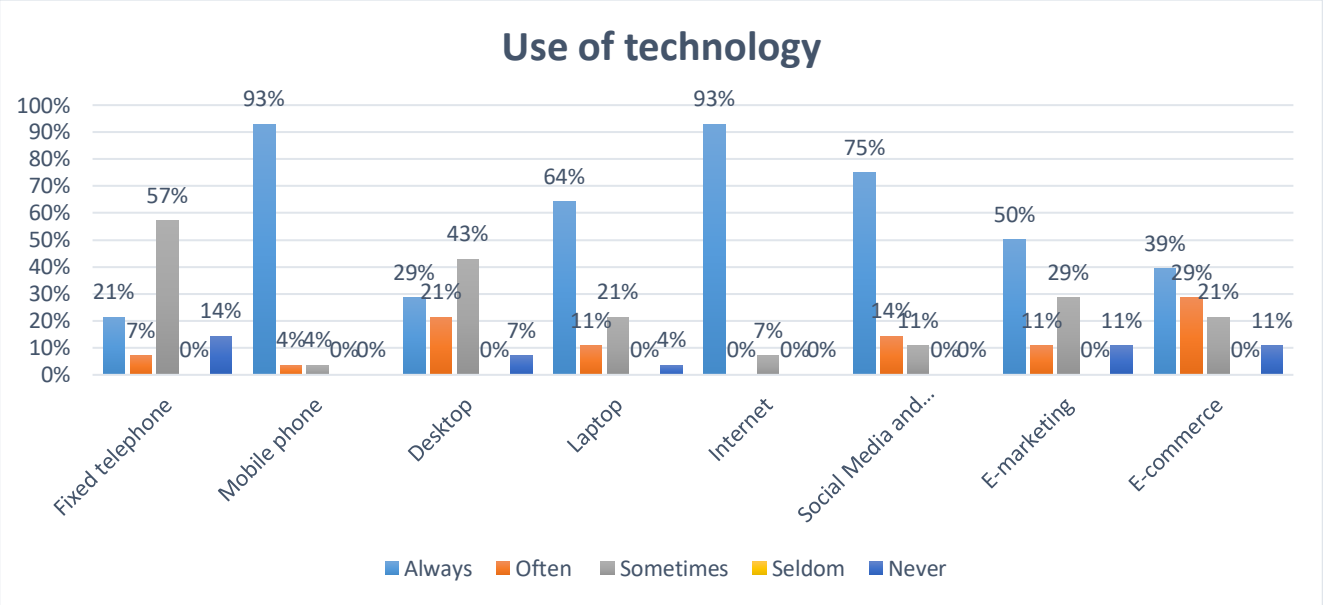

Figure 2. Frequency of usage of technology.

Figure 2 above shows the frequency of technology usage by respondents and can be seen that usage of mobile phone and internet is at peak in modern time. Usage of social media is also growing rapidly. Fixed telephones are being used sometimes like for corporate doings or professional tasks. More then double people like laptops then desktops. E- marketing and e-commerce are also in use by the people.

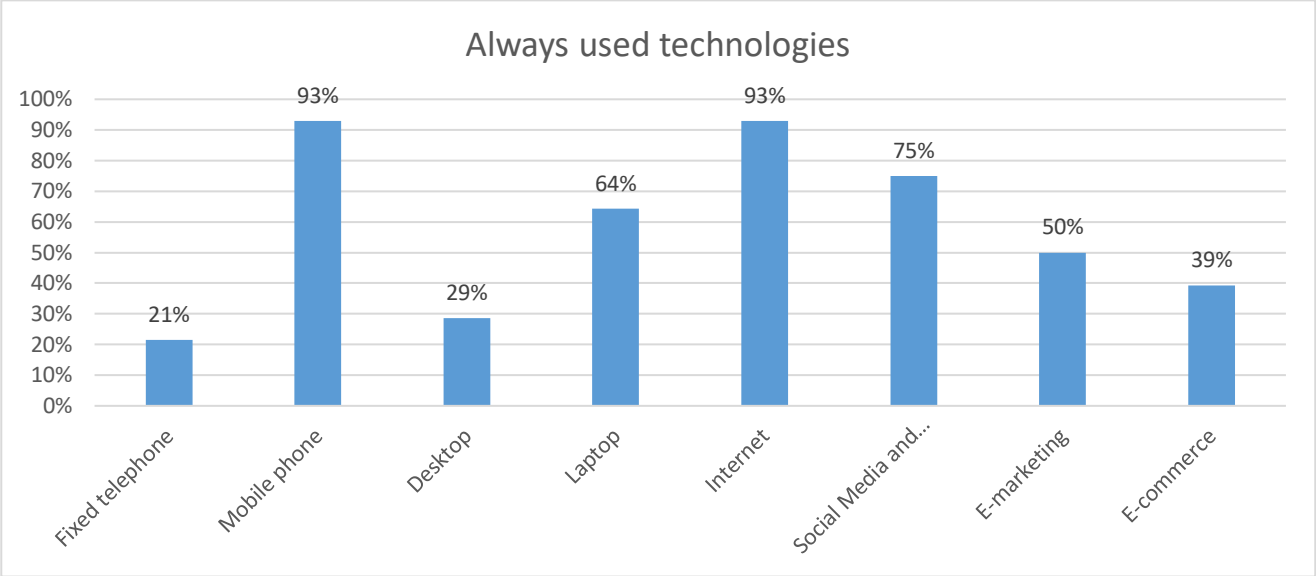

Figure 3. Always used technologies.

Figure 3 demonstrates which technology is most frequently used by the respondents. It shows the percentages of respondents who agreed that they are always using a particular technology. Most of the participants use mobile phones and the internet more frequently which is 93%. The second most commonly used technology is social media and communication tools which are 75%.

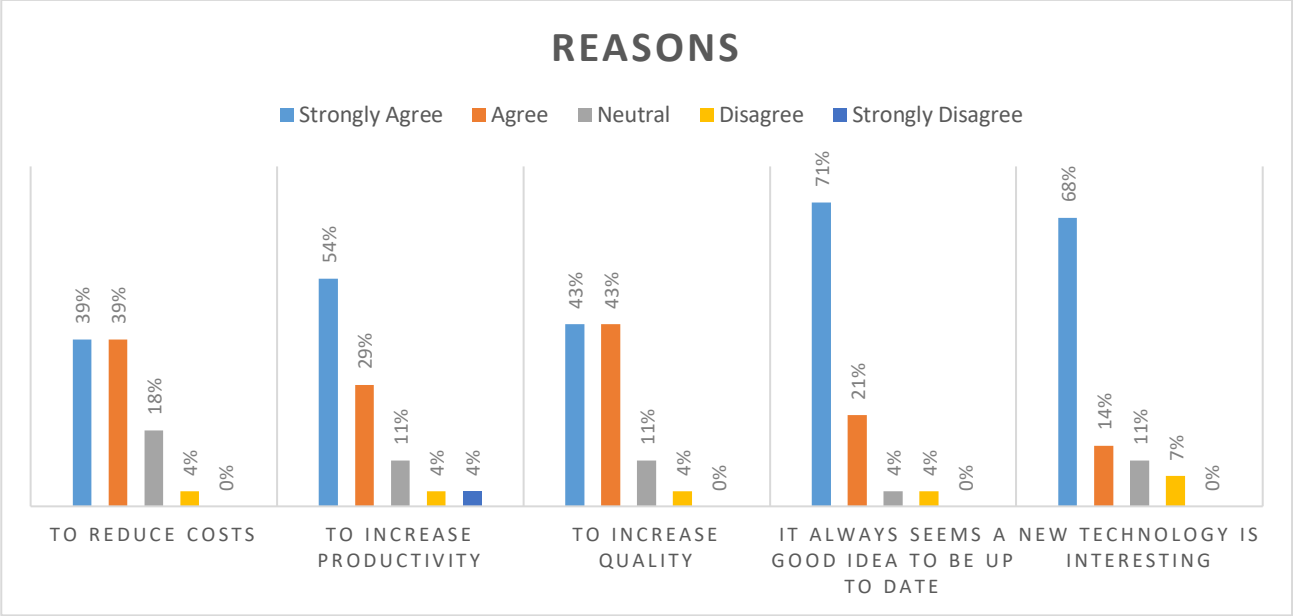

Figure 4. Reasons for technology insertion.

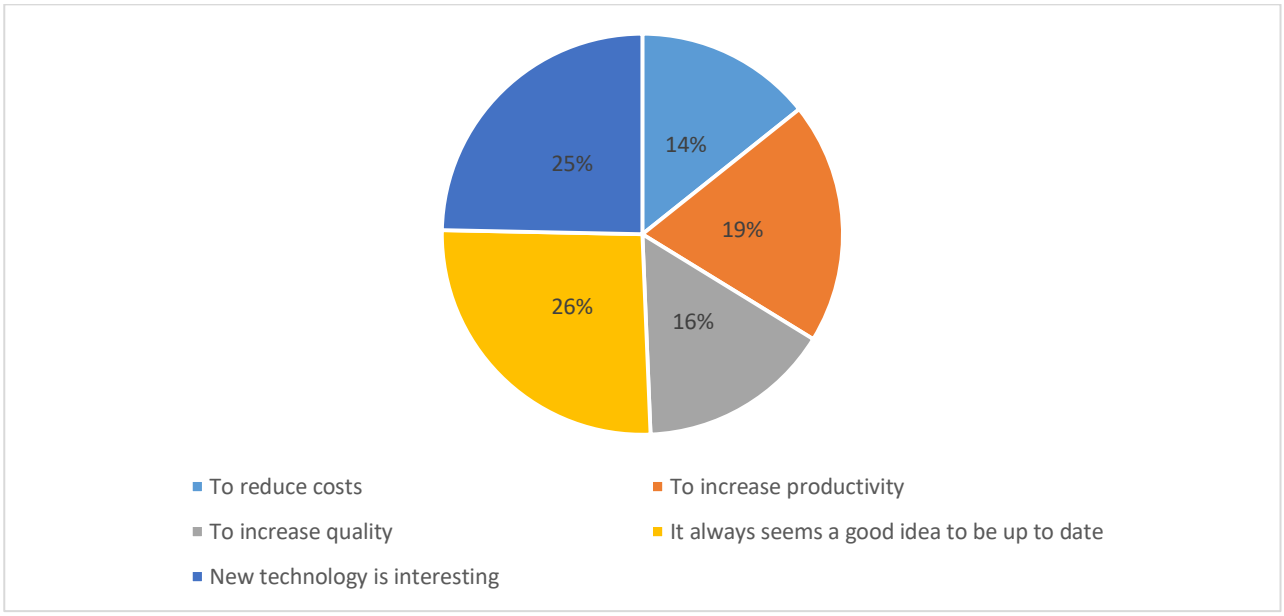

Figure 5. Impact of reason of the technology insertion.

In the figure 5, the highest 26% of respondents believe that the reason for technology insertion in business is the willingness to be up to date. Followed by 25% of respondents who believe that the reason is the exciting nature of new technology. The least percentage of respondents which is 14%, agreed that business uses new technology to reduce cost.

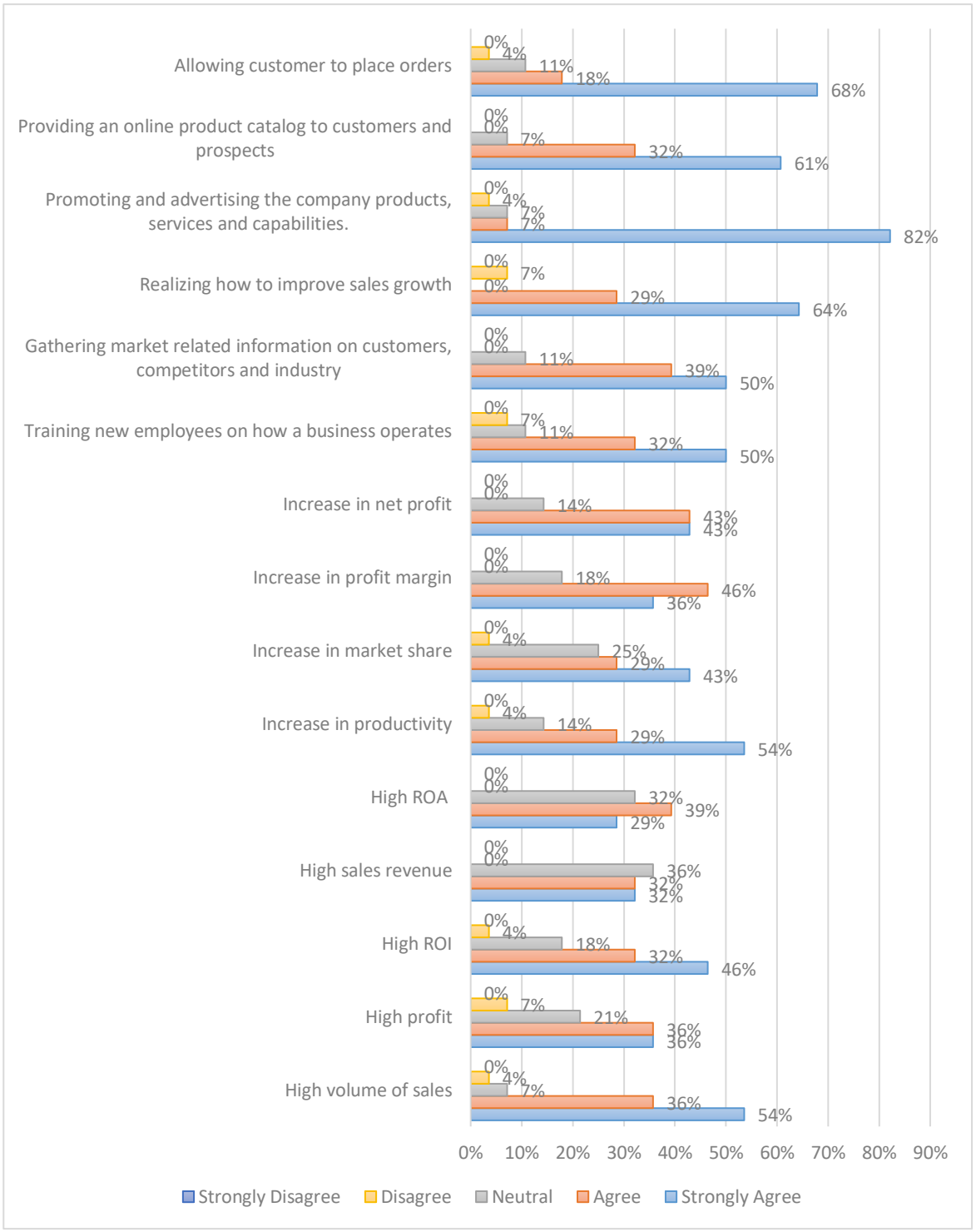

Figure 6. Impact of technology on business functions.

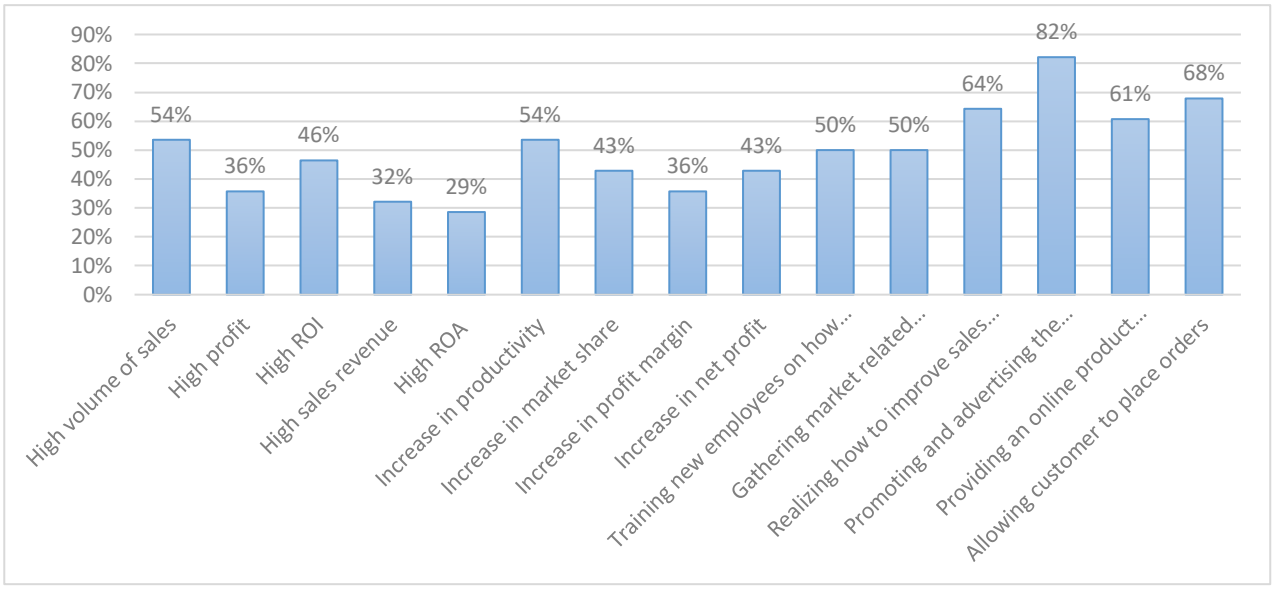

Figure 7. Strongly agree impact of technology on business function.

According to Figure 7, the highest 82% of respondents agreed that the promotion of the company products, services, and capabilities is mostly affected by technology insertion. 68% of respondents agreed that online order placed by a customer is the second most important effect of technology insertion.

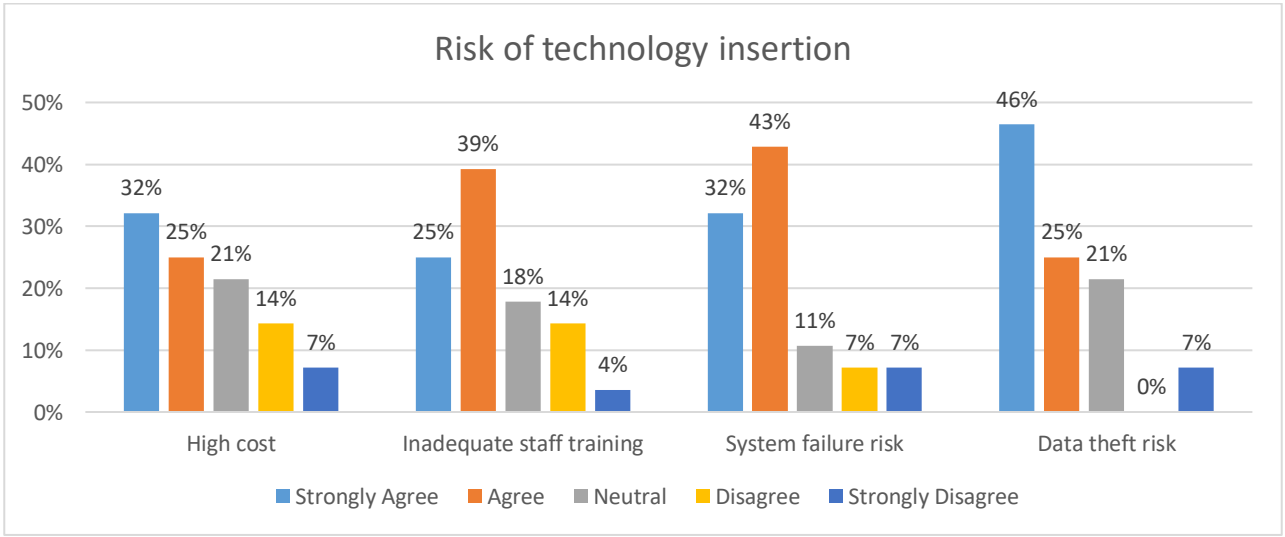

Figure 8. Risk of technology insertion.

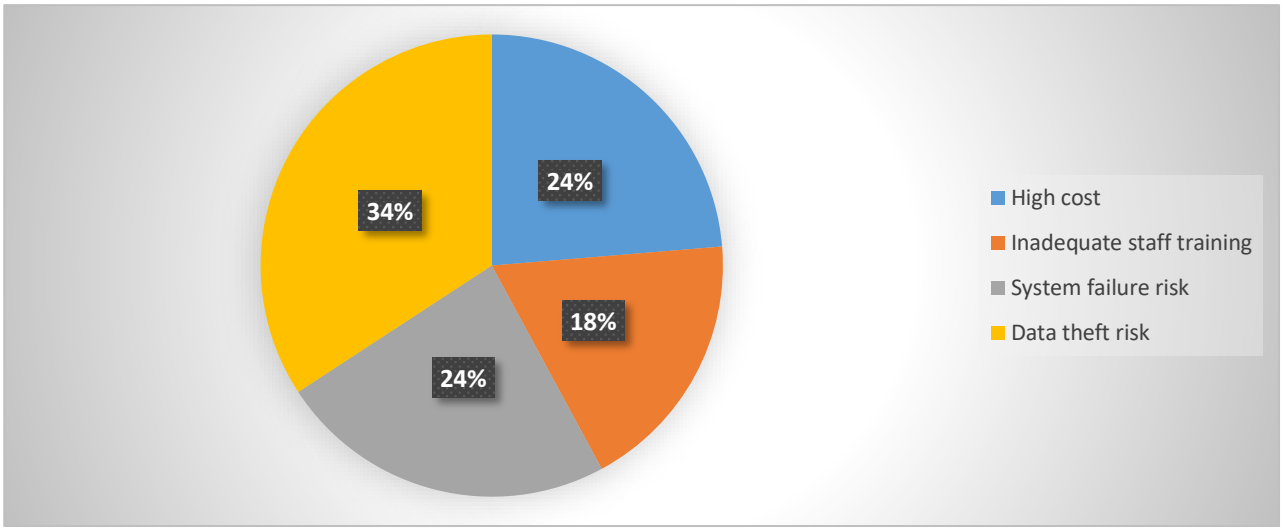

Figure 9. Strongly agree risk of technology in business.

Data theft risk is viewed as the most significant risk factor by 34% of respondents. The next significant risk factors are high cost and system failure risk which is agreed by 24% of respondents. The least 18% of respondents believe that inadequate staff training is a vital risk factor of technology insertion in business.

4.1 Discussion

Investigating how technology has altered conventional business practices is the primary focus of this research. The research also looks at the causes and consequences of businesses adopting new technologies. There are some conclusions that are drawn from the survey data describe in next part.

First, the vast majority of respondents acknowledge that they make more use of technology for professional purposes. According to the tech usage graph, people rely on their smartphones and the internet the most. The use of social media and other forms of online communication to streamline corporate operations is also on the rise. Fixed telecom seems to be one of the technologies that are utilized in business less often, according to the responses.

Second, the need to keep up with the trends is the primary driver of technological innovation in the workplace. Most respondents say that the desire of updating their company with the

innovation of new technology is the driving force for the insertion of new technology in the business. Additionally, they also believe that the interesting nature of new technology is also an influencing factor in technology insertions.

Third of all the effects of technology on business operations, product promotion, and advertising are the most significant. According to the responses, facilitating online purchase placement is the second most significant effect of technological advancements. The study found that technological advancements had little effect on the return of assets (ROA) of businesses.

Finally, adding new technology comes with several potential downsides, including a high price tag, insufficient employee training, the possibility of a failed system, and the exposure of sensitive information to hackers. The research concluded that the introduction of innovative technological solutions significantly increases the possibility of data theft. Inadequate training of workers and the possibility of system failure are additional potential issues for the company.

5 CONCLUSION AND RECOMMENDATION

In recent years, there has been much discussion on the effects of technology on businesses (Asante, 2013). This study details findings from research into how technological developments have impacted the business landscape. The primary purpose of the study is to analyse how technological progress has affected corporate operations. The study's objective was met by using a quantitative technique. The primary data was gathered via the use of a survey questionnaire.

Based on the study, we can say that the success of the company may be attributed to the impact and significance of information technology. While it is true that more sophisticated technologies have both beneficial and bad effects on businesses, particularly in terms of facilitating increased output and money, they also pose a danger to all employees who are specialists in this context since their positions are taken with technological advancements. In the context of international trade, technology has many more significantly good benefits than negative ones.

Some difficulties might arise as a result of implementing new technologies. The unfamiliar aspect of new technology may be a barrier to the company. Workers may struggle to adjust to the rapid pace of technological change. Information theft is also a major concern. Without proper safeguards, it is quite simple for unscrupulous actors to get access to sensitive firm information, which might have disastrous consequences. The introduction of new technologies might raise operational expenses. Proper usage and management of technology may eliminate or greatly reduce any risks connected with its introduction.

However, by keeping privacy in mind, consumers and businesses alike can keep their systems running smoothly and restore customers' faith in online shopping. Due to its convenience, doing business online has surpassed all other ways. And with a system designed to function automatically, online firms may avoid being staffed 24/7 only to wait on and assist clients. Therefore, the advent of the information technology era has had a favourable effect on the development of global companies. In the era of technology, a firm may function independently of both space and time. As a result, the report suggests businesses enhance their offerings and be creative in how they use technology since doing

so will help them generate profits that are above average, allow them to expand, and help them progress.

Businesses that understand the benefits and risks of technological advancements to their competitiveness will dive in and make the most of the chances they bring, giving top priority to a series of active experiments to get a head start on the learning curves. Business executives may benefit from taking a comprehensive inventory of their company's operations and developing a heat map of areas with high technological potential to determine where the technology may be most economically used to increase performance. Prioritizing which processes to employ technology to change may then be done based on the advantages and practicality of these technologies. To position their businesses to benefit from technology, business executives and their companies will also need to learn more about how technology is evolving, how to appreciate the art of the feasible, and what the future may hold. This is not just theoretical understanding gained from reviewing innovations or traveling to the world's innovation hubs; it is also hands-on experience gained by investing in the systematic and persistent trial and error necessary to determine which solutions work best for particular problems and then scaling those solutions at scale. Preparing and adapting human capital to function in complementary approaches with technology is probably the most important component to successfully implementing technologies.

5.1 Limitations and directions for future research

The descriptive character of the study has led to various limitations, which do not lessen the value of the results but rather provide ideas for further research. First, the study has certain geographical constraints. Information gleaned from the study mostly relates to specific regions. It would be better for future studies to concentrate on a larger region. If data were gathered from all countries, it would provide an overarching perspective on a large portion of the world. Second, the research successfully blends qualitative post hoc analysis and survey methods in its current investigation. However, there is a certain amount of qualitative information that can be obtained from the survey. To learn more about the factors that encourage or discourage the use of new technologies and how that affects an organization's bottom line, researchers may want to examine various case studies. There is potential for the current study's factors and constructs to be improved via the use of case study analysis.

Third, despite the fact that this study provides suggestions that businesses can use to define their technology strategy, it does not give an organized and systematic method of implementation that considers the anticipated advantages and drawbacks associated with the adoption of various technologies.

Further quantitative research employing a methodology similar to that used by Sharma might provide a decision-making structure to encourage the adoption of technology in organizations based on the findings presented in this study (Sharma, 2008; 2010). Finally, the desire to quantify the effect of technology on commercial success is a driving force for this study. Beyond only facilitating transactions between two parties, these players now play a crucial role in the whole supply chain by coordinating and speeding up the movement of both physical goods and data across different stages. Further studies might look at the technical and subjective skills necessary to manage this vast system, as well as the function of technology in fostering the development of these competencies, even though this study considers the connections between the influence of technologies, drives, and obstacles.

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APPENDIX

LINK TO GOOGLE FORM

https://docs.google.com/forms/d/e/1FAIpQLSdKXCMdS_lbM8KzFnc8r_bfjXMcd_g9Q7fZOTIsgJLgYl6OWQ/viewform?usp=sf_link

QUESTIONNAIRE

Dear Participant,

I am the student of MBA in Centria University of Applied Sciences. This questionnaire is a part of my thesis paper. The topic of my thesis paper is "Impact of technology on business". All details I collect will be utilized just for my research. Your response will be highly appreciated for this study. Thank you for your cooperation in advance.

Date:_____

Gender: Male ☐ **Female** ☐

1. Age

a) Below 20 Years Old
b) Between 21 and30
c) Between 31 and40
d) Between 41 and50
e) Above51

2. Level of Education

a) Grade Twelve
b) Certificate

c) Diploma
d) Degree
e) PostGraduate

3. Business sector

f) Food, Agriculture, and Forestry
g) Manufacturing
h) Wholesale and Retail Trade
i) Construction, Utilities, and Transportation
j) Services Industries
k) Other: _____

4. How long have you been with the company?

l) 0 – 1years
m) 1 – 2years
n) 2 – 3years
o) 3 – 4years
p) 4 – 5years

5. Use of technology

Frequency of usage of the tools:

	Always (5)	Often (4)	Sometimes (3)	Seldom (2)	Never (1)
Fixed telephone					
Mobile devices					
Desktop					
Laptop					

Internet					
Social Media and communication tools					
e-commerce					
e-marketing					

6. Reasons for the introduction of the technology

	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
To reduce costs					
To increase productivity					
To increase quality					
It always seems a good idea to be up to date					
New technology is interesting					

7. Impact of the technology on the business

		Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
Profitability	A high volume of sales.					
	High Profits					
	High ROI (rate of return on investment)					
	High sales revenue.					
	High ROA (Return on Assets)					
Growth	Increase in productivity.					
	Increase in market share.					
	Increase in profit margin.					
	Increase in net profit.					
Training & Development	Training new employees on how a business operates.					
Research	Gathering market-related information on customers, competitors, and industry.					
	Realizing how to improve sales growth.					
Marketing and Sales	Promoting and advertising the company's products, services, and capabilities.					
	Providing an online product catalog to customers and prospects.					

	Allowing customers to place online orders.					

8. The problem of the technology insertion

	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
High cost					
Inadequate staff training					
System failure risk					
Data theft risk					