



Role of Information Technology in effective Business Management: Trends, Approaches and Management

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Abstract

Information Technology (IT) plays a vital role in business management. Technology makes it simple to store large quantity of data while ensuring that the data's integrity is preserved. We have improved our capacity to store private and sensitive information in a manner that renders it less susceptible to being compromised in the event of a data breach. When it is necessary, the information may be accessed immediately, and it can be studied not just to study patterns from the past but also to make projections about the future. In turn, this may be helpful when it comes to the process of decision-making. This paper studied role of Information technology in effective business management: trends, approaches and management.

Keywords: Information technology, business management, data, information

1. Introduction

Since ancient times, people have engaged in commercial activity. If one believes what is written in the history books, it may have started out as nothing more than an exchange of goods for services, but it has since evolved into something far more complicated, and none of that would have been possible without the development of technology. If for whatever reason enterprises were abruptly deprived of access to and the ability to make use of information technology, the most important sectors of the global economy would immediately come to a grinding halt. This is due to the fact that the majority of commercial activities and transactions simply cannot be carried out in the 21st century without the assistance of technology.

In this day and age, innovation is one of the most important factors in determining success. Taking the path of innovation in business means doing something that has not been done before, something that is different, something that is smarter, or something that is better, and that will result in a positive difference in terms of value, quality, or productivity by utilising new or established technologies from around the world. The information technology is, without a doubt, the technology that has already shown its worth over the course of the last two decades (IT). It has had a significant impact on people's lives as well as the operations of organisations. Currently, online shopping, digital marketing, social networking, digital communication, and cloud computing, etc. are the best examples of

change that came through the wave of information technology. Accurate business planning, effective marketing, global sales, systematic management, real-time monitoring, instant customer support, and long-term business growth cannot be achieved at the optimal level without the use of information technology.

1.1 Technology in Business

The development of new technologies has contributed to a meteoric rise in the volume of business and commercial activity. Many old company strategies and ideas have been completely upended as a result of technological advancements. Technology provided us with the option to see things from a different viewpoint, as well as the opportunity to approach what we were already doing from a different perspective. Technology not only made our commercial operations more effective but also made them more efficient.

Point-of-sale (POS) systems, the use of information and communications technology (ICT) in management, accounting system software, and other complicated elements of day-to-day company operations are some of the areas in which technology plays an essential role in business. Even something as seemingly basic as the calculator, which was ground-breaking in its day, was made possible thanks to technological advancements. It is difficult to fathom going back to the practise of executing activities by hand. It would put us back in time by around 100 years.

1.2 Technology as a Source of Support and Security

Technology gives us the ability to automate a wide variety of operations, which ultimately results in an improvement in our level of productivity. This is feasible due to the fact that it allows us to utilise less resources, which, in turn, enables us to enhance the level of quality we provide at a reduced cost while also enhancing the rate at which we can provide to our consumers. As a result of this approach, it is now feasible to provide service to an even greater number of customers.

1.3 Technology as a Link to the World

The corporate world relies heavily on effective communication. Therefore, business is a complex network of interconnected operations that are made more difficult by the presence of transportation and procedures. The globalisation of commercial activities has been made feasible by technological advancements. Now, nearly anybody can run a company from virtually anywhere, including from any room in their own home.

Businesses now have the capability of expanding their customer base all around the globe thanks to technological advancements. The internet and the World Wide Web provide the clearest illustration of this concept. Because it allows a company to attract clients from all over the globe, internet marketing has become an essential component of the marketing strategy of every modern firm.

When properly incorporated into business, technology has made life itself more interesting and worthwhile to live. Denying the fact that technological advancements might pose a risk to businesses, on the other hand, would be irresponsible and unwise. Hacking is one example of the kind of hostile activity that may be carried out by organisations and activities. Because of this, it is essential for companies to demonstrate responsible behaviour whenever they make use of technology to do business. The benefits that technology brings along with it also bring with it certain drawbacks that need to be

addressed. On the other hand, it is something that is worth all of the baggage, and we need to accept it and use it in a responsible manner so that we may improve our companies.

1.4 The current trend: Technology at a crossroads

The technology function in many companies is under attack for the following reasons:

- New technologies are developing and growing swiftly, which can be both a source of power and a cause of disruption;
- Talent pools are more diversified and sophisticated than previous full-time equivalent (FTE) models.
- Stakeholders want more, which is the usual reward for previous performance, the logical expectation in the aftermath of increased investments, and a source of ever-mounting pressure to deliver.

This gives flexibility, but it also adds to the task of management and planning.

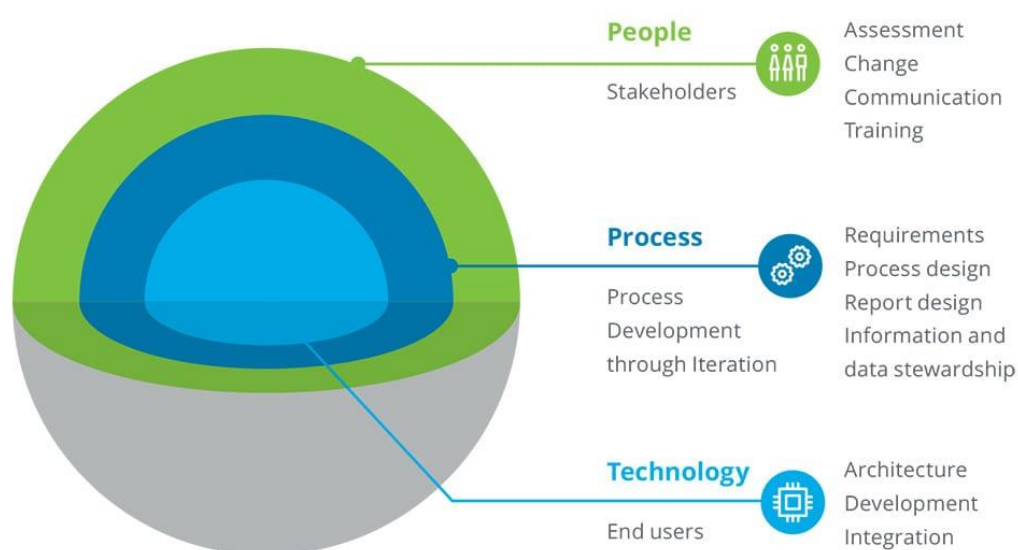


Fig 1: Organisation and Technology

Historically, businesses have determined the value of new technologies by analysing them in terms of concrete metrics such as cost, control, simplicity, dependability, and compliance.

Now, technology is being relied on more often to solve more difficult questions, such as those pertaining to agility, fluency, transparency, and experience. Organizations desire technology that can not only track and maintain value but also contribute to the creation of new value, this demand for a new method of managing corporate technology that is responsive and connects the business goals with those of the IT department.

2. Literature review

ITM, which stands for information technology management, is the condition of managing the information technology infrastructure and the resources required to plan, create, and deliver information technology services and products in order to fulfil the requirements of a company. Prepare for the introduction of new services or the modification of existing ones, manage the process of change, and uphold organisational, legal, and professional standards (Al-Athmay et al., 2016).

The Purchased Services Department is responsible for managing the performance of systems and services in terms of their contribution to the overall performance of the company, financial costs, and sustainability. Create continual strategies for service enhancement to guarantee that the information technology infrastructure can appropriately meet the demands of the company (Mousavi & HabibyBadrAbady, 2008).

According to Melville et al. (2004), the primary function of ITMG is to develop a strategy for managing technology resources. This strategy should include management communications functions, and it should also enhance the opportunities that technology offers to the operating organisation. These opportunities include the possibility for change as well as the possibility that they will have an impact on the business.

The findings of Brynjolfsson and Hitt (2000) ITMG is able to locate and manage resources for the purpose of planning, developing, and delivering information and services for certain communication systems (including data, voice, text, images) Affects high-level customers and project teams via change management activities, with the goal of ensuring infrastructure management in order to offer agreed-upon service standards and data integrity.

Kane and Alavi (2007) both supported the idea that ITMG is responsible for a variety of tasks, including goal setting, budgeting, evaluating, and planning. Plans and manages the application of processes and procedures, tools and methods to monitor and manage the performance of automated systems and services, in terms of their contribution to work performance and the benefits to the work, where measuring success depends on the achievement of business objectives / financial goals and business objectives explicitly stated. Plans and manages the application of these processes and procedures, tools and methods to monitor and manage the performance of automated systems and services. Maintains a watchful eye on performance and is prepared to take remedial measures if required.

According to Butt et al. (2019), ITMG is typically in charge of the design, supply, installation, update, operation, control, and maintenance of IT infrastructure components, as well as the efficient use of such components and the monitoring of their performance. Responsible for the technical administration of the information technology process, as well as ensuring that all essential processes are followed and that agreed-upon service standards are maintained.

It was stated by Hamidi and Benabdeljlil, (2015) that ITMG establishes a schedule for all maintenance and installation, and it ensures that all operational problems are identified and resolved. On the other hand, Swanepoel et al. (2001) stated that ITMG provides a valid status report and other reports for professionals, users, and managers, and it ensures that all operational procedures and work practises are appropriate for their purpose and contemporary.

According to Adesola and Baines (2005), the first step towards achieving BPI is to identify the activity in an organisation and connect it to the right employee with the right skills. This step, according to Zellner (2011), would draw the attention towards the developments and enhancements that need to be done on employees and launch training, courses, and workshops in order to develop their performance. Adesola and Baines (2005)

also state that the second step towards achieving BPI is to identify the activity in an organisation and connect it to

According to Siha and Saad (2008), in order to attain BPI, management has to simplify its processes, incorporate new technology, and increase the abilities of the performance of personnel. When it comes to business process improvement (BPI) and the introduction of new technology, there is a need to take additional precautions in order to ensure that an organisation will be able to connect with technological processes and activities in an easier and more efficient manner.

The term "business architecture" refers to the formal description of the manner in which an organisation makes use of its capabilities in order to accomplish its goals and purposes in accordance with its strategic plans and objectives (Missah, 2015).

On the other hand, Callegard and Handling (2011) came to the conclusion that business analysis is the collection of business concepts that, when taken as a whole, formulates the ideas of constructive, operative, and decorative streams. These streams, in turn, have the potential to bring a company to the point where it is fully able to achieve its goals if they are followed in a method that is good and coherent.

Meller (2007) also said that analysing business architecture is similar to analysing the departments, processes, and pictures of an organisation, all of which contribute to the overall image of a company. The area of e-government places a significant emphasis on business architecture. The description of an organisation should make clear the function that each department plays in facilitating a seamless transition from traditional techniques to electronic ones, which should ultimately result in a more unified process of adoption and superior final outcomes (Fjeldstad & Snow, 2018).

3. Information Technology in effective business management

There are a number of things that may make or break the success of a company. To name a few, there is precise analysis, picking the appropriate technology, and having a clear vision of the future. Research conducted over the course of the last two decades has conclusively shown that businesses which make strategic investments in technological advancement and follow a path that prioritises innovation are able to grow their market share, financial statistics, and overall competitiveness. The only technology that gives you the option to analyse particular data and plan your company path in accordance with that data is information technology. Additionally, it gives you access to a wide variety of tools that may solve difficult challenges and help you plan the scalability of your organisation. In this day and age, it has been shown that digital marketing is an excellent instrument that enables you to advertise your goods or services to the worldwide market while being seated in the convenience of your home or remote office. In addition, owing to advancements in cloud computing and communication technology, it is now possible to establish a worldwide organisation, as well as to administer and keep track of its virtual offices located all over the globe.

➤ Decision Making

When it comes to making the best choice for your company, speed and precision are very essential. A thorough market research procedure that equips management to make the best choice is an absolute must for every business that aspires to achieve sustained and significant success. Market research may be conducted in a variety of methods, including

but not limited to in-person interviews, online surveys, online discussion groups, online forums, and online blogs, all of which make use of the World Wide Web. At the moment, big data, Google Analytics, and Microsoft CRM Dynamics are all excellent technologies that can be used to extract helpful information that may influence decision making. These online technologies not only give real-time reactions from the prospective audience, but they also guarantee the correctness of the data by reducing the likelihood of mistakes caused by human intervention.

➤ **Marketing and Business Growth**

The marketing strategy of a company is what ultimately determines how successful that company will be since it helps management to first determine who their target audience is and then analyse the trends and requirements of that demographic. The term "marketing" may refer to a wide range of activities, including public relations, advertising, promotion, and sales, all of which can have an effect on the expansion of a company. You may contact prospective clients for your business via a variety of different methods of marketing. The concept of digital marketing is a relatively new one that enables you to advertise your goods or services to customers all around the globe. It is a wide phrase that encompasses many different ideas, including as search engine optimization (also known as SEO), pay per click (also known as PPC), blogging, discussion forum, email blast, SMS, MMS, social media marketing, and advertising on smartphone apps, among other things. The majority of company owners have come to the realisation that it is impossible to achieve long-term success in business without a digital presence on the internet, which has resulted in the current online market seeing extremely rapid growth. Each year, the internet welcomes the addition of millions upon millions of new websites.

➤ **Customer Support and Satisfaction**

Achieving a higher level of customer satisfaction, which is the key to being successful and cannot be accomplished without a real-time customer assistance procedure, is essential. Understanding client wants, preferences, routines, and levels of contentment is essential to the success of any business. Communication that is both effective and efficient is the ideal instrument for understanding the needs of customers as well as the difficulties they face and the answers to those problems. We are grateful to Internet technology, which has made it possible for us to connect in real time with millions of customers who are either prospective or present customers. The use of information technology makes it possible to connect with customers in a variety of ways without having to brave the elements. Email, webinars, social media, member portals, online newsletters, and text or multimedia messaging through the smartphone are some of the online communication methods that are included here. Customer relationship management systems, often known as CRM, are typically used by enterprise organisations to store vital data for the purpose of better comprehending the behaviours of customers and their upcoming requirements.

➤ Resource Management and Globalisation

The successful operation of a firm is directly correlated to the management of its resources. It is quite difficult for the senior management of a medium or big organisation to handle all of the resources manually. This is a challenge that they face. These resources may take several forms, such as material, financial, or human resources, among others. The widespread adoption of user-friendly solutions made possible by advancements in information technology has been a significant contributor to the automation of previously intractable issues. Prior to this decade, the majority of the solutions for resource management were desktop-based. Software developers are now able to provide ERP (Enterprise Resource Planning) solutions that are hosted in the cloud, which is made possible by the internet and cloud technologies. Through the use of their own personal computers, laptops, tablets, or smartphones, managers are now able to control or monitor the organisational resources of their companies from nearly any location in the globe. The notion of globalisation was presented as a result of this concept. These cloud-based solutions are used by the majority of the world's multinational corporations, such as Microsoft, Google, Amazon, and McDonald's, amongst others, to manage their virtual or real offices and employees located all over the globe.

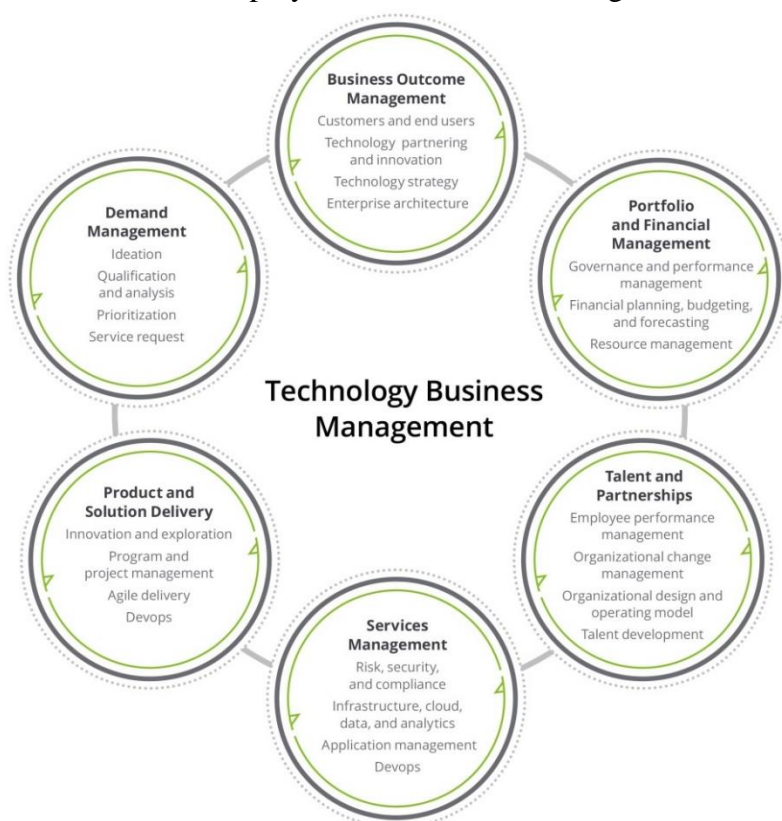


Fig 2: Technology in Business Management

The term "technology-based management" (TBM) refers to a collection of methodologies and tools, the majority of which are tied to corporate technology. However, they are not direct technological answers to the problem. It is essential to have a solid understanding that Technology Business Management, often known as TBM, is a business solution and not a technological solution.

4. IT in business: trends, approaches and management

Emerge various new perspectives in management that a manager needs to apply to today's challenges as a result of the rapid development of science and technology, globalisation in business, transportation, and communication system, and increase in the new pace of economic development. These factors all contribute to the acceleration of the rate of economic development. The following is a list of some of the more recent management trends:

1. Workforce Diversity

Diversity in the workplace refers to the presence of a wide range of personnel in a business, each of whom accurately reflects the demographics of their age, gender, and race. The variety that exists in the world is continually growing as a result of shifting demographics, an enhanced labour force, rising levels of societal pressure, and expanding globalisation.

2. Outsourcing

Obtaining one's resources from a third party is what is meant by the term "outsourcing." It is the practise of delegating some aspects of a task to other companies in order to improve the quality of work and reap the benefits of specialised expertise.

3. Knowledge Management

Knowledge management is the process of assisting companies in locating, selecting, organising, disseminating, and transferring crucial knowledge and skills with the purpose of ensuring the continued success of the firm. It places an emphasis on the fact that information may be transformed into business ideas and put to use for the benefit of the firm. Knowledge that has been well managed makes it possible for management to solve problems in an effective and efficient manner, as well as to engage in dynamic learning, strategic planning, and decision making.

4. Learning Organization

The concept of a "learning company" refers to establishments that provide ongoing education to their employees so that they may remain competitive in an ever-evolving business climate. You should be aware that the nature of the business world is one that is always evolving. Therefore, it is vital to innovate new ideas, models, designs, and structures, as well as technological advancements, in order to introduce new ideas into the organisation. If there is no provision for learning, even a corporate organisation that is operating at the greatest level possible right now will not continue to operate at the same level in the future.

5. Time Management

Setting priorities among your tasks is an essential component of efficient time management. It is used for the purpose of time scheduling. Because time is a one-of-a-kind and very valuable resource, there is no way to get it back after it has been lost.

6. Business Process Reengineering (BPR)

The discipline of management has recently seen the rise of a new movement known as business process reengineering. It proposes that the way work is done should be altered in a manner that is fundamentally and significantly different so that every effort made by the company is pushed to attain customer pleasure and, as a result, higher levels of performance and profitability.

7. Conflict Management

The term "conflict" encompasses any and all forms of antagonism or interaction that is adversarial between or among persons or organisations. It is present when one party has impeded or is poised to hinder the efforts of the other party to achieve their aims.

8. Stress Management

The process of adopting measures to reduce the amount of stress that employees experience on the job is what stress management refers to. Alterations to one's way of life, one's way of thinking, and one's conduct might all be potential first steps.

9. Participative Management

Involving subordinates in the decision-making process together with their immediate supervisors is what it means to practise this management style. In this situation, both the management and the employees under him or her participate in the decision-making process. By treating workers as if they were a part of management, a company may boost the value of its workforce.

10. Green Management

The concept of "green management" places an emphasis on the preservation of natural resources in order to ensure the continuity of commercial endeavours. It places an emphasis on the promotion of environmentally friendly technologies since this is the most practical approach of addressing the newly emerging green-related activities.

5. Results and findings

Word processors and spreadsheets are examples of the kind of general-purpose programmes that are included in office software. The poll also investigated the various kinds of office software that are currently in use in the sector. According to the figure, almost all of the businesses polled that have access to computers also make use of word processors and spreadsheets. On the other side, database management applications and project planning software are not quite as widespread, although their adoption rate is growing.

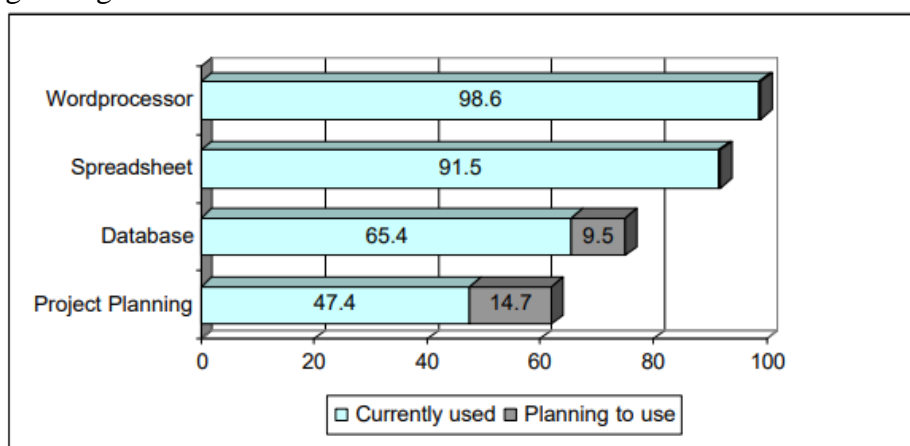


Fig. 3: Percentage use of office software in the construction industry.

The respondents were separated into three distinct categories: highly computerised, partially computerised, and mostly manual. Highly computerised indicates that between 60% and 100% of the process is computerised; partially computerised indicates that between 20% and 59% of the process is computerised; and mostly manual indicates that either no computer is used or up to 19% of the process is computerised.

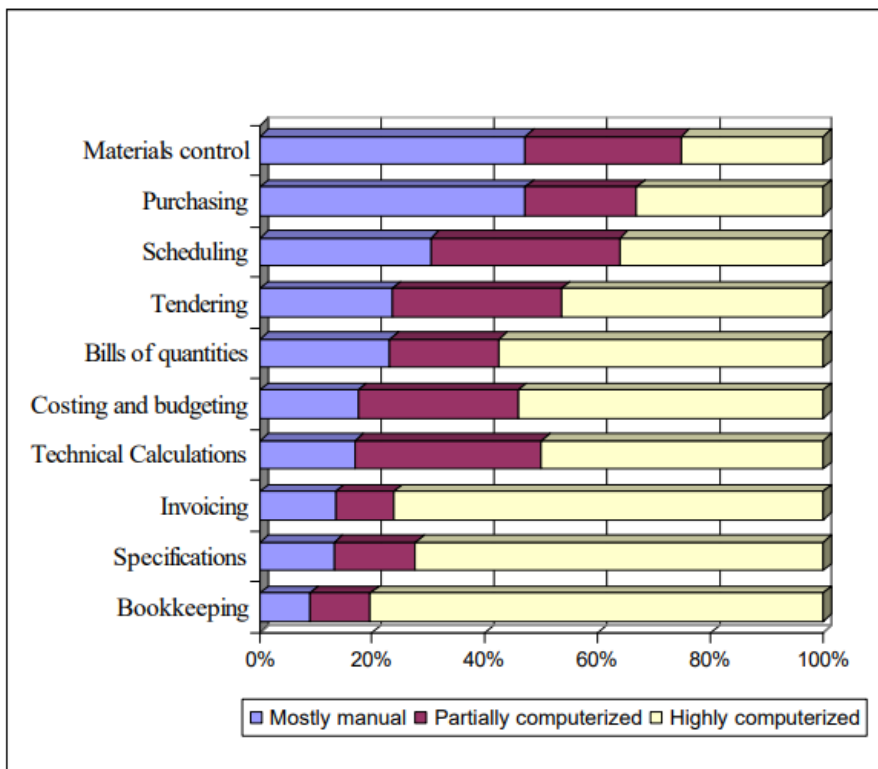


Fig. 4: Extent to which processes are computerised.

Fig4 demonstrates that, on the one hand, accounting, invoicing, and the development of specifications are virtually totally automated by computers, while, on the other hand, 47% of materials management and purchase are done manually for the most part. It's possible that the lack of computerization of some operations is due to a shortage of high-quality and time-saving software solutions, as well as a shortage of people who have received enough training. It is surprising to learn that even though there are reasonably priced and effective software tools available for this activity, around thirty percent of the scheduling process is still mostly completed manually.

The proliferation of networks, in particular the Internet, has created extraordinary possibilities for communication and the sharing of information both between and inside companies. This section explores the usage of networks among companies, as well as access to the Internet, the use of the Internet, and the exchange of documents in an electronic way.

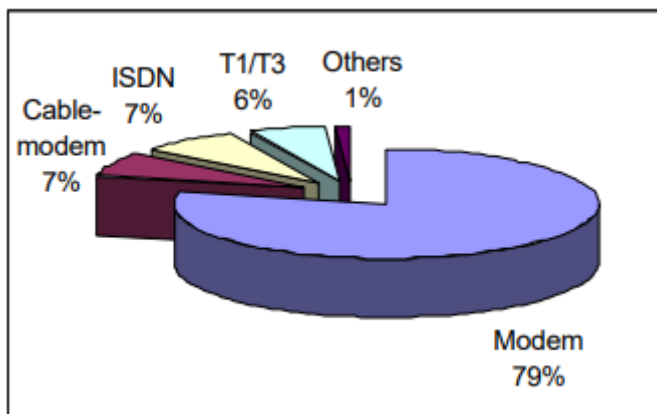


FIG. 11: Types of Internet connection used.

The companies polled employ a variety of different kinds of connections to the internet, as shown in the figure. The modem is by far the most common sort of connection, and its speeds may range anywhere from 14.4 Kbps all the way up to 56 Kbps (i.e., 56,000 bits per second). According to the findings of the study, modem connections are used by 79% of the companies that have Internet access.

Conclusion

In this day and age, it is hard to be successful in company over the long run without taking use of the opportunities presented by information technology. Because applying an innovative approach in business strategy, hiring highly qualified IT specialists, and making the correct judgements at the right time are all prerequisites for business success, the organisations will need to endure a cost that is appropriate to reach this level of success. For the foreseeable future, the success of businesses will continue to be dependent on advancements in information technology due to the fact that IT solutions will continue to boost the productivity, efficiency, and effectiveness of corporate operations and communication. Identity and access management (IAM) architectures need to be more adaptable in order to accommodate the rapid rate of change that is occurring across technologies, organisational goals, user expectations, commercial possibilities, and threats.

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