

Role of ICT in Project Management

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DOI: <https://doi.org/10.51244/IJRSI.2024.1110023>

Received: 16 September 2024; Revised: 01 October 2024; Accepted: 04 October 2024; Published: 07 November 2024

ABSTRACT

Our country relies heavily on information technology in our interconnected world, and in the present era of digital advancements. These emerging technologies have become available to Individuals in their daily lives and enhance their quality of life. In today's era, a multitude of ICT devices are used in our daily lives, providing us with the convenience of mobility, enabling us to utilize them anywhere and at any time. These devices function to provide information, enhance speed, facilitate communication, and alleviate the physical and cognitive burden on humans. Based on these concepts, contemporary devices have undeniably assisted humanity in their daily lives. Information and Communication Technology (ICT) has significantly transformed several aspects of our daily lives, specially, in project management. For instance, it has replaced traditional means of communication, like letters, with more efficient methods such as email. It has also revolutionized the way we buy, shifting from physical market purchasing to the convenience of online shopping. This study explores the impact of Information and Communication on project management.

Keywords: Technology, knowledge, communication, project management

INTRODUCTION

ICTs have rapidly become fundamental components of contemporary civilisation. “The world over around nowadays characterized by rapid information transmission through large geographic ranges with the use of the Internet” (Mgijima, 2012). Currently, several nations consider comprehending ICTs and achieving proficiency in the fundamental skills and ideas of ICTs to be an integral component of education, on par with reading, writing, and arithmetic. Information and Communication Technology (ICT) enhances the business environment and contributes to the success of contemporary commercial organisations in attaining their objectives. The influence of ICTs is also evident in their innovative and cost-effective use in fundamental areas. Utilizing ICT equipment, we have the capability to preserve and effectively handle our everyday routine information. We may also integrate the residential appliances to be used and controlled collectively. Additionally, we have the option to utilize net banking that saves a lot of time. ICT enables individuals to establish and sustain social connections with individuals worldwide as part of their everyday activities.

Through the utilization of the Internet and various communication channels, individuals may establish connections with others by means of electronic mail, social networking platforms, and mobile devices. It is a time-saving and cost-effective method. Bulletin boards and discussion group services provide a means to communicate with a big number of people simultaneously. Information sharing has become incredibly convenient with information readily accessible at our fingertips. Information may be accessed universally and at any given moment. Individuals worldwide may exchange information, news, opinions, and more through the utilization of electronic mail and online discussion forums like Google Groups and Yahoo! Groups. Through the dissemination of knowledge, global consciousness is fostered, and these foster an atmosphere of transparency and enhance mutual esteem. Here, people can engage in unrestricted communication with one another. The speed of communication is enhanced as we are able to transmit instant messages rapidly and at a reduced expense, resulting in cost and labor savings for delivery. Options such as email, teleconferencing, and video-conferencing are available for that purpose. Video conferencing allows for face-to-face communication, providing a valuable means of conducting meetings and collaborating with others.

Managing Remote Employes

A primary challenge that project managers have when coordinating distant teams is the issue of cooperation. In order to enhance the morale of your remote staff, it is necessary to furnish them with efficient multi-channel communication. Merely the inability of team members to physically gather does not imply their incapacity to acquaint themselves and effectively cooperate. Utilising SaaS collaboration solutions enables the creation of virtual water coolers, fostering casual communication among staff. Put simply, Help Scout arranges Troop Talks, and in this program, employees can select a discussion topic for an online meeting. Lenka (2021) asserts “it has significantly contributed to studying management issues in the context of personnel working remotely. It supports one of the options for an efficient model of hybrid work, which entails the partial transfer of employees to a remote work mode to save time and resources for employees and their employers”. Consider the case of internet-based telephone networks. Today, they provide a wider range of functions than classic call features, such as call waiting or queuing. Ozimek portrays “broadens the perspective on the difficulties of managing remote work under coronavirus conditions. The harmful impacts of flexible employment, which frequently result in overtime work, are the centre of attention. Additionally, the authors highlight the importance of remote meeting etiquette and the need to increase time management efficiency” (2020).

Another efficient approach to cost reduction in projects is to optimize procedures and reduce inefficiencies. Through the identification of inefficiencies and redundancies in project workflows, project managers have the ability to streamline operations and save wasteful costs. It is possible that this may the process entails reassessing project schedules, optimizing resource allocation, and using lean management techniques to enhance productivity and save expenses. Moreover, project managers have the ability to decrease expenses by utilizing technology and automation to enhance productivity and minimize the need for manual labor. Through the utilization of project management software, automated systems, and digital tools, project managers may optimize processes, enhance productivity, and minimize the requirement for manual involvement. By using this approach, not only will time and resources be conserved, but the potential for errors and delays will also be reduced, resulting in cost savings for the project. Project managers may save expenses by not just optimizing procedures and utilizing technology, but also by engaging in negotiations with suppliers and vendors to get more favorable pricing and discounts. Through cultivating robust partnerships with suppliers and engaging in skillful negotiations, project managers may effectively diminish procurement charges and ultimately decrease the total costs of the project. This can have a substantial effect on the project's financial plan and enable more effective allocation of resources.

As a project manager, it is crucial to maintain ongoing communication with both personnel and clients. “The project manager continues performing some of the traditional project management duties such as tracking project progress, reporting on project status, budgeting and forecasting, and managing personnel even in ASD projects” (Shastri et al., 2020). Using landline telephone system is not a solution to the problem rather it is old dated. The charges for international calls can be excessively high though local call is not high. Cloud-based phone services eliminate the requirement for time monitoring during conversations with distant staff members or overseas clients. Fortunately, there are several automatic cloud applications available that can monitor and record staff success on your behalf, allowing you to concentrate on identifying avenues for business expansion. By utilising project management solutions, you can effortlessly monitor and oversee your activities, projects, and personnel. Dashboards are designed to provide a straightforward and concise way to display and comprehend the most pertinent data related to your projects. By using mLiquid Planner, we can effortlessly see the result of a project. Client contact is a crucial element of every project. When selecting your staff, clients desire to ascertain if you are fulfilling their expectations. Nevertheless, monitoring the advancement of each project using various techniques necessitates significant commitment and time allocation. Hence, it is advisable to contemplate utilising reporting software. Reporting tools seamlessly interact with the majority of technologies that your team already utilises. By utilising this approach, you may integrate the functionalities of many applications into a reporting software, allowing you to view your key performance in a unified dashboard. In such way, it can assist team in a better way to make an excellent report.

ICT in Tourism

ICT has a significant role in the tourist, travel, and hospitality business. ICT integration is crucial for the development of tourist enterprises. “Tourism appears to have developed through four stages of ICT adoption -

opportunity, disruption, immersion and usurpation -, which reflect on new opportunities and risks, and the need for more critical evaluations of the implications of the ICT economy” (Gössling, 2021). ICT enables individuals to get information about tourism items. At any location and at any moment, Tourism firms may now easily access their target clients worldwide with a simple click on a mobile device or online technology. This platform is designed to be user-friendly and efficient, and ICTs eventually reduce expenses by facilitating direct communication between the supplier and the consumer. Additionally, they affect employment by creating a need for the necessary maintenance of ICT equipment. Tourism company management utilizes information and communication technologies (ICTs) to perform various duties that improve the productivity of workers, particularly in the area of online bookings. As we can see, ICT has also resulted in alterations, supplying goods and many other things. ICT has led to a greater desire for tailored leisure and tourist experiences that offer flexible alternatives and high-quality information. With the advent of modern technology and the availability of social platform, customers now get quality service, and they are satisfied with what they have. The use of ICT in the tourist industry would be advantageous for both service providers and clients, as well as facilitating collaboration among other stakeholders on a shared platform. Choosing the appropriate information communications technology tool is vital in aligning customer expectations with service dimensions. Technology has become widespread in tourist distribution channels, and professionals now utilize these new technologies to access information, find appropriate items, and make bookings. The integration of ICTs is a potent instrument that confers advantages in the promotion and enhancement of the tourism business.

Artificial Intelligence

“AI is embedded to various degrees in most project management software. That intelligence largely works behind the scenes to help project managers and their teams with many fundamental tasks of their trade, aiming to save time and money while improving project outcomes” (Pratt, 2024). AI solutions may generate and refine schedules at the inception of a project, utilising resources they have in their domain. Besides, when it is needed, they modify routine in response to alterations in priorities, resources, and other variables. “The application of artificial intelligence in project management will bring significant benefits, not only in the automation of administrative and low value tasks, but even more important, including AI and other disruptive technologies in your toolbox will in help your organization” (Nieto-Rodriguez & Vargas, 2023). “In the realm of project management, the appropriation of generative AI chatbots involves not only their integration into project workflows but also their adaptation by project managers to fit specific project needs” (Alberto Michele Felicetti et al., 2024). Generative AI technologies may effectively assist in the development of project plans, yielding particularly favorable outcomes for typical tasks. To construct a home, I may provide a description of my desired design, and nearly all generative AI systems will respond with a plausible schedule. The applications of AI in project management are many and varied, including multiple stages of the project lifecycle. In project planning, AI technology can assess project needs, discern dependencies, and create optimal schedules considering resource limitations and project goals.

Advance Testing System

“Testing is another essential task in most projects, and project managers need to test early and often. It’s rare today to find a major project without multiple systems and types of software that must be tested before the project goes live. Soon, advanced testing systems that are now only feasible for certain megaprojects will become widely available” (Nieto-Rodriguez & Vargas, 2023). In software project, advanced automated testing techniques come with early detection and, at the same time, correcting mechanisms. Thus, it saves enough time in testing processes, diminish the occurrence of reworks, and ultimately gives user-friendly solutions so far. Software testing projects enable developers to validate sophisticated functions and procedures inside their software applications. Project management software offers a comprehensive perspective of the testing project by delineating several stages of the testing process. Project managers may oversee the status of each phase and maintain a centralised location to monitor the advancement of the testing project objectives. Integrating with a test automation platform facilitates real-time oversight of problem tracking and resolution processes.

CONCLUSION

Globalisation is fuelled, in part, by significant and rapid advancements in Information and Communication

Technologies (ICTs), and young individuals frequently seize the opportunity to benefit from emerging innovations in the field of project management. Young people possess the ability to utilise Information and Communication Technologies (ICTs) in various and innovative manners. Consequently, this is leading to the disruption and replacement of conventional methods of socialisation, such as the family and school. A significant portion of the perceptions, experiences, and interactions that young individuals encounter on a daily basis are "virtual" in nature. These virtual experiences are broadcast through many types of information and entertainment technology. They use different tools to handle the project management successfully. These technologies provide a society that values knowledge, enjoyment, and a certain level of independence, which is especially attractive to young individuals in the management system. Young people are leading the way in the information revolution, but they struggle with the task of harmonising the actualities of their everyday lives with the idealised portrayals depicted in the media. While individuals may acquire a global awareness, they must still navigate and thrive within their own specific community and cultural context. Simultaneously, several young individuals, especially in poor nations, are marginalised from the information revolution, placing them at a disadvantage in terms of the digital divide. In project management, the impacts of ICT is significant, and it starts a new era of technology that advances management system so far.

REFERENCES

1. Ozimek A. (2020). The future of remote work, SSRN, 1-7. Available at: <https://dx.doi.org/10.2139/ssrn.3638597> (Accessed: 9 December 2022).
2. Lenka R.M. (2021), Unique Hybrid Work Model - The Future of Remote Work, PalArch's Journal of Archaeology of Egypt/Egyptology, Vol. 18, No. 7, 2687-2697. <https://archives.palarch.nl/index.php/jae/article/view/8694>
3. Gössling, S. (2021). Tourism, technology and ICT: a critical review of affordances and concessions. *Journal of Sustainable Tourism*, 29(5), 733–750. <https://doi.org/10.1080/09669582.2021.1873353>.
4. Nieto-Rodriguez, A., & Vargas, R. V. (2023, February 2). How AI Will Transform Project Management. *Harvard Business Review*. <https://hbr.org/2023/02/how-ai-will-transform-project-management>.
5. Shastri, Y., Hoda, R., & Amor, R. (2020). The Role of the Project Manager in Agile Software Development Projects. *Journal of Systems and Software*, 173, 110871. <https://doi.org/10.1016/j.jss.2020.110871>.
6. Alberto Michele Felicetti, Cimino, A., Mazzoleni, A., & Ammirato, S. (2024). Artificial intelligence and project management: An empirical investigation on the appropriation of generative Chatbots by project managers. *Journal of Innovation & Knowledge*, 9(3), 100545–100545. <https://doi.org/10.1016/j.jik.2024.100545>.
7. Pratt, M. (2024, March 7). How AI is transforming project management | techtarget. *Enterprise AI*. <https://www.techtarget.com/searchenterpriseai/feature/How-AI-is-transforming-project-management>.