

The Influence of Organizational Culture on the Adoption and Diffusion of New Technologies within Firms

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Abstract

Technology plays an important role in increasing the efficiency of an organization. On the other hand, organizational culture also affects the decision of using a technology. Despite organizational culture being one of the elements, its impact on organizational effectiveness is debatable. The link between organisational culture and organizational efficiency can be significantly impacted by the complex influence of the organizational environment on the strategies that permit reaching organizational level. In terms of their values, organisational leaders are seen as having an individual impact on the efficiency strategies. The adoption of new technology, which is sometimes hard to accept also have an influential impact on the efficiency of an organization, where organizational culture play an important role. Same ideology applies with diffusion. Organizational culture affects the various variables of an organization. The major variable is technology. For an organization, with multiple culture, values, and beliefs it becomes difficult to accept the new technology and discard the old one. Organisational culture is a perspective of rules, values, attitudes, and beliefs that influence an organization's actions. Employee values and beliefs may be used to understand how an organisation works and how they will react to a new development. An organization's culture may be considered an asset that improves its capacity and effectiveness and aids in the achievement of long-term objectives.

Keywords: Organizational Culture, Technology Adoption, Technology Diffusion, Organizational Values, Implementation Process

Introduction

The behaviour of an organization is influenced by its culture, which is a model of values, beliefs, and attitude. Organisational culture is an ideology that surrounds the organisation and includes

its values, presumptions, hopes, and behaviours. Various cultures exist in organisations. The first is clan culture, which denotes that the organisation upholds shared ideals and objectives and cooperates with one another. It puts a focus on jobs and empowering individuals. There is a sense of familiarity in the clan culture of an enterprise, where collaboration is prioritised more and the leader takes on a mentoring role. In order to meet the success requirements, such a cultural organisation places a strong emphasis on preserving loyalty and expanding engagement. Adhocracy culture is the second organizational culture. It is a transient institution that is eliminated when organisational tasks are finished, and its culture quickly reloads anytime a new task is introduced. Such type of culture gives people greater chances to find their own solutions to accomplish the organization's objectives. Entrepreneurs who come up with fresh, unique solutions to achieve the organisational objective are often the leaders in this sort of culture. Market culture is the third type of culture, where organisations primarily concentrate on transactions taking place outside of the organization's surroundings. The primary goal of a company in such a culture is to generate profit through market competitiveness. This kind of culture places a strong emphasis on how well an objective is accomplished. This kind of culture places more emphasis on the individual than on interpersonal relationships. Hierarchy culture is the fourth organisational culture. A hierarchy culture is one that has a distinct organisational structure, uniform policies, and well-defined roles. The major goals of such a culture are to preserve fixed and established regulations and to offer stability inside the firm (Aktaş, Çiçek, & Kiyak, 2011 and Borkovich, 2015).

Long-term goals can be accomplished in large part through organisational and cultural factors. Positive characteristics of organizational culture shape employee expectations and the final product. Environment is a category of cultural trait that defines how workers participate in the organisation. A control system that is based on an organization's own values is consistent. Employee adaptability is the ability to alter internally in reaction to external circumstances, and mission trade gives employees a long-term purpose and meaning. These professions also outline the organization's expectations for implementing new technologies. There is a need for good associations amongst the employees to seek usefulness and attitude towards technology, hence it is vital to establish a technology organisation culture. It is necessary to improve job productivity, performance, effectiveness, and efficiency before using new technologies. On the other side, a lack of agreement among the staff may hinder the usage or acceptance of new technologies.

Adoption of a new technology is significantly influenced by behavioural purpose or attitude. When a person discovers a technology that meets his needs, it inspires him to learn more about it (Plewa, Troshani, Francis, & Rampersad, 2012).

Literature Review

In a research it was found that any organisation should be highly concerned with technology adoption theory. Perceived utility and perceived user-friendliness are two factors that go into technology acceptability. While perceived ease of use represents the hedonic feeling associated with utilising a certain technology, perceived usefulness is an instrumental variable. There is a connection between technology readiness and technology acceptance because technology readiness has a beneficial impact on how people perceive and adopt technology. Because cultural values are based on people's beliefs and influence their conduct in a variety of ways, they have an impact on how technology is adopted. Because cultural values are based on people's beliefs and influence their conduct in a variety of ways, they have an impact on how technology is adopted. Technology adoption is significantly influenced by cultural values. Different cultural norms make it challenging to adapt new technology, and a new formality among people makes it exceedingly difficult to forecast if it would be accepted (Sunny, Patrick, & Rob, 2019).

According to research, diffusion is the process by which an innovation is disseminated among the individuals who make up a social system, which is made up of related entities that collaborate to solve problems in order to achieve a common objective. Diffusion is the method through which a technology spreads among a population of organisations, to put it simply. Technology diffusion is influenced by a number of variables, including knowledge communication channels, opinion leaders, and change agents. From the time a new idea is initially introduced until it is adopted or rejected, interpersonal communication is tremendously helpful in persuading others to embrace it. The spread of technology is influenced by many different variables. These include the amount of awareness, interest, learning process, cost, role of opinion, and knowledge level, performance, and product ownership. affordable and dependable ability to pay, upkeep, etc (Das, 2018).

According to a study, new technology delivers new services and products for manufacturing processes that cannot be deployed directly. There is a need for prior knowledge that can reduce

the magnitude of these costs and that can foster the adoption of new technology. Determining what technology is required to produce the desired good or services and how it can be used at a personal level or as an existing production process is a key component of adopting new technology. The idea of organisational knowledge, which allows staff to strengthen their organization's capacity to embrace new technologies by expanding their understanding of such technologies, can be used to meet this demand. Technology adoption is correlated with a country's pattern of technology adoption, which includes factors like human capital, institution policies, history of adoption, etc. In a technologically advanced nation, information may be easily conveyed from one area to another. The adoption process is also influenced by neighbouring nations. It implies that technology is a regional phenomenon. It does not, however, support all technologies. Additionally, it was shown that political institutions that are more educated might slow down the spread and adoption of new technologies. The right of early adopters to utilise new technology can be protected by bad legislation. Demand is yet another element that influences the uptake and spread of new technologies (Comin, & Mestieri, 2014 and Wright, et.al 2014).

According to studies, when new technologies fail to resolve a problem, either because of a lack of knowledge of the issue at hand or because of local customs and culture, society may label them as unsuitable and dismiss them. Understanding the fundamental purpose of implementing a technology and appreciating its influence is crucial in the digital age. Adopting and distributing technology in the right way is crucial. Technology use may be risky and can have a detrimental influence on security in modern digital world when usual human interactions are accompanied by face-to-face contact. Enhancing the use of technology in a professional manner is crucial. A training programme is required to integrate with the new technology. Creative solutions and strategic planning are required for the adoption and spread of new technologies. To improve the professional use of technology, practical skills application abilities and professional competency are also required. (Hamilton, 2016 and Huda, 2019).

In a study, it was discovered that, innovations and gadgets are among the manifestations of modern technology. Additionally, it was noted that, diffusion is the process through which updates and news about innovations are spread over social networks and connections over time. The dissemination of innovation is influenced by four factors: the invention itself, the second

communication channel, the third passage of time, and the fourth social structure. Technology innovation has to be financially supported and generally embraced to diffuse successfully. There are five different kinds of technology adopters. The first group is made up of innovators, who were among the first to adopt new technologies. The second category is early adopters, who are strategic leader and are fully cognizant of the need for change. Despite not being leaders themselves, third or early innovators encourage innovation. They want unequivocal proof of the advantages of adopting the novel solution or concept. The fourth group is the late majority; they only adopt the invention after the majority, at which point they must be persuaded of its merits. Laggards come up at number four on the list because they are conventional, resistant to change, and difficult to persuade. The knowledge of innovation, which is essential for the transmission of technology, is necessary in order to distribute it successfully. The second consideration is whether to embrace or reject technology. The third element is the initial testing of innovation. The continued employment of innovative dispersed technology is the last element (Ali, Miraz, 2015 and Jiménez, 2020).

In a study, it was found that the goal of technology-driven diffusion is to gather organisational data and organise it so that it can be used to address issues and make decisions inside an organisation. Strong organisational cultures allow for and embrace diversity, which makes them healthy for business. Due to the mutual dependence of the employer and employees, strong organisational cultures are able to adapt to a variety of changing situations by diving deep into their shared values and beliefs. This calls for a cultural belief that benefits everyone. Technology implementation and organisational management both fall under the umbrella of the concept of culture. Technical expertise and knowledge are crucial, but so are the proper soft skills. The efficacy of an organisation is not directly impacted by organisational culture; rather, it is influenced by how its people behave. The advancement of technology, such as the improvement of health, rise in productivity, usage of technical items, etc., has a significant influence on our daily life. Technology has been crucial in meeting human demands, and nations and states who have adopted it have experienced faster economic growth. The elements that affect awareness, interest, and Technology diffusion of different products is influenced by trial, consumer perception, knowledge level, peer advice, cost, opinion leaders' roles, payback period, distribution channels, communication process, and learning. It is also influenced by performance

of the product, affordability, reliability, good services, financial viability, repair, and maintenance. (Borkovich, 2015 and Dasgupta, & Gupta, 2019).

Objective

To measure the influence of organizational culture on the adoption and diffusion of new technologies within firms

Methodology

This study is descriptive in nature in which data is obtained from 200 respondents who have adopted and diffused new technology in the organization. In the above study mix of all have been covered. A checklist question was used to analyze and interpret the data. In a checklist question respondents choose “Yes” or “No” for all the questions

Table 1 Influence of Organizational Culture on the Adoption and Diffusion of New Technologies within Firms

Influence of Organizational Culture on the Adoption and Diffusion of New Technologies within Firms		Yes	% Yes	No	%No	Total
1	Positive association among the employee influences adoption of Technology	159	79.50	41	20.50	200
2	Knowledge fosters adoption and diffusion of new technology	166	83.00	34	17.00	200
3	Attitude impacts quick adoption of new technology	161	80.50	39	19.50	200
4	Strong organisational cultures allows new technology acceptance	155	77.50	45	22.50	200
5	Behavior intent accepts new technology adoption and diffusion	178	89.00	22	11.00	200
6	Lack of agreement hinders the usage or acceptance of new technologies.	172	86.00	28	14.00	200
7	Cultural value impacts technology adoption	181	90.50	19	9.50	200
8	Organisational knowledge strengthens organization's capacity to	185	92.50	15	7.50	200

embrace new technologies					
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Table1 shows that 92.50% respondents agree that Organisational knowledge strengthens organization's capacity to embrace new technologies, while 90.50% respondents agree that Cultural value impacts technology adoption. 89.00% respondents agree that Behavior intent accepts new technology adoption and diffusion while 86.00% respondents agree that Lack of agreement hinders the usage or acceptance of new technologies. 83.00% respondents agree that Knowledge fosters adoption and diffusion of new technology while 80.50% respondents agree that Attitude impacts quick adoption of new technology. 79.50% respondents agree that Positive association among the employee influences adoption of Technology while 77.50% respondents agree that Strong organisational cultures allow new technology acceptance.

Conclusion

According to the studies mentioned above, an organization's conduct is significantly impacted by its culture, which contains a variety of models of values and beliefs. There are many diverse cultures in organisations, and each of these cultures contributes in a unique way to achieving the goals of the business. An organization's culture greatly influences how quickly and widely a new technology is adopted. Behaviour, purpose, or attitude have a considerable impact on how quickly a new technology is adopted. When a technology meets a person's needs, it motivates him to adopt it. Good employee relations are essential for the successful adoption and spread of technology. The dissemination of technology is influenced by a number of elements, including awareness, interest, learning, and knowledge. Because of lack of understanding of the situation at hand or because of regional norms and culture, society may label and discard technologies that seem to address problems. A training programme must be put in place before integrating an appropriate technology to achieve the specific purpose. For the acceptance and dissemination of new technology, innovative solutions and strategic planning are required. Technology upgrades and news are disseminated via social networks and relationships over time through a process called diffusion.

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