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Organizational culture and innovation performance in Pakistan's software industry



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ABSTRACT

Rapid transformation in technological innovation requires organizations to develop a culture that fosters innovation performance for sustainable development amidst global competition. The core aim of this empirical investigation is to explore the role of organizational culture, particularly an inclusive culture, in the innovation performance of the software industry in Pakistan. To achieve the objective of this study, research was conducted to collect the required information by using a structured questionnaire from software firms in Pakistan via an online data collection system using Google Forms. The sample size is (n = 215) therefore, descriptive statistics, correlation and multiple regression models are used to determine the association between explanatory factors of organizational culture and innovation performance. The results propose that organizational innovation performance is backed and affected by organizational culture. Flexibility/support to change and organizational climate are the comparatively significant factors for creativity and innovation performance. This study focuses on the cultural influence of innovation performance in a specific industry where measurable performance is critical for competitive survival: the software industry. It is critical to understand this relationship, particularly in the context of a developing economy, because of the status of the software industry in the rapid technological innovation and economic progress of the country.

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1. Introduction

Innovation has become the core pillar of achievement for every organization in the current business world. Fast-evolving technology, shorter product life cycles and a higher rate of product development possibly boost the speed of innovation, which triggers changes in the nature of economic development. Innovation is now a core part of organizational strategies to achieve and sustain a competitive advantage in the market. It will be more complex due to rapid changes in customer wants and technology [7]. An organization, small or large, whose core objective is to produce software, is known as a software house. It requires that the personnel be highly technical in the aspect of developing software. HP, Microsoft, Oracle, and Apple are world leading software developers. Let us take-a-look at the IT industry of Pakistan, which is flourishing and has achieved its goals in recent years. Currently, more than 2500 IT firms are registered with highly skilled and educated professionals in Pakistan. The sales of the IT industry is over \$ 2.8

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billion, out of which \$ 1.6 billion belongs to the export of software and IT services [49]. As per the report, 25 tech-incubators, coworking spaces, and accelerators are in possession of the Pakistani IT industry. Three OSCAR awards are received by Pakistani software engineer "Mir Zafar Ali" due to tremendous contribution to Life of Pi, The Golden Compass, and Frozen. Technically skilled and Microsoft certified professionals are adding value to the IT industry and economic development of the country [49]. (see Fig. 1)

This small, however, a significant industry has its own culture, and the performance of the organization is affected by its culture. A firm's culture required to the employees to do things efficiently. The study by Ref. [43]; investigated that the organizational culture is highly significant and plays a vital role in organizational success, and is highly correlated with an employee's satisfaction and performance. For example, software engineers require an open and relaxed environment to cultivate their innovative ideas into a software and introduce innovation in technology to the world. This type of creative environment could be developed by paying more focus on the organizational culture [4]. A Strong culture will motivate employees to take a dynamic part in decision making to express their innovative ideas with the management to improve organizational performance [45]. This study investigated the fact

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that a firm can maintain a sustainable innovation performance, which in turn leads the organization to get a competitive advantage if the management involves their employees in decision-making and maintains a flexible organization culture. This study is based on the software industry of Pakistan, which has the dynamic features associated with the high-tech innovation process, extended knowledge sharing, short product life cycle, and high global competition.

2. Theoretical background and hypothesis

Innovation is defined by Ref. [2] as an efficient execution of creative thoughts within an organization. Practical implementation of creativity is a preliminary point for innovation, which could not stop creative ideas considered as an essential theme for innovation and its implementation. As investigated by Ref. [16]; innovation is the most efficient way to attaining a competitive advantage, sustainable performance, and development of business in the market. It is true to say that innovative firms are more flexible with higher capacity to adapt changes in the market as well as in technology. Market innovation refers to the adoption of a new marketing program with existing products or finding and entering in new potential markets for new and existing products. Numerous studies suggest a substantial relationship between culture and innovation i.e. [10,23,32,35,37]. Wang & Ahmed, [52] described innovations in the process as well, which refers to introducing contemporary production and management methods, adoption of innovative technology, and improvement in product management systems. Organizations also established a culture that encourages their employees to come up with innovative ideas, take part in management decisions and innovation strategies. The environment enables creativity, informal and relaxed environment leads to the creativity and innovation in the organization. The study by Ref. [23]; has shown that organizational innovation and learning are affected by the organizational values, beliefs, work environment, knowledge sharing, and all the cultural doings in the organization.

Corporate culture has a determinant role in the working environment. As per the KBV theory of organizational culture, personal ideas are considered as an intangible asset, which plays a vital role in corporate development. Organizational culture referred to an employee's values, and beliefs shared at all levels and displayed organizational traits [42]. Creativeness belongs to individuals or a team, but change happens in the organization. Organizational culture is necessary to boost the knowledge sharing and creative minds which are considerable for organizational success [11].

Another would assume such a culture to discard activities and practices that obstruct innovation such as control, stiffness, predictability, and stability in the organization [25]. Furthermore, it represents the vibrant character of employees; language, behaviors, relationship, feelings, artifacts, physical settings, and symbolism are communicated and reinforced [52], investigated that innovations become possible only when an innovative culture is developed in groups. For the efficacy of this procedure, new resolutions are highly required to increases creativity in an organization. Innovation in product and services are highly interrelated as per the needs of the potential customer and market demand at the accurate time. Organizational culture is a significant driver of risky outcomes such as productivity, innovation, and financial performance of an organization. The spirit of organizational culture is that the employees are highly motivated to find solutions to problems and coordinate through knowledge sharing and cultural values [46]. Strong organizational culture can significantly stimulate creativity and innovative behavior among the employees; it can be helpful to arise with creative ideas and consider innovation as a core worth of the organization [21]. Due to the nature of innovation, formal rules and regulations could be kept at a minimum level and provide an open climate to allow creative ideas to flourish [21].

2.1. External orientation

[33] defined that market orientation culturally linked with external orientation representing customers, competitors, and market cooperation [54], described the impact of culture on entrepreneurship in family-based organizations in four dimensions, internal and external orientation is one of them. They explained that the culture of family firms tends to be determined by force of personality, comfortable environment for managers and staff of the project, autonomously. External orientation significantly emerges a strong culture within the organization to motivate an employee for knowledge sharing and improving abilities to determine the opportunities for the organization. External orientation based on market direction and firm's adaptability with the extreme situation and adjacent connection with customers and versatility via familiarity to market is also necessary for sustainable innovation performance [31]. Market orientation is the key factor to increase the innovative organizational performance [41] [29]. described the external orientation as fulfilling current and future requirements of potential customers as well as measuring the change in customer's expectations, evaluating the activities of potential competitors and sharing concerned information within the organization. That is why a firm needs to maintain contact with the

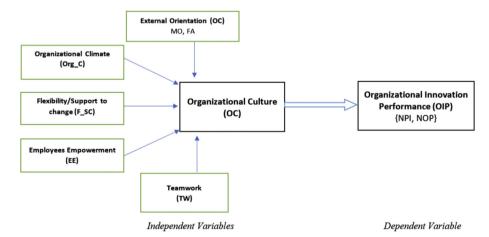


Fig. 1. Research framework.

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