P-ISSN 2664-0422 | Pakistan Social Sciences Review | Jul-Sep 2024, Vol. 8, No. 3
O-ISSN 2664-0430 | https://doi.org/10.35484/pssr.2024(8-III)70 | [875-883]

Pakistan Social Sciences Review
www.pssr.org.pk

RESEARCH PAPER

Examining the Role of Digital Strategy in Digital Transformation Success in the Presence of Workforce Agility: Evidence from Health Sector Digital Transformation Projects

[1]Adnan Ahmed Khan, [2]Muhammad Anwar Khan* and [3]Shagufta Waseem

1. Lecturer, Department of Commerce University of Loralai, Baluchistan, Pakistan
2. PhD scholar, Faculty of Management Sciences, International Islamic University, Islamabad, Pakistan,
3. Assistant Director Fundraising and Campaigns, Advancement Directorate. Bahria University, Head office, Islamabad, Pakistan

***Corresponding Author:** anwarbahria275@gmail.com

ABSTRACT

This study investigates the nexus between digital strategy (DS) and digital transformation success (DTS) by highlighting the mediating effect of workforce agility. The increasing customer demand due to the rapid technological advancements, the Pakistani health sector is under pressure to innovate and adapt novel solutions. To understand this relationship, we collected data from employees working in hospitals of Pakistan by using the SPSS software to analyze the data. The findings revealed that DS positively affect DTS, and workforce is positively mediate this relationship. These insights are especially significant for health sector in Pakistan pursuing to successfully manage the challenges created by technology advancement and accomplish sustainable performance in the current digital age.

KEYWORDS Digital Strategy, Digital Transformation Success, Health Sector, Workforce Agility

Introduction

Digital transformation (DT) has changed existing organizational operations and environments and it's also effects society and individual (Ly, 2023). Thus, organizations are exploring new prospects created by DT to increase agility in rapidly changing world (Ly, 2023). However, to explore such opportunities, organizations lack various key aspects to implement DT successfully (Vogelsang et al., 2018). Scholars have indicated the high failure rate of DT because almost ninety percent of DT project become fail to achieve the desired goals (Ramesh and Delen, 2021). Various factors are the reason of such a high failure including organizational digital strategy (ODS) and workforce agility (Jonathan and Reychav, 2024; Vogelsang et al., 2018). Aditya et al. (2022) reported that almost ninety percent of organization lack of clear strategy while implementing DT. Even if such unclear digital strategies are implemented, they are providing negative impact on organization by losing the huge amount (Gobble, 2018; Vogelsang et al., 2018). Digital strategy described as an "organizational strategy formulated and executed by leveraging digital resources to create differential value" (Bharadwaj et al., 2013).

Scholars have extensively examined the various factors that bring successful DT in the organizations in the qualitative studies (Vogelsang et al., 2018; Safwanah et al., 2022). But research on ODS and DS is limited especially empirical studies (Proksch et al., 2024). There is plethora of qualitative research studies are available in present literature who established the linkages between ODS and DS (Gobble, 2018; Safwanah et al., 2022).

Therefore, this study aims to fill this an important research gap by investigating the linkages between ODS and DT success in the health sector of Pakistan.

To study the nexus between ODS and DT success, it is also critical to find how ODS can enable workforce agility in organization to successfully manage DT. We take workforce agility as an intervening mechanism between ODS and DT success. Breu et al. (2002) defined workforce agility "the capability of the workforce of an organization to respond rapidly to changes and to cope flexibly with unexpected change in order to survive unprecedented threats from the business environment". Past research reported that workforce agility can affect the DT success (Bresciani et al., 2021; Muduli and Choudhury, 2024). But the linkages between the workforce agility and DT success have not received considerable attention from scholars (Jonathan et al., 2024). This research gap in the existing literature of information system is unfortunate & is according with the result of Kretschmer and Khashabi, (2020), who indicated that that current research work on DT focuses on technological side while ignoring the relevance of human related factors (Jonathan et al., 2024). Currently research on human resource and technology have recognized the role of agile workforce as an organization strategy to successfully adjust to the changes which arises during DT adoption (Muduli and Choudhury, 2024). Workforce agility can act a critical role in introducing various changes in the organizational structure, process work, process, and stakeholder alignment to promptly and swiftly adopt DT in the organization (Mrugalska and Ahmed, 2021). Therefore, present research assumes that organization with effective digital strategy can successfully management DT complexity.

Literature Review

Digital strategy and DT success

Success in DT process is mostly required a holistic ODS designing and implementation (Aditya et al., 2022). ODS play a crucial role in determining the organization DT success efforts (Sahu, 2018). It acts as an blueprint that supports DT initiatives with organizational goals, ensuring that investments in digital yield measurable results (Aditya et al., 2022). Research work highlighted that well defined ODS support organization to manage uncertain conditions and exploit on digital benefits by enhancing innovation and agility (AlNuaimi et al., 2022). Past studies reported that ODS as key elements of digitalization of new venture (Proksch et al.,2024). Where Wang et al. (2020) reported that ODS is significantly correlated with organization performance in the digital context. Early research noted that firms with a clear ODS are more likely to accomplish positive outcomes i.e. increase profitability, customer satisfaction and increased operational efficiency (Nylén et al., 2015).

In addition to this, effective ODS facilitate firms to adapt to speedy changing market condition, comprising change in customer demand and technological disruption (Gobble, 2018). By developing a clear ODS for DT initiatives, firms can safeguard that their DT initiatives are not only technically well sound but also well aligned with business success for long-term. DT delivers various benefits for today organizations (AlNuaimi et al., 2022). According to Wessel et al. (2021), various practitioners and academics struggle to understand this benefits, primarily because DT differs from other well-established idea such as "IT enabled organizational transformation". This is because to the complication of DT, because it includes a well-defined vision, technology and detailed ODS to complete the essential stages (Aditya et al., 2022). In other words, DT needs targeted firms restructuring and involves significances for the metrics employed to enhance performance of organization. (Verhoef et al., 2021). Designing a ODS that

includes business and corporate strategies has been prime factor of DT Success. Hence, this study assumes the below research hypothesis:

H_1 ODS is positively related to DT success.

Mediating role of workforce agility

Agility is a management approach for adopting the effective process and right structures, including right commitment and mindset by the organizational workers to exploit unpredicted changes and takes fully advantages of opportunities in happening in organizations firm (Jonathan et al., 2024). Workforce agility that emerged over time because firms realized the requirement to cope to changing workforce dynamics and business environments (Muduli and Choudhury, 2024b). Workforce agility behavior of workers delivers higher levels of business results such as enhance operational efficiency and improve customer service (Muduli and Choudhury, 2024b). Early study has confirmed that the linkages between and performance (Muduli and Choudhury, 2024b). Agility supports organization accomplish excellent competitive advantages (Junior and Saltorato). Firms with greater agility effectively handle dynamic changes, offers positive business outcomes and quickly create for organization stakeholders speedy (Saeed et al., 2022)

Current research assumes that a well-defined ODS can be closely linked to workforce agility. As ODS and improving workforce digital capabilities and skills (Stanley and Aggarwal, 2023). Firms that spend in advance digital training and tools enhance a workforce agility which is equipped to addressed new barriers and opportunities (Ajgaonkar et al., 2022). The ODS not only supports technical effectiveness but also boost an atmosphere of innovation and continuous improvement, key antecedents of agility (AlNuaimi et al., 2022). Research work reported that ODS, when executed effectively, facilitate agility in workforce by enhancing knowledge sharing, improving decision-making power with data analytics and enhancing collaborative atmosphere (Ruiz et al., 2024; AlNuaimi et al., 2022). For examples, artificial intelligence and cloud-based techniques can streamline job process, enabling workers to focus on more innovative tasks and strategic (Mithas et al., 2020). As technologies help the worker to be more adaptive and flexible to organizational change, ultimately facilitating the wider objective of the ODS. Study results highlighted that workforce agility support to keep a greater quality standard, positive outcomes of operational process and increase customer base (Sherehiy and Karwowski, 2014). In the setting of health sector, workforce agility improves the overall performance of organizations (Patri and Suresh, 2019). Therefore, we propose the below given hypothesis:

H_2: Workforce agility is positively mediate the linkage between ODS and DT success.

Methodology

Material and Method

Health sector of Pakistan is one emerging sector which adopt digital technologies to address the patient issues on time. Therefore, we selected health sector of Pakistan and collected data from the various hospital of Karachi. The responded for this study were selected by employed the purposive sampling technique. The responded were project owner, leader, manager and project team. Initially, 500 survey questionnaires were distributed among various hospitals where 420 were received. Among 420, 40 were excluded due to incomplete information. So, the final sample size is 380. SPSS was used

to find the result of data. The overall detail of demographic is given in Table 1. This research adopted past studies scale to measure the variables as depicted in table 2.

Table 1
Demographic information

Demographic information	Frequency	Percentage
Gender		
Male	240	63
Female	140	37
Age		
20-30	137	36
31-40	112	29
41-50	89	23
above 50	42	11
Qualification		
14 years	121	32
16 years	183	48
18 years	76	20
Experience		
1-5	128	34
6-10	110	29
11-15	89	23
above 15	53	14

Table 2
Measurement scales

S#	Variable	Reference	Total Items
1	ODS	Proksch et al. (2024)	5
2	Workforce agility	Jing et al. (2023)	6
3	DT success	Molla et al. (2024)	5

Results and Discussion

The collected data were analyzed through software of SPPS, comprising the Process macro for mediating variable. At the end, this study conducted a test of Sobel to confirm the mediating role (Preacher and Hayes, 2004). As the same participants rate workforce agility, ODS and DT success, the concern regarding a arose possible "common method bias" CMB. Hence, Herman single factor method was used (Podsakoff et al., 2003). Because for common method various Podsakoff et al. (2003) method is widely employed for potential problem.

Applying factors analysis, a research model in 5 factor was found. In the analysis we found no single factor greater than fifty percent of the various. The score of internal consistence of all study construct were greater the suggested value, that shows that all variables reliability was acceptable as depicted in Table 3. Furthermore, ODS to be significantly linked with DTS ($r = 0.477$, $p < 0.01$). The workforce agility ($r = 0.453$, $p < 0.01$), whereas DT success (dependent variable) was also showing positively correlation with DT workforce agility ($r = 0.403$, $p < 0.01$). To find the mediation research model this study proposed, PROCESS marc (Hayes, 2012) for SPSS was employed. In the regression analysis. ODS was employed as antecedents, workforce agility as an intervening and DT success a dependent construct as depicted in Table 4.

Table 3
Correlations for current research study variables

Construct	Cronbach's a	Correlations		
ODS	0.738	1		
Workforce agility	0.797	0.487**	1	
DT success	0.845	0.453**	0.403**	1

Noted: -** *The correlation is statistically significant at the 0.01 level using a (two-tailed test)*

In the mediation mode first step, the regression analysis of the ODS on DT success, ignoring the intervening, was positive, F (2,156) = 38.07, p < 0.001, R square = 0.29, b = 0.14, t(132) = 5.386 & p < 0.001. In the second step that the regression analysis of the ODS on the intervening, workforce agility, was also positive, F(1,786) = 42.4, p < 0.001, R square = 0.19, b = 0.10, t(132) = 4.683 & p < 0.001. In the third stage, the mediating result indicated that the intervening variable workforce agility controlling for ODS, was positive, F(1,947) = 32.42, R square = 0.29, p < 0.001, b = 0.86, t(146) = 6.74 & p < 0.001. In the fourth stage, the results showed that controlling for intervening variable, workforce agility, ODS score were significant antecedent of DT success, b = 0.12, t (146) = 4.10 & p < 0.001.

Table 4,
mediation result

Model	Coefficient	SE	t	p	CI (lower)	CI (upper)
With-out mediator						
ODS ⟶ DT success	0.1483	0.0276	5.386	0.000	0.1427	0.2385
With mediator						
ODS ⟶ workforce agility	0.1045	0.0854	4.683	0.000	0.1728	0.2069
Workforce agility ⟶ DT success	0.8652	0.0659	6.748	0.009	0.1024	0.1934
ODS ⟶ DT success	0.1284	0.2137	4.109	0.000	0.0876	0.2014

Conclusion

The empirical model of the current study examined the effect of ODS on DT success in present of workforce agility as mediator. As predicated, healthcare professionals indicated that well-defined and effective ODS provide significant result in DT initiatives. Health care workers appreciated the role of clear vision of organization management as driving force for employee's motivation to adapt the change and remain flexible in digital age (AlNuaimi et al., 2022; Setia et al., 2024), finding ODS as a predictor of DT success. Farther, this study finding respond to various research call in the IS literature by delivering an alternate justification of how well-defined ODS of management facilitates DT success in existence of workforce agility (Alrasheedi et al., 2022; Muduli and Choudhury, 2024). Outcome of analysis of our study confirmed the claim of prior studies who highlighted that ODS is a play pivotal role in success of DT (Gobbe, 2018; Aditya et al., 2022). Further, our study for the first time finds that ODS can play pivotal role in the DT success in existence of workforce agility.

Theoretical implications

This research delivers pivotal theoretical implications for research by placing workforce agility as a single mediator connecting ODS and DT success. This research extends IS literature for focusing on the importance of worker capital, precisely in accomplishing digital goals. The finding contributes to the existing literature by stressing that agility of workforce, alongside adoption of technology is critical for taking sustainable advantages on competitor in the current technological environment. Further, it fills the research between ODS and theories of organizational behavior highlighting

that the effectiveness of organizational digital strategies is dependent on workers capability to innovate and rapidly innovate. Finding of our research also open future avenues for examining agility of worker as wider capabilities of organizational across industries and various context, enhancing the discourse of workforce related factor in DT.

Practical implications

Practical implications of our research highlight the requirement for firms to actively encourage workforce agility to improve the success rate of their DT initiatives. Management of firms should spend in worker development and training programs that emphasis on continuous learning, adaptability and collaboration. Further, enhancing an atmosphere of experimentation, flexibility, innovation and will equip worker to implement ODS effectively. Organization managers should also plan agile firm structure that facilitates speedy decision making and diverse team. By prioritizing agility of workforce, firms can enhance their responsiveness rate to changes occurring in market, increase resilience, improve their process efficiency in the technological disruption, which ultimately deliver higher DT success.

Recommendations

As per the other research studies, our study is also various research limitations. First, we conducted research with on industry, that limited the generalizability of current study, therefore further research needs to explore the relationship of this study in various industry and nation to confirm the result. Second, in our study we have take only one mediator, future study needs to incorporate other intervening variable such skilled full workforce, workforce transformation. Third, the research model of our stud does not include any moderator in the purpose relationship. Currently, research highlighting the importance of ambidextrous digital capability in the digital setting, future need to fill this gap. It may be interesting to test the role of customer expectation and technological distribution in ODS.

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