Macrothink Institute™

Business Management and Strategy
ISSN 2157-6068
2024, Vol. 15, No. 2

Factors Affecting Resistance to Organizational Change in the Ministry of Higher Education, Research, and Innovation, Oman

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Received: May 24, 2024 Accepted: August 12, 2024 Published: August 22, 2024

doi:10.5296/bms.v15i2.22191 URL: https://doi.org/10.5296/bms.v15i2.22191

Abstract

The COVID-19 pandemic has caused an unprecedented humanitarian, social, and health disaster. In its aftermath, countries and organizations are striving to transform and acquire 21st-century skills to adapt to the current era. Organizational change has thus become crucial not only for sustainable development but also to survive crises. Consequently, this study investigates the critical factors affecting employees' resistance to organizational change in Oman's Ministry of Higher Education, Research, and Innovation (MOHERI). Using Lewin's Change Management Model as the theoretical framework, survey data was collected from 344 MOHERI employees and analyzed using structural equation modeling. The findings indicate that leadership and SMART quality service significantly influence resistance to change. Additionally, it is revealed that organizational practices play vital roles in shaping employees' attitudes toward change, whereas employees' talent and knowledge moderate their resistance towards change. By providing empirical evidence on the elements that influence successful organizational transformation in Oman's public sector, this study provides policymakers, managers, and the Omani government with a better understanding of this phenomenon, enabling them to design more effective change strategies and policies. The

study also adds value to the organizational change literature, offering directions for future research to focus on these crucial factors for successful change.

Keywords: organizational change, research, innovation, Lewin's theory

1. Introduction

Change in organizations, as a systematic process, has evolved from being of limited relevance to being central to their existence. Effective change management is essential for enhancing organizational performance, as it fosters employees' creativity, problem-solving, innovation, retention, and productivity. Conversely, poorly managed change can stress employees, creating tension, ambiguity, uncertainty, and anxiety (Busari, Khan, Abdullah, & Mughal, 2020). Research shows that most change management efforts fail because organizations overlook the human aspect. Employees should be viewed as active participants who contribute to and promote change rather than merely as targets (Islam et al., 2020). However, firms struggle to realize and implement the benefits of their strategies because they are unable to encourage employees to embrace new projects (Akhtar et al., 2016). As such, given that organizations invest heavily in change programs, it is crucial to focus on the people driving the change rather than just the end consumers.

Although there is extensive research on innovative behavior and change in private sector companies, little is known about public sector organizations due to a lack of data (Ahrens, Al-Sereidi, Al-Shaebi, & Rahmdel, 2017; Park & Jo, 2018). This research seeks to address this limitation by performing one of the first studies on organizational change in Oman's Ministry of Higher Education, Research, and Innovation (MOHERI), a government department. Specifically, this study focuses on the factors impacting employees' resistance to change in MOHERI. The Ministry collaborates with educational institutions, research centers, and other stakeholders to ensure the growth and development of higher education and research sectors (MOHERI, 2022). It promotes the establishment of universities, colleges, and institutes while encouraging research, innovation, and entrepreneurship among students and researchers. In 2014, when many sectors in the region were affected by financial problems, the budget deficit impacted MOHERI as a government entity. Due to the crisis and budget deficit, MOHERI began reshaping its programs and organizational structure, aiming to retain staff and maximize remaining resources. As MOHERI has moved past the first National Research Strategy (2008-2020), it is crucial to renew existing strategies while integrating new ones with the country's overall development strategy and Oman Vision 2040, thus shaping Oman's future.

2. Literature Review

2.1 Lewin's Theory of Organizational Change

To explore the factors contributing to employee change resistance in Oman's public sector, this study adopted Lewin's (1951) theory on organizational change, called the Change Management Model, as its theoretical foundation. Lewin's three-step model (unfreeze, change,

and refreeze) provides a methodical approach to change management procedures, managing employee resistance, and internalizing and integrating change outcomes (Feng, Wang, & Qi, 2023). According to Schein (1999), Lewin's theory is more than just a formal thesis about change; it includes characteristics that help leaders conceptualize the type of change suitable for their specific organization. This approach aids managers in identifying the factors that cause people to oppose or accept change, enabling change agents to make better decisions and ensure a successful transition process.

2.2 Leadership

Long-term and effective change leadership is essential for research institutions like MOHERI to improve their performance. This involves identifying the most effective methods for hiring or promoting managers and educating existing managers on leadership skills. Applicants for leadership positions should have a strong background in natural and health sciences, engineering, and social sciences, as well as the ability to recognize and manage organizational challenges (Zu, 2023). This requires expertise in "the systems within which change development occurs, the interventions that occur within those systems, and the repercussions of alternative actions" (Palmer, Davies, & Viney, 2023). Candidates for advancement to higher education leadership positions should be evaluated on their interpersonal skills and empathy, both of which are critical (Abiwu & Martins, 2023). Therefore, leadership is proposed as a factor affecting MOHERI employees' resistance to change, and this study hypothesizes that leadership has a significant direct effect on resistance to change.

2.3 SMART Approach

SMART is a quality service system designed to enhance employees' abilities to cope with 21st-century challenges by providing innovative solutions such as education, methodologies, and assessment settings (Brown, King, & Goh, 2023). SMART stands for Self-control (learning behavior), Motivation (interest), Adaptability (skill and ability), Range of learning materials, and a Technology-based learning environment (Park, Choi, & Lee, 2013; Putra & Putro, 2019). SMART service is a new kind of education service based on information technology, utilizing various digital media (Park et al., 2013). It is a learning process that can be performed by employees at any time and in any place, unlike early correspondence services, which involved learners receiving primarily print-based materials by mail.

The development of information technology usage in education is gaining popularity. Despite its brief existence, SMART service has lasted more than a century. Since the early 1980s, SMART service has grown rapidly, and its structure has changed dramatically due to technological advancements. While much research has been conducted on SMART service, no theoretical frameworks have been suggested. This might be due to various factors, including a lack of publicly known theoretical foundations and rapid technological advancement (Shaikh, Alsharief, Amin, Noordin, & Shaikh, 2023; Wen & Mi, 2024). Another reason is that SMART service is inextricably linked to technology, and as

technology progresses, so must the theories, interactions, roles, and modes of material delivery in SMART education. Overall, the provision of the SMART quality service approach is proposed in this study as a factor that can mitigate MOHERI employees' resistance to change. Hence, this study puts forward a hypothesis that the SMART Quality Service Approach has a significant direct effect on resistance to change.

2.4 Organizational Practices

As per the Institutional Theory, stakeholders' demands and expectations significantly influence organizational practices (DiMaggio & Powell, 1983). This theory also applies to research and education institutions like MOHERI that are incorporating change into their practices (Patergiannaki & Pollalis, 2023). Engaging in change-related activities triggers major organizational changes (Krishnaswamy, Nyepit, & Leow, 2023). Public organizations, which receive and use public funding, must be accountable to the government (Al-Maskari, Al Riyami, & Ghnimi, 2024). Concurrently, modern society has high expectations for the research sector. As a public sector entity adhering to state logic, MOHERI must be accountable to the public and provide value to current and future researchers, other stakeholders, and the general public. Additionally, the principles of academic independence and intrinsic motivation must be considered (Wen & Mi, 2024). To address these multiple demands, it is vital to enhance organizational practices, such as decision-making procedures, communication channels, and organizational culture, in the research sector to influence the change process. Consequently, this study considers organizational practices as an important factor impacting MOHERI employees' resistance to change and puts forward a hypothesis that organizational practices have a significant direct effect on resistance to change.

2.5 Knowledge

Change cannot be accomplished without knowledge (Sahibzada, Janjua, Muavia, & Aamir, 2024). Indeed, whether accomplished holistically or through individual components of change development, knowledge significantly contributes to change and enhances public welfare, including safety, health, education, and overall quality of life (Paudel, Bhattarai, & Chalise, 2023). Knowledge also has a substantial influence on the performance of organizations, particularly research and innovation institutions like MOHERI. It has emerged as a potential area of focus as a performance-enhancing tool (Alghail, Abbas, & Yao, 2023). According to McCann and Holt (2010), an organization that is knowledge-based and knowledge-creating can ensure long-term social and economic change. To accomplish these long-term objectives, MOHERI leaders must transform into knowledge managers (Modem, Lakshminarayanan, Pattusamy, Pillai & Prabhu, 2023).

Organizational learning (i.e., knowledge sharing and production) has been empirically proven to be associated with leadership and change (Iqbal, Waqas & Sami, 2022). Knowledge management involves many participants and demands cross-sector cooperation for the gathering, sharing, and production of new information, which is then translated into creative,

socially responsible solutions. Additionally, engaging stakeholders can influence their "rules" and social relationships. Stakeholders are involved not only in problem-solving but also in innovation dissemination. By fostering active stakeholder involvement in knowledge management, change leaders can better meet stakeholder expectations while boosting organizational change. Ultimately, it is feasible to infer that knowledge is a valuable tool for enhancing change and reducing employees' resistance to change.

2.6 Talent

Professional talent relates to the characteristics and abilities that allow individuals to surpass others in their job (Alghail et al., 2023). Among these characteristics is the capacity to handle projects effectively (Kazemian & Grant, 2024), personal and professional expertise, as well as cognitive abilities like social competencies (Paudel et al., 2023). These talents enable employees to connect with coworkers, solve problems, network, and communicate effectively, as well as work with a diverse range of individuals in various functional teams (Mohd Khalil, Lee, Kamaruzzaman, & Ong, 2024). To foster the growth and application of talent, organizations should consider the relationship between human abilities and entrepreneurship. Experts have shown that these abilities help individuals use their capacity to generate new knowledge, ideas, and solutions (Razia, Awwad, & Taqi, 2023). As such, there is a need to prioritize individual employees' talent (Abu-Darwish, Al-Kasasbeh, & Al-Khasawneh, 2022).

Change is a challenging process requiring the cooperation of many parties. To ensure an institution's long-term existence and change success, it is vital to have more than one or two people actively participating in its activities (Bouteraa & Bouaziz, 2023; Latukha, Michailova, Ott, Khasieva, & Kostyuk, 2022). Each employee must have a thorough understanding of the change challenges relevant to their field and how those issues are connected to other areas. In this regard, talent development enhances managers' relevance to the organization's strategy and results (Schreuder & Noorman, 2019). When top leaders improve their talents, their impact on the business increases (Abiwu & Martins, 2023; Chen, Tang, & Han, 2022). Numerous studies have examined talent's moderating effect on organizations (Luna-Arocas, Danvila-Del Valle, & Lara, 2020). Iqbal et al. (2022) assert that talent is a catalyst for change-related innovation and change efforts, consequently facilitating organizational change. The effectiveness of leadership changes, such as the innovation process, depends on leaders' authority within the organization (Anlesinya, Amponsah-Tawiah, & Dartey-Baah, 2019). Managerial autonomy is necessary for establishing and maintaining trusted, long-term relationships with stakeholders (Iqbal et al., 2022).

Researchers have emphasized the need for higher education and research organizations to consider the implications of individual employee talent. Thus, to gain substantial change benefits, Oman's MOHERI must prioritize knowledge and talent management, both of which are crucial for higher education institutions (Abiwu & Martins, 2023). Despite the extensive literature on organizational innovation in the private sector, there is a lack of data explaining why talent levels vary across public organizations, particularly in Oman (Ahrens et al., 2017;

Park & Jo, 2018). Moreover, while literature suggests that talent and knowledge can moderate organizational culture, there has been limited research on their role as change moderators in research and development institutions. This study aims to address these gaps by examining the role of knowledge and talent in MOHERI employees' resistance to organizational change. The findings will assist Oman's stakeholders and government agencies in developing policies and regulations, adopting new technologies, implementing innovative practices, and establishing world-class standards for MOHERI's future. Therefore, the researcher proposes the hypotheses that both knowledge and talent play significant moderating roles in the relationship between organizational change and resistance to change.

3. Methodology

Employees of MOHERI in Oman served as the target demographic for this research. The study utilized a self-administered questionnaire survey distributed to respondents holding administrative and academic positions. Questionnaires were sent both in person and via email, employing a stratified random sampling strategy. The questionnaire consisted of seven sections. Section A collected general demographic information. Section B contained questions related to leadership, while Section C focused on the SMART quality service approach. Section D included questions on organizational practices, Section E addressed knowledge-related questions, Section F covered talent-related questions, and Section G focused on resistance to change. A Likert scale was used to measure the level of agreement and disagreement in responses.

Initially, the questionnaire was pilot tested with 30 MOHERI staff to ensure clarity, estimate completion time, and identify potential concerns. These 30 employees were excluded from the final survey. Cronbach's Alpha was used to examine the instrument's reliability, and all measurement scales showed internal consistency substantially above the acceptable level. Following actual data collection, a total of 344 employees participated in the survey, yielding an impressive 86% response rate from the 400 questionnaires sent. This high participation rate is crucial to ensuring that the study's conclusions reflect a diverse and representative sample. Following Babbie's (2005) recommendation, 44 instances of missing data were identified and excluded from the analysis.

4. Results and Discussion

According to Hair (2006), normality is typically rejected at skewness and kurtosis absolute values of +3.29, +2.58, and +1.96, corresponding to significance levels of $p<0.001$, $p<0.01$, and $p<0.05$, respectively. In this study, no variables fell below the +3.29 probability range limit at $p<0.001$ in the normality test, suggesting that the data for these variables is normally distributed (see Table 1). Field (2009a) also recommends a sample size of at least 200 for a reliable assessment of skewness and kurtosis values, as well as for an accurate representation of the distribution pattern. The findings indicate compliance with the normality criteria essential for an ANOVA analysis.

Table 1. Skewness and Kurtosis of variables

Variables	Skewness		Kurtosis	
	Statistic	Std. Error	Statistic	Std. Error
Leadership	-.331	.157	-1.006	.315
SMART Quality Service Approach	-.644	.157	-1.062	.315
Organizational Practices	-.808	.157	-.564	.315
Knowledge	-.051	.157	-.917	.315
Talent	.648	.157	.343	.315
Resistance to Change	-.044	.157	-1.337	.315

In the context of HTMT, some researchers have proposed a threshold of 0.85 (Kline, 2011; Clark & Watson, 1995), while others have suggested a more stringent threshold of 0.90 (Kline, 2011; Clark & Watson, 1995; Teo, Srivastava & Jiang, 2008; Gold, Malhotra & Segars, 2001). The HTMT results for the study's constructs are presented in Table 2, confirming discriminant validity.

Table 2. HTMT Correlation Matrix for Discriminant Validity

	L	SQ	OP	K	T	RC
Leadership	0.767					
SMART Quality Service Approach	0.574	0.689				
Organizational Practices	0.850	0.886	0.731			
Knowledge	0.598	0.666	0.823	0.725		
Talent	0.514	0.540	0.889	0.643	0.875	
Resistance to Change	0.760	0.789	0.695	0.617	0.787	0.659

As shown in Table 3, the findings of this study indicate that leadership strongly influences employees' resistance to change within Oman's MOHERI. This is consistent with previous

studies highlighting the role of leadership in fostering organizational change and effectively handling resistance (Al-Haddad & Kotnour, 2015; Oreg et al., 2018). Our findings show that effective leadership styles, such as transformational leadership, can help to lessen resistance to change by encouraging trust, communication, and employee involvement (Trudel, 2020).

The findings also demonstrate that the SMART quality service strategy impacts resistance to change at Oman's MOHERI (Sapogov, 2020; Zeeshan, Hämäläinen, & Neittaanmäki, 2022). Organizations utilizing a SMART quality service approach are better equipped to manage resistance to change (Putra & Putro, 2019; Reza, 2016). This conclusion underscores the importance of structured and systematic quality management systems in supporting organizational change processes. By aligning change initiatives with established quality standards and objectives, organizations can enhance employee buy-in and commitment to change (Sapogov, 2020). The findings further highlight a strong link between organizational practices and change resistance, suggesting that elements such as decision-making procedures, communication channels, and organizational culture significantly influence employees' perceptions of change (Aduku et al., 2021; Alfoudari et al., 2023). Organizations that prioritize transparency, involvement, and inclusivity in their change programs are more likely to reduce resistance and achieve positive change outcomes.

Table 3. Hypothesis Testing Results

	Sample Mean	**SD**	**T Statistic**	**P Value**	**5% CI**	**95%CI**	**Decision**
Leadership -> Resistance to Change	0.105	0.055	13.316	0.046	0.010	0.196	Supported
SMART Quality Service -> Resistance to Change	0.459	0.008	14.155	0.000	0.215	0.265	Supported
Organizational Practices -> Resistance to Change	0.403	0.009	14.608	0.033	0.206	0.255	Supported
OC*Knowledge -> Resistance to Change	0.442	0.016	10.236	0.000	0.186	0.235	Supported
OC*Talent -> Resistance to Change	0.494	0.019	16.216	0.001	0.153	0.238	Supported

According to Baron and Kenny (1986), a moderating variable is an interacting term that emerges when the relationship between independent and dependent variables is surprisingly weak, inconsistent, or nonexistent. It is introduced to either weaken or strengthen the

relationship. Similarly, Henseler and Fassott (2010) state that moderating effects are evoked by variables whose variation influences the strength or direction of a relationship between an exogenous and an endogenous variable. Henseler and Fassott (2010) identify four approaches to analyzing moderation effects in PLS-SEM: the product indicator approach (Chin, Marcolin, & Newsted, 2003), the two-stage approach (Chin, Marcolin, & Newsted, 2003; Henseler & Fassott, 2010), the hybrid approach (Wold, 1982), and the orthogonalizing approach (Little, Bovaird, & Widaman, 2006). Because the moderator variables in this study are continuous, the product indicator approach was used to examine the moderating effect, as recommended by Henseler and Fassott (2010) and Hair et al. (2014). The results show that both knowledge and talent play significant moderating roles in the relationship between organizational change and resistance to change. Figure 1 presents the moderation structural model.

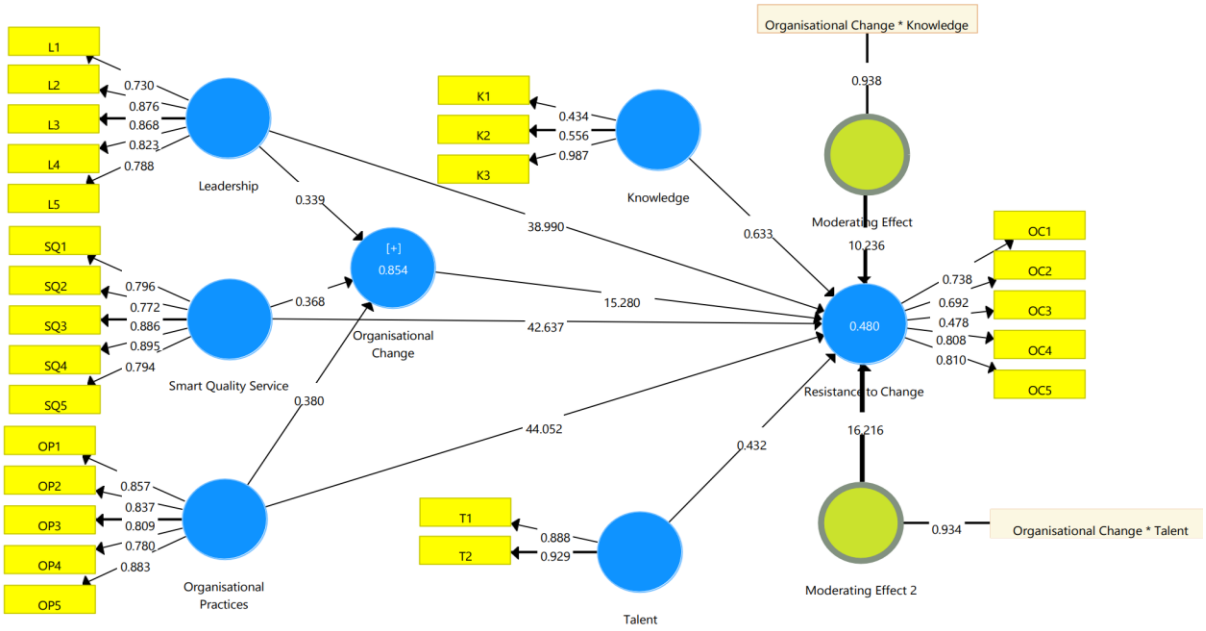

Figure 1. Moderation Model

Previous research suggests that knowledge and talent can mitigate the relationship between organizational change and employees' resistance to change. Our findings confirm these hypotheses, demonstrating that individuals' responses to organizational change initiatives are influenced by their skill and knowledge levels (Kar, Kar, & Gupta, 2020). Workers with higher levels of knowledge and talent may be less resistant to change because they are better equipped to adapt to new opportunities and challenges (Boselie et al., 2021). This underscores the importance of investing in knowledge management programs and staff development to enhance an organization's capacity for change (Luna-Arocas et al., 2020; Mousa & Ayoubi, 2019).

Within Oman's MOHERI, knowledge plays a crucial role in moderating the relationship between organizational change and resistance to change. Knowledge significantly impacts

people's attitudes and reactions, both in terms of understanding the change and the abilities required to adjust to it (Chen, Tang, & Han, 2022). When employees and stakeholders are well-informed about the goals of a change, the benefits it aims to achieve, and how it will affect them, they are less likely to resist and more likely to view the change positively (Ibarra-Cisneros, Reyna, & Hernández-Perlines, 2023). Additionally, providing the necessary knowledge and skills to navigate the new system or environment reduces fear and uncertainty, which are major contributors to resistance (Weerasinghe & Dedunu, 2021). Therefore, effective change management requires comprehensive information dissemination and training. Integrating knowledge sharing and capacity building into the Ministry's change management strategy not only reduces resistance but also empowers community members to participate positively in the process and see it as an opportunity for growth and advancement.

Similarly, employees' talent within the MOHERI also has the potential to significantly mitigate the association between organizational change and resistance to change. Talented individuals, characterized by their skills, expertise, and adaptability (Dzimbiri & Molefakgotla, 2021), can influence their colleagues and provide valuable insights into the change process, acting as catalysts for positive change (Kar et al., 2020). Recognizing and leveraging the diverse skills within the workforce thus enhances the organization's ability to implement change more successfully and with less resistance (Shoaib, Yunis, Siddique, Gul, & Fahad, 2022). Talented employees are viewed as change agents because they are often more capable of understanding the complexities of change and appreciating its benefits (Porkodi & Saranya, 2023). Their enthusiasm and support for the change can boost confidence and reduce resistance among their peers (Iqbal, Waqas, & Sami, 2022).

Overall, by involving talented and knowledgeable individuals in the planning and implementation phases of change, MOHERI can ensure that change initiatives are well-designed and considerate of various stakeholder perspectives, thereby reducing potential resistance. Consequently, the Ministry can foster a more flexible and resilient organizational culture by effectively engaging and supporting a skilled team.

5. Conclusion

This study asserts the importance of organizational change management for Oman's MOHERI. It emphasizes the necessity of practical strategies to address and overcome employees' resistance to change, providing potential solutions and valuable insights into the key factors driving resistance within the organizational setting. By adopting proactive change management approaches, fostering strong leadership, and promoting a culture of learning and innovation, organizations can successfully navigate the challenges of organizational change. Additionally, this study highlights several potential areas for future research in this critical area. Longitudinal studies can assess the long-term consequences of change management strategies implemented by public sector organizations. Comparative evaluations could also be done to examine the effectiveness of different change management strategies across various government bodies.

Acknowledgments

Not applicable.

Authors contributions

Not applicable.

Funding

Not applicable.

Competing interests

Not applicable.

Informed consent

Obtained.

Ethics approval

The Publication Ethics Committee of the Macrothink Institute.

The journal's policies adhere to the Core Practices established by the Committee on Publication Ethics (COPE).

Provenance and peer review

Not commissioned; externally double-blind peer reviewed.

Data availability statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

Data sharing statement

No additional data are available.

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