Middle Management's Resistance to Digital Change

Konstantin Bagrationi
Associate Professor, Department of Organisational Behaviour and Human Resource Management, kbagrationi@hse.ru

Thomas Thurner
Professor, Institute of Statistical Studies and Economics of Knowledge, tthurner@hse.ru

National Research University Higher School of Economics, 20, Myasnitskaya str., Moscow 101000, Russian Federation

Abstract

This paper investigates middle managers' resistance to digital transformation initiatives and suggests strategies for overcoming such resistance using the example of a major Russian transportation company. This study employed a mixed-methods approach to assess middle managers' values and to identify patterns of resistance behavior. The case studies further illustrate the resistance of middle managers and how the company under study responded to these incidents.

The findings reveal a significant relationship between employees' attitudes toward routine and their resistance to digital transformation. Managers with high scores in tradition, conformity, security, and power values, as well as a strong positive attitude toward routine, were more resistant to change. Conversely, those with high scores in universalism, self-direction, and stimulation values were more open to change.

By addressing the values and concerns driving middle managers' attitudes, organizations can better support them in overcoming resistance to digital transformation. The study also offers practical strategies for aligning digital transformation efforts with middle managers' values, thereby fostering a more positive attitude toward change and facilitating successful implementation.

Keywords: resistance to change; digitalization; digital business model; leadership; transportation

Citation: Bagrationi K., Thurner T. (2023) Middle Management's Resistance to Digital Change. *Foresight and STI Governance*, 17(2), 49–60. DOI: 10.17323/2500-2597.2023.2.49.60

Introduction

The transition to a digital business model has the potential to unlock significant financial rewards and growth opportunities for organizations. Despite the expanding literature on the management, marketing, and operation of digital businesses (Parker et al., 2016; Evans, Gawer, 2016), the process of converting an organization into a digital enterprise requires further investigation (Ivančić et al., 2019; Warner, Wäger, 2019). This complex change process relies on the involvement and support of a firm's staff at all levels, particularly middle management. However, middle managers often exhibit resistance to change, with reasons for this resistance varying widely and manifesting in numerous ways.

The scarcity of case studies on how digital transformation is managed in practice stems from the theoretical underpinnings of digital change, which may not always translate to practical implementation (Schwarzmüller et al., 2018). Moreover, the complexity of organizational change, particularly when adapting global digital transformation experiences to local contexts, presents significant challenges. This necessitates a thorough examination of the formal and informal institutions that shape a local space.

The significance of research on resistance to digital transformation spans across various industries, such as logistics, higher education and healthcare. Digital transformation is a crucial process that facilitates the adoption of new technologies and business models to enhance efficiency, productivity, and competitiveness. However, organizations often encounter resistance to change from employees, middle management, and other stakeholders. This resistance can impede the successful implementation of digital transformation initiatives, ultimately affecting the overall performance and adaptability of these organizations (Armenakis et al., 1993; Bagrationi et al., 2021). Understanding the reasons behind resistance to digital transformation and how it unfolds across different industries is essential to develop strategies that can effectively mitigate such resistance and promote the successful implementation of digital transformation initiatives (Burnes, 2015; Coch, French, 1948).

Logistics and healthcare are two sectors that exhibit striking similarities with regard to digital transformation: investigating resistance to digital transformation is especially vital within service-oriented industries, including healthcare, education, and logistics, as the digitalization process may encounter greater obstacles in these domains when contrasted with traditional industries such as the manufacturing, medical, and pharmaceutical industries. Both industries are heavily reliant on the efficient and accurate flow of information, as well as the synchronization of processes between multiple stakeholders (Agarwal et al., 2010; Ghanbari et al., 2017). Digital transformation initiatives in these industries can lead to significant improvements in service delivery, cost reduction, and enhanced overall performance (Bhavnani et al., 2017; Awad et al., 2018). However, the successful implementation of digital transformation initiatives in logistics and healthcare depends on the extent to which employees and management are willing to embrace change and adapt to new ways of working (Battilana et al., 2010; Blake et al., 2020).

Investigating resistance to digital transformation in various industries, particularly logistics and healthcare, is vital for improving the successful implementation of digital transformation initiatives. By recognizing the similarities between these industries and identifying the factors that contribute to resistance, researchers can contribute to the development of strategies that can effectively address and mitigate such resistance, ultimately promoting the seamless adoption of digital transformation initiatives across these sectors.

A key factor in facilitating change processes is the role of top management in selecting change methods and communication strategies. The literature emphasizes the importance of vertical change agents, opinion leaders, and visible management personnel in fostering change (Rafferty, Simons, 2006; Bouckenooghe et al., 2008). Trust in leadership is also highlighted as a crucial internal context enabler. As digital transformation renders leadership roles increasingly complex, top management must set the framework for change while also defining its means and objectives. In contrast, middle managers serve as the face of the firm for most employees, translating top management directives into actionable orders.

This paper aims to address the need for more real-life studies by analyzing a multi-regional transportation service provider that successfully overcame middle management resistance to digital change. We examine the factors contributing to resistance and the manifestations of this resistance, with a focus on understanding individual responses as attempts to protect oneself from negative influences (Jaffe, Scott, 1998; Dent, Goldberg, 1999; Burnes, 2015). By doing so, we aim to provide insights into the organizational transitions toward digital business models and demonstrate how the presentation, negotiation, and acceptance of new business principles occur within local contexts (Lamb, Currie, 2012).

The case company, a Russian transportation service provider, adopted a digital business model in an effort to improve efficiency and regain market share. The transportation industry is well-suited for studying the organizational impacts of digitalization, as companies often pursue growth through real-time data-driven efficiency gains, reduced environmental impacts (Ghanbari et al., 2017), and improved transportation management decisions (Porter, Heppelmann, 2015).

In this paper, we present a comprehensive study of the company's regional divisions, considering both quantitative and qualitative data to better understand middle managers' resistance to digital transformation. We also classify the forms and causes of this resistance to de-

velop more targeted approaches for overcoming these obstacles. Moreover, we update the literature review to include recent sources that better capture the current state of digital transformation in companies. By implementing these revisions, we aim to provide a more robust and insightful analysis of middle management resistance to digital transformation and strategies for overcoming this resistance in practice.

By presenting this comprehensive analysis of middle management's resistance to digital transformation in a multi-regional transportation service provider, we contribute to the literature on organizational change and digital business models. Our findings not only provide valuable insights for companies undergoing digital transformation but also help pave the way for future research in this important area of study.

Literature Review

Resistance to Digital Transformation

The study of resistance to change has evolved over time, with early research focusing on the social aspects of organizational change and more recent literature shifting toward the interplay between technologies and organizations, including digital transformation (Sony, Naik, 2020). Historically, resistance to change was viewed as a deviation from the expected mindset of employees, with roots in prevailing group norms (Lewin, 1947; Coch, French, 1948). However, more recent research has recognized that resistance can be a product of the social context in which it takes place and may even stem from good intentions (Dent, Goldberg, 1999; Hauschildt, 1999; Jansen, 2000). Studies have shown that employees might support investments in new machinery but resist organizational changes (Dunican, 2015; Daniel, Hogarth, 1990). Moreover, resistance has been linked to organizational factors, such as poorly planned and executed change processes, inadequate human resource management, or a lack of competence or commitment.

The study of resistance to change has evolved over time, moving from a focus on the social aspects of organizational change to exploring the complex interplay between technologies, organizations, and individuals (Sony, Naik, 2020). Resistance to digital transformation – on the other hand – has been identified as a multifaceted phenomenon, encompassing various aspects such as individual, organizational, and technological factors.

Individual-level resistance. This research stream focuses on the personality traits, emotions, and cognitive processes that influence how employees perceive and respond to digital transformation initiatives (Oreg, 2006; Nov, Ye, 2009). By identifying and addressing individual-level factors, organizations can facilitate acceptance of digital transformation efforts.

Organizational-level resistance. This stream examines how organizational culture, leadership styles, communication, and the nature of the change process itself contribute to employees' resistance (Armenakis et al., 1993; Kirkman, Shapiro, 1997; Gstraunthaler, 2010). Understanding and addressing these organizational factors can help mitigate resistance and ensure a smoother digital transformation process.

Technological-level resistance. This research stream investigates the role of technology itself in shaping employees' resistance to digital transformation. Factors such as the complexity of the technology, the degree of disruption it brings to existing processes, and the perceived usefulness and ease of use of new digital tools can significantly influence employees' attitudes toward digital transformation (Davis, 1989; Venkatesh et al., 2003). By carefully selecting, implementing, and supporting the appropriate technologies, organizations can minimize resistance and ensure a more effective digital transformation process.

In this paper, we focus on resistance against digital transformation of middle managers. While this focus incorporates aspects of individual-level, organizational-level, and technological-level research streams, we argue that middle managers present a unique perspective that merits a dedicated research stream (Bagrationi et al., 2021; Bagrationi et al., 2022). As they bridge the gap between top-level executives and frontline employees, middle managers play a crucial role in shaping the success of digital transformation initiatives. By examining the specific challenges, opportunities, and values of middle managers in the context of digital transformation, we contribute to a more nuanced understanding of resistance and provide advice for organizations seeking to overcome barriers to change.

The Role of Middle Management in Digital Transformation

Middle managers occupy a unique position within organizations, bridging the gap between top-level executives and frontline employees. As a result, they play a critical role in the implementation and success of digital transformation initiatives. This section explores the specific challenges middle managers face in driving digital transformation and the opportunities they have to overcome resistance and facilitate change by aligning with their values.

Middle managers have a dual responsibility in digital transformation efforts: they must understand and embrace the strategic goals of the organization while simultaneously managing the day-to-day operations and concerns of their subordinates. As change agents, middle managers can effectively communicate the benefits of digital transformation, promote a culture of innovation, and support their teams through the change process (Wooldridge et al., 2008).

However, middle managers may face several challenges when acting as change agents, including a lack of understanding of the digital transformation strategy and its implications (Balogun, Johnson, 2004), limited access to resources and support from top management

(Battilana et al., 2010) and resistance from their own subordinates, who may perceive digital transformation as a threat to job security or organizational identity (Dent, Goldberg, 1999)

Yet, in some cases, middle managers may themselves exhibit resistance to digital transformation, due to various factors such as fear of job loss, perceived loss of power, or a lack of understanding of the strategic objectives (Bagrationi et al., 2021). This resistance can create a ripple effect, as middle managers transmit their own resistance to their subordinates, thereby hindering the overall digital transformation process.

Understanding the connection between middle managers' values and their resistance during digital transformation is a critical area of research for several reasons. As key players in organizational change processes, middle managers have a significant impact on the success or failure of digital transformation efforts. By examining their values, we can gain insights into their behavior and decision-making, which can help organizations better navigate the challenges associated with digital transformation.

First, middle managers' values serve as the foundation for their attitudes and behaviors during digital transformation. These values guide their decision-making and shape their responses to new technologies and processes (Hitt et al., 1990; Meglino, Ravlin, 1998). By understanding the values that middle managers hold, organizations can identify potential sources of resistance and develop strategies to address these challenges.

Second, given their position within the organizational hierarchy, middle managers play a crucial role in bridging the gap between top management and employees (Floyd, Wooldridge, 1992). Their values can influence how they communicate and implement digital transformation initiatives, potentially affecting employee buy-in and the overall success of the transformation. Researching middle managers' values can shed light on the factors that contribute to their support or resistance to change, enabling organizations to develop targeted interventions and communication strategies.

Third, although the group of middle managers all perform comparable tasks, their personality setup and their behavioral choices differ from one another. Hence, in order to produce a tangible outcome, we apply a cluster analysis to study middle managers' values and their resistance during digital transformation. By examining patterns and relationships among values, this approach can identify distinct groups of middle managers who may respond differently to digital transformation efforts (Hair et al., 2010). These insights can help organizations tailor their change management strategies to address the specific needs and concerns of different clusters of middle managers, improving the likelihood of successful digital transformation.

Taking the aforementioned points into account, this research provides valuable insights for organizations undergoing digital transformation, enabling them to develop more effective strategies to address resistance and facilitate a smoother transition to digital processes.

Company and Organizational Change

The company, a leading freight forwarding organization in Russia, has been operating for 14 years. Recognizing the growing demand for small-scale transportation and an increase in online purchases, the company sought to transition from its traditional freight forwarding model to a platform business that directly connects clients and hauliers. This required a significant reengineering of existing business processes, changes in organizational structure, and the development of new competencies. To facilitate this transformation, a new Organizational Development Department was established, comprising experienced employees and industry specialists to form a project management team.

The company's branches were geographically dispersed across various regions in the Russian Federation, with each branch's structure and organizational culture shaped by its regional manager. The implementation of a new information system was intended to streamline business processes throughout the entire organization and enforce workflow standards, necessitating a unified approach to communication and marketing with customers and hauliers.

To standardize communication and training, the project management team created units within regional divisions, reporting directly to the head of the project management team. This shift led to a redistribution of the hauliers base, assigning hauliers to orders for uninterrupted order flow. The new performance measurement system and KPIs encouraged employees to increase the number of transactions to maintain their previous monetary rewards.

Initially, these changes were met with resistance, as some managers experienced a decline in their monthly salaries. The project management team provided continuous explanations and support to help employees adapt and eventually increase their productivity and remuneration. Despite some initial attrition, most employees eventually adapted to the changes.

Regional directors were replaced with regional managers who assumed greater responsibilities, and regular conferences and training sessions were held to support them in managing the new business processes. While the new system showed significant growth in some areas, other areas experienced minimal growth due to the coexistence of new rules and old practices.

To address the resistance to innovation and ensure the success of the digital transformation, the project management team conducted training sessions and case studies during joint conferences, aiming to reduce tensions between central and regional divisions and improve the effectiveness of joint actions. By adopting a more structured approach and integrating qualitative analysis, the updated article can provide a better

understanding of the challenges and opportunities associated with middle managers' resistance to digital change in the context of the company's digital transformation.

Methodology and Research Approach

This study employs a mixed-methods approach, combining quantitative cluster analysis with qualitative interviews to explore the relationship between middle managers' values and their resistance during digital transformation.

To gain a comprehensive understanding of the company's activities and the change process execution plan, the authors started by reviewing internal documents and conducting in-depth interviews with various stakeholders, including the CEO and project management team leader. These interviews aimed at exploring how resistance to change manifested through social interactions (Humphreys, Brown, 2002). Using purposeful sampling (Gilmore, Gilson, 2007), the authors selected interviewees who could provide valuable insights into resistance behavior, social dynamics during the change process, and strategies to overcome resistance. In total, twelve members of the organization were interviewed. The interviews were framed around the change process events, implementation, intragroup structured antagonism, and resistance behavior. The second author led the analysis process, identifying underlying forces that triggered resistance to change36 and organizing the collected statements in relation to the change process. An expert panel of sociologists and organizational psychologists reviewed the original data and provided feedback on the conclusions drawn.

The quantitative component of this research, conducted by the first author, focuses on two aspects: the analysis of middle managers' attitudes toward change using an Attitudes Toward Change Questionnaire and the assessment of their values using the Schwartz Values Questionnaire (SVQ). The Attitudes Toward Change Questionnaire was developed based on expert input, resulting in four factors: (1) Attitude toward routine (Smith, Hitt, 2005; Oreg, 2006), (2) Attitude toward status quo (Samuelson, Zeckhauser, 1988), (3) Attitude toward the difficulty of mastering innovation (Davis, 1989; Venkatesh et al., 2003), and (4) Attitude toward the inevitability of innovation (Ford et al., 2008). The questionnaire contained 12 items that were validated through principal component analysis and confirmatory factor analysis.

The SVQ measures 10 basic human values: power, achievement, hedonism, stimulation, self-direction, universalism, benevolence, tradition, conformity, and security. The SVQ was used to test additional hypotheses regarding the relationship between employee values and their resistance to change.

We used k-means to cluster the analysis results of the Attitudes Toward Change Questionnaire. Thereby, we aimed for higher classification quality by maximizing the distances between clusters and minimizing the distance between observations within each cluster. An analysis of variance (ANOVA) validated the obtained cluster results.

To ensure the validity and reliability of the findings, the study employed data triangulation by collecting information from multiple sources. This approach enabled the researchers to compare and contrast different perspectives on the change process and resistance behavior, enhancing the credibility of the study's conclusions.

Findings

Cluster 1. The "Bystanders" (N=36).

The Bystanders display a low average score (M=0.10, SD=0.10) on routine seeking and a relatively high average score for attitude toward the Status Quo (M=0.47, SD=0.10), indicating that they are generally comfortable with the current state of affairs. The process of adopting new technologies or practices is seen as challenging (M=0.50, SD=0.12). This cluster comprises the oldest managers (M=35.10, SD=6.70).

As for their values assessed by the SVQ, the bystanders display a moderate preference for Conformity (M=0.47, SD=0.12), indicating a tendency to adhere to social norms and rules. Their high scores for Self-Direction (M=0.57, SD=0.12), Achievement (M=0.52, SD=0.13), and Security (M=0.58, SD=0.13) reveal middle managers that value personal autonomy, creativity, and success in their work while prioritizing stability, safety, and predictability in their work environment.

These findings suggest that this group may be less inclined to actively resist or promote digital change, but rather adopt a more passive stance in the face of organizational transformation. A good example of a manager of cluster one came to our attention at one of the first meetings with the project management team. The head of the logistic department in the central region managed a department with good performance, and the manager was in good standing with the company's top management. She was building trusting relationships both with representatives of clients and with representatives of hauliers, which allowed her, within the framework of the old system, to use these relationships, both in the interests of the company, as well as for her personal interests. Often, these interests coincided, that is, she could agree with clients to receive orders outside the standard distribution schemes. She supported the change process and shared top management's view on the potential efficiency gains. Though she favored a rather cautious policy of small steps as she was worried about the department's overall rating in the company. "Change is good, but in small steps", she frequently said during our interview. The process was rolled out though not at all in the manner she had favored. As a consequence, the performance of her unit was lowered and the manager started to initiate and orchestrate resistance among her team members as she felt responsible for them. This quickly resulted

in a generally negative attitude toward the change project throughout her entire department. The lady – who spoke with a loud and authoritative voice – worked in an open plan office, which ensured every team member could hear her opinion. Additionally, she would use the company email system to spread her opinion. The negative attitude toward change traveled quickly into other regional divisions to which she had personal ties. Top management took notice of the resistance but decided against any action, especially as the manager never scaled her actions up or adopted active resistance. In the eyes of top management, she never really posed a threat to the change process toward a new strategy. In her team, however, she held a lead position and when she voiced her dissatisfaction, her colleagues showed her loyalty and adopted her mindset. Due to her experience and standing within the company, a lot of time and training was directed to discuss with and to convince her that after all, she and her team will master the new system. As time progressed, the overall rating of the unit increased even above the previous rating. Once the success of the project became clearer and insecurity vanished, she used her influence to align her team back with the company's strategic vision and she became a central advocator for the firm's change process.

Cluster 2. The "Skeptics" (N=29)

The Skeptics display a moderate average score (M=0.38, SD=0.12) on the attitude toward routine and a high attitude toward Status Quo (M=0.60, SD=0.13). Their preference for maintaining their usual work routines and tendency to be content with the present state of affairs might trigger resistance to change. Still, the Skeptics display a moderately high preference for Conformity with social norms (M=0.53, SD=0.18), together with high scores for Self-Direction (M=0.57, SD=0.17) and Achievement (M=0.53, SD=0.15). These managers value personal autonomy, creativity, and success in their work. Therefore, their resistance would take place only in an acceptable range. The average score for Power (M=0.45, SD=0.15) is moderate, reflecting a balanced approach to asserting their authority and influence. Their average score for Security (M=0.57, SD=0.15) is relatively high, which shows that they prioritize stability, safety, and predictability in their work environment.

A manager from the central region with vast experience in the industry was supportive of the upcoming changes to stay competitive. Within his division, the majority of work procedures in place were developed by him as he led this division from the very moment of its foundation. The manager welcomed the push toward a digital platform, but only as long as it did not interfere with his established principles of work. The manager went a long way to ensure that everyone saw him as a change agent, while in fact trying to roll out his work procedures throughout the entire company. These procedures however contradicted some of the imposed changes intended by top management, which frequently led to heated debates in meetings. When his team members proposed to rearrange the workflow in line with top managements' orders, he resisted the change and insisted on his established procedures. The division's performance remained on a fairly high level (albeit the growth rate was lower than the company's average), and top management let him prevail. "He will have to follow the rules of the new information system anyway", the project management team marked on a meeting note. Not all activities were digitalized at the same time but rather were transferred to the new system step by step. Especially those processes that required action from the firms' partners were scheduled for a later stage. Hence, the communication processes between hauliers and managers were still done telephonically. In the second stage, however, the hauliers' communication was captured electronically and the information system-imposed selection criteria for hauliers was made mandatory. The manager, after approving the "non-priority haulier" (giving contracts to hauliers against the logics of the information system), was obliged to provide the prioritized haulier with another order within two days. He still circumvented the system and ensured that hauliers that were part of his network could still continue to do telephone conferences with the unit's head. The project management team flagged this fact as a major weakness and recorded numerous attempts of the manager to negotiate preferred conditions for a number of hauliers over the telephone. When confronted, the manager blamed the bad IT knowledge of the haulier. The manager was able to span networks and bring in experiences from other organizations with the company's hauliers in his region. He saw these connections as his major asset – which he said would benefit the firm. His attempts to fence off the control through the IS could no longer be ignored and the manager was asked to explain why he deviated from the company's processes. His true intentions to reestablish his way of doing business was revealed and trust in him vanished.

Cluster 3. The "Passive Powerholders" (N=48).

The Passive Powerholders display a low average score (M=0.10, SD=0.14) toward Routine seeking, suggesting that they are relatively open to abandoning their usual work routines in favor of change. They perceive the process of adopting new technologies or practices as quite challenging (M=0.67, SD=0.08), but they are not particularly concerned about the choice to adapt the innovation.

The Passive Powerholders display a high preference for Conformity (M=0.58, SD=0.18), indicating a strong tendency to adhere to social norms and rules. Their scores for Self-Direction (M=0.58, SD=0.15) and Achievement (M=0.60, SD=0.18) are also high, suggesting that they value personal autonomy, creativity, and success in their work. The average score for Power (M=0.43, SD=0.20) is moderate, reflecting a balanced

approach to asserting their authority and influence. Their average score for Security (M=0.67, SD=0.17) is notably high, indicating that they prioritize stability, safety, and predictability in their work environment.

A regional manager (Case 7) had mastered the craft to optimize the performance indicators and was hence doing exceptionally well for herself. She grounded her success in the collaboration with "special treatment" hauliers. The introduction of a new information system was consequently a threat which she expressed at each meeting with her peer regional managers. The statements made were however abstract and not built on factual arguments. When the project management team asked her to provide evidence for her claims, she refused to collaborate. In order to alleviate the situation, the manager opened another branch. Striped of her personal connections with hauliers and forced to deliver results, the manager adopted the rules of the new system. Losing her established environment resulted in a loss of security. In order to reconnect, she adopted the new paradigm and accepted the new policies.

Cluster 4. The "Open-Minded" (N=21).

The Open-Minded cluster shows a low average score (M=0.17, SD=0.16) toward Routine seeking, together with a low average score toward Status Quo (M=0.20, SD=0.10). They perceive the process of adopting new technologies or practices as moderately challenging (M=0.45, SD=0.20) but not overly daunting and are not very concerned with the opportunity to opt out of the change process. The Open-Minded cluster displays a moderate preference for Conformity (M=0.45, SD=0.17), indicating a balanced approach to adhering to social norms and rules. Their scores for Self-Direction (M=0.63, SD=0.13) and Achievement (M=0.57, SD=0.13) are high, suggesting that they value personal autonomy, creativity, and success in their work. The average score for Power (M=0.48, SD=0.15) is indicative of a balanced approach to asserting their authority and influence. Their average score for Security (M=0.62, SD=0.10) shows their priority for stability, safety, and predictability in their work environment, albeit to a lesser extent than the more resistant clusters.

Their open mind allows them to see opportunities and act accordingly. A manager with great standing in her unit – all inter-department activities were established by her – as was a set of work principles that most other departments adopted – operated in a region with a very strong competitor. This kept the development of her division down, as the majority of the customers and hauliers worked with the company's competitor. Under the established business model, it was not possible to change the situation for the better, and hence she became an active supporter of the digital platform. She believed the new system would break the close connection between potential clients and the company's main competitor in the region by offering clients much more favorable conditions through a greater choice of hauliers and more competitive pricing. Moreover, she supported the implementation of a new system in her branch and arranged training for her team. Thanks to her activity, the implementation of changes in the branch was made easy and the branch received a new impetus for development. The division's position in the region's market has subsequently strengthened. The division's elevated performance was well perceived by top management and the neighboring region's branch was added to the regional managers' portfolio (head of the division where she was head of the logistics department). The previous head of the neighboring branch who had resisted the change left the company.

Still, open mindedness can also lead to negative results as the opportunities ahead overshadow the one's own lacking contribution to success. A manager in a remote region saw the opportunity that the proposed changes offered. A manager in a region in the Far East (Case 3) felt incapable to qualitatively develop his branch, since his region is the region of the "last mile".[1] Competition for the few reliable hauliers was very high and incoming traffic was much lower than in the central regions. The new system allowed hauliers who have capacities on incoming trips to offer this opportunity through the company's platform. After the organizational change, the number of transports increased significantly. The division was unprepared to act accordingly and make use of this opportunity as the operational organization proved suboptimal. The manager acted from a peripheral position in the network and understood that this new opportunity would open up ways to improve his position in the social space and embraced the upcoming changes.

Cluster 5. The "Resisters" (N=24).

The Resisters show a moderate average score (M=0.25, SD=0.16) toward Routine seeking and an average Attitude toward the Status Quo (M=0.57, SD=0.12). They perceive the process of adopting new technologies or practices as highly challenging (M=0.72, SD=0.08) and want the option to reject innovation. Should they not have the possibility to continue their usual work processes, they are likely to show resistance.

As for their values assessed by the SVQ, the Resisters cluster displays a relatively high preference for Conformity with social norms and rules (M=0.55, SD=0.15). Their scores for Self-Direction (M=0.58, SD=0.15) and Achievement (M=0.55, SD=0.13) are high, while Power is moderate (M=0.43, SD=0.15). Their average score for Security (M=0.63, SD=0.17) is relatively high, indicating that they prioritize stability, safety, and predictability in their work environment. Instead of embracing innovations and organizational change, these

[1] A term used in supply chain management and transportation planning to describe the movement of people and goods from a transportation hub to a final destination. https://www.businessinsider.com/last-mile-delivery-shipping-explained?IR=T, accessed 08.04.2023.

members are rather cautious and fear unnecessary change.

Another manager from the central region with vast experience in the industry was supportive of the upcoming changes to stay competitive. Within his division, the majority of work procedures in place were developed by him as he led this division from the very moment of its foundation. The manager welcomed the push toward a digital platform, but only as long as they didn't interfere with his established principles of work. The manager went a long way to ensure that everyone perceived him as a change agent, while in fact trying to roll out his work procedures throughout the entire company. These procedures though contradicted some of the imposed changes as intended by top management, which frequently led to heated debates in meetings. When his team members proposed to rearrange the workflow in line with top managements' orders, he resisted the change and insisted on his established procedures. The division's performance though remained on a fairly high level (albeit the growth rate was lower than the company's average), and top management let him prevail. "He will have to follow the rules of new information system anyway", the project management team marked on a meeting note. Not all activities were digitalized at the same time though but rather were transferred to the new system step by step. Especially those processes that required action from the firms' partners were scheduled for a later stage. Hence, the communication processes between hauliers and managers were still done telephonically. In a second stage though, the hauliers' communication was captured electronically, and the information system-imposed selection criteria for hauliers was made mandatory. The manager, after approving the "non-priority haulier" (giving contracts to hauliers against the logics of the IS), was obliged to provide the prioritized haulier with another order within two days. He still circumvented the system and ensured that hauliers that were part of his network could still continue to do telephone conferences with the unit's head. The project management team flagged this fact as a major weakness and recorded numerous attempts of the manager to negotiate preferred conditions for a number of hauliers over the telephone line. When confronted, the manager blamed the bad IT knowledge of the haulier. The manager was able to span networks and bring in experiences from other organizations with the company's hauliers in his region. He saw these connections as his major asset – which he said would benefit the firm. His attempts to fence off the control through the IS could no longer be ignored, and the manager was asked to explain why he diverted from the company's processes. His true intentions to reestablish his way of doing business was revealed and trust in him vanished.

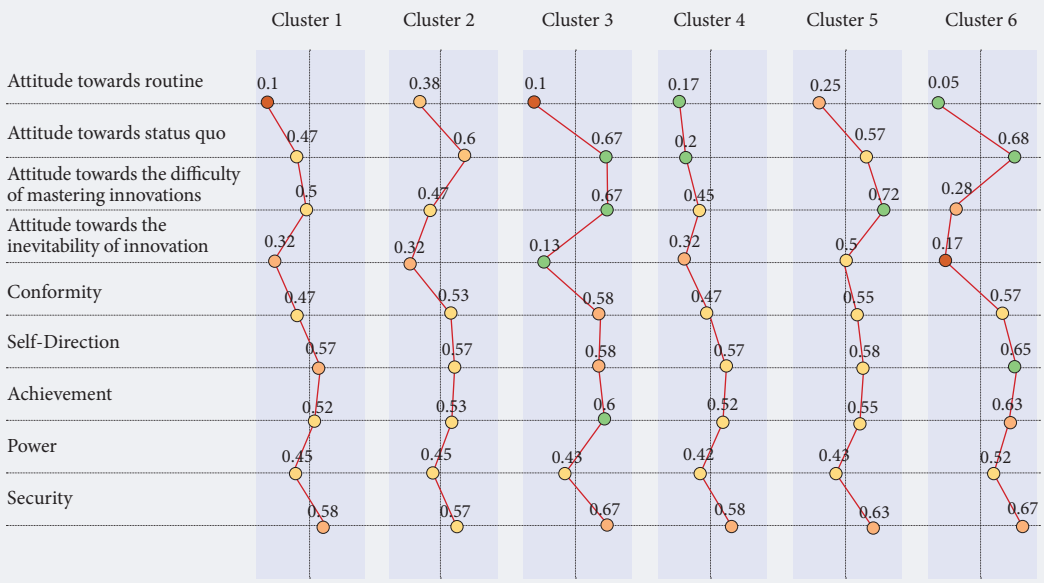
The head of a regional division in the south was acting in a very competitive environment and he had already informed top management that the position of his division in the regional transportation market was weakening. This manager's special relationships were built primarily with hauliers in his region, but also, to a lesser extent, with representatives of major clients. As the platform was rolled out, clients' ability to maintain special relationships began to decline. In addition, the implementation of the system was accompanied by the renegotiation of contracts with hauliers and finding new clients.

He suggested a new pricing policy and lower entry requirements to contract in new hauliers. At the same time, when the process of implementing changes began, the branch's indicators actually began to decline. At the regular meetings to discuss the changes, the manager gave contradictory explanations for the lack of development of his division, often referring to the bad implementation strategy of top management or to the unwillingness of team members to use it and the low motivation of employees in general. This raised red flags with the change management team. Over an extended period, the situation at the branch did not change for the better. The manager continued to blame the new IS, often with absurd requests like changing the font size of the website. The project management team recommended that the CEO replace the head of this division, which he did eventually (although the CEO resisted this move for a long time as this manager was his protégé in the past). After replacing both the regional manager and the head of the logistics department, the new management more consciously joined the updated processes. Four months later (after onsite training activities), the branch began to return to steady growth. A year later, the division's performance only marginally lagged behind the leading region.

In the best case, the energy that these resisters put into their actions can be used for the company's benefit as one example shows. A department manager was an informal leader and was highly influential as an opinion maker throughout the entire company. She opposed the change plans right from the start, but her opposition became fierce when her unit demonstrated really poor performance under the new regime. The manager invested a lot of time and energy to find various ways to circumvent the procedures of the information system, and she proudly shared her success stories among members of various regions. In fact, more and more employees started to follow her suggestions. The new platform limited her freedom to maintain her personal connections with the hauliers who demanded higher prices for the services they provided in exchange for their loyalty.

The change management team had to react, but it was unclear how to change her mind. Then, the IT department communicated that they closed the blind spots that she had revealed. In fact, the IT department was working alongside her multiple attempts and found it helpful to identify weaknesses of the system. The manager was subsequently promoted to search for weaknesses in the new electronic platform. She mentioned during the interview how important it was to see that the project management team and top management appreciated her work and took her comments seri-

Figure 1. **Results**



Source: authors.

ously. Thereby, she changed her perception and became a central promoter for the new business model. This gave her credibility, especially as top management started to appreciate the skills that she developed. She subsequently received a promotion.

Cluster 6. The "Active Powerholders" (N=26).

The Active Powerholders demonstrate a low average score (M=0.05, SD=0.10) on routine seeking and a high appreciation for the Status Quo (M=0.68, SD=0.12), while they show little fear of mastering an innovation (M=0.28, SD=0.12). Also, they do not insist on having the option to reject the innovation and are more open to organizational change. The Active Powerholders cluster displays a relatively high preference for Conformity to social norms and rules (M=0.57, SD=0.17). Their scores for Self-Direction (M=0.65, SD=0.15) and Achievement (M=0.63, SD=0.13) are high, suggesting that they highly value personal autonomy, creativity, and success in their work. These managers set a strong focus on asserting their authority and influence (M=0.52, SD=0.18), while they prioritize stability, safety, and predictability in their work environment (M=0.67, SD=0.10). These values suggest that this group is more likely to support digital change and actively participate in the implementation of new technologies and practices. These are middle managers who find ways around the implemented organizational change as they can play their powerful positions and are flexible in abandoning their established practices.

We found a good case to exemplify the cluster in a division head who did not see the need for any changes in the work of the branch. Under the old system she enjoyed a high standing as one of the most effective managers. The regional division was creating a majority of its revenue through one client and thanks to this client, she was the highest paid head among the regional division. The introduced organizational change processes now changed this advantage and the KPI system drastically reduced the manager's remuneration. Moreover, the transition to the digital platform and the change in the principles of work required this manager to develop relations with other clients of the region, which quickly revealed "bottlenecks" in the processes of her division. Realizing the importance of a key client for the company to which she had a very close connection, she frequently threatened to leave the company. As the top management did not give in to her threats, but actually approved her wish to leave, she decided to stay on. Nevertheless, she made a lot of efforts to maintain the previous work procedures. Due to her personal relationship with the CEO and her well-established relationship with a priority client, it was decided to increase this division's own fleet of vehicles in the region in order to keep the client. This approach also succeeded in ceasing the manager's resistance. Her refusal to take the final step and leave opened up new ways to discuss alternative options. And indeed, due to her connection with the main client, she could actually guarantee access to economic capital. In choosing a more amicable approach, she convinced top management to follow her suggestion and to give special status to her department.

Figure 1 summarizes the results for each cluster.

Discussion and Conclusion

This study aimed to explore the resistance to digital transformation among employees at a logistics company, focusing on their values and attitudes as assessed by the Schwartz Values Questionnaire (SVQ). Our analy-

sis revealed a significant relationship between employees' attitudes toward routine, the status quo, and the perceived difficulty of mastering innovation, and their resistance to digital transformation (Schwartz, 1992).

Employees who scored high on tradition and conformity values tended to have a more positive attitude toward routine and were more likely to resist digital transformation, as they preferred to maintain existing routines and work practices (Schwartz, 1992). Similarly, employees with a positive attitude toward the status quo were found to be more resistant to change, as they scored high on security and power values and preferred stability and control over their work environment (Bardi, Schwartz, 2003).

On the other hand, employees who believed that mastering innovation was difficult tended to be more resistant to change, as they scored high on hedonism and achievement values, indicating a desire for personal satisfaction and success in their work (Schwartz et al., 2012). Conversely, employees who acknowledged the inevitability of innovation and scored high on universalism, self-direction, and stimulation values were more open to change and more likely to embrace digital transformation initiatives (Schwartz, 1994).

The case examples provided further insight into the role of middle managers' values and attitudes in their resistance to digital transformation. The k-means clustering analysis revealed distinct groups of employees with differing attitudes toward change, including Passive Powerholders and Active Powerholders (Balogun, Johnson, 2004). This allowed us to identify specific patterns of resistance behavior among middle managers.

To support middle managers in overcoming resistance to digital transformation, organizations must address the values and concerns that drive middle managers' attitudes toward change. Aligning digital transformation initiatives with the values of middle managers can foster a more positive attitude with regard to change and empower middle managers to lead their teams effectively (Battilana et al., 2010).

Some strategies for value alignment include:

(1) Clearly communicating the strategic goals and benefits of digital transformation initiatives to middle managers, ensuring they understand their role in achieving these objectives and how they align with their values (Balogun, Johnson, 2004).

(2) Providing adequate resources, training, and support for middle managers to help them navigate the challenges of digital transformation while staying true to their core values (Battilana et al., 2010).

(3) Encouraging middle managers to engage in open dialogue with their subordinates, addressing concerns, and fostering a culture of innovation and collaboration that reflects the values of the organization (Dent, Goldberg, 1999).

Understanding the unique role and challenges of middle management in digital transformation, as well as the values that drive their attitudes toward change, is crucial for organizations seeking to overcome resistance and ensure successful digital transformation initiatives (Kotter, Schlesinger, 2008). By addressing the concerns of middle managers and providing them with the necessary support to align their values with the organization's goals, companies can cultivate a culture of innovation and resilience that is critical for navigating the digital era (Battilana et al., 2010).

The results of our research carry important implications for various other sectors, such as higher education and healthcare given that successfully implemented digital transformation initiatives are essential for organizations to deliver improved outcomes (Autor, 2015; Goldin, Kutarna, 2016). Understanding employees' values and their attitudes toward digital transformation and addressing resistance to change can significantly enhance the effectiveness of such initiatives.

For instance, in higher education, digital transformation has been transforming teaching and learning methods, fostering collaboration, and enhancing the accessibility of educational resources. As in logistics, employees in higher education institutions may display resistance to digital transformation due to their values and attitudes, which can hinder the successful implementation of innovative technologies and practices (Frey, Osborne, 2013). Our research findings can inform strategies to address this resistance, thus facilitating the adaptation of higher education institutions to the digital era.

Similarly, our research results are particularly relevant for the healthcare industries, as these sectors have been experiencing rapid digital transformation due to the emergence of digital health technologies, personalized medicine, telemedicine, and data-driven drug discovery (Agarwal et al., 2010; Topol, 2015). The identified clusters of middle managers in our study can provide valuable insights into the specific patterns of resistance behavior that may emerge in these industries as well.

Understanding the values and attitudes driving the resistance of larger groups of employees can help organizations tailor their change management strategies and facilitate the successful adoption of digital transformation initiatives. Building upon our research findings, the identified clusters of middle managers, such as Passive Powerholders and Active Powerholders, provide invaluable insights into the specific patterns of resistance behavior that may emerge during the digitalization of healthcare. To ensure the successful implementation of digital transformation initiatives in the healthcare sector, organizations must account for these diverse values and attitudes.

For instance, Passive Powerholders may be resistant to the adoption of digital health technologies due to their preference for established routines and a reluctance to take risks (Frey, Osborne, 2013). In this context, organizations can address the concerns of Passive Powerholders by providing comprehensive training programs, emphasizing the benefits of new tech-

nologies, and involving them in the decision-making process to ensure a smoother transition (Agarwal et al., 2010).

On the other hand, Active Powerholders may be more open to digital transformation but may still harbor concerns about potential job displacement or the ethical implications of digital health technologies (Topol, 2015; Hollis et al., 2015). To overcome resistance from Active Powerholders, organizations can focus on transparent communication, demonstrating how digital health technologies can complement rather than replace human expertise, and fostering an environment of trust and ethical responsibility (Susskind, Susskind, 2018).

Moreover, our research findings can play a significant role in addressing resistance to digital transformation in healthcare by promoting interdisciplinary collaboration, which is essential for navigating the complexities of digital health innovations (Liu et al., 2019; Bhavnani et al., 2017). By understanding the diverse values and attitudes of employees across various disciplines, healthcare organizations can foster an inclusive culture where all stakeholders contribute to the successful implementation of digital transformation initiatives.

For example, the integration of electronic health records and telemedicine platforms necessitates collaboration between healthcare providers, IT professionals, and regulatory authorities (Ma et al., 2020; Blake et al., 2020). Leveraging our research findings, organizations can identify potential areas of resistance and develop targeted strategies to facilitate effective interdisciplinary collaboration, ensuring the seamless adoption of digital health technologies and improved patient outcomes.

Furthermore, the healthcare sector faces unique challenges in the implementation of digital transformation, such as stringent regulations, patient privacy concerns, and the need for effective interdisciplinary collaboration (Ma et al., 2020; Liu et al., 2019; Hollis et al., 2015; Blake et al., 2020; Bhavnani et al., 2017). By understanding the concerns and values of employees in these industries, organizations can develop targeted strategies to address resistance and foster a culture of innovation and resilience, which is crucial for navigating the digital era (Srivastava, Shainesh, 2015).

The article was prepared within the framework of the Basic Research Program of the HSE University.

References

Agarwal R., Gao G., DesRoches C., Jha A.K. (2010) Research commentary — The digital transformation of healthcare: Current status and the road ahead. *Information Systems Research,* 21(4), 796–809. https://www.jstor.org/stable/23015646

Armenakis A.A., Harris S.G., Mossholder K.W. (1993) Creating readiness for organizational change. *Human Relations*, 46(6), 681–703. https://doi.org/10.1177/001872679304600601

Autor D. (2015) Why are there still so many jobs? The history and future of workplace automation. *Journal of Economic Perspectives*, 29(3), 3–30. https://10.1257/jep.29.3.3

Awad A., Trenfield S.J., Gaisford S., Basit A.W. (2018) 3D printed medicines: A new branch of digital healthcare. *International Journal of Pharmaceutics,* 548(1), 586–596. https://doi.org/10.1016/j.ijpharm.2018.07.024

Bagrationi K., Thurner T.W., Gordienko O. (2021) Resistance to Digital Transformation and the Destruction of Social Capital. In: *Proceedings of the 37 IBIMA Conference*, 30-31 May 2021, Cordoba, Spain, Reading: Academic Conferences Limited, vol. 1, p. 47. https://ibima.org/accepted-paper/resistance-to-digital-transformation-and-the-destruction-of-social-capital/, accessed 17.03.2023.

Bagrationi K., Thurner T.W., Gordienko O. (2022) Resistance to Digital Transformation: The Role of Middle Management Personal Networks. In: *Proceedings of the 23rd European Conference on Knowledge Management 2022, Aug. 25*, 23(1), pp. 52–59. https://doi.org/10.34190/eckm.23.1.473

Balogun J., Johnson G. (2004) Organizational restructuring and middle manager sensemaking. *Academy of Management Journal*, 47(4), 523–549. https://doi.org/10.2307/20159600

Bardi A., Schwartz S.H. (2003) Values and Behavior: Strength and Structure of Relations. *Personality and Social Psychology Bulletin*, 29(10), 1207–1220. https://doi.org/10.1177/0146167203254602

Battilana J., Gilmartin M., Sengul M., Pache A.C., Alexander J.A. (2010) Leadership competencies for implementing planned organizational change. *The Leadership Quarterly*, 21(3), 422–438. https://doi.org/10.1016/j.leaqua.2010.03.007

Bhavnani S.P., Parakh K., Atreja A., Druz R., Graham G.N., Hayek S.S., Krumholz H.M., Maddox T.M., Majmudar M.D., Rumsfeld J.S., Shah B.R. (2017). 2017 Roadmap for innovation — ACC health policy statement on healthcare transformation in the era of digital health, big data, and precision health: A report of the American College of Cardiology Task Force on Health Policy Statements and Systems of Care. *Journal of the American College of Cardiology*, 70(21), 2696–2718. https://doi.org/10.1016/j.jacc.2017.10.018

Blake H., Bermingham F., Johnson G., Tabner A. (2020) Mitigating the psychological impact of COVID-19 on healthcare workers: a digital learning package. *International Journal of Environmental Research and Public Health*, 17(9), 2997. https://doi.org/10.3390/ijerph17092997

Bouckenooghe D., Devos G., Van den Broeck H. (2008) Organizational change questionnaire – Climate of change, processes, and readiness: Development of a new instrument. *The Journal of Psychology*, 218(3), 153–170. https://doi.org/10.1080/00223980903218216

Burnes B. (2015) Understanding Resistance to Change – Building on Coch and French. *Journal of Change Management*, 15(2), 92–116. https://doi.org/10.1080/14697017.2014.969755

Coch L., French J.R.P. (1948) Overcoming resistance to change. *Human Relations,* 1(4), 512–532. https://psycnet.apa.org/doi/10.1177/001872674800100408

Daniel W.W., Hogarth T. (1990) Worker support for technical change. *New Technology, Work and Employment*, 5(2), 85–93. https://doi.org/10.1111/j.1468-005X.1990.tb00121.x

Davis F.D. (1989) Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319–340. https://doi.org/10.2307/249008

Dent E.B., Goldberg S.G. (1999) Challenging "resistance to change". *The Journal of Applied Behavioral Science*, 35(1), 25–41. http://dx.doi.org/10.1177/0021886399351003

Dunican B. (2015) *Acceptance of Change: Exploring the Relationship among Psychometric Constructs and Employee Resistance*, Bowling Green, KY: Western Kentucky University.

Evans P.C., Gawer A. (2016) The rise of the platform enterprise: A global survey, Guildford: University of Surrey.

Floyd S.W., Wooldridge B. (1992) Middle management involvement in strategy and its association with strategic type: A research note. *Strategic Management Journal*, 13(S1), 153–167. https://www.jstor.org/stable/2486358
Ford J.D., Ford L.W., D'Amelio A. (2008) Resistance to change: The rest of the story. *Academy of Management Review*, 33(2), 362–377. https://psycnet.apa.org/doi/10.2307/20159402
Frey C.B., Osbourne M.A. (2013) *The future of employment: How susceptible are jobs to computerisation?* Oxford: University of Oxford. Available at: https://www.oxfordmartin.ox.ac.uk/downloads/academic/future-of-employment.pdf, accessed 21.06.2022.
Ghanbari A., Laya A., Alonso-Zarate J., Markendahl J. (2017) Business development in the Internet of Things: A matter of vertical cooperation. *IEEE Communications Magazine*, 55(2), 135–141. http:// doi.org/10.1109/MCOM.2017.1600596CM
Gilmore S., Gilson C. (2007) Finding form: Elite sports and the business of change. *Journal of Organizational Change Management*, 20(3), 409–423. https://doi.org/10.1108/09534810710740218
Goldin I., Kutarna C. (2016) *Age of discovery: Navigating the risks and rewards of our new renaissance*, London: Bloomsbury Publishing.
Gstraunthaler T. (2010) The business of business incubators: An institutional analysis-evidence from Lithuania. *Baltic Journal of Management*, 5(3), 397–421. https://doi.org/10.1108/17465261011079776
Hair J.F., Black W.C., Babin B.J., Anderson R.E. (2010) *Multivariate data analysis* (7th ed.), New York: Prentice Hall.
Hauschildt J. (1999) Opposition to innovations — destructive or constructive? In: *The Dynamics of Innovation* (eds. K. Brockhoff, A.K. Chakrabarti, J. Hauschildt), Heidelberg, Dordrecht, London, New York: Springer, pp. 213–236.
Hitt M.A., Ireland R.D., Palia K.A. (1990) Mergers and acquisitions and managerial commitment to innovation in M-form firms. *Strategic Management Journal*, 11(4), 29–47. https://www.jstor.org/stable/2486668
Hollis C., Morriss R., Martin J., Amani S., Cotton R., Denis M., Lewis S. (2015) Technological innovations in mental healthcare: Harnessing the digital revolution. *The British Journal of Psychiatry*, 206(4), 263–265. https://doi.org/10.1192/bjp.bp.113.142612
Humphreys M., Brown A.D. (2002) Narratives of organizational identity and identification: A case study of hegemony and resistance. *Organization Studies,* 23(3), 421–447. https://doi.org/10.1177/0170840602233005
Ivančić L., Vugec D.S., Vukšić V.B. (2019) Robotic process automation: Systematic literature review. *Lecture Notes in Business Information Processing*, 361, 280-295). https://doi.org/10.1007/978-3-030-30429-4_19
Jaffe D.T., Scott C.D. (1998) How to link personal values with team values. *Training & Development,* 52(3), 24–31.
Jansen K.J. (2000) The emerging dynamics of change: Resistance, readiness, and momentum. *People and Strategy*, 23(2), 53.
Kirkman B.L., Shapiro D.L. (1997) The impact of cultural values on employee resistance to teams: Toward a model of globalized self-managing work team effectiveness. *Academy of Management Review,* 22(3), 730–757. https://doi.org/10.2307/259411
Kotter J.P., Schlesinger L.A. (2008) Choosing strategies for change. *Harvard Business Review,* 86(7–8), 130–139.
Lamb P., Currie G. (2012) Eclipsing adaptation: The translation of the US MBA model in China. *Management Learning,* 43(2), 217–230. https://doi.org/10.1177/1350507611426533
Lewin K. (1947) Group decision and social change. *Readings in Social Psychology*, 3(1), 197–211. https://psycnet.apa.org/doi/10.1037/10319-010
Lindeman M., Verkasalo M. (2005) Measuring values with the Short Schwartz's Value Survey. *Journal of Personality Assessment*, 85(2), 170–178. http://dx.doi.org/10.1207/s15327752jpa8502_09
Liu Y., Zhang L., Yang Y., Zhou L., Ren L., Wang F., Liu R., Pang Z., Jamal Deen M. (2019) A novel cloud-based framework for the elderly healthcare services using digital twin. *IEEE Access*, 7, 49088–49101. https://doi.org/10.1109/ACCESS.2019.2909828.
Ma Y., Zhang Y., Cai S., Han Z., Liu X., Wang F., Cao Y., Wang Z., Li H., Chen Y., Feng X. (2020) Flexible hybrid electronics for digital healthcare. *Advanced Materials*, 32(15), 1902062. https://doi.org/10.1002/adma.201902062
Meglino B.M., Ravlin E.C. (1998) Individual values in organizations: Concepts, controversies, and research. *Journal of Management*, 24(3), 351–389. https://doi.org/10.1177/014920639802400304
Nov O., Ye C. (2009) Users' personality and perceived ease of use of digital libraries: The case for resistance to change. *Journal of the American Society for Information Science and Technology*, 60(5), 845–851. https://doi.org/10.1002/asi.20800
Oreg S. (2006) Personality, context, and resistance to organizational change. *European Journal of Work and Organizational Psychology,* 15(1), 73–101. https://doi.org/10.1080/13594320500451247
Parker G.G., Van Alstyne M.W., Choudary S.P. (2016) *Platform revolution: How networked markets are transforming the economy and how to make them work for you,* New York: WW Norton & Company.
Porter M.E., Heppelmann J.E. (2015) How smart, connected products are transforming companies. *Harvard Business Review,* 93(10), 96–114.
Rafferty A.E., Simons R.H. (2006) An examination of the antecedents of readiness for fine-tuning and corporate transformation changes. *Journal of Business and Psychology,* 20(3), 325–350.
Samuelson W., Zeckhauser R. (1988) Status Quo Bias in Decision Making. *Journal of Risk and Uncertainty*, 1(1), 7–59. https://doi.org/10.1007/BF00055564
Schwartz S.H. (1992) Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries. *Advances in Experimental Social Psychology*, 25, 1–65. https://doi.org/10.1016/S0065-2601(08)60281-6
Schwartz S.H. (1994) Are there universal aspects in the structure and content of human values? *Journal of Social Issues*, 50(4), 19–45. https://doi.org/10.1111/j.1540-4560.1994.tb01196.x
Schwartz S.H., Cieciuch J., Vecchione M., Davidov E., Fischer R., Beierlein C., Ramos A., Verkasalo M., Lönnqvist J.-E., Demirutku K., Dirilen-Gumus O., Konty M. (2012) Refining the theory of basic individual values. *Journal of Personality and Social Psychology*, 103(4), 663–688. https://doi.org/10.1037/a0029393
Schwarzmüller T., Brosi P., Duman D., Welpe I.M. (2018) How does the digital transformation affect organizations? Key themes of change in work design and leadership. *Management Revue*, 29(2), 114–138. https://www.jstor.org/stable/26491473
Smith K.G., Hitt M. (2005) *Great Minds in Management: The Process of Theory Development*, Oxford: Oxford University Press.
Sony M., Naik S. (2020) Critical factors for the successful implementation of Industry 4.0: A review and future research direction. *Production Planning & Control*, 31(10), 799–815. http://dx.doi.org/10.1080/09537287.2019.1691278
Srivastava S.C., Shainesh G. (2015) Bridging the service divide through digitally enabled service innovations. *MIS Quarterly*, 39(1), 245–268. https://doi.org/10.25300/MISQ/2015/39.1.11
Susskind D., Susskind R. (2018) The future of the professions. *Proceedings of the American Philosophical Society*, 162(2), 125–138. https://www.jstor.org/stable/45211625
Teulier R., Rouleau L. (2013) Middle managers' sensemaking and interorganizational change initiation: Translation spaces and editing practices. *Journal of Change Management,* 13(3), 308–337. https://doi.org/10.1080/14697017.2013.822674
Topol E. (2015) *The patient will see you now: The future of medicine is in your hands,* New York: Basic Books.
Venkatesh V., Morris M.G., Davis G.B., Davis F.D. (2003) User acceptance of information technology: Toward a unified view. *MIS Quarterly,* 27(3), 425–478. https://www.jstor.org/stable/30036540
Warner K.S.R., Wäger M. (2019) Building dynamic capabilities for digital transformation: An ongoing process of strategic renewal. *Long Range Planning*, 52(3), 326–349. https://doi.org/10.1016/j.lrp.2018.12.001
Wooldridge B., Schmid T., Floyd S.W. (2008) The Middle Management Perspective on Strategy Process: Contributions, Synthesis, and Future Research. *Journal of Management*, 34(6), 1190–1221. https://doi.org/10.1177/0149206308324326