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Impact of Digital Leadership on Employee Well-Being through Job Demands and Resources

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Abstract: *With artificial intelligence and cloud computing becoming the new standard, the embedded issue confronting firms involved in the digital transformation is the central managerial issue; through which the firm pushes forward the agenda of change or changes and improves performance without compromising on employees' well-being in jobs. It is on this basis that the paper suggests a parallel mediation model where job demands and job resources relay the impact of digital leadership to the welfare of the employees. Data obtained from a survey and followed up empirical tests indicate that digital leadership can increase well-being by a significant margin; job demands and job resources are both partial mediators. In practice, the leader that proposes digital initiatives eases the load on the personnel and increases the resources at their disposal, making it easier to understand how this type of leadership contributes to safeguarding and enhancing the well-being of the employees, in general. These results present a theoretically supported roadmap of maintaining performance and well-being during the process of digital transformation.*

Keywords: *Digital leadership; Employee well-being; Job resources; Job demands; Job Demands–Resources (JD-R) model*

1. Introduction

1.1 Research Background and Significance

1.1.1 Research Background

As the world digital economy grows at a greater pace, new digital infrastructure created through innovative strategies and combinations of digital factors attain new industrial progress possibilities. It facilitates efficient digitalization of an engineering project and creates spatial spillover effects of endogenous industrialization. Through complete exploitation of these technological advancements, businesses will be able to achieve the total factor productivity and the gradual transformation of Chinese companies to a new quality level. As in this case, scientific guidance and mechanism design with a view to enhancing the power of digital empowerment of traditional SMEs will come especially in handy. Thus, digital transformation presents companies with a high-quality avenue to improved business spheres and quicker variability with developing needs. Enterprises are confronted with the radical shifts presented by digital tools and have few options but to use them to improve their sources of competitive advantages. With the background of a period where high-quality development has been led to the well-being of people, employees do not expect job progression but more and more want to feel personal worth through their work, thus gaining satisfaction and joy. Faced with this trend, past human resource management models have not been sufficient and this has forced enterprises to make innovations in their management strategies in order to keep up with the ever-changing employee needs. Employee well-being is no longer a luxury but is turning out to be a decisive deliverable of the organization resilience and sustainable performance. Therefore, academia and practice practitioners are collaboratively investigating how leaders can achieve the success of guiding digital transformation with protecting, not to mention optimizing, the well-being of personnel at work.

Studies that have been done on leadership and employees well-being, have always indicated a strong association between leadership styles and well-being of employees. Among others, authentic leadership, transformational leadership, participative leadership have been illustrated to be positively associated with the well-being of the employees. Much of this research focuses on the underlying mechanisms linking leadership and well-being, with a significant portion examining the relationship between leadership

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behaviors and employee emotional responses. Existing evidence indicates that leadership behaviors are closely associated with employee mental health, positive emotions, and subjective well-being[2] .Studies on leadership and employee well-being usually examine how the two connect. Much of this work focuses on leaders' actions and employees' emotional responses. Evidence shows that leadership behaviors correlate with staff mental health, as well as with positive affect and workers' subjective sense of well-being [3].

Over the past few years, interest in "digital leadership" or "e-leadership" has grown noticeably. Even though there is no single definition that has been agreed universally, most accounts have mainly agreed with several main themes. In general, the concept suggests that it possesses a clear digital vision accompanied by a visible/traceable digital strategy and an evidence-based approach to making decisions. It is often connected with agile practices and incremental change and iterative change. Transversal collaboration that transcends across teams and organizational thresholds is the other common factor. Employee empowerment and the development of digital skills is also regarded as one of the core activities. At last, research highlights the necessity of matching the technological programs with tangible business needs[4][5][1].

The Job Demands Resources (JD-R) model redefines work dividing it into two large groups. One of them is job resources; those factors that contribute to the support of the workers and their motivation. The other is job demands- things that drain energy and have the capacity to cause strain. Research on resources generally enhances participation and well-being by increasing the competence, autonomy, and meaning among the employees. Instead, Demands are depleting of energy, and they trigger stress reactions, which eventually undermine well-being.

1.1.2 Research Significance

(1) Theoretical Implications

In JD-R framework, this paper is treating the well-being of the employee population as one of the outcomes of the digital leadership, where previous studies choose to focus on highlighting the hard aspects of the performance to the neglect of the welfare of the individual. Redefining job resources and requirements in digital settings, the paper tends to identify resources with the help of readily available and easy-to-use tools, timely data-based feedback, technical training, IT support, autonomy, and perceived competence. Demands, in their turn, include complexity of technology, information overload, role and boundary ambiguity and technological intrusion. These advancements expand the scope of the JD-R model and its explanatory power in occupations that are technological in nature.

(2) Practical Implications

The findings of the research give good recommendations on the management and leadership practice of human resource. In the process of recruitment, introduce digital literacy and flexibility as the main selection factors. Organizations should apply structured tests and situation-based interviewing to determine how well the candidates understand the use of digital tools and how they are able to learn and adapt to fast-paced learning environments. In training design, they should empower digital skills and reduce stress levels by inculcating technical training with emotionally controlling and time management training into the curriculum. This counters the psychological burden and workload increment resulting during digital transformation. When doing performance appraisals, employee well-being and digital flexibility should be used as the priority metrics in addition to the traditional measures of performance. Such a two-fold construct motivates workers to actively adapt and practically use new technologies without deteriorating physically and psychologically. At the same time, management should institute brief frequency feedback systems with pulse polls and regular team insights. These measure real-time changes in resource availability, perceived levels of stress, and role expectations and allow dynamic adaptation of the distribution of work resources and tasks performed.

Digital transformation path needs to be implemented depending on digital maturity level of an organization. The first stage is concerned with the development of digital infrastructure, as well as core competencies, with the primary improvement of data collection, the interconnectivity of the system, and the development of the base platform. It also offers the much needed foundation training to make employees settle in the new systems and processes well. The medium phase focuses on optimization of the processes and an improved information governance. This includes re-engineering business operations, consolidation of information system, and defining the data standards and control level to enhance business performance and enhancement of risk and compliance management. The mature stage focuses more on management of boundaries in an organization and long-term development support and more priority is laid on the creation of cross-departmental and cross-organizational collaboration mechanisms.

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It also specializes in strategic level institutional and resource assurances in order to have sustained innovation and talent building. This step-by-step strategy will contribute to a gradual improvement of employee welfare and organizational health and stability with comparatively low costs as well as increase the flexibility of the enterprise and its competitiveness in unpredictable conditions.

1.2 Theoretical Framework and Research Hypotheses

1.2.1 Theoretical Foundation

JD-R model underlines the fact that every work environment could be summed up in two fundamental categories of characteristics. Job demands are those associated with the mental or physical effort of a sustained working deal in terms of physical and mental fatigue[2]. High job demands cause stress which encourages individuals to contemplate work at non-working hours extending the amount of time they need to recover and this hinders their physical and mental well-being [6]. Job resources refer to the relationship between work factors that offer support and help people to attain goals and minimize physical and mental tension Current research studies relationships between work resources and work rumination in relation to two perspectives: First, work resources boost the positive impacts of work rumination. As an example, positive work experiences (like distributive justice and work friendship) may induce positive work ruminations, which extend the time of positive work experiences and are an enjoyable process of cognition[8]. Work resource like job control allows people to experience rumination about their problems as they have autonomy and freedom of choice, assuming that they can control their working experience [7]. Alternatively, the work resources alleviate the adverse effect of work rumination.

1.2.2 Research Hypotheses

The present research splits the JD-R model into the dimension of digital leadership as an important contribution to the working environment transformation by using the technologies and making managerial changes. Digital leaders grow employee resources, motivation, and daily experience by giving more user-friendly digital tools in conjunction with the necessary technical training and continuous support as well as use real-time information to provide quicker feedback. Conversely, they mitigate unnecessary stresses faced like information overload and role ambiguity by setting clear information processing conventions, scope of job assignment, and streamline/ simplify digital processes. In such a way, indirect benefits of digital leadership are its stimulating resources toward the well-being of employees and reducing or optimizing the demands on employees, and indirectly, it may have a positive impact on employees. In this light, the hypotheses of the research are put as follows:

H1: Digital leadership is positively related to job resources.

H2: Digital leadership is negatively related to job demands.

H3: Job resources mediate the relationship between digital leadership and employee well-being.

H4: Job demands mediate the relationship between digital leadership and employee well-being.

2. Research Design

2.1 Sample Selection and Data Collection

The participants in this study primarily come from multiple industries, with the majority from the healthcare sector (20.5%), finance/banking/insurance (18.0%), and manufacturing (17.6%). This distribution indicates that employees in these industries experience higher work complexity and technology support requirements in research related to work pressure and resilience. The survey was primarily distributed online through the Credo platform, utilizing an electronic questionnaire. To enhance the response rate and authenticity, complete anonymity was implemented, and data collected will be kept confidential. To avoid common method bias, the research team collected data in three phases from February 2025 to April 2025, with a two-week interval between each phase. Participants could only proceed to the next phase after completing the previous questionnaire. With a broad sample base, 240 questionnaires were distributed. After discarding answers that displayed apparent patterning, a total of 225 valid questionnaires were obtained, achieving a response rate of 94%.

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2.2 Measurement of Variables

(1) Digital Leadership

Digital leadership was measured using the 6-item Digital Leadership Scale developed by Zeike et al. (2019). A sample item is: "My leader is actively driving the company's digital transformation."

(2) Job Demands and Job Resources

Job demands and job resources were measured using a 12-item scale developed by Demerouti et al. (2001), which was adapted to the Chinese context. A sample item is: "My job requires a great deal of my energy."

(3) Employee Work Well-Being

Employee work well-being was assessed using the 6-item scale developed by Zheng (2015). A sample item is: "My job is very interesting."

3. Data Analysis and Hypothesis Testing

3.1 Reliability and Validity Tests

3.1.1 Reliability Test

This study adopted the classical Cronbach's α coefficient to assess the reliability of the scales, as the magnitude of this coefficient directly reflects the trustworthiness of the measurements. The results indicate that all variables in this study exhibit satisfactory reliability levels.

Table 1. Results of Reliability Analysis

Variable name	Cronbach's α
Digital Leadership	0.705
Job Demands	0.847
Job Resources	0.709
Employee Well-Being	0.751

As shown in Table 1, the Cronbach's α coefficients for all variables are greater than 0.70, indicating that the measurement instruments used in this study demonstrate satisfactory internal consistency reliability and are adequate in terms of stability and questionnaire design for the purposes of this research.

3.1.2 Validity Test

As shown in Table 2, the KMO value of the scale is 0.857, with a significance level smaller than 0.001, indicating that the data are suitable for factor analysis. In addition, the variance explained by the first extracted eigenvalue is less than 40%, suggesting that the questionnaire demonstrates good validity.

Table 2 Results of Validity Test

KMO and Bartlett's test		
KMO measure of sampling adequacy.		0.857
Bartlett's test of sphericity	Approximate chi-square	2028.555
	Degrees of freedom	253
	Significance	<0.001

3.2 Hypothesis testing

As shown in Table 3， Model 6 shows that the effect coefficient of digital leadership on job resources is 0.579 ($p < 0.001$), which is significantly positive, thus confirming Hypothesis 1. Model 5 shows that the effect coefficient of digital leadership on job demands is -0.513 ($p < 0.001$), which is significantly negative, thus confirming Hypothesis 2. For Hypothesis 3, a comparison between Model 2 and Model 4 shows that after adding job resources, the direct effect of digital leadership on employee well-being decreases from 0.452 to 0.232 (still significant), while the effect coefficient of job resources on employee well-being is 0.406* ($p < 0.001$), indicating that job resources play a partial mediating role, thus confirming Hypothesis 4.For Hypothesis 4, a comparison between Model 2 and Model 3 shows that after

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adding job demands, the coefficient of digital leadership changes from 0.452 to 0.232 (still significant), and the effect coefficient of job demands on employee well-being is -0.426** ($p < 0.01$), indicating that job demands play a partial mediating role, thus confirming Hypothesis 4.

In summary, all four research hypotheses are supported by the empirical data.

Table 3 Results of hypothesis testing

Variable	Employee well-being				Job demands	Job resources
	M1	M2	M 3	M 4	M5	M 6
Control variables						0.11
gender	0.058	0.104	0.034	0.02	-0.161*	0.162*
age	0.213	0.152*	0.15*	0.095*	0.001	-0.017
edu	0.016	-0.029	-0.008	-0.021	0.047	-0.147*
time	-0.076*	-0.085	-0.112	-0.052	-0.07	-0.026
sec	-0.194*	-0.092	-0.021	-0.082	0.168*	
Independent variable						
Digital leadership		0.452***	0.232**	0.277**	-0.513***	0.579***
Mediating variables						
Job demands			-0.426**			
Job resources				0.406***		
R^2	0.085	0.264	0.38	0.427	0.361	0.365
$\triangle R^2$	0.085	0.18	0.116	0.105	0.232	0.07
F	4.011**	12.931***	18.836	23.101	20.484**	20.919
NOTES: *p<0.05; **p<0.01; ***p<0.001						

4. Research Conclusions and Discussion

4.1 Research Findings

This paper focuses on the impact of digital leadership on the work well-being of employees. The results have shown that an increased level of digital leadership is associated with an increased overall work well-being among the employees. At the same time, digital leadership is likely to be accompanied by more work resources and fewer working requirements: employees have more tools, assistance, and feedback, but their time pressure and information overload are relatively lean. These two variables partially mediate the relationship and this has been the reason why digital leadership assists in reducing stress levels of employees and improving their well-being at work.

4.2 Theoretical Contributions

This research theoretically looks into work demands and resources in an integrated model framework as the two main vectors through which digital leadership impacts employee well-being. Results indicate that digital leadership does not directly contribute to well-being but works through two major ways, first, it decreases unnecessary workloads by the employees; second, it expands the resources they can count on. This direction, namely, of the influence of leader behavior on job demands and resources, and subsequently, on employee well-being, demonstrates quite clearly how comforting the employees in the context of digital transformation occurs. It gives a clearer theoretical understanding on how organizations may be able to co-ordinate job demands and resources in the process of transformation in comparison to the prior studies that had looked at single causal relationships only.

4.3 Management Implications

These findings have immediate reference worth to the actual management of an organization. In the process of promoting digital transformation, firms that are overly enamored with technology as such can

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afford to forget their real life experiences and abilities of employees. The results indicate that as the organizations make the systems upgrades and launch new technologies, they should also spend on nurturing the managers who have digital leadership skills. In particular, managers should also find out how, in the digital age, they can empower their subordinates and employees by offering necessary tools, training and support in addition to reducing job demands and better exploiting new artificial intelligence systems to provide more convenient and timely feedback and contribute to more effective collaboration. At the same time, managers need to avoid the negative impacts brought by digitalization during the transformation process, such as information overload and other digital-related problems. Based on the findings of this paper, managers should give priority to using advanced digital means to enhance employees' capabilities and resources, and only then consider how to control and manage the new challenges created by digitalization.

4.4 Limitations and Future Research

This study is not without limitations, and the results should be interpreted with some caution.

The data were collected through a one-off questionnaire, so the analysis can only point to associations among variables; causal claims remain tentative and await more rigorous evidence.

Second, the sample is largely confined to a handful of industries, so whether the results hold for other sectors or organisational types awaits confirmation in further work.

Third, the model remains deliberately narrow: it links digital leadership, job resources, job demands and employee well-being, leaving out other plausible influences such as individual traits, team dynamics or broader organisational culture.

Subsequent work could advance along three complementary tracks. First, designs that follow participants over time or embed randomized experiments would let scholars draw causal conclusions with higher confidence. Second, expanding the sample across industries, regions, and cultures would show whether the present model remains intact. Third, bringing in additional individual-level variables—digital literacy, age, or personality traits—would reveal whether they alter the relationships documented here.

Digital leadership is still taking shape, leaving ample room for inquiry and making it a fertile area for future studies on employee well-being in workplaces that grow more digital by the day.

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