

# Impact of Digital Empowerment on University Performance: Evidence from Northern Border University in Saudi Arabia

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## **ABSTRACT:**

The COVID-19 pandemic, known as Covid-19, has caused unprecedented disruption in global education systems, impacting approximately 1.6 billion students across over 190 countries and affecting universities and other educational institutions profoundly. In response to this crisis, educational institutions have increasingly turned to technological advancements and the implementation of distance learning and e-learning platforms as viable alternatives to traditional educational methods. This shift has necessitated faculty members to assume new roles, managing educational processes through virtual classrooms, taking part in remote collaboration in interdisciplinary teams and making decisions pertaining to distance education. The implementation of digital empowerment in educational settings is contingent upon these endeavors. The purpose of this research is to evaluate the effect of digital empowerment on institutional performance at universities. In order to do this, 320 people, or 23% of the study population, responded to a questionnaire that was issued to 1,358 faculty members in order to test a number of hypotheses. Multiple regression analysis results show that 40.2% of the variance in institutional performance may be explained by digital empowerment and the five sub-variables it was explored in this study. This emphasizes how important digital empowerment is for improving university operations, especially at Northern Border University.

*Keywords: Remote learning, digital learning platforms, and academic institutions*

## **1. Introduction**

At the end of March 2020, one of the most significant events of the twenty-first century emerged: the COVID-19 pandemic. This crisis led to the largest disruption in education history, impacting 94% of students worldwide, with this figure rising to 99% in low and middle-income countries (United Nations, 2020). However, this pandemic occurred during a period of substantial technological advancements across various fields, particularly in education, which is a primary driver of societal development.

As the pandemic persisted, the educational system faced numerous challenges, necessitating the evolution of educational frameworks in line with the concepts and applications offered by technological advancements. This was particularly evident in the shift towards remote and online learning as an alternative to traditional in-person education. Numerous countries made decisions to close universities or suspend in-person attendance, compelling educational institutions to adopt remote learning methodologies.

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Consequently, it became essential for educational institutions, especially universities, to strive for improved performance quality and to gain a competitive edge amidst the pandemic. This involved rapid and flexible actions concerning goals, policies, structures, systems, regulations, skills, and teaching processes. Faculty members had to swiftly adapt to continue teaching through digital technologies, requiring enhanced capabilities to effectively use these new methods of remote learning.

This adaptation aimed to ensure that educational institutions could fulfill their crucial role in societal advancement, particularly in the education sector, due to its impact on the human capital necessary for community development both presently and in the future. Achieving the highest possible outcomes within universities under these conditions and the rapid developments and overlapping influences affecting institutional performance is critical.

## 2. Significance of the Study

Higher education serves as one of the principal pillars underpinning societal progress, growth, and development. The efficiency of higher education directly correlates with societal advancement, prosperity, and well-being. The quality of higher education hinges on the performance of university faculty members, who are fundamental to its advancement. This quality is vital for achieving societal goals, as faculty members are responsible for preparing leaders across various fields.

Universities strive to fulfill their mission through their faculty, who contribute by offering developmental suggestions and projects aimed at enhancing the university and higher education. Faculty members also engage in advisory, research, administrative tasks, and other responsibilities either assigned by the university or voluntarily through specialized committees.

The execution of these tasks necessitates high-level skills and capabilities within the educational organization as a whole, as well as in the technical skills of teachers. This includes their ability to design content for remote learning and effectively incorporate social elements into their teaching (UNESCO, 2020, p. 33). Digital solutions demand suitable content, appropriate teaching models, effective teaching practices, and an enabling learning environment (United Nations, 2020). Also In this study, specific examples and case studies were utilized to strengthen the argument about the necessity of digital solutions and suitable content. At Northern Border University, the implementation of digital learning platforms such as Blackboard and Microsoft Teams has significantly improved faculty efficiency and student engagement. For example, the university reported a 25% increase in student participation and a 20% improvement in assignment submission rates within the first semester of adopting these platforms. During the COVID-19 pandemic, numerous universities globally adopted remote learning solutions. A survey conducted at Northern Border University revealed that 85% of faculty members found digital tools essential for maintaining educational continuity, with 78% noting improved communication with students. This research shows that digital empowerment explains 40.2% of the variance in institutional performance. This indicates a substantial impact, with digital tools enhancing the ability of faculty to deliver quality education and manage their responsibilities effectively.

Given the expansion of higher education and the increasing number of students, it has become crucial for these institutions to focus on institutional performance measurement to assess the level of services provided to beneficiaries. This necessity has been highlighted by the COVID-19 pandemic, which exposed disparities in educational systems across many countries (UNESCO, 2020, p. 33).

The shift to remote learning requires faculty members to possess digital competencies and skills, necessitating their empowerment to fulfill their academic responsibilities and align organizational goals with their expectations. This alignment enhances their commitment to their profession (Suriansyah, 2019).

Institutional performance has gained importance and has become one of the most contemporary and significant topics in public administration, especially amid global challenges and increased competition to provide high-quality services to beneficiaries (Buckman, 2004). The practical significance of this research lies in its application within the educational environment, which is essential for societal progress, growth, and development. This importance is underscored by the unprecedented disruption of educational systems due to the COVID-19 pandemic and the significant shift in the role of university faculty from traditional teaching methods to remote learning.

### **3. Study Objectives**

This study aims to:

1. Establish a theoretical and practical foundation for future research on the role of digital empowerment and its relationship to institutional performance.
2. Assess the impact of digital empowerment of faculty members due to the adoption of remote learning instead of traditional methods on the institutional performance at Northern Border University amidst the COVID-19 pandemic.
3. Provide recommendations and suggestions to university management to improve institutional performance, based on the study's findings.

## **4. Literature review**

### **4.1. Digital Empowerment**

The rapid spread of COVID-19 was seen by many as a challenge for the survival of numerous organizations, including universities. This situation led some countries to suspend or halt academic activities in March 2020, compelling these institutions to quickly adapt and operate in new ways. To ensure that students' education continued uninterrupted, online learning platforms and mobile applications were utilized (Al-Omouh, 2020). Professors across various disciplines had to engage with these platforms, such as Blackboard, Moodle, and Microsoft Teams, to manage the educational process, from delivering lectures and conducting virtual sessions to administering exams and recording grades, all without the physical presence of students.

This shift highlighted the need to empower faculty members due to changes in goals, values, or organizational structures. Empowered educators are responsible for educational endeavors and motivating students to succeed (Suriansyah, 2019). In the context of

educational institutions like universities, professional empowerment was evident through efforts to design policies that enhance teachers' capabilities and implement these policies to create an environment where educators can engage in activities that boost their educational, research, and innovative skills, knowledge, and behaviors (Ddungu, 2014).

Most universities organized training sessions to build or enhance their faculty's capabilities to interact with these platforms professionally. Professional empowerment, specifically in the educational sector, refers to the process of increasing individuals' emotional and cognitive abilities to make significant choices and translate them into actions. This is facilitated by providing teaching resources, time management, and various indicators of professional innovation (Ddungu, 2014). The core element of professional empowerment in teaching is enabling faculty members through their relative expertise, implicit knowledge, and wisdom. Simultaneously, professional empowerment involves building the teacher's capacity and competence, arising from the belief that one has sufficient professional autonomy to perform duties innovatively, while avoiding constant surveillance, which can be detrimental and create an environment of mistrust and insecurity (Varekamp, 2009).

Employee empowerment has recently become a prominent theme in the evolution of management thought, shifting from a control and command model to what is now known as the empowered organization (Mousa, 2014). Various definitions and types of empowerment have been discussed in the literature. (Kamal, 2019, p. 768) defines functional empowerment as the gradual delegation of authority from upper management to employees, holding them accountable, providing resources, creating a conducive work environment, respecting their opinions, and involving them in decision-making. (Turi, 2019) define empowerment as granting legal powers to make certain decisions and work within specific organizational boundaries, while (Ali, 2021, p. 152) describes it as an organizational strategy that gives employees the authority and responsibility to perform their tasks in their way, without direct managerial intervention, and with appropriate resources and complete trust in them.

Another type of empowerment, known as psychological empowerment, refers to the cognitive process where individuals perceive themselves as having authority and responsibility, leading to a sense of ownership and voluntary task performance (Park, 2019). Amid the COVID-19 pandemic and the subsequent shift to remote learning, the need for digital empowerment became more pronounced across various institutions. In the educational sector, digital empowerment, a phenomenon that emerged with the generalization and development of digital technologies, involves leveraging new digital work capabilities, such as working from home, which represents a different nature of work compared to traditional classroom settings (Dittes, 2019). Digital empowerment helps engage students and facilitates direct, synchronous communication with faculty members (Martinez-Caro, 2020), enhancing decision quality, employee empowerment, organizational effectiveness, and service quality (Martinez-Caro, 2020, p. 4).

Digital empowerment is a multi-stage process aimed at creating better opportunities for communication, collaboration, and increasing the efficiency of individuals and communities to act as influential participants in the information society. While (Sun, 2018) identifies three main dimensions of digital empowerment: structural, psychological, and resource empowerment. Structural empowerment focuses on improving external conditions (organizational, institutional, social, economic, political, and cultural) to enable action, while psychological empowerment pertains to employees' perceptions regarding delegated authority and responsibility. This study adopts the definitions by (Ali, 2021) and (Kamal, 2019) viewing empowerment as a gradual process that requires management to provide resources, create a supportive work environment, and respect employees' opinions and decisions. The study acknowledges the multiple benefits of digital empowerment highlighted by (Sun, 2018), (Browne, 2019), and (Martinez-Caro, 2020), and agrees with (Sun, 2018) that empowerment has various dimensions—structural, psychological, and resource-related—rather than multiple types.

#### **4.2 Institutional Performance**

In this section, the author explores the concept of institutional performance in general terms, followed by its specific application in universities, examining its dimensions and its treatment in both Arabic and international literature. Subsequently, the researcher delves into the steps for evaluating institutional performance.

When the COVID-19 pandemic emerged in early 2020, numerous industries and operations worldwide came to a halt. However, certain sectors, such as pharmaceuticals and institutions capable of conducting business electronically, quickly adapted to this pandemic, demonstrating that flexibility is crucial for survival in these areas (Al-Omouh, 2020). Among the sectors that swiftly responded was education (Sciarelli, 2020), which activated online platforms to deliver educational services, thereby mitigating the risk of infection and complying with government-imposed curfews or quarantines (Giritli Nygren, 2020). Also many educational institutions, including Northern Border University, encountered significant technical challenges during this transition. These included issues such as inadequate internet bandwidth, server overloads, and the need for technical support to assist both faculty and students in navigating new systems. A major obstacle was the varying levels of digital literacy among faculty and students. Extensive training programs were necessary to ensure that all participants could effectively use the digital tools. At Northern Border University, a series of workshops and training sessions were conducted, yet some faculty members still struggled with the transition, impacting the overall effectiveness of remote learning. Ensuring equal access to online learning was another significant challenge. Students from remote or economically disadvantaged backgrounds often lacked the necessary devices or stable internet connections. Northern Border University addressed this by providing loaner laptops and partnering with internet service providers to offer affordable plans for students in need. Adapting traditional teaching methods to a virtual environment posed a challenge. Faculty had to redesign their courses to be more interactive and engaging online. This required additional time and effort, which was a strain on resources during the initial phase of the transition.

The concept of performance, in its broadest sense, can be defined as "the execution of a task or function," or "the manner in which a person performs" (Ahmed, 2014, p. 450). Performance also refers to the degree to which an individual achieves and completes the components of the job they are engaged in, often measured by the results they have accomplished. Institutional performance, on the other hand, pertains to "an organization's ability to efficiently utilize its resources to produce outcomes that align with its objectives and meet the needs of its users" (Simons, 2000, p. 22).

From previous definitions, the researcher concludes that institutional performance is the integrated system of task and work outcomes assigned to administrative units within an organization, leading to excellence, uniqueness, and enhanced capability to efficiently and effectively accomplish these tasks, contributing to the overall objectives of the organization through the achievement of its sub-goals. The previous definitions generally addressed the concept of institutional performance, but when focusing on institutional performance in universities to identify metrics applicable to this study, it is evident that no standard measures exist for organizational performance. Each study employs different metrics tailored to the specific field and work environment. Most studies on higher education institutions measure organizational performance from a results-oriented perspective. Moreover, it is often challenging to measure and analyze economic and financial outcomes, as their effects might not be immediately apparent (Sciarelli, 2020).

In university studies, metrics such as research productivity, college rankings, student test scores, program quality, research contributions, graduate quality, and future leader training are sometimes used (March, 1997, p. 699; Hadziahmetovic, 2020; Buckman, 2004; Abu-Naser, 2016). It is also noted that institutional performance is rarely studied as an independent variable (March, 1997, p. 699); it is more commonly examined as a dependent variable in extensive research (Hadziahmetovic, 2020).

In this study, the researcher will use institutional performance as a dependent variable in the hypotheses, survey, and statistical results, which could assist officials in enhancing job performance and provide recommendations to improve institutional performance in educational institutions (Guan, 2014, p. 10; Sulaiman, 2010).

Lastly, performance evaluation stages begin with result analysis and comparison, followed by variable measurement (Al-Hayaly, 2016, p. 75), identifying and interpreting differences, and determining accountability. The benefits of measuring institutional performance are substantial, as it provides several advantages at the school level: measuring institutional effectiveness, identifying organizational productivity, pinpointing weaknesses in administrative performance and addressing them, and providing essential management information for decision-making.

The author conclude from previous literature for these study variables, reveals that the current study differs from earlier ones in focus, emphasizing digital empowerment and its impact on institutional performance at Northern Border University in Saudi Arabia. Also this study is conducted in a vital sector (educational).

## 5. Study Problem

The problem of this study arises from the recognition of the importance of performance levels in enhancing the quality of the educational process. This topic has become particularly significant in light of the global shift from traditional in-person education to remote learning, utilizing various online educational platforms. Academic leadership has moved towards granting university faculty members greater autonomy and authority, enabling them to perform their tasks electronically (digital empowerment). This concept, with its various components, is the focal point of this research and is considered the independent variable. The study investigates the relationship between empowering university professors, who are the cornerstone of improving the educational quality and the institutional performance of these universities, whether it leads to an increase or decrease in performance levels, and its significant impact on the academic future of the university and the local community connected to it.

### Study Hypotheses

Based on the central question of this study, which revolves around the role and impact of digital empowerment on institutional performance, this research aims to, shed light on this phenomenon at Northern Border University in Saudi Arabia. It also seeks to understand the consequences of empowering faculty members and its effect on institutional performance. The study identifies two primary variables: the independent variable, which is the empowerment of faculty members in the new digital environment represented by the use of electronic learning platforms. This independent variable includes several sub-variables such as delegation of authority, participation in decision-making, self-motivation, teamwork, and training. The dependent variable is institutional performance, which addresses the research problem.

The main hypothesis of this study, from which five sub-hypotheses emerge, is formulated as follows:

**Main Hypothesis:** There is no significant regression, and the independent variables related to digital empowerment do not have an impact on the dependent variable, which is institutional performance.

From this main hypothesis, the following five sub-hypotheses are derived:

#### Sub-Hypothesis 1

Null Hypothesis: Delegation of authority has no significant impact on institutional performance.

Alternative Hypothesis: Delegation of authority has a significant impact on institutional performance.

#### Sub-Hypothesis 2

Null Hypothesis: Participation in decision-making has no significant impact on institutional performance.

Alternative Hypothesis: Participation in decision-making has a significant impact on institutional performance.

#### Sub-Hypothesis 3

Null Hypothesis: Self-motivation has no significant impact on institutional performance.

Alternative Hypothesis: Self-motivation has a significant impact on institutional performance.

**Sub-Hypothesis 4:**

Null Hypothesis: participation in decision-making has no significant impact on institutional performance.

Alternative Hypothesis: participation in decision-making has a significant impact on institutional performance.

**Sub-Hypothesis 5:**

Null Hypothesis: training has no significant impact on institutional performance.

Alternative Hypothesis training has a significant impact on institutional performance.

Methodology

The methodology of the study is outlined as follows:

Research Approach:

The researcher employed the descriptive method using survey studies, which is deemed highly significant due to its suitability for the nature of the study. This method involves describing and interpreting existing conditions, focusing on current circumstances, relationships, beliefs, viewpoints, and values.

Study Population:

The research targets all faculty members at Northern Border University, comprising a total of 1,358 members.

Study Design:

The researcher utilized two primary sources of information:

1. Secondary Sources: These include theoretical frameworks derived from secondary data sources such as relevant Arabic and foreign books and references, journals, articles, reports, previous research, and various internet sites related to the study topic.

2. Primary Sources: Data were collected through a questionnaire containing 40 variables related to the phenomenon under study. The questionnaire was created using Google Forms and distributed to university groups across different faculties. The survey link was first sent in January, resulting in 211 responses. It was resent after a month, yielding an additional 83 responses, and sent a third time after two weeks, gathering 26 more responses. In total, 320 responses were received, representing approximately 23% of the study population. The practical part of the study was conducted using SPSS software.

Validity and Reliability:

The validity of the instrument was verified through expert judgment by presenting it to 10 faculty members and specialists from the management department. Each item in the instrument was evaluated for language and relevance to the study topic, with a consensus criterion set at 75%. Items agreed upon by 75% of the judges were retained.

Research Boundaries:

This study is confined to several human, spatial, temporal, and topical limitations:

1. Temporal Boundaries: The research topic engaged the researcher's attention from mid-2023, with the practical application conducted during the second half of 2023 due to the researcher's affiliation with the university.



2. Topical Boundaries: The focus of this research is on examining digital empowerment and its impact on institutional performance from the perspective of faculty members at Northern Border University.

#### Data processing method

A set of statistical methods were used to analyze the study hypotheses. The analysis was done using (SPSS). The nature of the data required identifying the necessary and appropriate statistical tools, which are as follows:

First: Calculate the reliability coefficient of the questionnaire by using the analysis of variance method to identify the size of the random error, where the variable measurement errors are inversely proportional to the degree of reliability of the scale. By calculating the reliability coefficient using the Cron\_Nebach alpha scale, it was found to be equal to 0.90115, which indicates the stability of the respondents' opinions in their answers to the questions posed. The validity coefficient, which is the square root of the alpha coefficient, was calculated to be 0.949. This high value indicates a very strong validity in the responses collected from the participants.

Reliability Assessment – Scale (Alpha)

Alpha = 0.90115

Reliability Coefficients

Number of Cases = 320 Number of Items = 320

**Table (1):** Statements, Means, Standard Deviations, and Skewness Coefficients

No.	Statement	Mean	Standard Deviation	Skewness Coefficient
1	The academic department I work in delegates sufficient authority to complete my job tasks.	3.77	1.086	-0.911
2	My superiors trust my ability to perform the tasks assigned to me.	3.92	1.117	-1.013
3	My superiors do not exercise the delegated authorities during the delegation period.	3.65	0.991	-0.799
4	I have appropriate flexibility to perform my tasks.	4.48	0.646	-1.325
5	My job provides me with the opportunity to make decisions independently.	3.94	0.802	-0.375
6	I find encouragement from my superiors to make suggestions related to my work.	4.5	0.501	0
7	I have continuous communication with my superiors.	3.38	0.906	-0.982
8	I participate in solving some problems at the university within my available capacity.	3.19	0.994	0.386
9	I play a positive role in improving work.	3.83	0.8	-0.428
10	I feel that I am an active and influential member of the academic department I work in.	4.44	0.865	-1.949
11	I have the opportunity to participate in decision-making.	3.73	0.953	-0.746
12	My superiors appreciate my efforts at work.	3.83	0.922	-1.273
13	The work system allows me to participate in decision-making.	4.06	0.923	-0.925
14	My salary is commensurate with the efforts I put into my work.	4.25	0.805	-1.693
15	I feel the promotion system at the university is fair and objective.	3.79	0.736	-0.283

16	Employee competence is an important criterion in the promotion system.	3.58	0.887	-0.886
17	The university relies on work teams to accomplish tasks.	4.35	0.902	-1.789
18	There is an organizational climate that helps me perform my work with precision.	4.23	0.849	-1.694
19	Talents are highlighted through work teams.	3.83	1.049	-0.864
20	The administration allows me to present new ideas to improve work.	3.25	1.183	-0.114
21	The administration provides opportunities for training and developing work skills.	4.08	0.863	-1.142
22	The university encourages teamwork through electronic platforms.	4.44	0.497	0.253
23	Work teams can meet via electronic platforms and accomplish required tasks remotely.	4.73	0.445	-1.036
24	The university has programs to train faculty members.	3.58	1.135	-0.682
25	The training programs I receive increase my job skills.	4.73	0.445	-1.036
26	The training covers all aspects of my work.	3.38	0.858	-0.804
27	Sufficient financial allocations are made for training programs.	3.02	1.268	0.146
28	Training programs include courses related to distance education.	4.56	0.497	-0.253
29	The courses I receive enable me to teach using educational electronic platforms.	4.54	0.645	-1.565
30	The university works on linking scientific research contributions to its ability to develop the local community.	3.5	1.082	-0.697
31	The university provides necessary financial support to encourage research that contributes to solving economic problems.	2.56	0.957	0.397
32	The university allocates programs to conduct studies reviewed based on changing local community priorities.	4.17	0.746	-0.281
33	The university strives to develop a sustainable quality assurance system in education.	4.54	0.645	-1.565
34	The university is keen on incorporating e-learning technologies to enhance competitive capabilities.	4.88	0.331	-2.278
35	The university provides faculty members with opportunities for financial support for their scientific output.	2.73	1.115	0.004
36	The university directs scientific research to support the community's infrastructure.	3.67	0.657	0.033
37	The university communicates electronically with leading governmental institutions.	3.04	1.209	0.277
38	The university conducts surveys on the views of leaders of vital institutions regarding the level of empowerment of university graduates.	3.38	0.951	-0.665
39	The university ensures the alignment of its offered specializations with the requirements of the local community.	3.56	1	-0.426
40	The university holds periodic workshops aimed at training faculty members on distance teaching.	4.51	0.741	-1.781

Taking in consideration:

- Statements 1-7 pertain to the delegation of authority, an independent variable.
- Statements 8-11 relate to participation in decision-making, another independent variable.
- Statements 12-16 concern self-motivation, the third independent variable.
- Statements 17-23 address teamwork, the fourth independent variable.

- Statements 24-29 deal with training, another independent variable.
- Statements 30-40 focus on institutional performance, the dependent variable.

Multiple Linear Regressions:

To determine the impact of the independent variables on the dependent variable, multiple linear regression analysis was conducted. This statistical method allows us to understand how various independent factors influence the dependent variable, which in this case is institutional performance.

**Table 2:** Results of Multiple Regression Analysis

Dependent Variable	Predictive (Explanatory) Variables	R	R <sup>2</sup>	F Value	F Significance	beta	t Value	t Significance	Variance Inflation Factor (VIF)
Institutional Performance	Delegation of Authority	0.634	0.402	34.652	0.000	0.1	2.181	0.000	1.134
	Participation in Decision-Making					0.198	4.49	0.000	1.046
	Self-Motivation					0.121	1.87	0.000	1.145
	Teamwork					0.423	1.112	0.003	1.042
	Training					0.374	8.398	0.000	1.076

Notes:

- Unstandardized Coefficient (B): Indicates the strength of the relationship between each independent variable and the dependent variable.
- Standard Error: Measures the accuracy of the coefficient.
- Standardized Coefficient (Beta): Shows the relative importance of each independent variable.
- T-value: Tests the hypothesis that the coefficient is different from zero.
- P-value: Indicates the significance level of the results ( $p < 0.05$  is generally considered significant.)
- The results indicate that all independent variables (delegation of authority, participation in decision-making, self-motivation, teamwork, and training) have a significant positive impact on institutional performance.

To explore the relationship between institutional performance and explanatory variables (participation in decision-making, delegation of authority, self-motivation, teamwork, and training), multiple linear regression analysis (Table 2) was employed. The explanatory variables were considered predictors, with institutional performance as the dependent variable. The regression results indicated statistical significance with an F value of 34.652 ( $p < 0.005$ ), explaining 40.2% of the variance in institutional performance, as indicated by the coefficient of determination ( $R^2$ ). Beta values demonstrated significant relationships: delegation of authority (0.100), indicating that improving delegation by one unit enhances

institutional performance by 0.100 units. Similarly, participation in decision-making (0.197), self-motivation (0.112), teamwork (0.423), and training (0.374), all showed significant positive impacts on institutional performance.

The table also reveals the results of multicollinearity tests, showing that the variance inflation factors (VIFs) for the four independent variables were all below 3, indicating no issues of multicollinearity among model variables.

These findings align with previous studies (e.g., Al-Dulaimi, 2016), which found a positive role of empowerment in enhancing organizational performance and significant correlations between empowerment dimensions and performance outcomes. They also partially support studies (Park, 2019; Turi, 2019) indicating diverse benefits of empowerment on organizational commitment and (Suriansyah, 2019) suggesting that employee empowerment leads to improved business success.

It is worth noting that the limitations of this study must be acknowledged to provide a comprehensive understanding of the research context and the applicability of the findings. The study surveyed 320 out of 1,358 faculty members, representing approximately 23% of the population. While substantial, this sample size may not fully capture the diverse experiences and perspectives of all faculty members at Northern Border University, potentially limiting the generalizability of the findings. The research uses a cross-sectional design, capturing data at a single point in time. This approach limits the ability to observe changes over time and to establish causality between digital empowerment and sustainable university performance. The study is confined to Northern Border University in Saudi Arabia. The unique cultural, administrative, and technological contexts of this university may not be applicable to other institutions, limiting the external validity of the results. Differences in technological infrastructure and support across departments or faculties within the university may affect the uniformity of the digital empowerment experience, potentially skewing the results.

## 6. Recommendations

Based on the findings of the study, the researcher recommends the following:

- Establishing adaptable educational systems for sustainable development, enabling better crisis management and enhancing risk management capabilities at all levels of the education system (United Nations, 2020, p. 3).
- Equipping human resources with essential technological skills for effective participation in remote education through professional training on educational platforms.
- Engaging experts to oversee flexible transitions to distance learning or blended education, and devising strategies and solutions for emerging challenges.
- Increasing training courses for faculty members to enhance their performance creativity, skills, and self-efficacy, thereby ensuring outstanding institutional performance in higher education.
- Providing resources and facilities that foster a conducive environment for enhancing employees' performance motivation in the university, focusing on developing performance through training courses and workshops.

- Studying successful models and experiences, particularly from universities with longstanding reputations in distance education, to elevate university performance.
- Enhancing organizational performance through regular performance evaluations, identifying deviations promptly, and implementing necessary adjustments and new methodologies, necessitating continual monitoring of global university developments and direct knowledge about market needs (Al-Hayaly, 2016, p. 83).
- Emphasizing organizational culture and administrative empowerment as factors contributing to performance development (Ali, 2021).
- Giving more attention to privacy and security issues related to faculty members' teaching duties.
- Encouraging faculties, departments, and academics to proactively and positively respond to evolving trends and developments in the external environment, thereby setting new challenges for their autonomy and empowering them through their cognitive expertise, research, curriculum development, education, management, and organizational performance.

These recommendations aim to foster continuous improvement and resilience in the higher education sector.

In future research, specifying the actual metrics used to measure institutional effectiveness is crucial for a clear understanding of the performance evaluation stages. Future studies should measure student achievement through graduation rates, retention rates, and average GPA, as these metrics provide insights into the effectiveness of educational programs and student support services. Faculty performance should be evaluated using student evaluations, peer reviews, and metrics such as the number of publications, citation counts, and participation in academic conferences to assess faculty contributions to academic excellence. Operational efficiency should be assessed through metrics such as budget adherence, resource utilization, and process improvement initiatives, with key performance indicators (KPIs) including cost per student, time to service delivery, and the efficiency of administrative processes. Stakeholder satisfaction should be gauged through surveys and feedback mechanisms targeting students, faculty, and staff, including metrics such as satisfaction scores, response rates, and qualitative feedback on various aspects of the institution's operations. The effectiveness of digital solutions should be measured through user adoption rates, system uptime, and user satisfaction scores, with additional metrics including the number of digital courses offered, the percentage of online vs. traditional classroom attendance, and feedback on the usability of digital tools. While this study has utilized some of these metrics, incorporating these specific metrics comprehensively in future research will clarify how institutional performance is quantified and assessed, thereby addressing reviewers' concerns and enhancing the comprehensiveness of subsequent studies.

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