

# Digital transformation, management support and work performance: Basis for local university development framework in China

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## Abstract

In the contemporary era, the digital transformation of higher education institutions, especially local universities in China, has gained significant momentum, shaped the academic landscape and influenced institutional strategies. This research embarked on an exploration of the intricate nexus between digital transformation, management support, and the resultant work performance within these universities. Set against the backdrop of rapid technological advancements and the increasing emphasis on digital competencies, the study aimed to dissect the nuances of digital transformation, focusing on its multifaceted dimensions: the construction of digital platforms, the emphasis on digital ability training, and the proliferation of digital resources. Concurrently, the pivotal role of management support, manifested through learning motivation, employee well-being, and engagement, was scrutinized to understand its impact on the overarching work performance. This study adopted comprehensive analysis method and reveals the close correlation between various aspects of digital transformation and improving work performance through in-depth analysis of questionnaire data from 506 Chinese local university faculty. Furthermore, management support, especially in fostering learning motivation and ensuring employee well-being, was found to be a significant determinant of work performance. The study culminated in the proposition of a development framework tailored for local universities in China, aiming to harness the synergies of digital transformation and management support to elevate work performance. In essence, this research not only underscores the academic and practical significance of digital transformation in the realm of higher education but also offers actionable insights for universities to navigate the digital era effectively. The findings serve as a beacon for policymakers, educators, and administrators, emphasizing the need for a holistic approach that intertwines technology, management, and performance metrics.

**Keywords:** digital transformation, management support, work performance, development framework

## **Digital transformation, management support and work performance: Basis for local university development framework in China**

### **1. Introduction**

The onset of the digital era has introduced unparalleled transformations and challenges to multiple domains, notably education. The integration of digital technologies into educational institutions, especially local universities in China, has become the focus of academic and practical discussions. This transformation is multifaceted, including the construction of digital platforms, the development of digital competencies, and the assimilation of digital resources. Digital transformation has been a catalyst for significant advances and paradigm shifts in higher education, shaping the way institutions operate, disseminate knowledge, and interact with students and stakeholders.

Digital transformation is not just the integration of digital tools and platforms, but a comprehensive change that includes changes in organizational structure, organizational culture and operational processes. The arrival of Industry 4.0 highlights the importance of the symbiotic relationship between universities and the new industrial revolution. Tamer et al. (2023) stress the importance of universities embracing digital evolution to more effectively address the demands and hurdles of a shifting landscape. The concept of university 4.0 has emerged as a representation of a new type of university, in which modern technologies such as block chain technology and artificial intelligence are integral components, enabling universities to meet the challenges of technological developments and improve their efficiency.

The global research trajectory of sustainable management of digital transformation in higher education shows exponential trends, especially in the last five years. Abad-Segura et al. (2020) conducted a bibliometric study to analyze the global research trends on the topic from 1986 to 2019. The research offered a deeper understanding of the academic contributions from authors, journals, institutions, and nations advancing this research area. The findings highlight that topic such as sustainability, sustainable development, higher education, innovation, technology, environmental technology, technology evolution, and environmental management dominate global studies in this domain. Notably, the United States stands at the forefront in scholarly outputs and international partnerships.

Digital transformation is also reshaping university infrastructure and management systems. The combination of digital web platforms provides effective user access management to every university resource, making higher education more efficient and competitive. During the COVID-19 pandemic, there was a significant shift in the dynamics of work and education, with many institutions, including universities, moving to operate remotely to ensure continuity and safeguard the well-being of staff and students. This shift highlights the importance of digital transformation as institutions that have adopted digital platforms and resources find it easier to adapt to the new normal. Viernes et al. (2022) emphasized the impact of telework on the well-being and individual work performance of university employees. Their findings suggest that while telework offers benefits such as flexibility and work-life balance, it also presents challenges related to communication, access to resources, and work-life imbalance. This emphasizes the need for robust digital platforms and resources to support telework and learning.

Gao et al. (2023) explored the psychological impact of digital transformation, particularly in the context of integrating psychotherapy and education. Their study emphasized the importance of management support in addressing the psychological challenges faced by students and employees in the digital age. Effective management can alleviate anxiety and depression symptoms and improve individual work performance. The digital transformation of local universities in China is not just a technological shift, but a comprehensive change that affects all aspects of university operations, from teaching and learning methods to management strategies

and sustainability initiatives. Management support plays a key role in this transformation, ensuring that the benefits of digital integration are fully realized, and challenges are effectively addressed. The exploration of digital transformation in higher education is critical and can serve as a multifaceted catalyst for social, economic and educational progress. This study is a transformative journey that weaves together the dimensions of development, innovation, policy, ethics and global collaboration, reflecting the profound impact and opportunities inherent in the convergence of education and technology. It is not only important but imperative given its transformative potential to reshape the educational landscape and address the challenges and opportunities presented by digital age.

The integration of Massive Open Online Courses (MOOCs) with other digital learning platforms is essential to facilitate and improve the quality of learning in a stress-free environment, allowing learners to access educational resources anytime, anywhere. The study concludes that the intersection of computer science and education produces impeccable learning outcomes, making the quest for digital transformation in learning a real necessity. The rapid development of end-to-end digital technologies and the growing demands of the digital economy highlight the urgency of studying the digital transformation of higher education. Achkasova et al. (2022) emphasized the urgent task of developing professional competencies of workers in various sectors, including higher education, to meet the requirements of individuals in the digital society. The development of transversal digital competencies is crucial to respond to the needs of society, the state and the labor market in the era of digital transformation, making research in this area highly relevant.

In addition, the significance of studying the digital transformation of higher education in the Chinese context is closely related to the country's overall development goals, educational paradigms and innovation pursuits. China's aspiration to become a global leader in education and technology is reflected in its national development goals. The study of digital transformation in higher education is critical because it seamlessly aligns with China's commitment to innovation and global competitiveness. The exploration of digital technology in higher education is a strategic initiative that contributes to the realization of national development goals and promotes the country's journey towards educational excellence and social harmony.

The path of STI in China is intimately connected to the digital evolution of higher education. Li et al. (2022) uses this research as a conduit for exploring cutting-edge technologies and pedagogical approaches to foster a culture of innovation within universities. It supports the development of transformative technologies and innovative solutions to improve the quality and impact of education, placing China at the forefront of technological advancement and educational innovation. Given the diversity and scale of China's higher education sector, this research is critical to meeting the diverse needs, aspirations and backgrounds of learners across the country. It provides insights into the effective integration of digital technologies in the teaching and learning process to meet the diverse learning styles, preferences and requirements of students. The research aids in advancing inclusive and adaptable educational frameworks that resonate with China's cultural and social values. In a globalized world, it is important for China to engage in international cooperation and knowledge exchange in higher education. The Digital Transformation Study promotes cross-cultural dialogues, partnerships and mutual learning, strengthening China's ties with the global community of learners and educators. It enhances China's presence and contribution in the international academic and educational arena, promoting global cooperation and understanding.

**Objectives of the Study** - This study aimed to assess the relationship between digital transformation, management support and work performance of Chinese local universities. Specifically, this study aimed to: determine the digital transformation in local universities in terms of construction of digital platform (process); digital ability training (people); and digital resources (technology); assess the management support to employees in view of learning motivation, employee well-being and employee engagement; evaluate the work performance in terms of task performance, contextual performance, adaptive performance; test the significant relationship of digital performance and management support to work performance of employees; and come up with local universities development framework.

## 2. Methods

**Research Design** - This study used descriptive research. Before commencing the preliminary study, an extensive review of the existing literature was carried out, which could help to identify gaps in the current body of knowledge and areas that need to be further explored. This set the stage for subsequent phases and provided a clear direction for the research. A comprehensive questionnaire was crafted based on the themes and objectives identified in the literature review. The questionnaire was designed to understand the respondents' perceptions of digital transformation, management support and work performance assessment in various dimensions in local universities. Each question was carefully designed to ensure clarity, relevance and alignment with the research objectives. The questionnaire was also subjected to several rounds of validation to ensure its reliability and validity. To distribute the questionnaire, the online platform Questionnaire.com was used, which was selected for its wide coverage, user-friendly interface and powerful data collection features. Respondents were invited to participate in the survey, ensuring a diverse representation from different local universities in China. Efforts were made to ensure a high response rate, which would increase the generalizability of the findings. Once the data were collected, they were subjected to a rigorous analysis process. Initially, descriptive statistical analysis was used to understand the underlying trends, patterns and distribution of the data. This provided a snapshot of respondents' views and allowed for the identification of any outliers or anomalies. Subsequently, correlation analysis was conducted to discern relationships between the various variables under study. This analysis was designed to test for significant relationships between digital performance, management support and employee performance. The choice of correlation analysis depended on its ability to identify and quantify the strength and direction of the relationship between the variables.

**Participants of the Study** - The researcher posted the survey online and eventually collected 506 valid responses. The demographic information of the participants was very detailed, as shown in Table 1. Respondents were 50.59% male and 49.41% female, with nearly equal representation of both genders, ensuring a balanced questionnaire. Gender bias in the responses was minimized and the results can be considered more generalizable in the context of Chinese universities. In terms of age distribution, 17.19% of the respondents were younger than 30 years old. The inclusion of younger respondents ensures that the questionnaire captures the perspective of digital natives, who may have a more intuitive grasp of digital tools and platforms. Respondents in the 31-50 age group made up the majority of overall respondents, a group that represents professionals who have witnessed the evolution of digital transformation. Their feedback gives us a comprehensive view of the changes taking place in higher education and the trajectory of digital transformation.

Respondents had the highest percentage of bachelor's degrees and above at 68.97%, with master's degrees making up the largest percentage. The high level of education of the respondents indicates that the questionnaire sample has sufficient ability and insight to understand the digital transformation of universities. The sample well covers different types of HEIs in China, including both public and private institutions, including general undergraduate colleges and universities that favor teaching and research, as well as specialized colleges and technical schools that favor skill-based teaching. The varying representation of different types of universities ensures that the questionnaire is valid in different institutional settings. Each institutional type may have unique challenges and strategies related to digital transformation, and capturing these nuances can deepen the validity of the questionnaire. The distribution of different positions ensures that the questionnaire provides a comprehensive picture of the university's digital transformation. The feedback from associate division executives and above, who comprised 22.33% of respondents, provided insight into strategic decisions and institutional challenges, giving the questionnaire top-down validity.

In addition, administration and service support staff accounted for nearly half of the respondents, and their perspectives validated the questionnaire from an operational and support perspective, capturing the nuances of implementing a digital transformation strategy. The diversity of work experience ensured the questionnaire's time validity. Feedback from those with extensive work experience provided a longitudinal perspective, while emerging professionals provided new perspectives on the latest developments. Overall, the demographic

distribution of respondents provided a solid basis for the validity of the questionnaire. The diverse representation of gender, age, education level, type of institution, job title, and years of experience ensured that the questionnaire provided a comprehensive and multifaceted view of the digital transformation of local Chinese universities. This diversity provides depth and breadth to the validity of the questionnaire, making the findings both reliable and generalizable.

**Instruments of the Study** - To assess the digital transformation of local universities in China and provide suggestions for the development of local universities in China, the author, with the careful help and guidance of her mentor, carefully designed the questionnaire, using a 4-point Likert scale. The questionnaire can be divided into 4 parts: firstly, the basic demographic information of the respondents, secondly, the status of digital transformation in universities, then the management support of Chinese universities, and lastly, the work performance of university personnel. To verify the validity of the proposed instrument, the authors first randomly selected a sample of 25 respondents and conducted a reliability test. The results show that each variable in each dimension satisfies the Cronbach Alpha requirement of 0.7 or higher, as shown in Table 1, and this result indicates that the questionnaire design is credible and of high quality.

**Table 1**  
*Reliability Test of Instrument*

Indicator	Cronbach's Alpha	Remarks
1A. Digital Platform Process	0.743	Acceptable
1B. Digital Ability Training	0.891	Good
1C. Digital Resources	0.792	Acceptable
2A. Employee Learning Motivation	0.854	Good
2B. Employee Well-Being	0.943	Excellent
2C. Employee Engagement	0.934	Excellent
3A. Task Performance	0.886	Good
3B. Contextual Performance	0.847	Good
3C. Adaptive Performance	0.905	Excellent

**Data Gathering Procedure** - The purpose of this study is to assess the digitalization status of local universities in China by distributing an online questionnaire to employees at different levels in universities in different provinces. The questionnaire was designed to capture insights related to digital transformation processes, management support mechanisms, and work performance indicators of local Chinese universities. The questionnaire went through a pilot testing phase before actual distribution. It was reviewed by a small group of experts and potential respondents to ensure clarity, relevance and unbiasedness. Feedback from the pilot phase was incorporated to refine the questionnaire and improve its validity and reliability. It was distributed through the online platform Questionnaire.com, which was selected for its ease of use, accessibility, and ability to reach a wide audience in different regions of China. An invitation to participate and a brief introduction to the study were sent to potential respondents to ensure they understood the purpose and significance of the study. Once the data collection phase is complete, responses are downloaded from the platform in a structured format suitable for analysis. Initial data cleansing is performed to remove any incomplete or inconsistent responses, which ensures that subsequent analysis is based on accurate and high-quality data.

**Data Analysis** - A rigorous and systematic approach to data analysis was used to ensure that the research objectives were fully realized. The main objectives were to elucidate the nuances of digital transformation in local universities, to assess the level of management support, and to evaluate its subsequent impact on work performance. The initial phase of the analysis involved scrutinizing the dataset using IBM Statistical Package for the Social Sciences (SPSS) version 28. The weighted average and ranking methods were used to determine the state of digital transformation at local universities, particularly in the following areas: digital platform building, digital competence training, and digital resources. This statistical approach provides a quantitative measure that provides insight into the prominence and prioritization of each dimension among local Chinese universities. Similarly, the weighted average and ranking methodology was used to assess management support in the areas of learning motivation, employee well-being, and engagement.

In addition, the same methodology was used to assess work performance indicators, including task performance, situational performance, and adaptive performance. Shapiro-Wilk test (standard normality test) was conducted to determine the distribution of the data set. The results showed that the p-value for all variables was less than 0.05, indicating non-normal distribution. Given this result and based on best practices for datasets that deviate from normality, the nonparametric test was deemed appropriate for subsequent analysis. Spearman's rho is a nonparametric test used to examine the relationship between variables in greater depth. The test is critical in identifying important relationships between digital transformation, management support, and work performance. Given the non-normal nature of the dataset, the use of Spearman's rho ensured that the correlations identified were both robust and valid.

**Ethical Considerations** - Ethical principles were always an important consideration in the conduct of this research. Prior to participation, respondents were fully informed about the objectives, methods and potential impacts of the study to ensure that they were fully aware and voluntarily agreed to contribute. Strict measures were taken to protect the integrity of the study and the privacy of participants. Personal identifiers were carefully removed or anonymized to ensure that individual responses were confidential and untraceable. Strict adherence to data storage and processing protocols ensured the protection of this confidential information. Transparency and disclosure of any potential bias, restrictions, or conflicts of interest were maintained throughout the study to preserve the integrity of the study. Participants' rights were always paramount, and everyone was informed of their right to withdraw from the study at any stage without facing any consequences. Data collected were treated with the utmost respect and integrity to ensure their authenticity and accuracy. Recognizing the diverse backgrounds of the interviewees, especially in the context of a local Chinese university, cultural and social sensitivities were always considered to ensure that the research was conducted in a way that respects and considers these nuances. Overall, the ethical underpinnings of this research not only met but endeavored to exceed academic standards, ensuring that the findings were credible, respectful, and transparent.

### 3. Results and discussion

**Table 2**

*Summary Table on Digital Transformation in Local Universities*

Key Result Areas	Composite Mean	VI	Rank
Construction of Digital Platform	2.42	Disagree	1
Digital Ability Training	2.39	Disagree	3
Digital Resources	2.41	Disagree	2
Grand Composite Mean	2.41	Disagree	

*Legend: 3.50-4.00=Strongly Agree; 2.50-3.49=Agree; 1.50-2.49=Disagree; 1.00-1.49=Strongly Disagree*

Table 2 provides a comprehensive view of the digital transformation landscape of local universities in China, covering three key areas: digital platform construction, digital capacity development, and digital resources. The table provides a holistic view that allows for a comparative analysis of these areas based on respondents' perceptions. The overall composite mean of 2.41 falls within the "disagree" range, depicting the general sentiment about the state of digital transformation in these organizations. Digital platform building ranked first with a composite average of 2.42, making it the most favorable of the three areas. It is worth noting, however, that the score still falls within the "Disagree" range. This suggests that while some basic digital platforms may exist, there is still a need for enhancements in terms of integration, functionality and user experience. Digital Resources has the second highest overall average of 2.41. This domain includes tools, content and systems that support digital learning and operations. This score suggests that while resources may be available, there are clear gaps in their adequacy, relevance and user-friendliness.

As suggested by Liu et al. (2019), the effectiveness of digital resources depends on their alignment with academic requirements and the changing needs of the user community. Digital competency training ranked third with an overall mean of 2.39, emphasizing the importance of equipping students and teachers with the necessary digital skills. This score indicates potential challenges in the effectiveness, accessibility, and level of participation in training programs. In the context of the Fourth Industrial Revolution, digital literacy is crucial,

and universities must prioritize comprehensive and tailored digital training programs. As Chen (2018) emphasizes, fostering a digitally competent academic community is critical to realizing the full potential of digital transformation. The insights in Table 2 emphasize the multifaceted nature of digital transformation in local Chinese universities. While the basic elements may already be in place, a more holistic and integrated approach is urgently needed, encompassing platform building, resource provision and skills development. This involves not only enhancing the existing infrastructure, but also adapting it to the changing needs and aspirations of the academic community.

**Table 3***Summary Table on Management Support to Employees*

Key Result Areas	Composite Mean	VI	Rank
Learning Motivation	2.37	Disagree	1.5
Employee Well-being	2.36	Disagree	3
Employee Engagement	2.37	Disagree	1.5
Grand Composite Mean	2.37	Disagree	

*Legend: 3.50-4.00=Strongly Agree; 2.50-3.49=Agree; 1.50-2.49=Disagree; 1.00-1.49=Strongly Disagree*

Table 3 provides a synthesis of local university management's perceptions of employee support, focusing on three key areas: motivation to learn, employee well-being, and employee engagement. The overall composite mean of 2.37 is categorized as "Disagree", indicating a general sentiment that there are significant gaps in management support in these areas. "Motivation to Learn" and "Employee Engagement" both had a combined mean of 2.37 and were tied for 1.5. This suggests that while there is a distinct lack of support from management, employees feel more supported in their learning efforts and connection to their work than in other areas. The importance of motivation to learn cannot be underestimated in an academic environment, and as Liu et al. (2019) point out, a supportive environment that promotes continuous learning and development is essential for academic professionals to remain updated and relevant in their field.

Similarly, the nature of employee engagement, especially in educational institutions, is deeply rooted in the alignment of personal and organizational goals, as well as a sense of mission and connection to one's work. The composite mean of 2.36 for "Employee Well-Being", despite coming in third place by a narrow margin, suggests that management's perceived commitment to the well-being of its employees is lagging slightly. In a university environment, where demands can be both intellectually and emotionally taxing, ensuring the well-being of employees is not only a moral imperative, but also critical to the success of the institution. As emphasized by Wang et al. (2020), positive and supportive work environments are directly associated with reduced burnout and increased job satisfaction. The insights in Table 3 highlight the urgent need to strengthen management support across the board in China's local universities. While the differences in the combined means of these three domains are small, they provide a roadmap for targeted interventions.

**Table 4***Summary Table on Work Performance*

Key Result Areas	Composite Mean	VI	Rank
Task Performance	2.40	Disagree	2.5
Contextual Performance	2.42	Disagree	1
Adaptive Performance	2.40	Disagree	2.5
Grand Composite Mean	2.41	Disagree	

*Legend: 3.50-4.00=Strongly Agree; 2.50-3.49=Agree; 1.50-2.49=Disagree; 1.00-1.49=Strongly Disagree*

Table 4 provides a synthesized view of the dimensions of work performance at local universities, including task performance, contextual performance, and adaptive performance. This summary is critical, especially in the context of digital transformation and evolving management support paradigms. The overall composite mean of 2.41 falls into the "Disagree" category, indicating a perceived need for enhancements across all three dimensions of work performance, which is particularly noteworthy in an era where digital transformation is reshaping the structure of organizational operations and management dynamics.

Contextual performance was the highest ranked dimension, with a combined average of 2.42. This

underscores the importance of interpersonal and organizational aspects of performance, such as supporting co-workers, adhering to company policies, and creating a positive work environment. In the digital age, where collaboration tools and virtual interactions have become ubiquitous, the importance of contextual performance cannot be overemphasized. As Chen et al. (2021) suggest, digital environments emphasize the role of contextual performance, especially in fostering cohesive and synergistic virtual teams.

Task performance and adaptive performance both tied for second place with a combined mean of 2.40. Task performance, including core job duties and responsibilities, remains central to the success of any organization. However, in a rapidly digitizing environment, the ability to adapt, learn, and innovate (aspects of adaptive performance) becomes equally important. The juxtaposition of these two dimensions highlights the changing nature of work, where traditional tasks are intertwined with the need for adaptability and agility.

**Table 5**  
*Relationship Between Digital Transformation and Management Support*

Variables	rho	p-value	Interpretation
<b>Construction of Digital Platform</b>			
Learning Motivation	0.874**	0.000	Highly Significant
Employee Well-being	0.861**	0.000	Highly Significant
Employee Engagement	0.858**	0.000	Highly Significant
<b>Digital Ability Training</b>			
Learning Motivation	0.869**	0.000	Highly Significant
Employee Well-being	0.859**	0.000	Highly Significant
Employee Engagement	0.857**	0.000	Highly Significant
<b>Digital Resources</b>			
Learning Motivation	0.860**	0.000	Highly Significant
Employee Well-being	0.834**	0.000	Highly Significant
Employee Engagement	0.845**	0.000	Highly Significant

\*\**. Correlation is significant at the 0.01 level*

The digital transformation of universities is a multifaceted process that includes the integration of technology into teaching, learning and management processes. As HEIs respond to the challenges and opportunities presented by the digital age, there is an urgent need to understand the interplay between digital transformation and management support. Table 5 provides a comprehensive overview of this relationship, highlighting the correlation between aspects of digital transformation and management support. As can be seen from the table, the calculated rho values range from 0.834 to 0.874, indicating a very strong direct relationship between the sub-variables of digital transformation and management support. There is a statistically significant relationship between digital transformation and management support as the p-value obtained is less than 0.01.

Digital platforms are built to be the foundation of digital transformation in higher education, they are the nexus for students, faculty, and other stakeholders to interact, collaborate, and access resources ranging from course delivery and research collaboration to administrative functions and community engagement, they are the digital infrastructure that supports the academic mission of the institution. According to Porter et al. (2014), digital platforms have transformed traditional academic operations, enabling universities to provide a more personalized and flexible learning experience. They argue that the strategic value of digital platforms lies not only in the technologies themselves, but also in the new business models and pedagogical approaches they enable.

The successful construction and implementation of digital platforms requires more than technical expertise; it requires visionary leadership and strong management support. Ross et al. (2013) argue that senior leadership plays a key role in articulating a strategic vision for digital transformation and ensuring that the capabilities of the digital platform are aligned with the university's academic goals. Management support is critical to securing the necessary resources, fostering cross-departmental collaboration, and advocating for a cultural shift to a more digitally centered academic environment. Digital platform building is fraught with challenges, from technical barriers and integration issues to resistance from various stakeholders, the path to digital transformation is complex.



They emphasized that management support is critical in resourcing, change management, addressing resistance, and continuous learning. Digital platform building and management support have a symbiotic relationship, while the digital platform acts as the technical backbone, management support provides the strategic direction, resources, and cultural ethos necessary for its successful implementation and adoption. As Gartner (2019) points out, digital transformation in higher education involves technology as well as people and processes. The role of management is to ensure that these three elements are seamlessly integrated to ensure that the digital platform aligns with the university's mission and adds value to the academic experience. Therefore, building a digital platform in higher education is a strategic initiative that requires integrated management support. As universities enter the digital age, the symbiotic relationship between technology and management becomes increasingly evident.

The success of digital transformation depends on the harmonious integration of these two elements to ensure that universities remain agile, innovative, and student-centered in the evolving digital landscape. The digital transformation of universities, particularly in the area of digital competency training, is a key component of preparing students and faculty for the challenges and opportunities of the 21st century. Digital competence training covers a range of skills, from basic digital literacy to advanced computational thinking and digital research methods. However, the mere introduction of digital tools and curricula does not guarantee effective digital competence training; it also requires a holistic approach underpinned by strong management support. In the digital age, the ability to navigate, understand and create using digital tools is as important as reading, writing and arithmetic. According to Jisc (2015), digital competencies are a combination of technical, cognitive and socio-emotional skills. They enable individuals to participate fully in the digital society, from accessing digital services to participating in online communities and contributing to the digital knowledge base. For universities, digital competency training is not just about producing tech-savvy graduates, but critical thinkers and digital citizens who are able to utilize technology for the benefit of society. The success of digital competency development programs depends on the commitment and support of the university administration. As Prensky (2010) emphasizes, while technology can facilitate digital learning, it is the vision, strategy, and culture developed by management that determines its effectiveness.

A study by Beetham et al. (2013) emphasized the importance of management support in addressing these challenges. They argue that management support is critical in the following areas: Stakeholder engagement: engaging all stakeholders and fostering a shared vision for digital competency training; Professional development: investing in the ongoing professional development of teachers to ensure that they are equipped to deliver effective digital training; Infrastructure development: building and maintaining the necessary digital infrastructure, from high-speed Internet connections to cloud-based learning platforms. The relationship between digital competence training and management support is closely linked. While digital tools and methods form the bedrock of training, it is the strategic direction, resources, and spirit provided by management that translates these tools into meaningful learning experiences. As Bates (2015) points out, in the context of higher education, digital transformation involves more than technology; it involves changing the nature of teaching and learning. It requires a harmonious combination of digital pedagogy and strong administrative support.

In the digital age, resources go beyond physical textbooks and traditional libraries. Digital resources provide dynamic, interactive and customizable content that can be accessed anytime, anywhere. They also democratize access to knowledge, ensuring that students, regardless of their geographic location or socio-economic background, have equal access to learning opportunities. While digital resources have transformative potential, their effective integration into the curriculum requires strategic oversight and support from university management.

As Weller (2011) emphasizes, the role of management in the use of digital resources includes: strategic alignment: ensuring that the adoption of digital resources is in line with the university's academic vision and mission; infrastructure development: investing in the necessary technological infrastructure, from high-speed Internet connections to advanced learning management systems (LMS); quality assurance: implementing

mechanisms for evaluating the quality and relevance of digital resources to Quality assurance: implementing mechanisms to assess the quality and relevance of digital resources to ensure that they meet academic standards and meet the learning needs of students; Capacity building: organizing training programs for teachers to equip them with the skills to integrate digital resources into their pedagogy. While the integration of digital resources is promising, it also poses a few challenges.

**Table 6**  
*Relationship Between Digital Transformation and Work Performance*

Variables	rho	p-value	Interpretation
<b>Construction of Digital Platform</b>			
Task Performance	0.873**	0.000	Highly Significant
Contextual Performance	0.885**	0.000	Highly Significant
Adaptive Performance	0.890**	0.000	Highly Significant
<b>Digital Ability Training</b>			
Task Performance	0.871**	0.000	Highly Significant
Contextual Performance	0.879**	0.000	Highly Significant
Adaptive Performance	0.866**	0.000	Highly Significant
<b>Digital Resources</b>			
Task Performance	0.851**	0.000	Highly Significant
Contextual Performance	0.881**	0.000	Highly Significant
Adaptive Performance	0.881**	0.000	Highly Significant

\*\**. Correlation is significant at the 0.01 level*

Table 6 illustrates the complex relationship between aspects of digital transformation and the multifaceted dimensions of work performance. As can be seen from the table, the calculated rho values range from 0.851 to 0.890, indicating a very strong direct relationship between the sub-variables of digital transformation and work performance. There is a statistically significant relationship between digital transformation and work performance as the p-value obtained is less than 0.01. The construction of digital platforms in academic environments is not just about the integration of technology, but about envisioning and realizing a holistic digital ecosystem that seamlessly intertwines teaching and learning pursuits, research endeavors, management processes, and collaborative ventures. Such platforms are designed to be intuitive, scalable and adaptable, ensuring that they remain relevant and effective in an evolving academic environment. Task performance ( $\rho = 0.873$ ): the architecture and functionality of digital platforms are inherently designed to improve task efficiency. By automating day-to-day administrative tasks, facilitating real-time communication, and providing access to a wide range of digital tools and resources, these platforms ensure that scholarly tasks, whether they be research, teaching, or administration, are performed with greater precision and efficiency.

Contextual performance ( $\rho = 0.885$ ): in addition to task-specific outcomes, digital platforms play a critical role in shaping the broader academic environment by fostering a culture of collaboration, generating a sense of community, and ensuring that stakeholders (be they students, faculty, or administrators) are continually engaged and aligned with the institution's vision and goals. Johnson et al. (2015) emphasize that digital platforms, by virtue of their design and functionality, can significantly enrich the academic experience, fostering a culture of innovation, exploration, and shared growth. Adaptive performance ( $\rho = 0.890$ ): in an era of rapid technological advances and shifting academic paradigms, the ability to adapt is critical.

Digital platforms and their suite of tools, resources, and training modules enable stakeholders to navigate this dynamic field with agility, and they promote continuous learning, encourage experimentation, and provide the necessary support mechanisms to ensure that individuals and institutions are proficient in responding to emerging challenges and opportunities. The relationship between digital platform building and performance goes beyond mere correlation coefficients; it speaks to the nature of contemporary academic pursuits: in an era where digitalization is no longer a luxury but a necessity, the strategic integration of digital platforms can act as the key to driving academic excellence, fostering innovation, and ensuring that the institution stays at the forefront of teaching and research advances. In his seminal work on teaching and learning in the digital age, Bates (2015) argues that the strategic deployment of digital platforms can redefine academic trajectories. By ensuring that stakeholders have unimpeded access to resources, facilitating real-time collaboration, and fostering a culture of

innovation, these platforms can significantly improve performance and ensure that academic institutions are not only reactive but proactive in the pursuit of their goals.

Digital competency training transcends the traditional boundaries of mere technological proficiency and encapsulates a holistic approach to developing digital literacy, critical thinking in digital environments, and the ability to utilize digital tools for innovative problem-solving and collaboration. Task performance ( $\rho = 0.871$ ): digital competency training equips individuals with the ability to effectively navigate, utilize, and optimize digital tools and platforms, and this proficiency translates directly into increased task efficiency, accuracy, and innovation. As Goodyear et al. (2010) emphasize, digital competency training can significantly change task paradigms, making them more agile, interconnected, and outcome driven. Contextual performance ( $\rho = 0.879$ ): beyond specific tasks, digital competency training plays a key role in shaping the broader professional and academic environment by instilling a culture of digital collaboration, fostering digital citizenship, and ensuring that stakeholders are consistently engaged, informed, and proactive. According to the insights of Jenkins et al. (2009), it is clear that digital competency training enriches the overall work environment and fosters a culture of shared growth, innovation, and digital responsibility.

Adaptive performance ( $\rho = 0.866$ ): the digital landscape is characterized by its dynamism and rapid development. Digital competency training focuses on adaptability, problem solving and continuous learning to ensure that individuals are proficient in the field, empowering them to address emerging challenges, utilize new tools, and adapt to changing paradigms with agility and foresight. The interplay between digital competency training and work performance is profound, marking a shift in how institutions and organizations achieve professional development and performance optimization. In a world increasingly mediated by digital interfaces, a strategic focus on digital competency training becomes not only beneficial but critical. Such training initiatives ensure that organizations and institutions can leverage the full potential of digital tools to drive excellence, foster innovation, and ensure resilience in the evolving digital environment. In contemporary discourse, digital resources are not limited to tools or platforms.

Task performance ( $\rho = 0.851$ ): the availability and proficient utilization of digital resources can significantly increase task efficiency and innovation. As Kozma (2005) illustrates, digital resources, when effectively integrated, can change the task paradigm, making them more streamlined, data-driven, and results-oriented, and the precision and agility provided by these resources translates directly into improved task performance. Contextual performance ( $\rho = 0.881$ ): digital resources play a key role in shaping the broader context of the work environment.

Adaptive performance ( $\rho = 0.881$ ): in the face of rapid technological development and changing work paradigms, adaptability becomes a critical competency. Digital resources, with their inherent flexibility and scalability, ensure that individuals and organizations are proficient in navigating this dynamic field, which allows stakeholders to address emerging challenges, leverage new tools, and be agile in adapting to changing needs. Collins et al. (2009) emphasize the role of digital resources in driving adaptive performance and fostering a culture of perpetual evolution and responsiveness. The symbiotic relationship between digital resources and work performance has broader implications for organizational strategy, professional development, and academic teaching. These resources ensure that organizations and academic institutions can harness the transformative potential of the digital age, drive excellence, foster innovation and ensure adaptability.

The empirical data presented in Table 7 emphasizes the critical role of management support in shaping work performance. The role of management in fostering motivation to learn, ensuring employee well-being and advocating dedication is not only desirable but also necessary in the contemporary professional environment. As can be seen from the table, the calculated rho values range from 0.840 to 0.868 indicating a very strong direct relationship between the sub-variables of management support and work performance. There is a statistically significant relationship between management support and work performance as the p-value obtained is less than 0.01

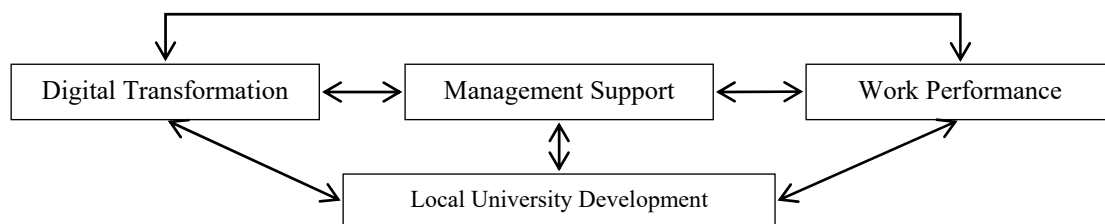
**Table 7**  
*Relationship Between Management Support and Work Performance*

Variables	rho	p-value	Interpretation
<b>Learning Motivation</b>			
Task Performance	0.853**	0.000	Highly Significant
Contextual Performance	0.854**	0.000	Highly Significant
Adaptive Performance	0.868**	0.000	Highly Significant
<b>Employee Well-being</b>			
Task Performance	0.842**	0.000	Highly Significant
Contextual Performance	0.840**	0.000	Highly Significant
Adaptive Performance	0.848**	0.000	Highly Significant
<b>Employee Engagement</b>			
Task Performance	0.851**	0.000	Highly Significant
Contextual Performance	0.852**	0.000	Highly Significant
Adaptive Performance	0.861**	0.000	Highly Significant

\*\* Correlation is significant at the 0.01 level

The concept of motivation to learn is deeply rooted in the theory of human motivation, Deci et al. (2000) Self-Determination Theory suggests that intrinsic motivation, that is, the internal drive to learn and grow, is a key determinant of positive work outcomes, and that when employees are intrinsically motivated they engage in tasks with genuine interest and enthusiasm, leading to improved performance. When this intrinsic motivation to learn is recognized and nurtured by supportive management, task-related outcomes can be significantly enhanced. A motivated workforce facilitated by supportive management typically exhibits higher task performance, and as Deci et al. (2000) emphasize, intrinsic motivation fostered through supportive management can significantly enhance task-related outcomes. When employees feel recognized and supported in their learning efforts, they are more likely to meet or even exceed task expectations. Employees are more likely to perform at their best when they feel valued, cared for, and physically and mentally healthy. Additionally, organizations that prioritize well-being typically report lower turnover rates and higher levels of employee satisfaction. Dedicated employees are not only satisfied but also motivated to achieve beyond their expectations. In today's dynamic work environment, the role of management support has never been more important. Digital transformation brings rapid change and organizations need to ensure that their employees are equipped to deal with these changes, and various forms of management support provide the necessary foundation.

*Research Output:*



Digital Transformation is the adoption of new digital technologies to improve the local universities' operations and services which includes construction of digital platform (process); digital ability training (people); and digital resources (technology). Management support is various forms of assistance provided to employees to help them perform their jobs effectively. This includes learning motivation, employee well-being and employee engagement. There is also work performance that needs to be measured such as task performance, contextual performance and adaptive performance. The arrows connecting the circles suggest that these three areas are interrelated. The university's digital transformation efforts might be more successful if it has a strong process for managing performance. Similarly, a university's ability to manage performance could be improved by using digital tools and data analytics. The digital transformation, when aligned with robust management support, can act as a catalyst in enhancing work performance. Organizations that are proactive in integrating digital strategies, while ensuring a supportive work environment, are better positioned to navigate the challenges of the modern

work landscape.

#### 4. Conclusions and recommendations

Respondents believed that the current digital transformation status of local universities in China still lags far behind the expected ideal situation. Respondents perceived management support important in the digital age for good performance but believed that the subject local universities in China currently perform poorly in this regard. Respondents believed that local universities in China currently need to enhance the work performance of their employees. There is statistically significant relationship between digital transformation, management support, and work performance which consistently indicated a strong direct correlation, emphasizing the intertwined nature of these variables and their collective impact on work performance. A framework for local university development was developed. The local universities may prioritize improving their digital infrastructure and management support to foster a positive work environment that motivates employees to perform well and stay engaged. Universities may adopt a dynamic approach to performance assessment, regular feedback sessions, performance reviews and surveys can provide actionable insights for continuous improvement. The universities may conduct assessment of the proposed framework by securing feedback be sought from key stakeholders, including faculty, students, administrators, and industry partners, and that this collaborative approach will ensure the relevance and effectiveness of the framework. The university may expand the scope of future research and may go deeper analysis by exploring the moderating role of variables such as organizational culture or infrastructure, for example, could provide a more nuanced understanding.

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