

# *Opportunities and challenges of school management in the digital era*

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**Abstract:** In today's era of rapid development of information technology, digitization and informatization have become hot topics of discussion. At the same time, the digital era has brought opportunities and challenges to school management. In the digital age, information transmission is more convenient, and the collection and management of educational information is faster, thus improving the efficiency of educational management. At the same time, schools can use digital platforms or tools to provide data-based training to faculty and staff, so that informatization can be widely used in classrooms and management. However, in the era of digitalization, data privacy and network security issues have also caused people to worry. This study takes a public university in China as an example as the research topic. The interview method is used as the research method of this study. Teachers are selected as interview subjects to explore the opportunities and challenges in the digital age. Based on the interview results and related research, the researcher provides suggestions for school management in the modern era. The study found that teachers believe that data-based platforms and tools and national policy support are the most critical opportunities in the data-based era, and network security and data privacy are the most critical challenges facing school management in the data-based era. Based on the research results, the researchers believe that it is necessary to continue to use the external advantages of data platforms and national policy support to continue to optimize and improve school management levels. At the same time, in order to cope with the challenges of network security and digital privacy, researchers believe that it is necessary to increase network security education and improve the data security awareness of faculty, staff and students.

## **1. Introduction**

School management in the data era has become a key factor in educational reform and improving school management efficiency. With the continuous development of information technology, big data analysis and online learning tools, and the continuous improvement of data technology have provided unprecedented opportunities for school teaching and management. The use of new technologies has also changed management styles of schools. The digital age also brings greater transparency and data-driven school management. School administrators can more easily collect, store, and analyze large amounts of educational data, which can be used to make decisions, evaluate performance, and improve educational processes.

At the same time, school administrators and education policymakers face increasingly complex data management, staff training on digital tools and their use, and the resulting data privacy and security issues.

Based on the above background, this study starts from a public university in my country. Through interviews with the university's president and management leaders, it collects specific issues of school management in the digital era, seeks guiding principles for improving the informatization level of school management, and provides guidance for digital education management. Provide reference. In addition, this study deeply explores the improvement of educational management efficiency by information technology, reveals the potential opportunities and challenges faced by school management in the digital era, and points out that while meeting the challenges, we can also seize the opportunities of educational management in the digital era, and ultimately Promote the development of school management and provide reference for the school management of other public universities in my country in the digital era.

## **2. Discussion on the concept pf “School Management in the Digital Era”**

School management is the process of planning, organizing, directing and supervising schools to achieve predetermined educational goals<sup>[1]</sup>. As a formal educational institution, schools must cultivate graduates with academic abilities, skills, attitudes and mentality, and competent personalities, so that students can be competitive after graduation. Schools with strong principal leadership are expected to develop effective school management because they are supported by aspects such as technology use, school culture, information systems, and developed organizations.

Principal leadership in school management implementation is considered important as it streamlines shared work activities. A well-organized school environment involves multiple elements, including the principal, teachers, staff, and students. Additionally, a good organization creates an evenly distributed division of tasks and responsibilities to facilitate a workflow toward a common goal. Close collaboration and engagement between principals, teachers, staff and students through their respective responsibilities will enhance school quality. Leadership is an important component in achieving ideal school quality and effectiveness.

Digitalization in education poses challenges to the rapid growth of the Internet. According to the findings of (Syafri, 2020), more and more people are connected to the Internet, which becomes a challenge for the education sector to make various adjustments. Because the Internet, as a digital existence, is inseparable from all parts of people's lives, including learning activities [2]. Educational institutions must consider coping with a digital age society, including: Training for the digital age, which all teachers need to be prepared before implementing digital learning.

Research on student management informatization has achieved remarkable results. From the initial research on Japan, it gradually expanded to Russia, the United States and other countries. By comprehensively understanding the actual situation of international students' information management, our country has accelerated the pace of improving student information network management. Strengthening the informatization of student management is not only conducive to the development of vocational training, but also provides reliable technical support for vocational training. Researchers have conducted in-depth research on the role of information technology in school education and teaching management, mainly focusing on the application of information technology in guiding students. That is, the application of modern information technology can enable tutors to better guide students and improve students' learning efficiency.

### 3. Theoretical framework of “School Management in the Digital Era”



Figure 1: Weick's Sense-making theory

The sense-making theory proposed by Weick <sup>[3]</sup> describes a cognitive process that unfolds in a three-step sequence (see Figure 1):

**Sensing:** The act of noticing something (an event) that emerges from the flow of daily input and reviewing the event in the context of past experience

Constructing the unknown through sense making enables individuals to behave in meaningful ways. It involves mapping a changing world and testing that map with others through data collection, conversation and action. Individuals then actively construct meaning by connecting new information to pre-existing cognitive frameworks that scholars label working knowledge, cognitive frames, behaviors, or cognitive maps <sup>[4]</sup>.

**Categorizing:** An attempt to explain or explain an event.

People enact and make sense of their environments by retrospectively translating their life experiences into cognitive maps. This action-oriented thinking process suggests that both cognition and action are components of sense making. By placing new information into a cognitive framework, individuals not only understand what is happening but also how to participate in the situation.

**Acting:** Articulating explanations to facilitate others' understanding and action.

After interpreting and classifying information, individuals make appropriate actions or decisions based on their understanding of the environment. These actions may be aimed at adjusting the environment, obtaining further information, or other forms of coping. This part of the theory contributes to the research question Sense making as a key element of leadership that enables all formal leaders, principals and middle leaders to transform schools into effective educational environments.

School leaders struggle with the interplay between sense and action. To address this complexity, they moved from command and control management to collaboration and teamwork management. In order to achieve this, leaders need to lead effectively in complex and dynamic environments, adapt to the development of the times, and continuously improve the efficiency of school management.

### 4. Retrospect and prospect

This study takes the development of a public university as the background and investigates the

school leadership through interviews. By collating and summarizing the information obtained from the investigation, the following effective conclusions are obtained:

With the rapid development of science and technology and the rise of the digital revolution, the field of education is also developing rapidly. Educational informatization has become an integral part of the field of education management. Therefore, the construction and management of education informatization in the digital era is particularly important. The construction and management of educational informatization is of great significance to improving teaching quality, promoting educational modernization, and strengthening educational internationalization.

The introduction of relevant national policies and the development of digital platforms and tools have provided many opportunities for education management in the new era. Schools and administrators can automate tasks, optimize resources, reduce paper usage, promote digital management, and build a new pattern of personalized and intelligent education.

At the same time, schools and administrators should also face challenges such as cybersecurity and staff training, and data management in school management. By setting clear goals, preparing sufficient resources, effective training and support, developing educational resources, monitoring and evaluation, we can better respond to these challenges and achieve effective advancement of digital management.

In practice, we must make it clear that digital education is based on knowledge, with equal emphasis on value and ability. With the development goal of education digitalization leading to education modernization, we should build universal, fair and high-quality universal education that adapts to the digital era.

To implement the digitalization of education and build a smart campus, we need to start from many aspects, including the following aspects:

**Improve digital infrastructure construction:** Smart campuses require the support of digital infrastructure, including networks, data centers, cloud computing platforms, etc. These facilities are the basis for realizing the digitalization of education and need to be continuously upgraded and improved.

**Promote the construction of digital teaching resources:** Digital teaching resources are an important part of the smart campus, including digital teaching materials, digital teaching software, digital experimental equipment, etc. These resources need to be constantly updated and upgraded to meet the needs of teaching.

**Improve the quality of digital teaching application:** Digital teaching application is the core of smart campus, including online courses, online teaching, distance education, etc. It is necessary to continuously improve teachers' teaching application level, strengthen digital teaching skills training, and improve teaching quality.

**Strengthen the application of digital management:** Digital management is an important feature of smart campuses, including applications in student management, academic management, teacher management, etc. It is necessary to strengthen the promotion and application of digital management and improve management efficiency and management level.

**Strengthen digital security:** Digital security is an important guarantee for smart campuses. It is necessary to strengthen network security, data security and other aspects to ensure the safe and stable operation of digital campuses.

In short, improving school management efficiency in the digital era requires starting from many aspects, including digital infrastructure construction, digital teaching resource construction, digital teaching application level improvement, digital management application and digital security guarantee, etc. Only when these aspects are comprehensively promoted can the digitalization of education be truly implemented and the goal of building a smart campus be achieved.

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