

Research on the Challenges and Countermeasures of University Economic Management in the Era of Big Data

Shaohua Lu

The Open University of Nanhai, Foshan, Guangdong, China
lu321737@163.com

Abstract: *As China's social economy rapidly evolves, colleges and universities face new challenges in economic management. To ensure sustainable growth, optimize internal structures, innovate management concepts, and fully harness big data technology while reducing costs, it is crucial to address these challenges. Various factors contribute to the difficulties in economic management, such as economic issues, inadequate management mechanisms, limited management modes, and low management standards, all of which impact the sustainability of higher education institutions. This paper examines the significance of economic management in the age of big data for colleges and universities, and offers specific countermeasures and recommendations based on current challenges and problems. The goal is to provide guidance and support for sustainable management and growth in higher education.*

Keywords: *Big data; Colleges and universities; Economic management; Challenge*

1. Introduction

In the big data era, it is essential for colleges and universities to focus on economic management, develop a sound financial system, create accurate budgets, minimize operating costs, manage capital flow, reduce risks, and increase economic benefits. Effective economic management, investment, planning, and forecasting are crucial to provide financial support for these institutions. Nonetheless, higher education economic management faces various challenges influenced by factors such as management models, concepts, and methods. Emphasizing big data applications and establishing robust management mechanisms are necessary. This paper primarily addresses the challenges faced by higher education economic management in the big data era and offers targeted solutions.

2. The significance of economic management for higher education institutions in the big data era

In the era of big data, colleges and universities need to establish a sound economic management system, strengthen internal control, improve the level of economic information management, and provide economic support for the development of colleges and universities.

2.1. It promotes the enhancement of information technology integration in higher education economic management.

In the past economic management, some colleges and universities did not establish a perfect management system, the economic management process is cumbersome, and the economic information is not updated in time, which not only increases the specific workload, but also the economic management output is relatively low, which affects the effect of economic management. With the application of big data technology in the economic management of colleges and universities, it is beneficial to help economic managers integrate existing financial management information, establish economic information databases, optimize management processes, reduce the workload of managers, and help improve the level of economic management informatization, to realize the exchange and sharing of economic information within universities.[1] In addition, the application of big data technology in the economic management of universities has realized the settlement and management of economic data at the same point, which is conducive to coordinating the relationship between various departments of universities, broadening the channels of information sources, and improving the

efficiency of data utilization.

2.2. It facilitates the advancement of economic management reforms in higher education institutions.

The application of big data technology can integrate existing economic data and promote the reform of economic management in colleges and universities. First, in the traditional economic management model, affected by the previous economic management model, the precision of data extraction is not enough and the accuracy is relatively poor. With the support of big data, providing technical support for the economic management of colleges and universities can establish a more complete economic management system, which is conducive to promoting the reform of economic management methods. Second, the application of big data in economic management has promoted the transformation of traditional economic management concepts. As economic managers, in order to adapt to the requirements of the development of the current era, it is necessary to establish big data thinking and continuously introduce modern economic management concepts. Development provides economic management decision support.[2]

2.3. It is conducive to improving the level of economic risk management in colleges and universities

In the context of the development of big data, colleges and universities are facing a more complicated situation. By applying big data technology, financial data can be comprehensively supervised, providing important guarantees for colleges and universities' daily economic expenses, teaching and scientific research, and budget settlement. At the same time, the application of big data technology can help colleges and universities establish a sound financial risk control system, be able to do a good job in risk warning, control, and assessment, make up for loopholes in management in a timely manner, improve the efficiency of risk control, and avoid potential risks. In addition, the application of big data technology in the economic management of colleges and universities can broaden the sources of economic data in colleges and universities, optimize the internal economic management structure, make up for the problem of incomplete economic data in the past, reduce the risks in economic management, and provide a more scientific basis for the management and development of colleges and universities economic decision.

2.4. It is conducive to improving the decision-making ability of colleges and universities

Big data in the economic management of colleges and universities has directly changed the traditional economic management model, broadened the scope and channels of management, and can formulate scientific strategic plans for colleges and universities, provide scientific and reasonable economic data, and analyze economic big data in advance. It is conducive to comprehensively strengthening economic control, further improving financial data, and improving the decision-making ability and core competitiveness of colleges and universities.[3] In addition, big data technology can improve the existing economic management level, which is conducive to strengthening the control of economic activities, making good predictions, and avoiding potential economic risks. Therefore, colleges and universities should give full play to the advantages of big data, strengthen the management and control of the internal economy, change the current management status, and provide colleges and universities with more scientific and reasonable economic decisions.

3. Challenges faced by economic management of colleges and universities in the era of big data

In the era of big data, economic management in colleges and universities is facing a lot of challenges, especially in the process of implementing economic policies, encountering a lot of resistance, unable to give full play to the important guiding role of economic management, and lacking in science and rationality.

3.1. The economic management mechanism of colleges and universities is not perfect

Colleges and universities mainly focus on education, teaching and academic research, but they are also inseparable from the support of economic activities. Some colleges and universities have not established a sound economic management mechanism, their internal control is not in place, and the scope of economic management is unreasonable, resulting in unclear economic management

responsibilities and unable to ensure that economic management measures are truly implemented. In terms of economic management goals, there is no scientific and reasonable management plan, which leads to the formalization of economic management. The management process is not standardized, and it is difficult to meet the development requirements of the big data era. In terms of internal control mechanism, advanced management concepts have not been introduced, internal control is not in place, and effective control of economic activities in colleges and universities cannot be carried out. The assessment and incentive mechanism is not perfect, and it cannot effectively stimulate the enthusiasm of economic managers. They can only stay in traditional economic business, lack of innovation consciousness, and reduce the efficiency of economic management.

3.2. Irrational economic management concept

Affected by traditional management concepts, colleges and universities do not collect comprehensive economic information, pay little attention to economic budget work, but pay too much attention to final accounts, fail to build a sound budget system, point out that standards and quotas are unreasonable, and cannot give full play to the role of economic management in internal control. important role.[4] In terms of economic expenditure management, no strict management mechanism has been established, and there are even problems of false reporting and concealment, which has increased economic costs. In the process of economic management, managers still use traditional management concepts, do not pay attention to the application of big data technology, still use traditional manual operation methods, and work efficiency is not high. Therefore, colleges and universities need to introduce advanced management concepts, establish sound management regulations, and standardize internal economic behavior.

3.3. Security issues of economic management in colleges and universities

In the context of big data, colleges and universities need to establish an advanced and complete economic security management system to ensure the safety of economic activities in colleges and universities. However, under the premise of the rapid development of big data, big data presents a trend of electronicization, the network environment is becoming more and more complex, and economic data has security risks, such as the risk of malicious attacks and information leakage, which affect the normal development of economic activities in colleges and universities. Some colleges and universities have not established a sound economic management infrastructure, and cannot effectively guarantee the due effect of big data technology. The level of big data informatization is not high, which is not conducive to achieving the established economic management goals. Based on this, colleges and universities should pay attention to economic security management issues, continuously introduce digital technology, and build a complete economic information management system.

3.4. Lack of Economic Management Talents in Colleges and Universities

As the big data era emerges, higher education institutions face new demands for economic management, requiring a specialized management team. However, some colleges and universities overlook the need for high-quality economic management professionals, resulting in weak financial management and a lack of expertise, which fails to meet big data economic management needs. Additionally, the current management model is often broad, with frequent personnel changes, preventing the establishment of a solid management system that supports the university's various departments. Thus, institutions must develop and train talent suited for their economic management needs, enhance targeted training programs, improve the overall skills and quality of economic management professionals, and offer comprehensive support for all economic activities.

4. Countermeasures and suggestions for the economic management of colleges and universities in the era of big data

According to the requirements of the development of the big data era, colleges and universities should establish a sound economic management mechanism, combine daily economic activities, introduce advanced economic management talents, do a good job in comprehensive auditing, and further innovate the economic management methods of colleges and universities.

4.1. Universities should establish a sound economic management system

In order to ensure the smooth operation of economic activities in colleges and universities, it is essential to develop a robust economic management system. Firstly, adopting a contemporary economic management model is crucial. As big data has brought about new features and shifts in higher education's economic management, it is necessary for institutions to embrace modern management models, integrate big data technologies, adapt their working methods, and enhance their economic information management capabilities.

Secondly, implementing a comprehensive financial management mechanism is important. Adhering to the latest national accounting standards will help regulate the conduct of economic managers and support the successful execution of various tasks.

Thirdly, it is essential to establish a strong internal control mechanism. By optimizing the composition of economic management personnel and improving internal control skills, the security of internal financial operations within colleges and universities can be ensured, satisfying the demands of everyday economic management.

Lastly, the institution of a stringent auditing system is imperative. By appointing dedicated auditors to oversee university leaders and financial staff, colleges and universities can standardize internal economic activities, promptly identify and resolve issues, and prevent any negative impact on the institution.[5]

4.2. Colleges and Universities Should Integrate the Concept of Big Data Economic Management

In the course of economic management, it is vital for colleges and universities to incorporate big data concepts and persistently develop a unique economic management system. Firstly, by introducing big data technology, institutions should expand their data collection and organization channels, choose data indicators that align with their economic growth, enhance their economic information infrastructure, elevate their modern economic management standards, and supply current and precise economic data to forecast future financial development.

Secondly, considering future growth, colleges and universities ought to consistently devise economic management philosophies that are compatible with their own context, conduct comprehensive strategic planning, follow a tailored approach, establish a contemporary economic management system, prevent management gaps, and avert larger crises.

Thirdly, institutions need to continuously advance the transformation of their economic management approaches, reinforce technological innovation management, mitigate potential economic risks, strengthen the development of economic management information systems, safeguard the progress of colleges and universities, and genuinely fulfill the intended outcomes of economic management activities within the institutions.

To achieve stable development, colleges and universities must consistently apply innovative management concepts without compromising the core message.[6]

4.3. Colleges and Universities Should Strengthen Economic Security Management

In order to ensure the safety of economic activities in colleges and universities, colleges and universities need to strengthen safety management from different angles. By using big data technology, build a safety management platform to avoid potential risks and ensure the smooth development of various tasks in colleges and universities. First, strengthen the safety risk management of economic activities. With the support of big data, colleges and universities should establish a modern management concept, improve internal risk control awareness, make overall plans, do a good job in economic management, and improve the risk prevention awareness of economic managers, so as to formulate scientific and reasonable economic decisions. Second, make scientific and reasonable economic decisions. The economic management departments of colleges and universities need to maintain a good sense of responsibility, from the perspective of the long-term development of college principals, do a good job in the management of education funds, maintain the balance of economic and financial revenue and expenditure of colleges and universities, and provide strong support for the development of colleges and universities. Third, clarify economic management responsibilities. In order to improve the current level of economic management, colleges and universities need to clarify the responsibilities of economic management personnel, fundamentally eliminate the blind spots in

economic management, prevent cross-management and mutual disputes, standardize economic activities, further improve the efficiency of economic management, and stimulate the enthusiasm of management personnel and initiative.

4.4. Establish a professional economic management talent team

In the era of big data, economic management in colleges and universities is inseparable from professional economic management talents.[7] First, colleges and universities should introduce professional economic management talents, continuously expand the channels for recruiting talents, especially the introduction of young talents, inject new vitality into the current management of economic activities in colleges and universities, give full play to their role in economic management, and promote the current economic development of colleges and universities management reform. Second, continuously cultivate high-quality economic management personnel. From the perspective of future development, colleges and universities should do a good job in the reserve of economic talents in an all-round way, strengthen their economic professional training, improve their professional quality and management ability, actively promote the innovation of economic management methods, and build a professional economic management talent team . Third, it is necessary to continuously expand the promotion channels for economic management personnel, optimize the internal organization setting, adopt targeted incentive measures, improve the personnel training mechanism, stimulate their enthusiasm for participating in economic management, improve the effectiveness of economic management, and truly improve the existing economic management. Level, and constantly adapt to the requirements of the development of the big data era.

5. Conclusion

In order to improve the level of economic management, colleges and universities need to combine the existing problems of economic management, introduce big data technology, strengthen the training of professional talents, establish a professional economic management talent team, constantly innovate economic and financial methods, strengthen the management and control of economic activities, and ensure the economic efficiency of colleges and universities. Activities are safe, improve the modernization level of economic management, provide financial support for colleges and universities, and promote the innovation and development of colleges and universities.

References

- [1] Zhang Ruifan. *Analyzing the Application of Management Accounting in the Economic Management of Colleges and Universities [J]. Inner Mongolia Coal Economy, 2021(21): 80-82. DOI: 10.13487/j.cnki.imce.021493.*
- [2] Zeng Qingtang. *Exploring the management strategy of financial accounting in the economic management of colleges and universities [J]. Inner Mongolia Coal Economy, 2021(21): 209-211. DOI: 10.13487/j.cnki.imce.021644.*
- [3] Xu Shuyong. *Research on Innovation of Economic and Financial Management in Universities under Supply-side Reform [J]. Fortune Times, 2020(11): 82-83.*
- [4] Wang Xuedong. *Financial management innovation methods under the economic responsibility system of colleges and universities [J]. Journal of Jilin Normal University of Engineering Technology, 2019, 35(10):81-83.*
- [5] Wu Ping. *Innovation Analysis of University Financial Management Model in the Knowledge Economy Era [J]. China Market, 2018(24): 174-175. DOI: 10.13939/j.cnki.zgsc.2018.24.174.*
- [6] Li Min. *Innovation Analysis of University Financial Management Model in the Knowledge Economy Era [J]. Finance and Economics, 2016 (08): 163. DOI: 10.16266/j.cnki.cn11-4098/f.2016.05.136.*
- [7] Wang Shanlong, Liu Jiangong. *Talking about New Measures of Financial Management under the Economic Responsibility System of Colleges and Universities [J]. Modern Property (Mid-day Journal), 2010, 9(05): 94-95.*