APPLYING INFORMATION SYSTEM TECHNOLOGY IN EDUCATION ADMINISTRATION OF ADMINISTRATORS AT LIAONING UNIVERSITY IN LIAONING PROVINCE
การประยุกต์ใช้ระบบเทคโนโลยีสารสนเทศในการบริหารการศึกษาของมหาวิทยาลัยเหลียวหนิง มณฑลเหลียวหนิง สาธารณรัฐประชาชนจีน

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ABSTRACT

The objectives of this research were: 1) to study applying information systems technology in education administration of administrators at Liaoning University, Liaoning Province, The People's Republic of China.; and 2) to compare applying information systems technology in education administration of administrators at Liaoning University, Liaoning Province, The People's Republic of China by educational level, and work experience.

The research was survey research. The population used in this study was instructors at Liaoning University, with a total of 150 instructors. Sample totaling 108 instructors, was obtained by simple random sampling method by Krejcie & Morgan, (1970: 608). The research procedure consisted of 4 steps; (1) study of literature and related research; (2) creation of research instrument; (3) data collection; and (4) data analysis. The instrument used for data collection was a five-point rating scale questionnaire. The statistics used for data analysis were frequency, percentage, mean, Standard Deviation, and t-test.

The research of research found that: 1) Applying information systems technology in education administration of administrators at Liaoning University, Liaoning Province, The People's Republic of China overall and in each aspect was at a high level; and 2) a comparison of the Applying information systems technology in education administration of administrators Liaoning

University, Liaoning Province, The People's Republic of China, classified by educational level and work experience were not different.

Keywords: Applying Information Technology Systems, Education Administration, Liao Ning University in Liaoning Province

บทคัดย่อ

การวิจัยครั้งนี้มีวัตถุประสงค์เพื่อ 1) การศึกษาการใช้เทคโนโลยีระบบข้อมูลในการบริหารจัดการด้านการศึกษาของมหาวิทยาลัยเหลียวหนิง มณฑลเหลียวหนิง สาธารณรัฐประชาชนจีน และ 2) การเปรียบเทียบการใช้เทคโนโลยีระบบข้อมูลในการบริหารจัดการด้านการศึกษาของมหาวิทยาลัยเหลียวหนิง มณฑลเหลียวหนิง การแบ่งเขตสาธารณรัฐประชาชนจีนตามระดับการศึกษา และประสบการณ์การทำงาน การวิจัยครั้งนี้เป็นการวิจัยเชิงสำรวจ ประชากรที่ใช้ในการวิจัยนี้ คือ อาจารย์ที่มหาวิทยาลัยเหลียวหนิง มีอาจารย์ทั้งหมด 150 คน กลุ่มตัวอย่างที่ใช้ในการวิจัยนี้ คือ อาจารย์ที่มหาวิทยาลัยเหลียวหนิง 108 คน ซึ่งได้มาจากวิธีการสุ่มตัวอย่างง่าย โดยใช้วิธีเปิดตารางสำเร็จรูปของเครจซี่และมอร์แกน ขั้นตอนการวิจัยประกอบด้วย 4 ขั้นตอน (1) ศึกษาวรรณกรรม และงานวิจัยที่เกี่ยวข้อง (2) การสร้างเครื่องมือวิจัย (3) การรวบรวมข้อมูล และ (4) การวิเคราะห์ข้อมูล เครื่องมือ ที่ใช้สำหรับเก็บรวบรวมข้อมูลเป็นแบบสอบถามระดับห้าคะแนน สถิติ ที่ใช้ในการวิเคราะห์ข้อมูลคือ ความถี่เปอร์เซ็นต์ค่าเฉลี่ยค่าเบี่ยงเบนมาตรฐาน และการทดสอบที

ผลการวิจัยพบว่า (1) การใช้เทคโนโลยีระบบข้อมูลในการบริหารจัดการของมหาวิทยาลัยเหลียวหนิง มณฑลเหลียวหนิง สาธารณรัฐประชาชนจีนโดยรวม และในแต่ละด้านอยู่ในระดับสูง และ (2) การเปรียบเทียบการใช้เทคโนโลยีระบบข้อมูลในการบริหารระบบการศึกษาของมหาวิทยาลัยเหลียวหนิง มณฑลเหลียวหนิง การแบ่งเขตสาธารณรัฐประชาชนจีน ซึ่งจัดจำแนกตามระดับการศึกษา และประสบการณ์การทำงานไม่แตกต่างกัน

คำสำคัญ: การประยุกต์ใช้ระบบเทคโนโลยีสารสนเทศ, การบริหารการศึกษา, มหาวิทยาลัยเหลียวหนิง มณฑลเหลียวหนิง

Introduction

The construction of China's university MIS system began in the late 1970s, adapting to China's economic development and informatization process. In recent years, the application of campus networks in colleges and universities has entered the popularization stage. Colleges and universities are moving towards the goal of an "information university". The construction of a college management information system is an important part of college education

informatization. The continuous development of science and technology has promoted the sustainable development of university management. An efficient, comprehensive and reliable information management system can improve the work efficiency and service level of colleges and universities, and is conducive to the information construction of colleges and universities. Industry is gradually moving towards intelligence and modernization, and the informatization of university management is an inevitable process of the development of the times. Therefore, it is an inevitable way to establish a university management information system and improve the utilization rate of information through timely and accurate management information. At the same time, due to the stable development of society and the continuous improvement of the education system, the number of teacher information is also increasing. The increase of various kinds of information poses a challenge to the management of university information systems. Colleges and universities must be able to actively use information technology to manage to ensure the orderly and effective development of educational administration. As a huge expenditure of colleges and universities, the construction of modern technology also directly affects the quality of teaching. Among them, teachers' awareness of modern technology and sense of responsibility play a vital role. Therefore, when planning to update or adopt a new learning management system, in order to accurately locate the problems that need to be optimized and solved, a virtuous circle and development will be achieved between teaching and management. The construction of the university management information system is a complex system engineering. It is not only affected by many non-technical factors such as technology, social politics, economy, and culture but also needs to make a thorough plan for the construction of university management information system on the basis of fully understanding the requirements of the future development of universities and departments on information systems.

In order to build college MIS, we must understand the problems existing in college MIS; Seize the favourable opportunity to adapt to college MIS; Fully understand the functions that the university MIS should realize and its tasks in the university management; Analyze the deficiency of university management information system; Select appropriate planning methods to plan the establishment of the system comprehensively and effectively; Adopt appropriate methods to develop college MIS; Comprehensive evaluation of university

management information system; According to the realization conditions, the future development trend of university MIS is predicted.

The research direction of this paper is to investigate the application of information system management technology in colleges and universities based on the survey of teachers' opinions. Based on the field survey of Liaoning University, combined with a large amount of data collected from literature, networks and databases, this paper analyzes on the status quo, functions, composition, planning, development methods and system evaluation of the university management information system, and puts forward some methods for solving the problems. The establishment of campus network not only provides an advanced management mode, but also promotes the development of the campus. The establishment of university management information system based on campus network environment will provide strong support for university management and decision-making. Fully understanding the function, composition, planning, development and evaluation methods of college MIS under the network environment has certain theoretical significance for the construction of high-quality college MIS.

Research Objectives

1. To study the applying information system technology in the education administration of administrators at Liaoning University in Liaoning Province, the People's Republic of China.

2. To compare the applying information system technology in the education administration of administrators at Liaoning University in Liaoning Province, the People's Republic of China by educational level, and work experience.

Research Framework

In order to effectively administer the use of information system technology in Liaoning universities, by Lin Xiaofang, (2021) this research, can be summarized as conceptual framework variables as follows:
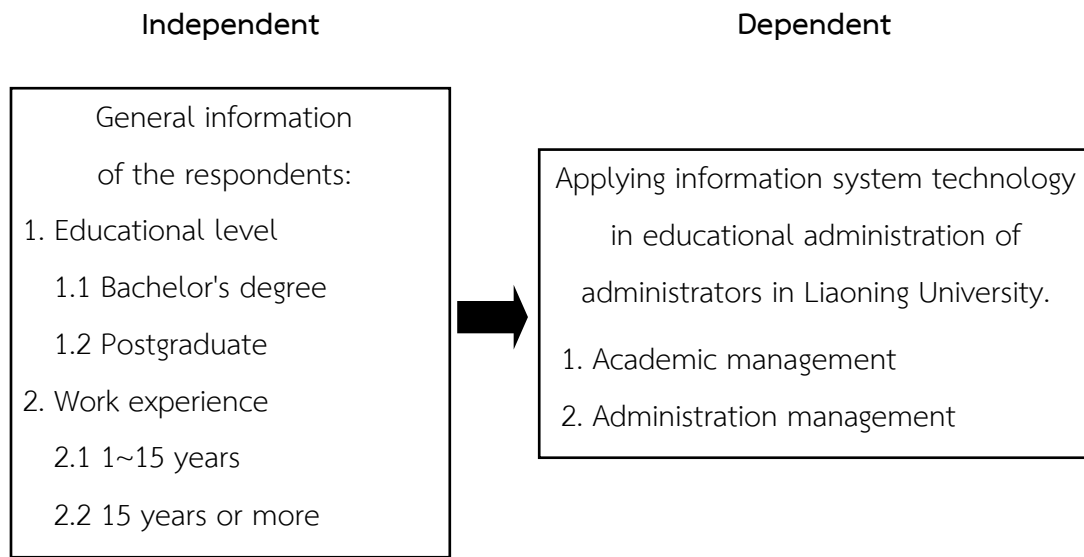
Independent   Dependent

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┌──────────────────────────┐
│     General information   │
│     of the respondents:   │        ┌───────────────────────────────────────┐
│  1. Educational level     │        │ Applying information system technology │
│    1.1 Bachelor's degree  │        │    in educational administration of    │
│    1.2 Postgraduate       │  ──▶   │  administrators in Liaoning University. │
│  2. Work experience       │        │  1. Academic management                │
│    2.1 1~15 years         │        │  2. Administration management          │
│    2.2 15 years or more   │        └───────────────────────────────────────┘
└──────────────────────────┘
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Figure 1: Research Conceptual Framework

Methods of conducting research

Population: The population used in this study was instructors at Liaoning University, with a total of 150 instructors.

Sample: The sample was instructors 108 instructors, from Liaoning University, in the academic year 2020. The sample size was determined by the table Krejcie & Morgan, (1970), and was obtained by simple random sampling.

Research Instrument

The research instrument used in this study was a questionnaire. This questionnaire is divided into two parts as follows:

Past 1: A questionnaire about the general information of the respondents. Checklist classified by educational level and work experience.

Past 2: The questionnaire was used to collect instructors' perceptions of the application of Educational Administrator information system technology at Liaoning University in Liaoning Province, the People's Republic of China in two areas: 1) Academic management 2) Administration management

Creating Data Collection instruments

1. To study how to create a perceptions questionnaire according to the 5-level liquor valuation.

2. Study the concepts, theories, and research related to the use of management information system technology for the education of executives.

3. Prepare a questionnaire to propose to the consultant and edit it according to the recommendations.

4. Send the draft questionnaire to the qualified person. Verify the content of the 3-person questionnaire and find consistency between the questions and the objectives of each question. to select questions with IOC values from 0.67-1.00.

5. The questionnaire revised as recommended by the qualified person was tested on 30 non-sample populations. Cronbach, (1951) data were analyzed for confidence. using Cronbach's Alpha coefficient in the formula. Confidence of all questionnaires.

6. Take the updated questionnaire. Conduct a complete questionnaire to collect data with the sample group.

Data analysis

Data collection the study collects the information by sending the questionnaire to the University and receiving it in person, details are as follows:

1. Determine the integrity of the questionnaire.

2. In the first part of the questionnaire, the personal general data of the respondents are presented in the form of a percentage description table according to the frequency distribution.

3. In the second part of the questionnaire, percentage, mean and standard deviation are used for data analysis. Explain the result table and find out the factors affecting the efficiency level through comparison.

4. Comparison of instructors' perception on the use of applying information system technology in education administration of administrators at Liaoning University, classified by educational level and work experience by t-test analysis.

Data analysis result

1. Results of the general data analysis of the respondents.

Table 1: General information of the respondents:

(n=108)

General information	Teachers	Mean
1. Education level		
1.1 Bachelor's degree	82	75.90

General information	Teachers	Mean
1.2 postgraduate	16	24.10
Total	108	100
2. Work experience		
2.1 < 15 years	43	39.80
2.2 ≥ 15 years	65	60.20
Total	108	100

From Table 1 was found that in the applying information system technology in the educational administration of administrators in Liaoning University, of the 82 instructors in Liaoning University 75.90 percent graduated with a bachelor's degree, while 16 instructors accounted for 24.0% higher than a bachelor's degree, and 65 instructors with more than 15 years of work experience. Work experience 1-15 years, 43 instructors, representing 60.20 percent.

2. Result of Data Analysis for Research Objective 1 to study the applying information system technology in the educational administration of administrators in Liaoning University

To study applying of information technology Systems in education administration of educational institute administrators. Analyzed using Mean, and Standard Deviation as in Table 2-4.

Table 2: Show mean, standard deviation, and level applying of information system technology used in educational administration of Liaoning University of administrator, overall and in each aspect:

(n=108)

	List	$\overline{\text{x}}$	S.D.	Level
1	Academic management	4.21	0.23	High
2	Administration management	4.01	0.36	High
	Total	4.11	0.20	High

From Table 2: found that; applying Information Systems Technology in the Educational Administration of Administrators of Liaoning University, overall and each aspect is high in every

aspect. ($\overline{\mathbf{X}}$= 4.11) When considering each aspect, it was found that the two aspects were at a high level. Academic management had the highest average ($\overline{\mathbf{X}}$ = 4.21), followed by Administration Management the average. ($\overline{\mathbf{X}}$= 4.01)

Table 3: Show mean, standard deviation, and level applying of information system technology used in educational administration of Liaoning University of administrators: Academic management:

(n=54)

	Academic management	$\overline{\mathbf{x}}$	S.D.	Level
1	Use information technology in the preparation of information on academic administration.	4.37	0.67	High
2	The use of information technology in the preparation of educational institutions' curricula	4.42	0.53	High
3	Develop teaching and learning with e-Learning system.	4.00	0.92	High
4	The use of information technology to store or record the academic results of educational institutions.	4.22	0.84	High
5	Use of information technology to create teaching materials that stimulate learners' interest.	4.03	0.97	High
6	The use of information technology to systematically store or record documents and evidence of educational institutions' learning assessment.	4.12	0.88	High
7	The use of information technology to show the results of learning by class.	4.16	0.85	High
8	Use of information technology to develop internal quality assurance systems and educational standards.	4.39	0.73	High
9	Application of information technology to draw conclusions and report results of internal	4.30	0.84	High

Academic management		$\bar{X}$	S.D.	Level
	quality assurance systems and educational standards.			
10	Application of information technology to promote and develop learning resources for students in educational institutions.	4.11	0.95	High
Total		4.21	0.23	High

From Table 3 found that; Applying of Information Systems Technology of Educational Administrators of Liaoning University. Academic management, overall, and each item were at a high-level ($\bar{X}$= 4.21). When considered item by item, all items were found to be at a high level. The use of information technology in the curriculum of educational institutions had the highest average ($\bar{X}$= 4.42), followed by the use of information technology for internal system development. Quality assurance system and educational standards ($\bar{X}$= 4.39) and improving teaching and learning with the lowest average e-learning system ($\bar{X}$= 4.00).

Table 4: Show mean, standard deviation, and level applying of information system technology used in educational administration of Liaoning University of administrators: Academic management:

(n=54)

Administration management		$\bar{X}$	S.D.	Level
1	Applying information technology to prepare budget management information.	3.84	0.91	High
2	Computers are used in the preparation of financial and accounting evidence, including budgets.	4.01	0.98	High
3	Apply modern and up-to-date information technology to store parcel registration data.	3.97	0.97	High
4	There is a mobilization of material procurement. devices over the Internet.	3.70	0.97	High
5	Personnel management information is stored	3.81	0.97	High

	Administration management	$\bar{\mathbf{X}}$	S.D.	Level
	with current information technology.			
6	Use information technology to prepare the workforce of teachers and personnel.	3.89	0.95	High
7	Information technology is used to prepare to withhold tax information of personnel in educational institutions.	4.26	0.85	High
8	There is an information system for monitoring and evaluating personnel management.	4.11	0.90	High
9	Information technology is used to organize student activities.	4.11	0.89	High
10	There is a sound system along the line and communication, information, information	3.90	0.94	High
11	Use information technology to prepare building utilization statistics.	3.96	0.93	High
12	Use an information system for monitoring and evaluating general management results.	4.31	0.71	High
13	Using information technology to develop student support systems.	4.38	0.74	High
Total		4.01	0.36	High

From Table 4 found that; Applying of Information Systems Technology of Educational Administrators of Liaoning University. Administration management, overall, and each item were at a high-level ($\bar{\mathbf{X}}$= 4.01). When considered item-by-item, all items were found to be at a high level. Using information technology to develop student support systems. ($\bar{\mathbf{X}}$= 4.42), followed by using an information system for monitoring and evaluating general management results. ($\bar{\mathbf{X}}$= 4.39) and there is a mobilization of material procurement. devices over the Internet ($\bar{\mathbf{X}}$= 3.70).

3. Result of Data Analysis for Research Objective 2 compared the applying information system technology to the educational administration of administrators at Liaoning University.

Table 5: Compared the applying information system technology in educational administration of administrators in Liaoning University by educational level:

(n=108)

Ceative leadership of administrators	Educational level				T	P
	Bachelor's degree		Postgraduate			
	$\overline{x}$	S.D.	$\overline{x}$	S.D.		
Academic management	4.24	0.23	4.18	0.24	0.707	0.104
Administration management	4.02	0.38	4.00	0.27	0.90	0.371
Total	4.13	0.21	4.09	0.17	1.140	0.257

From Table 5: was found that in the t-test, instructors with different educational levels come to recognize that applying information system technology in the educational administration of administrators in Liaoning University was not different.

Table 6: Compared the applying information system technology in educational administration of administrators in Liaoning University by work experience:

(n=108)

Creative leadership of administrators	Work experience				T	P
	Bachelor's degree		Postgraduate			
	$\overline{x}$	S.D.	$\overline{x}$	S.D.		
Academic management	4.22	0.26	4.19	0.22	0.634	0.528
Administration management	4.03	0.40	3.99	0.33	0.094	0.391
Total	4.13	0.22	4.09	0.19	1.140	0.257

From Table 6: was found that in the t-test, instructors with different work experience levels come to recognize that applying information system technology in the educational administration of administrators in Liaoning University, was not different.

Discussion

Discuss the results of this research. There are important issues in applying information system technology in the educational administration of Liaoning University administrators as follows:

1. Applying Information Systems Technology in Education Administration of Administrators at Liaoning University, Liaoning Province, the People's Republic of China overall, is considered to be at a high level. Because the government has reformed education and has a policy for educational institutions to use modern technology to develop teaching and learning. The university has implemented the development of university education in accordance with government policies. and university administrators who are leaders in driving the development of education to be efficient and effective. Recognize and realize the importance of using technology to develop the university's educational administration to advance and have higher quality by procuring and making use of technology in teaching and learning. and knowledge of various technologies to personnel in the university continuously. The results of this study are consistent with those of authors Zhang Qinglan & Li Ciping, (2010: 22). The application of the university management information system is the concentrated embodiment of university management modernization. It not only helps to improve the teaching quality and scientific research level, and standardize the management mode but also makes it possible to reduce the proportion of administrative staff and optimize the structure of university staff. At the same time, it is also an indispensable basic scientific decision made by leaders.

2. Compared to applying information system technology in the educational administration of administrators in Liaoning University, Liaoning Province, the People's Republic of China by education levels was not different, Because we have strengthened the computer use training of educational administrators, trained new educational administrators in system operation, encouraged them to actively participate in the construction and management of educational administration informatization, and promoted the improvement of educational administration quality through the efficient operation of educational administration information system. The results of this study are consistent with those of Guo Ping, (2021). First of all, colleges and universities should provide professional training activities for educational administrators. Colleges and universities should really make education administrators realize the importance of education management, learn more

modern management methods, constantly improve the ability of education management, and combine their own management practice to improve, so as to promote the efficient and orderly development of education management.

3. Applying information system technology in the education administration of administrators in Liaoning University by work experience was not different, this may be because University administrators have the forward-looking information management level and the comprehensive quality and management concept of responsible managers, and constantly improve the professional level of university information management personnel, so that teachers can keep pace with the times in continuous learning.The results of this study are consistent with those of Yuan Longyin, (2015). With the support and participation of university leaders, we should choose a reasonable method of university management information system, make rational use of various resources and equipment, establish a network with advanced technology, complete functions and covering the whole university, connect LAN, broadband and terminal equipment of various departments of the university, and form an information system with convenient communication and powerful functions. On this basis, A management information system that can meet the management needs of various departments in colleges and universities has been established to better collect and transmit relevant information of various departments in colleges and universities, realize information sharing, and improve work efficiency.

Recommendations

Recommendations of research

1. Academic management: Improve the student management subsystem and teaching management subsystem related to academic management. Student management subsystem mainly refers to the use of school management information system by school staff to manage students' learning activities such as course selection and experiment. For example, Liaoning University students' course selection, achievement statistics, graduation thesis opening, and registration for CET-4 and CET-6 are all conducted through the student management subsystem. The teaching management subsystem mainly teaches employees to use the school's management information system to replace the work that had to be done manually before. For example, compared with students' course selection, teachers also need to complete corresponding confirmation information, registration and statistics of

course assessment results, etc. It is mainly to simplify the daily management of teaching staff and liberate them from heavy physical labor. The management and control of teaching mainly involves the adjustment and change of teaching content, the strategic planning and design of teaching, the design of professional courses for teaching objectives, and the planning of professional training direction.

2. Administration management: Improve the logistics management subsystem, personnel management subsystem and financial management subsystem related to administrative management. The logistics management subsystem is mainly responsible for the daily maintenance and management of school logistics affairs, school-related materials, classrooms and dormitories. The operation control of logistics management is mainly aimed at the management of daily logistics affairs; Management may involve the change of laboratory and the renovation of dormitory and classroom; The strategy involves the long-term development plan of school logistics, the reform plan of teaching implementation, the living facilities of students and staff, etc. Personnel management subsystem includes the employment, training and assessment of teaching staff, the preservation of personnel files, salary and dismissal. The transaction should produce some documents, which explain the requirements of employment, job responsibilities, personnel training plan, basic information of teaching staff, salary changes, resignation, etc. Personnel control is mainly responsible for recruitment, training, expiration notice, salary adjustment, allowance payment, etc. Personnel management control is supported by some deviation reports and analysis results, indicating the actual and planned deviations of the number of employees, recruitment expenses, technical composition, training expenses, wages payable, labor productivity and other items. Personnel strategic planning includes the evaluation of various strategic plans, such as recruitment, salary, training and welfare, so that the organization can achieve its objectives and obtain enough personnel. It is different from financial accounting, but it is related. The financial responsibility is to make effective use of working capital and fixed assets, so that enterprises can raise funds appropriately in the most effective way. Accounting is to classify financial data, prepare financial statements, make budgets, and calculate and analyze costs. Transactions related to finance and accounting include processing credit applications, sales orders, receipts, receipts, cheques, daily accounts and ledgers. Accounting operation control requires daily error reports and abnormal reports, processing delayed records and unprocessed business reports, etc.

Accounting management control includes comparative analysis of budget and cost data. And financial and accounting strategic planning activities include formulating long-term financial plans and long-term tax accounting policies to reduce the impact of taxation, etc.

Proposals for next research

1. Study the relationship between the technology application of administrators and academic administration of Liaoning University, Liaoning Province, People's Republic of China.

2. Qualitative research should be conducted to gain insights into the Applying information System education of university administrators to expand educational opportunities in other theoretical frameworks.

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