Research Article

DECISION SUPPORT SYSTEM MODEL IN HUMAN RESOURCE MANAGEMENT FOR CHINESE UNIVERSITIES IN SICHUAN PROVINCE

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ABSTRACT

Leveraging advanced digital technologies to enhance management efficiency and optimize resource allocation is an effective means to promote all the human resource management activities in universities. This study aims to propose an optimal HRM decision support system model tailored to the needs of human resource management in Sichuan universities. To achieve this goal, a questionnaire survey was conducted with 21 experts based on literature review to analyze the existing issues in HRM in Sichuan universities. Subsequently, the Delphi method was used to establish a graphical model based on the feedback from these experts. Finally, referring to the CIPP evaluation principles, nine experts evaluated the model constructed in this study. The research results indicate that HRM in Sichuan universities faces issues primarily in aspects such as institutions and policy data management standards, big data, and artificial intelligence technology application. This study has proposed a model encompassing six core aspects of HRM: personnel information, personnel recruitment, development, performance evaluation, internal promotion, and compensation and benefits. The model enhances the integrity of data storage, records accuracy, and sharing smoothness; strengthens recruitment

strategies formulation, candidate screening, and intelligent recruitment process; the identification of training needs improvements, development of personalized training plans, and resource allocation; optimizes intelligent performance evaluation, in-depth analysis, and sound feedback mechanism; establishes unified employment criteria, clear promotion channels, and intelligent job matching; and strengthens intelligent analysis, formulation of personalized incentive measures, and strategic analysis.

Keywords: University Human Resource Management; Decision Support System Model; Problems of Human Resource Management; Human Resource Management Factors.

INTRODUCTION

The construction of a Decision Support System (DSS) for Human Resource Management (HRM) in universities is indispensable for improving decision-making efficiency, accuracy, and transparency, ultimately contributing to the institution's success and competitiveness. Firstly, it enhances the efficiency and effectiveness of personnel management by optimizing the allocation of HRs, which is vital for forming discipline and management teams (Ma & Jan, 2022). A DSS can streamline HR processes such as appraisal and promotion, providing relevant and timely information that aids in decision-making, thus simplifying the generation of necessary analytics for decision support. The integration of advanced information technology, including artificial intelligence algorithms, into HRM systems significantly improves the accuracy of personnel data, with AI-based systems achieving up to 94% accuracy compared to traditional systems' 76% (Zhu, 2023). This high accuracy is essential for making informed decisions regarding faculty performance and promotions. Additionally, DSS can manage large volumes of data, providing rapid responses to changes in academic achievement, forecasting student retention, and assessing the number of vacancies and qualitative performance, which are critical for maintaining the quality of education and meeting key performance indicators (Karabtsev et al, 2022). The use of DSS in project management within universities also increases transparency and the reaction rate of decision-makers, ensuring that project objectives align with organizational goals (Pascu et al, 2014). Moreover, a web-based HR e-Leave

Management System, as part of a DSS, can streamline leave transactions, monitor leave balances, and manage records efficiently, leading to a more productive workforce and fair application of leave policies (Fortich & Marcial, 2015). DSS is particularly valuable in situations where the amount of available information is overwhelming for human decision-makers, ensuring precision and optimality in decision-making processes (Agbo & Ogai, 2013). In the context of talent evaluation and selection, DSS can utilize advanced methods like linguistic eutrophic sets and power averaging operators to handle multiple uncertain information, making the evaluation process more consistent and effective (Liang et al, 2018). Given the budget constraints and rigid administrative rules in higher education institutions, DSS can aid in making quality HR decisions by using models like the Analytic Hierarchy Process (AHP) to select the best candidates for job positions based on qualitative analysis and group decision-making (Begicevic Redep et al, 2015). Finally, a DSS that combines specific domain knowledge with user preferences can help university managers make decisions based on rigorous scientific methods, enhancing the performance of both business and academic processes (Grecu et al, 2013).

Drawing upon the above-discussed advantages of DSS in HRM, developing an effective DSS model to optimize the HRM practice for universities is urgent.

Problem Statement of HRM system Models

Existing university HRM systems often focus on HRM information, while overlooking concerns regarding talent retention and development, as well as applications in HR strategic planning and decision support (Liu, 2018). Additionally, current HRM systems still have certain gaps in meeting practical needs such as improving management efficiency and supporting functional expansion (Peng & Deng, 2021). With reference to the limitations of existing HRM and system models discussed above, this research thus aims to develop a DSS model that meets the actual demand of HRM for universities in Sichuan.

RESEARCH OBJECTIVES

To propose an optimal HRM decision support system model tailored to the needs of human resource management in Sichuan universities.

LITERATURE REVIEW

Therefore, a university's HRM DSS should encompass departments such as personnel information, goal-based evaluation theory (Scriven, 1991), utilization-focused evaluation (Patton, 2008) development, performance assessment, internal promotion, compensation, and benefits. Integrating literature on comprehensive HRM, digital technology in management promotion, Focus is shifted from established targets to the wants and concerns of the stakeholders through responsive evaluation (Stake, 1975), which identifies the basic components of the model. Additionally, theoretical foundation for the model's operation includes the integration of data mining technology, management decision-making tools, and the advantages of cloud computing. Furthermore, relevant evaluation models, such as CIPP technique (Stufflebeam, 1971), support the effectiveness and practicality of the model. Sichuan Province's university administration system is impacted by local policies, economic development, and culture, but remains part of the national higher education system. The "Internet Plus" plan of China encourages digital technology to modernize different industries, including education. University management in Sichuan is also prioritizing international collaboration and global-standard higher education.

In summary, this research will integrate various theories and frameworks to establish a comprehensive and effective university HRM DSS model aimed at improving management efficiency and promoting management practices.

CONCEPTUAL FRAMEWORK

Core elements to improve efficiency in university HRM include: establishing a scientifically sound recruitment and selection mechanism to attract and retain high-quality talent; providing systematic training and development plans to enhance staff professional skills and overall competence; developing a fair and transparent performance management system with regular evaluation and feedback to motivate continuous improvement among staff; designing a competitive compensation and benefits system to enhance employee satisfaction and sense of belonging; utilizing information technology and digital tools to optimize HRM processes and ensure unified and accurate data; fostering organizational culture to strengthen staff cohesion and sense of belonging; and continuously innovating and improving HRM strategies to adapt to external

environment changes and enhance overall management efficiency.

METHODOLOGY

This study attempts to incorporate cutting-edge information technology to support the development paradigm of certain research theories and models. It is based on the theoretical frameworks and possible assessment models. It seeks to find an effective approach to developing a university HRM DSS model. The DSS model can help managers timely grasp the necessary decision-making basis for implementation, while providing intelligent business process support to reduce labor costs and enhance work efficiency.

To address the research problem, this research employed instrument design, questionnaire surveys, and interviews with experts to answer the research problem. Initially, it delved into understanding the current state and existing issues of university HRM in Sichuan Province, China. Subsequently, using the Delphi method, multiple rounds of anonymous expert consultations were conducted to design a decision support model for HRM. The aim was to provide insights and references for optimizing HR management practices in Sichuan universities.

1. Sample group: Seven HRM employees (33.33%), seven IT professionals (33.33%), and seven IT managers or university administrators (33.33%) make up the sample groups. These individuals were chosen using the purposive sampling technique.

2. Research Instruments

The author linked the questionnaire questions with the research objectives and modified it to capture relevant data from the target demographic. To address study variables and constructs, the tool was created after a thorough literature and theoretical framework evaluation. A multi-step validation approach ensured questionnaire validity. Experts reviewed each question for relevance, clarity, and appropriateness to determine the questionnaire's content validity. These experts' feedback was incorporated into the final questionnaire. A small sample typical of the study population was pilot tested to discover any question wording or structural ambiguities. Minor changes were made to improve clarity and usability after the pilot test.

2.1 Expert survey questionnaire: An expert survey questionnaire with designed scale questions was applied in the current

HRM. This allowed relevant personnel to give a quantitative view of the degree of agreement for each aspect and facilitates the carry out data statistics and analysis. The questionnaire was divided into three parts with a total of 116 questions. The first part introduces the participants to the background and basic requirements of this questionnaire. The second part contains 5 questions on participants' basic information, such as gender, professional title, job position, educational qualifications, working years etc. The third part consists of 116 questions, covering key areas such as the current problems in HRM system, strategies to improve HRM, and factors affecting DSS for HRM.

2.2 Procedures of Conducting the expert survey

2.2.1 Based on the information obtained through relevant basic data analysis, an expert survey questionnaire related to the elements of the DSS model for HRM was drafted.

2.2.2 Bring the expert survey questionnaire for IOC checking by 5 experts and make a final improvement.

3. Research Procedure

3.1 Data Collection: To ensure the accuracy of the survey, a series of preparatory work were conducted such as explained the research purposes and needs to the education management department, contact information of a randomly selected group of research experts, managers, and education administrators, distributed survey forms, research proposals, research conceptual frameworks, and questionnaire documents to the sample group, seeking their opinions in advance and scheduling feedback times, and collected the answered questionnaires.

3.2 Data Analysis: After filtering based on comments from the sample group's questionnaire using a five-point Likert scale, the data was processed and computed precisely in an Excel spreadsheet. The values rate from 1 to 5 represent levels from strongly disagree to strongly agree. Subsequently, SPSS 24.0 statistical software was used to average the data, reflecting the overall attitudes and distribution of the sample group towards various issues.

RESULTS CONCLUSION AND DISCUSSION

Problems in university HRM: A questionnaire survey of 21 experts revealed that there are five issues with university HRM today. These issues include the need for a unified data management organization and policy

standards, the necessity of bolstering the use of big data technology, expanding the use of information technology, improving database technology, and enhancing the use of artificial intelligence technology as shown in Table 1.

Table 1 Problems in university HRM.

(n = 21)

Issue: effect	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Data management organization and policy standards need to be unified					
Inappropriate personnel information data recording and exchange system: data redundancy.	17 (80.95%)	17 (80.95%)	17 (80.95%)	17 (80.95%)	17 (80.95%)
Incomplete recruitment data: difficult to analyze, affecting decision accuracy.	19 (90.48%)	19 (90.48%)	19 (90.48%)	19 (90.48%)	19 (90.48%)
Lack of training records and evaluation standards: hard to quantify investment and effectiveness.	20 (95.24%)	20 (95.24%)	20 (95.24%)	20 (95.24%)	20 (95.24%)
Inconsistent performance data standards and evaluation methods: affecting fairness.	16 (76.19%)	16 (76.19%)	16 (76.19%)	16 (76.19%)	16 (76.19%)
Lack of standardized job descriptions and demand analysis: low hiring match rates.	20 (95.24%)	20 (95.24%)	20 (95.24%)	20 (95.24%)	20 (95.24%)
Lack of scientific compensation and benefits policies and standard: low fairness and satisfaction.	18 (85.71%)	18 (85.71%)	18 (85.71%)	18 (85.71%)	18 (85.71%)
Application of big data technology needs to be strengthened					
Lack of insights and predictions personnel information: ineffective decision.	21 (100.0%)	21 (100.0%)	21 (100.0%)	21 (100.0%)	21 (100.0%)
Inappropriate recruitment process for accurately matching candidates: increasing time and cost.	19 (90.48%)	19 (90.48%)	19 (90.48%)	19 (90.48%)	19 (90.48%)

Table 1 (to)

(n = 21)

Issue: effect	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Insufficient personalization in the training programs, ineffective use of resources,: inefficient resource allocation and poor results.	17 (80.95%)	17 (80.95%)	17 (80.95%)	17 (80.95%)	17 (80.95%)
Lack of innovative performance analysis: ineffective scientific evaluations.	20 (95.24%)	20 (95.24%)	20 (95.24%)	20 (95.24%)	20 (95.24%)
Imprecise job requirements and position matching decisions: miss match placement	19 (90.48%)	19 (90.48%)	19 (90.48%)	19 (90.48%)	19 (90.48%)
Inappropriate compensation and benefits policies: low employee satisfaction.	18 (85.71%)	18 (85.71%)	18 (85.71%)	18 (85.71%)	18 (85.71%)
The application of information technology needs to be deepened					
Lack of real-time update personnel information integration, low management efficiency.	19 (90.48%)	19 (90.48%)	19 (90.48%)	19 (90.48%)	19 (90.48%)
Using manual recruitment processes: low efficiency and poor employed person impression.	21 (100.0%)	21 (100.0%)	21 (100.0%)	21 (100.0%)	21 (100.0%)
Lack of personalized training needs analysis and course recommendations, effective training result.	20 (95.24%)	20 (95.24%)	20 (95.24%)	20 (95.24%)	20 (95.24%)
Performance evaluations rely on traditional methods: delayed and inaccurate data.	18 (85.71%)	18 (85.71%)	18 (85.71%)	18 (85.71%)	18 (85.71%)
Integration job demands and talent matching methods are outdated, poor decision-making.	19 (90.48%)	19 (90.48%)	19 (90.48%)	19 (90.48%)	19 (90.48%)
Simple manual compensation and benefits management processes: employee dissatisfaction.	20 (95.24%)	20 (95.24%)	20 (95.24%)	20 (95.24%)	20 (95.24%)

Table 1 (to)

(n = 21)

Issue: effect	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Database technology needs to be improved					
Low Information data storage efficiency: slow query speeds.	20 (95.24%)	20 (95.24%)	20 (95.24%)	20 (95.24%)	20 (95.24%)
Lack of flexibility and scalability recruitment database: delayed and inaccurate decision-making.	17 (80.95%)	17 (80.95%)	17 (80.95%)	17 (80.95%)	17 (80.95%)
Training database cannot support complex recording and analysis: inefficient management.	16 (76.19%)	16 (76.19%)	16 (76.19%)	16 (76.19%)	16 (76.19%)
Performance database NOT meet personalized needs: unfair and inaccurate evaluations.	18 (85.71%)	18 (85.71%)	18 (85.71%)	18 (85.71%)	18 (85.71%)
Incomplete and inconsistent job database: inefficient decision-making.	20 (95.24%)	20 (95.24%)	20 (95.24%)	20 (95.24%)	20 (95.24%)
Insecure compensation and benefits database: low employee trust.	14 (66.67%)	14 (66.67%)	14 (66.67%)	14 (66.67%)	14 (66.67%)
The application of artificial intelligence technology needs to be enhanced					
Lack of analytical and predictive capabilities: Inefficient work.	20 (95.24%)	20 (95.24%)	20 (95.24%)	20 (95.24%)	20 (95.24%)
Manual filter and match recruitment processes: Low efficiency and accuracy.	17 (80.95%)	17 (80.95%)	17 (80.95%)	17 (80.95%)	17 (80.95%)
Lack of personalized learning recommendations: time consuming activities.	19 (90.48%)	19 (90.48%)	19 (90.48%)	19 (90.48%)	19 (90.48%)
Lack of intelligent analysis and recognition performance evaluations: inappropriate results.	19 (90.48%)	19 (90.48%)	19 (90.48%)	19 (90.48%)	19 (90.48%)

Table 1 (to)

(n = 21)

Issue: effect	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Lack of intelligent job demand analysis and talent matching: inaccurate decision-making.	18 (85.71%)	18 (85.71%)	18 (85.71%)	18 (85.71%)	18 (85.71%)
Lack of intelligently optimize compensation and benefits management, unsatisfaction policy.	17 (80.95%)	17 (80.95%)	17 (80.95%)	17 (80.95%)	17 (80.95%)

The survey results about HRM in universities are shown in Table 1. Participants indicate how strongly they agree, disagree, are neutral, disagree, and strongly disagree with each feature. These problems appear in all six areas of human resource management (HRM): performance evaluation, internal promotion, recruiting, development, and compensation and benefits. The issues with the highest degree of expert recognition (100.0%) among them are: the inability to extract useful insights and predictions from personnel data; the reliance on manual hiring procedures, which results in low efficiency and a poor user experience; and the inadequate security of the compensation and benefits database, which undermines employee trust (66.67%).

There are a number of reasons behind the present issues with HRM systems in Chinese universities. First, organizational complexity or insufficient data security and privacy protection measures may be the cause of the requirement for a unified data management structure and policy standards. Second, there may be a shortage of effective tools for mining and analyzing enormous datasets, as well as time and complexity issues with data integration and cleansing procedures. These issues could lead to a need for stronger big data application. Thirdly, an outdated or inadequate technological infrastructure, particularly in the case of the sluggish adoption of developing technologies, may be the cause of the inadequate depth of application

of information technology. Fourth, database technology has to be enhanced. This could encompass problems with inconsistent and incomplete data, as well as problems with inefficient data retrieval and storage. Finally, the demand for improved artificial intelligence technology application may be from a lack of specifically designed AI solutions for HRM or from a lack of knowledge about the possibilities of AI technologies. Factors affecting HRM: According to the expert survey, the six primary components of HRM are performance assessment management, internal promotion management, personnel development management, compensation and benefits management, and personnel information management., 30 factors influencing HRM were sorted out, and confirmed by relevant experts. Among them, 18 factors were unanimously approved, and items 1, 5, 6, 8, 11, 15, 17, 19, 22, 24, 26, and 30 were adjusted due to low expert recognition, as shown in Table 2.

According to Table 2, it was found that 18 of the 30 factors that affect university HRM showed high consistency with the inter-quartile range ($0.0 \leq IQR \leq 1.8$) or median ($4.5 \leq Md \leq 5.0$), indicating 60.00% a high degree of consensus was achieved on the influencing factors. 12 of the 30 factors with the inter-quartile range more than 1.8, and median lower than 4.5, show that there are significant differences in opinions among the interviewees.

Development of DSS model for HRM: Using the Delphi method, 21 experts, comprise of 7 HRM experts, 7 Information Technology experts, 7 Information Technology Management experts or Educational Management experts, were invited to evaluate the decision support system model. During this period, the 21 experts give exceptional support with a positive attitude. The final DSS model for HRM is shown in Figure 1.

Model description:

This research includes 4 key links: target population and sample selection, application of research tools, data collection process, data analysis and statistical methods. The building of DSS model for HRM was done through multiple rounds of questionnaire expert surveys and consultation.

1. The DSS model for HRM is relatively fixed and inclusive formed by the integration of relevant subjects and influencing factors. The construction of this model aims to provide practical support and platform supply for HRM in Chinese universities in Sichuan.

Table 2 Factors influencing HRM.

Item	Factor	Md	Mo	IQR	Result
Personnel Information Management					
1	Unified data management standards	4	5	2	Modify
2	Complete data storage	5	5	2	Pass
3	Accurate data recording	5	5	0	Pass
4	Smooth data sharing	5	5	0	Pass
5	Secure data management	4	5	2	Modify
Personnel Recruitment Management					
6	Personalized recruitment process	4	4	2	Modify
7	Intelligent recruitment strategies	5	5	0	Pass
8	Unified data storage management	4	5	2	Modify
9	Automated recruitment process implementation	5	5	1	Pass
10	Intelligent candidate matching and screening	5	5	1	Pass
Personnel Development Management					
11	Investment in information technology resources	4	5	2	Modify
12	Identification of training needs	5	5	0	Pass
13	Personalized development of training plans	5	5	0	Pass
14	Reasonable allocation of resources	5	5	2	Pass
15	Targeted guidance	4	5	2	Modify
Performance Assessment Management					
16	Intelligent performance assessment	5	5	0	Pass
17	Accurate data management	4	[3, 5]	2	Modify
18	In-depth analysis of performance data	5	5	2	Pass
19	Unified assessment standards	4	4	2	Modify
20	Sound feedback mechanism	5	5	0	Pass
Internal Promotion Management					
21	Unified hiring criteria	5	5	1	Pass
22	Complete data information	4	4	2	Modify

Table 2 Factors influencing HRM.

Item	Factor	Md	Mo	IQR	Result
23	Intelligent job matching	5	5	0	Pass
24	Transparent decision-making process	4	[3, 5]	2	Modify
25	Clear promotion channels	5	5	2	Pass
Compensation and Benefits Management					
26	Centralized unified data management	4	[3, 4]	2	Modify
27	Intelligent analysis of compensation and benefits	5	5	0	Pass
28	Personalized incentive measures	5	5	0	Pass
29	Intelligent policy analysis	5	5	2	Pass
30	Fair compensation and benefits system	4	[3, 5]	2	Modify

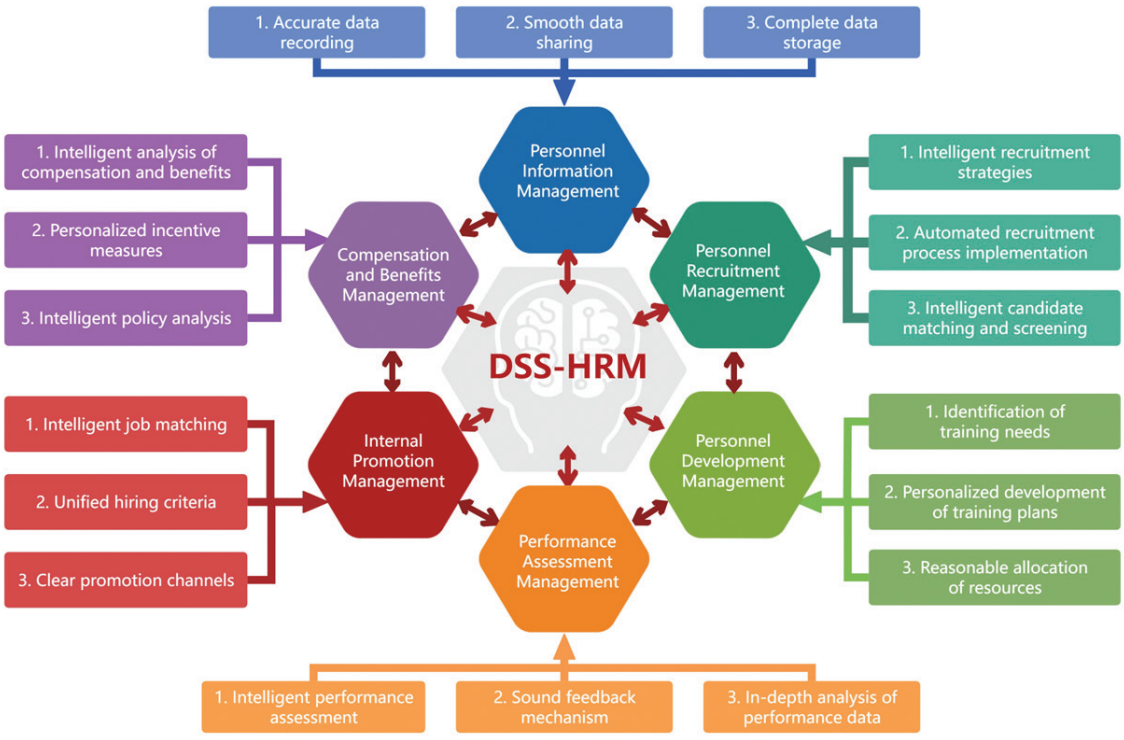

Figure 1 Decision support system model for human resource management

2. This model further clarifies the logical relationship between "Personnel Information Management" "Personnel Recruitment Management" "Personnel Development Management" "Performance Assessment Management" "Internal Promotion Management" and "Compensation and Benefits Management". Enhancing the level and efficiency of HRM is the core of the DSS. The relationship between the six subjects should influence each other and jointly reflect the level and quality of HRM.

3. In this model, all elements interact with each other. For instance, thorough data recording and archiving can significantly improve the standard of personnel information management, promote the sharing of personnel information, and provide robust data support for policy formulation and strategy optimization in personnel recruitment management, personnel development management, performance evaluation management, internal promotion management, and compensation and benefits management. Therefore, this model emphasizes the interactions and dependencies between various elements in HRM practice.

CONCLUSION

An investigation into the problems and resolutions in HRM for Chinese universities in Sichuan Province. Sichuan universities should prioritize numerous areas. First, integrating HRM procedures across universities requires unifying data management organization and policy norms to provide consistent and efficient data processing. A unified HRM data management system would help colleges streamline operations and improve departmental cooperation. Second, universities should prioritize big data technologies to improve people management analysis and decision-making. Modernizing HRM systems requires deepening information technology utilization and upgrading database technology in the third and fourth domains. This would improve staff information, recruitment, development, performance assessments, and compensation management. Additionally, incorporating artificial intelligence (AI) technology can significantly improve efficiency in decision-making and predictive analysis within HRM functions, such as identifying recruitment trends or assessing employee

performance. When building a Decision Support System (DSS) model for HRM, universities should focus on the six core subjects identified in the research. Personnel information management, recruitment, development, performance assessment, internal promotion, and compensation management ensuring that the influencing factors for each are closely examined and optimized.

Discussion

Firstly, ensuring data quality and security is central to DSS. This requires establishing stringent data management standards and policies, unifying data collection, storage, processing, and analysis procedures to ensure data accuracy, consistency, and integrity. Using cloud computing provides a scalable, reliable, and multifunctional platform, significantly enhancing data quality. This approach allows for the integration and standardization of data from multiple sources, ensuring comprehensive and high-quality information for decision-making (Cai & Chen, 2021). The use of data mining technology further refines this data, extracting valuable insights and supporting intelligent decision analysis, thus optimizing HR business processes, and improving overall efficiency (Li, 2022). Combining artificial intelligence (AI) methods enhances data analysis, communication, and information retrieval, effectively handling dynamic and heterogeneous data (Rajagopal et al, 2022). Implementing robust encryption and decryption mechanisms, combined with user-defined functions and algorithms, ensures data confidentiality, and prevents unauthorized access. Continuous monitoring and auditing of user behavior provides detailed control and traceability of database interactions, further enhancing security (Mishra et al, 2020). Integrating Hadoop and other big data analysis frameworks with cloud computing platforms enables distributed processing of vast HR data, ensuring data normalization and integrity, addressing the shortcomings of traditional HRM systems in standardizing multi-source data (Yang, 2022).

Secondly, to continuously optimize and upgrade the HRM DSS, the system requires regular assessment and updating of hardware, software, and adoption of the latest big data analytics technology and artificial intelligence algorithms to enhance performance and analytical capabilities. The system must possess high scalability and flexibility to adapt to rapid changes in management needs and technological environments, ensuring long-term stable operation and efficient

functioning. Based on human resource management, DSS ensures continuous technological optimization through multiple integrations and iterations. The system collects and analyzes relevant resource data to identify utilization trends and patterns (Naz et al, 2023). Integration of data mining technology and cloud computing further enhances system capabilities. Data mining supports intelligent decision analysis to optimize HR business processes, while cloud computing provides support for multi-layered resource integration and sharing (Morin, 2023). The system also integrates feedback mechanisms for continuous improvement and refinement (Naz et al, 2023). In university personnel management, DSS uses decision models to forecast and analyze HR demand and promotions, ensuring rapid responsiveness to institutional needs (Li, 2022). Through regular reviews and updates based on feedback and new data, DSS maintains its effectiveness and relevance, achieving continuous optimization and technological upgrades (Naz et al, 2023).

Finally, enhancing user training and feedback mechanisms is crucial for the successful operation of DSS. Regular training courses, workshops, and practical activities are essential to help users master system operation skills and best practices, ensuring they can fully utilize system functionalities. Additionally, establishing a robust user feedback mechanism to promptly collect and address user opinions and suggestions is necessary for continuously optimizing and improving system functionalities and user experience, thereby ensuring the system truly meets user needs and expectations. Integrating feedback mechanisms into DSS enhances comprehensibility and usability, as suggested by structured literature reviews emphasizing feedback's importance at conceptual, semantic, syntactic, and lexical levels in user interface design (Frysak, 2017). Leveraging data mining techniques within DSS optimizes human resource processes, standardizes data, and provides intelligent decision analytics, thereby enhancing overall business efficiency and decision support. Li (2022) provided feedback on performance improvement potential and corrective measures further aligns user mental models with DSS, fostering deeper learning and enhancing user confidence and proficiency (Kayande et al, 2009). Furthermore, integrating AI

technologies such as case-based reasoning and ontologies improves decision efficiency at operational and managerial levels, offering knowledge-based approaches to HRM (Zhukova et al, 2014). The evolution of DSS technology towards intelligent systems, including Active DSS, filters and manages overflow data, ensuring decisions are effective and tailored to user needs. This intelligent system approach supports unstructured HR processes like personnel deployment and training by providing structured, fair, and comprehensive decision support, processes often reliant on human judgment (Jantan et al, 2010).

SUGGESTIONS AND RECOMMENDATIONS

Based on the research findings on the "Decision Support System (DSS) Model in Human Resource Management (HRM) for Chinese Universities in Sichuan Province," some recommendations can be made to enhance HRM practices through the application of advanced technologies such as big data and artificial intelligence (AI).

1. Universities should prioritize the unification of data management standards and policies across the institution. This includes implementing a centralized HRM database that follows consistent protocols for data entry, storage, and retrieval. By establishing these standards, universities can ensure the integrity, accuracy, and smooth sharing of personnel information across departments. Provincial authorities should also consider developing a comprehensive policy framework for HRM data management that universities can adopt.

2. To improve recruitment, performance evaluation, and employee development, universities should reinforce their big data infrastructure and AI capabilities. Big data improves recruitment efforts by streamlining candidate screening and revealing hiring trends. Smart recruiting processes should leverage AI-driven technologies like predictive analytics to analyze candidate fit and intelligent job matching based on skill sets and job needs.

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