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A Model of Human Resource Accounting Knowledge in the Ministry of Education with the Information Valuation Approach

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ABSTRACT

The knowledge model of human resources accounting in the Ministry of Education with the information valuation approach is a management framework that focuses on identifying, measuring, and reporting the value of human resources, especially the information and knowledge of employees. This research was conducted with the aim of designing the human resources accounting model with the foundation data approach in the Iraqi Ministry of Education. This research was conducted with a qualitative-inductive approach and the Strauss-Corbin grounded theory method. The research tool (data collection) was a semi-structured interview. This research, using the grounded theory method, analyzed the data obtained from interviews conducted with 17 elites and experts in the field of human and financial resources in the country's defense organizations during three stages of open, central coding, and selective analysis. 23 general categories form a paradigm model where these factors include causal conditions (new transformations in value theory; analysis of intra-system challenges of human resource accounting; deficiencies of information systems in the field of human resource management accounting, extra-systemic challenges), central phenomenon (model human resource accounting), underlying conditions (needs of the organization and management; surrounding environment; technical and technological conditions; internal state of education), intervening conditions (organizational limitations; lack of costing and valuation; cognitive challenges; information), strategies (resources) Human transformation; integration of information; development of an executive plan; long-term; short-term audit; reduction of related costs; improvement of human resources planning. ©authors

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1. Introduction

The accounting model of human resources in the Ministry of Education, utilizing the information valuation approach, is a management framework that focuses on identifying, measuring, and reporting the value of human resources, particularly the information and knowledge of employees (Sauer et al., 2023). Given the significant importance of human resources in the educational system, this model aims to calculate and manage the added value contributed to the educational system through the knowledge and expertise of teachers, managers, and other educational staff. The primary objective of this approach is to enhance decision-making regarding investment and development of human resources by utilizing accurate and reliable data (Iacuzzi et al., 2023). Within this model, the evaluation of educational staff information is conducted using various indicators and criteria. These indicators may encompass costs associated with recruitment, training, professional development, and employee retention, as well as their productivity and performance. Through a thorough analysis of this information, the Ministry of Education can evaluate which educational and development programs have the most significant impact on enhancing the quality of education and, consequently, make more informed decisions regarding resource allocation and the enhancement of educational processes (Zambon et al., 2019).

This approach helps the managers of the Ministry of Education to identify the strengths and weaknesses of the education system and design appropriate strategies to improve the quality of education by having accurate and complete information about their human resources (Zhang et al., 2023). Using the results of these analyses, the Ministry of Education can provide more targeted training programs for its teachers and employees, which leads to an increase in their job satisfaction, motivation and productivity (Maley, 2024). Finally, this will lead to the overall improvement of the quality of education in schools and educational institutions of the country. The

human resource accounting model with a knowledge approach, as a management and accounting framework, tries to identify the value and costs associated with the human assets of an organization. and measure This model is based on the principle that human resources, especially the knowledge and skills of employees, are one of the most important intangible assets of an organization that can have a significant impact on the overall performance and productivity of the organization. Therefore, the main goal of this approach is to create a comprehensive system for measuring, reporting and managing human resources that helps organizations make better strategic decisions about investing and developing these resources (Grossi et al., 2023). In the human resource accounting model with a knowledge approach, the value of employees' knowledge is calculated through various methods such as training cost analysis, performance and productivity evaluation, and identification of key skills and capabilities (Zhang et al., 2023). These models usually include identifying and measuring the costs associated with recruiting, training, developing, and retaining employees. Also, by using different indicators, the level of productivity and efficiency of employees is investigated in order to determine the added value resulting from investment in the development of knowledge and human skills (Van Buren, 2020). This model not only provides financial and non-financial information about human resources, but also helps managers to make necessary improvements in human resource processes. Through detailed analysis of data and information, organizations can identify their strengths and weaknesses in human resource management and adopt more effective strategies to attract, retain and develop their employees. This can lead to improved employee satisfaction, increased productivity, and ultimately, improved overall organizational performance (Chicchi et al., 2022).

Human resources can be considered the main and fundamental pillar of an organization to realize its vision, mission and

goals; The existence of fundamental weaknesses in human resources can lead to the reduction of each of these goals of the organization; Difficulty in planning, training and developing employees, evaluating employee performance, etc. all cause problems for the organization (Nivayan et al., 2021). Human resources audit is based on accounting and also scientific and social information systems and methods are used. In the definition of human resources audit, it can be said that human resources audit is a systematic review and evaluation of abilities, challenges, limitations, as well as development needs of human resources. is available (Osama et al., 2012). Evaluation of human resources in today's organizations, users of financial information are often faced with issues and problems such as not properly understanding the types of evaluation of human resources. Until now, researchers have not been able to provide a model that is free of major limitations to identify the human resources of organizations as assets. In fact, in order to provide a model for auditing human resources management, it can be said that researchers are not able to understand the various effects such as the environment, organization, etc. The tradition of auditing human resource management causes problems, and in this research, a model is explained and designed to solve the gaps of the past, and this issue will be implemented in education, which will be of great importance in any society. According to the above, the basic question is, what is the audit model of human resources management in the Iraqi Ministry of Education?

2. Literature Review

Human resources accounting helps to examine and calculate costs and also the value of human resources in organizations and companies and helps managers in making decisions related to this issue. Every organization, big or small, uses any kind of capital to operate the business. Capital includes cash, valuables, and people who are used to earn money for a business and advance its goals. All organizations and companies have a common department,

which is human resources. Human resources is used to describe the people who work in a company or organization, as well as to describe the department that is responsible for managing all matters related to employees. and when concepts such as motivation, organizational behavior and choice evaluation were formed in various work environments. In fact, it can be said that human resources are people or employees who work for an organization. By meeting the needs, they play an important role in advancing its goals (Tota, 2020). Human resource accounting is a science that examines the value of human resources in the organization and in this way helps the managers of the organization to make necessary decisions regarding employees. do In better words, the process of identifying, diagnosing and measuring the organization's human resources information and preparing the necessary reports from these data is called human resources accounting. It should be noted that the reports prepared in this process will be available to the stakeholders of the organization and many organizational decisions are made based on these reports (Bora, 2023). Currently, reports in this field have become one of the main needs of managers of organizations; Because managers can, according to them, formulate the plans of the organization in a way that allows the maximum use of human resources. As it is clear from the definition of this word, this knowledge is created by combining human resources and accounting. Human resource accounting is a type of measurement scale that helps the managers of the organization to accurately control the way of managing the organization's employees and causes the participation of employees in achieving the goals of the organization (Alav et al., 2023). With the help of this type of accounting, the managers of a company realize the economic value of the organization's employees and then make decisions about how to invest in the organization's human resources. For this reason, it is said that this science has a great influence in making decisions of the organization. Managers of all economic units and social institutions, in order to upgrade

and improve the level of the organization's performance, seek to "actualize" the "potential" power of the organization's human resources by spending financial costs, and through the development of human resources, they cause the growth of organizational productivity. Therefore, managers need the following information to make decisions in the field of human development programs: What is the economic value of such human assets? How much of the expenses spent on raising and

training skilled and specialized people is worth taking into account as an asset? How much of the spent financial resources should be considered lost costs (Alah et al., 2020; Singh and Gulati, 2021). Considering the importance of identifying the accounting of human resources, the studies that have been done are either different from the current study in terms of approach, or that they have been done with a limited purpose, which we will point out in the following table (1):

Table 1. Summary of internal and external background

Researcher/Year	Title	Research Methodology	research findings
Adegbibe et al. (2024)	Human resource accounting and financial performance of listed money deposit banks in Nigeria	Regression analysis	The results showed that the cost of employee bonuses to income has a negative and significant effect on the return on capital employed in depositing money in banks in Nigeria. Also, employee cost and safety have a positive and significant effect on return on capital employed of listed money deposit banks in Nigeria. Employee retirement benefits have a negative and significant effect on return on capital employed of money deposit banks in Nigeria.
Olabi et al. (2024)	Human resource management in the health care system: recruiting, retaining and developing the workforce	Review	This article examines evidence-based human resource strategies, the role of technology and innovation, and future directions for human resource management in the healthcare sector. Key findings emphasize the need for comprehensive recruitment and retention programs, investment in professional development, and technology adoption to improve HR practices. Implications for health care human resource policy and practice are discussed, with recommendations for future research to increase the effectiveness of human resource management in health care settings.
Handiani et al. (2024)	The effect of employment, work culture and work environment on the quality of human resources	Correlation	The obtained results showed that the variables of employment, work culture, work environment have a significant effect on the quality of human resources.
Agarwal (2023)	A Study of Human Resource Accounting Disclosures in Selected Public and Private Sector Companies in India	Review	They showed that human resource accounting is basically similar to financial accounting, that is, as financial accounting reflects the costs of assets such as buildings and machinery, it shows human resources as capital and not as a cost. Therefore, investment shows the organization on its people and how their values change over a period of time.
Ozkan (2022)	The role of human resource accounting in the business environment	Content analysis	The results of the content analysis show that between 2010 and 2017, there is a growing trend in the disclosure of human capital by the banks listed in Bursa Istanbul, which indicates that the banks listed in Bursa Istanbul have become more aware of the importance of human capital.
Ogundajo et al. (2022)	Disclosure of human resources accounting information and company value	Ex-Post Facto	Data analysis revealed that disclosure of employee training and development has a significant impact on firm value. In essence, this study concluded that HR accounting disclosures have a significant impact on firm value.
Dobresco et al. (2021)	Human resource audit - a driver for sustainability in the health care system. Evidence from Romania	Systematic review	The results showed that a sustainable medical system not only supports costs, but also improves quality in the long term. Also, the sustainable strategy to maintain the medical staff, especially in incomplete medical specialties, the good cooperation of hospitals and higher education institutions in the field of training and development of human resources in this field has been mentioned as one of the important factors in achieving the sustainability of the health system.
Khan (2021)	The impact of human resource accounting on the financial performance of SME organizations	Structural equation	SMEs in Saudi Arabia are aware of the benefits of human resource accounting for the organization and the only concern is that there is a need for quick management actions that are possible with widespread notification throughout the country. However, HR accounting has no significant effect on return on assets.
Haji Rezaei et al. (2024)	Presenting a model of comprehensive evaluation of human resource accounting through grounded theory and metasynthesis in pharmaceutical companies	Grounded theory	In the discussion of causal conditions to components such as expertise and technical information, the Galatea effect, experiences and learnings, the level of analytical power, cultural decision-making, psychological abnormality, and in contextual conditions to demographic variables, policies, social relations, and in mediating conditions to productivity, competence Professionalism, awareness of the current issues of the organization.
Jafari Alamdari et al. (2024)	Human resources accounting and reporting based on metacognitive test with the future development approach	PLS statistical software and fuzzy model	The findings show that all metacognitive factors (supervision of understanding, design and planning, error correction strategy, evaluation, information management, expressive knowledge, procedural knowledge, conditional knowledge) and the empowerment of financial managers have

	of companies' reporting	(Text)	a significant relationship on the future development of human resources reporting. have.
Vaghfi et al. (2023)	Identifying obstacles to the establishment of human resources accounting system based on Dimetel technique (case study: Mashhad University of Medical Sciences and its subsidiaries)	DIMTEL decision making technique and MATLAB software	The results of the research showed that expertise and skill can be one of the most important influencing factors in the accounting system, so this research, by presenting the obstacles and modeling factors of human resources accounting in the University of Medical Sciences, can be effective for better planning in recruitment and also in financial reports.
Ehtishami Nesab et al. (2023)	Representation of human resource accounting indicators in the telecommunications industry	Qualitative and quantitative	The findings showed that the human resources accounting model consists of six components; severance fee; Cultivating human resources; cost of recruitment, selection and recruitment; employee qualifications; Human resource information system and performance management process and service compensation. Therefore, by using the identified indicators in infrastructure communication, it is possible to improve human resource accounting.
Ramyar and Mohammadi (2023)	The impact of human resource accounting on the financial performance of organizations in the context of companies active in the Tehran Stock Exchange	EViews	The results of the research have shown that human resource accounting has an effect on the financial performance (return on assets) of companies. Human resource accounting has an impact on the financial performance (return on equity) of companies. Human resource accounting has an impact on the financial performance of companies
Montazeri et al. (2022)	Designing the human resources audit model with the approach of macro and task level strategies using the cognitive mapping method in the social security organization.	Qualitative content analysis and one-step fuzzy Delphi method and cognitive mapping	The model obtained includes the categories of intellectual and mental ability, mental and psychological abilities, interaction skills, assignment skills, scientific abilities, organizational skills, thinking skills, supervision skills, job and professional skills, individual skills, interpersonal skills, strategic skills and management skills. .

3. Method

Considering that the purpose of this research is to design and explain the accounting model of human resources with the grounded theory approach, the current research is qualitative in terms of purpose, practical developments, data collection time, and cross-sectional survey in terms of the nature of data and research approach. To answer the research questions, the study utilized library research, literature review, theoretical background exploration, and interviews. Descriptive and inferential statistical methods were employed to investigate the research questions. The primary goal of this qualitative research is to identify the variables and structures associated with the human resources accounting model in the defense organizations of the country and to develop a suitable model for it. To achieve this, organizational actions related to the research topic were observed, and exploratory interviews were conducted with experts in human and financial resources in the defense organizations of the country. Thirteen individuals were interviewed, selected through purposeful and snowball sampling methods, and a semi-structured, in-depth interview with open-ended questions was carried out. The sufficiency of the sample

size was ensured through the theoretical saturation method (Glaser & Strauss, 1967). In this research, a systematic approach with three coding techniques - open, axial, and selective coding - was employed to implement the data strategy (Lee, 2001). Open coding involves the analytical process of identifying concepts, characteristics, and dimensions in the data (Strauss and Corbin, 1998). At this stage, the primary categories of information regarding the causes of organizational rebellion were formed by segmenting the information. After regular review of the interviews, the main categories, sub-categories, and sub-categories were determined. Axial coding: Axial coding is the process of relating categories to sub-categories and linking categories at the level of features and dimensions. This coding is called axial because coding is realized around the axis of a category. Selective coding: After open and axial coding, the research results from the theory that selective coding is the process of integrating and improving categories. In this research, after reaching the saturation and repetition of the concepts, selective coding was done in the interviews. The results of which are presented in the final part in the form of discussion and conclusion. Also, the

criterion of acceptability that is mentioned in the evaluation of data-based researches of the foundation was used instead of validity and reliability criteria. Acceptability means to what extent the findings of the research are reliable and believable in reflecting the experiences of the participants, the researcher, and the audience about the phenomenon under study. Twenty-two acceptance criterion indices have been introduced, five of which were used in this research to improve scientific accuracy, validity, and reliability. The audit strategies used are: the sensitivity of the researcher, the coherence of the methodology, the proportionality of the sample, the repetition of a finding, and the use of feedback from informants (Strauss & Corbin, 1990).

4. Findings

In order to answer the research question "What is the conceptual paradigm of human resource accounting?", the open and central codings of each part of the contextual model are given below.

Related interviews are mentioned below:

Knowledge-based Economy

A knowledge-based economy refers to an economy where the production, distribution, and utilization of knowledge are recognized as the primary factors in wealth creation and economic development. In this type of economy, human resources are considered the main capital, and economic value is determined based on the knowledge, skills, and innovations that individuals bring to the organization. In human resource accounting, the emphasis on the knowledge and capabilities of employees as a value-creating resource is of particular importance, enabling organizations to enhance their competitive advantage through these resources.

Generating Wealth and Added Value

Generating wealth and creating added value in the human resource accounting model involves leveraging the knowledge, skills, and experiences of employees to improve organizational performance and profitability. Human resources, with their knowledge and expertise, can enhance

processes and products, thereby generating more added value for the organization. This added value can be realized directly through increased profitability or indirectly through the improvement of the organization's reputation and market position. Human resource accounting helps managers identify and accurately evaluate these values, enabling them to make strategic decisions.

Evolution in the Concept of Economic Value:

The evolution in the concept of economic value within the human resource accounting model means that economic value is no longer limited to physical or financial assets but also includes intangible assets such as knowledge, skills, and human experience. This shift in the understanding of economic value highlights the role of human resources in creating and increasing organizational value, prompting managers to recognize the importance of investing in the development of human resources and enhancing their capabilities. In this model, the economic value of employees is calculated not only based on their current performance but also on their future potential.

Measuring the Value of Human Resources

Measuring the value of human resources in human resource accounting is a process that aims to accurately determine the economic value of employees' knowledge, skills, experiences, and capabilities. This measurement may include evaluating the costs of hiring and training, analyzing the return on investment in employee development, and examining the impact of human resources on organizational productivity and profitability. This process helps managers make better decisions regarding human resource management by providing more accurate and reliable information and understanding the true value of these resources.

Intangible Assets of Education

The intangible assets of education refer to the knowledge, skills, and capabilities that individuals acquire through educational processes and bring to the organization.

Although these assets are not directly observable or tangible, they play a crucial role in improving organizational performance. Human resource accounting considers these assets as one of the value-creating elements within the organization and strives to measure and manage them to optimize the return on investment in education. In this model, education is seen as a strategic investment for the development of human resources and the creation of competitive advantage.

The Need to Pay Attention to the Non-Monetary Assessment of Human Resources:

The need to focus on the non-monetary assessment of human resources in human resource accounting stems from the fact that the true value of human resources is not limited to financial factors. Non-monetary factors such as job satisfaction, motivation, creativity, and employee commitment can also significantly impact organizational performance and productivity. In the human resource

accounting model, non-monetary assessments are considered as complements to financial assessments, helping organizations obtain a more complete and accurate picture of the value of their human resources. This approach enables managers to make better decisions regarding the development and management of human resources and to effectively leverage the non-monetary potential of their employees.

Causal conditions of human resource accounting: Causal conditions are categories that affect the central category based on the interviews conducted, the central codes "new transformations in value theory; analysis of intra-system challenges of human resource accounting; deficiencies of information systems in the field of human resource management accounting, extra-systemic challenges " has been identified and it has been linked to another broader selection code called causal conditions, which is given in the description of Table 2.

Table 2. Axial coding of qualitative data (causal conditions)

Open coding	Secondary coding	Axial coding
Knowledge-based economy	New economy and emerging values	New transformations in valuation
Generating wealth and added value		
Evolution in the concept of economic value		
Measuring the value of human resources		
Intangible assets of education		
The need to pay attention to the non-monetary assessment of human resources		
The place of human values in accounting		
Recording human economic value in financial reports		
A new attitude to human resources of education		
The necessity of measuring human economic value		
Creating facilities for evaluating personnel policies	Valuing human resources in contemporary economy	
Increasing the importance of human capital in the economy		
The necessity of strategic planning of human resources		
Human capital architecture		
Human resource evaluation		
Continuous management changes in education		
The need to pay attention to the opportunities for innovation and creativity of human resources		
Desirable criteria in valuing human resources		
Increasing the efficiency of human resources management		
Measuring the abilities of education staff		
The traditional attitude of managers to human resources	Redefining values according to systemic failure	Analysis of challenges within the human resource accounting system
Weakness of traditional accounting systems		
Failure to comply with laws and regulations in practice		
Defects of traditional financial statements		
Increasing the costs of leaving the organizational post vacant		
Inability to calculate the erosion of human resources of education	Reviewing values according to the cost of human capital	
Primary direct costs of human resources of education		
Increasing costs of retaining talented employees		
Training and development of education workforce		
Replacement costs		
Desire to retire early		
Return rate of investment in human resources		
Increasing legal issues of human resources		

Open coding	Secondary coding	Axial coding
Human resources improvement costs	Risks related to employees	Deficiency of information systems in the accounting field of human resources management
Increase in human resource maintenance costs		
The need to identify risks related to human resources		
Assessing risks related to human resources		
Failure to manage risks related to human resources		
Reducing productivity through human resources	The effectiveness of human resources	
The hidden effect of destroying the organization's assets		
Direct and long-term effects of human resources		
The necessity of raising the quality of education services through human resources		
Increase in intra-organizational crises	Personnel information management	
The need to collect personnel information		
The need to manage leave and medical care	Calculation of personnel salaries	
Calculation of personnel salaries		
Calculation of taxes and insurances	Monitoring and Evaluation	
The need to develop monitoring systems		
Data-driven performance evaluation		
Increasing the rate of willingness to work in education	Globalization	Extrasystemic challenges
Intensification of competition in the global arena		
Self-preservation in the international environment		
Impractical and costly rules	Political interference	
Lack of attention to the technical efficiency of education		
Imposing inefficient manpower		
Increasing the level of expectations of human resources of education	Social factors	
The challenges of work ethics and the benefits of education		
Conflict of accounting standards with social values		
Social happiness of employees from human resources accounting model		
The ability of the human resource accounting model to establish justice		

Contextual conditions of human resources accounting: the background or context is a set of special characteristics that indicate the phenomenon in question, i.e. the place of incidents and events related to the phenomenon. The context indicates the set of special conditions in which action and reaction strategies take place. The set of

background elements in human resource accounting includes "the needs of the organization and management; the surrounding environment; technical and technological conditions; the internal situation of education and training", which is given in the description of Table 3.

Table 3. Axial coding of qualitative data (contextual conditions)

Open coding	Secondary coding	Axial coding
Generalize the importance of human resources	Organizational need	Organization and management needs
Depreciation of human resources of education		
Value creation of knowledge-based organizations		
Valuing human resources of education	Leadership essentials	
Change in the structure of human resources		
Improving economic growth and development		
Implementation of appropriate reward systems		
Support of senior managers of education		
Human resource costing		
Key competencies of education managers	Content dimension	
Investing in quality human resources		
Management's need for information to make decisions		
Competitive and dynamic environment	behavioral dimension	
Defective organizational culture		
Cultural and value structures		
Employees' attitude to education	Technology infrastructure	Technical conditions and technology
Employee behaviors in education		
Efficient and advanced information technology infrastructure		
Using data management software and systems		
Analytical tools such as data mining and machine learning		
Information Systems Management		
Ability to analyze data		
Fear of using technology	Technological knowledge	
Knowledge of net based techniques		
Understanding the benefits of technology		
Drawing the position of human resource accounting in education	Education policies	Internal situation of

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Central education supports human resource accounting	Policies	education
Supporting frameworks in government policies		
Implementation of human resources policies		
Alignment of the goals of the government and education in the realization of human resource accounting		
Change management policies and methods		
Accounting problems of human assets		
Human resource measurement models		
Human resource investment measurement techniques		
Responsibility accounting		
Application of human resource accounting		
The level of honesty of information disclosure staff	Moral health of the organization	
Internal trust		
Perception of organizational justice in education		
Perceived corruption of education		
Commitment and job satisfaction		
The level of intrinsic motivation of employees		
The amount of participation in human resources accounting goals		

Intervening conditions of human resource accounting: Structural conditions belong to a phenomenon and affect action and reaction strategies. They facilitate or constrain strategies within a particular context. The

contributors suggest that the limitations of the organization; lack of costing and valuation; cognitive challenges; The information is presented in Table 4.

Table 4. Axial coding of qualitative data (intervening conditions)

Open coding	Secondary coding	Core coding
Lack of information	Information and calculations	Organizational constraints
Lacking formula to calculate the value of human resources		
Difficulty gathering information from people		
Unaware of the benefits of human resource accounting	Knowledge and method	
High cost of implementation		
The lack of awareness of the users		
Measuring investment return	Restore	
Uncontrollable employees.		
Resistance by personnel		
Decrease in human recourse value	Human Resource Management Costs	
Human resource sensation costs		
The cost of training new people		
Inability to finance the training program		
The cost of transfer or dismissal		
The cost of redemption of the year		
The cost of power selection and employment		
Reduce Human Resources Investment	Cost Accounting	
The multiplication of non -monetary measurement criteria		
Human Resource Challenge	superficiality	Cognitive challenges
Managers' tastes		
Human resource competencies		
Judging Accountants in decision -making	Cultural conflict	
The cultural diversity of manpower		
Differences in individual understanding of the measurement system	Data	Information
Accurate information assessment		
Possibility		
Credit Human Resources Data		
The amount of access to human resource information		
Possibility of leveling human resource information		
Data referral capability		
Reporting Human Resource Information	Data management Secondary coding Information and calculations	

Human Resource Accounting Strategies: Strategies are based on actions and reactions for control, administration and feedback. The strategies are purposeful and for some reason. Strategies of this study include

transformation human resources; The central idea; The integrity of information; Core strategy; The formulation of the executive program is stated in Table 5.

Table 5. Code of Quality Data (Strategic Conditions)

Open coding	Secondary coding	Axial coding
Attention to future investments in education	social network	Transformational human resources
Measuring the real value of employee services		
Supporting skilled and expert human resources		

Open coding	Secondary coding	Axial coding	
Development of human resources social network	Specialization		
In-service training			
Human capital reporting			
Branding of human resources			
Human resource information education			
Human capital measurement criteria			
Applied and specialized training			
Identification of non-operating profit of human resources	strength	Central idea	
Future benefits of human assets			
Strengthening the competencies of human resources			
talent search	Growth		
Retirement benefits consulting			
Recruitment of creative force			
Determining the value of human resources			
Research and development of technical knowledge			
Creating continuous interaction in interdisciplinary research			
The new standard of human resource accounting	flexibility		
Adaptation of capabilities and development of human resources			
Development of labor productivity models			
Using integrated and connected information systems to collect human resources information	Data and information management		Information integration
Using sensing technologies and the Internet of Things			
Using data analysis and data mining methods to extract patterns and useful information	Data and information analysis		
Machine learning to predict and optimize employee performance			
Using analytical tools such as artificial intelligence	Reporting and evaluation		
Designing and producing analytical and dynamic reports based on human resources data			
Employee performance evaluation using foundation data evaluation systems			
Creating central and secure databases for storage	Data and information storage		
Sharing employee data			
Use the cloud for storage			
Strategic management of human capital	Strategic goal	Pivotal strategy	
Human capital performance			
Strategic goals of education	long view		
Attitude and strategic thinking in relation to human resources			
Understanding the long-term economic value of human resources			
Valuation models of human resources			
Quality of human resources	Formation of the executive committee		
Appointing a committee including representatives from education, human resources, finance and information technology departments			
Determining the roles and responsibilities of committee members	Design and selection of human resource accounting system	Developing an executive plan	
Preparation of human resource accounting software			
Identifying the strengths and weaknesses of current systems	Continuous monitoring and evaluation		
Creating monitoring systems to periodically evaluate system performance and efficiency			
Gathering continuous feedback and making needed corrections			

Consequences of human resource accounting: The results that emerge as a result of strategies. Consequences are the results of actions and reactions. Consequences cannot always be predicted and are not necessarily what people intended. It is also possible that what is considered as an outcome at one point in time will become

a part of the conditions and factors at another point in time. Based on the conducted interviews, the consequences include long-term; The objective orientation of the audit, short-term, reduction of leaving service and related costs, improvement of human resources planning are shown in Table 6.

Table 6. Axial coding of qualitative data (consequences)

Open coding	Secondary coding	Axial coding
Achieving a competitive advantage	Continuous improvement	Long time
Guaranteeing the profitability of the company in the long term		
Strengthening and improving the performance of employees		
Increasing the efficiency of human resources management	Efficiency	
Empowerment of education staff		
Improving and increasing productivity		

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Open coding	Secondary coding	Axial coding
Productivity created by investing in human resources	Networking	
networking		
Strengthening the economy based on human power		
Development of skilled and specialized human resources		
Promotion, participation rate		
Ability to adapt and teamwork skills	Increasing the quality of education	Objective orientation of audit
Improving the quality of education due to increasing the capabilities and skills of employees		
Improving the selection of the most optimal human resources strategies and policies		
Reducing operational costs		
Improving the experience and satisfaction of students and parents		
Improving educational processes	Human capital management	
Improving the recruitment, retention and development processes of employees		
Facilitate performance evaluation		
Making strategic changes in the organizational structure	Connections	
Facilitate internal communication		
Increasing interaction and exchange of information between employees and managers	Increase efficiency	
Increase in short-term interest		
Reduced replacement costs		
The possibility of measuring the intangible assets of education		
Information needs of users of accounting information		
Making optimal decisions	Change the desired situation	Short term
Establishment of human resource accounting system		
Update information for decision making		
Calculating the cost of human resources		
Depreciation management of human resources of education		
Reducing the number of errors in education		
Reducing the costs of improving human resources		
Realization of expectation of efficiency of human resources		
Improve long-term asset position		
Maintenance and promotion of quality human resources		
Satisfaction of education stakeholders	Increasing the quality of education	Improving human resource planning
Realizing the current value of education services		
Investing in the development of teachers' skills	Performance analysis and employee promotion	
Direct impact on educational efficiency and effectiveness		
Identifying the strengths and weaknesses of employees		
Planning to upgrade them	Reduction in costs	Reduction of abandonment and related costs
Professional development and educational programs		
Reduce hiring costs		
Reducing the cost of training new employees	Increase productivity and efficiency	
Increasing job satisfaction of employees,		
Productivity and overall efficiency of schools and educational institutions		

Among the identified factors, a selective coding paradigm was performed and based on that, the linear relationship between the secondary code and the central code of the research, including causal conditions, background conditions, intervening conditions, strategies and consequences, was determined. Figure 1 shows the coding paradigm and, in other words, the qualitative research process model.

The Kappa statistic is a metric used to measure the level of agreement between two or more raters when comparing their assessments. This statistic is particularly important when the results of evaluations are qualitative and not directly measurable, such as classifications or clinical decisions. The Kappa value ranges between 0 and 1, with a value of 1 indicating perfect agreement

between raters and a value of 0 indicating no agreement. Therefore, a Kappa statistic of 0.811 indicates a high level of agreement among raters, which strengthens the validity of the research results.

When a study is validated with a Kappa statistic of 0.811, it means there is a significant level of agreement among the evaluators or experts who analyzed the data or observations. This high agreement suggests that the assessments were made consistently and independently, making the research findings reliable due to the precision and validity of the evaluations. This not only increases confidence in the study's findings but also ensures the scientific and practical value of the results, as high rater agreement is considered an

indicator of the robustness and replicability of the findings.

5. Discussion

In today's growing and knowledge-oriented world, paying attention to the human force as the axis of development and the identification and measurement system of this important and valuable resource is essential, and the role of managers as organizational decision-makers and accountants as decision-makers in this field will be more prominent and sensitive. In general, without taking into account the value of employees in management reports and assigning a small value to them, we cannot expect progress that will lead to survival and development in the turbulent environment of today's organizations. Therefore, by using the data research of the identified factors, it is possible to analyze the

causal conditions of human resource accounting under the influence of new transformations in values; Analysis of challenges within the human resource accounting system; Defects of information systems in the accounting field of human resources management are external challenges. Changes in human values and accounting standards require rapid adaptation and updating of accounting systems. Also, transparency and accountability in human resources management as new values should be reflected in human resources accounting processes. One of the challenges within the system is the lack of data integrity and the need to improve internal processes, which prevents comprehensive and accurate analysis.

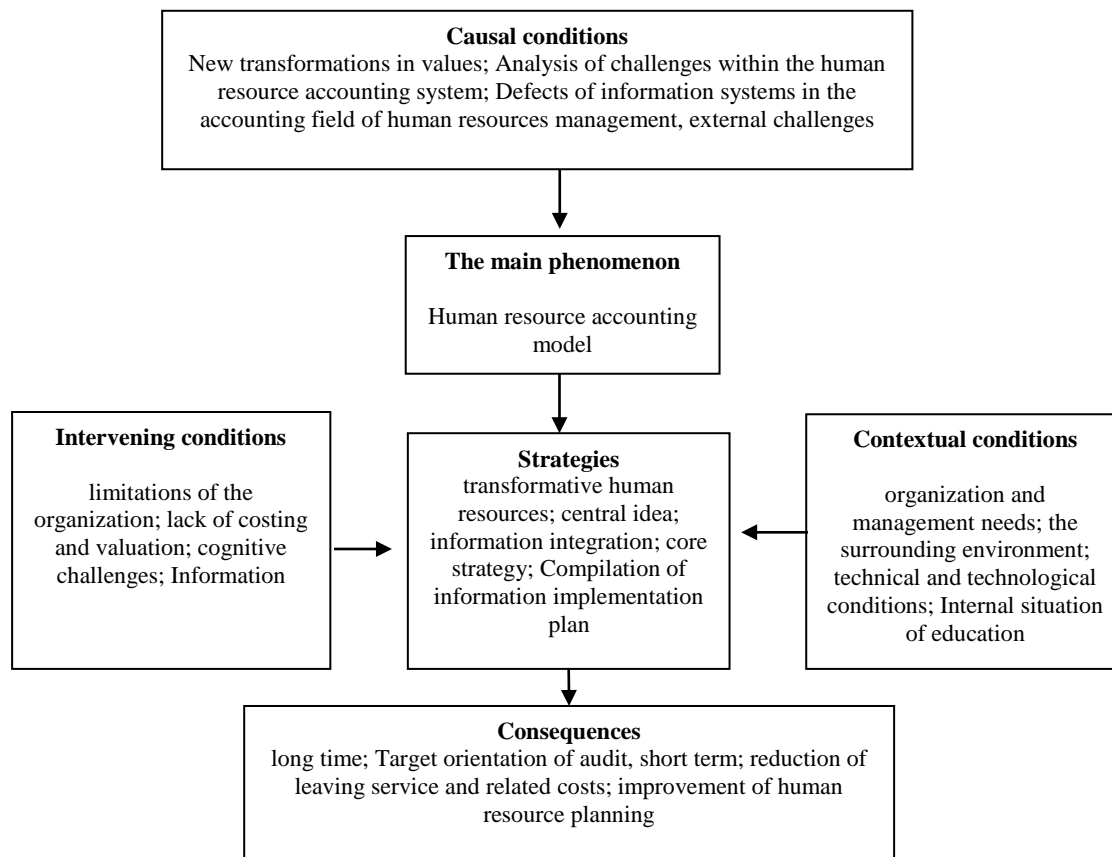


Figure 1. Paradigm model of human resource accounting

The defects in the current information systems cause inefficiency in the management of human resource accounting information and emphasize the importance

of upgrading and updating these systems. External factors such as legal, economic and social changes also have a great impact on human resource accounting and highlight the

need for organizations to quickly adapt to these changes. Research (Amahalu et al, 2016; Davoodian et al, 2021; Grossi et al, 2023) were consistent with the obtained results.

Iacuzzi et al. (2023) showed Knowledge, as one of the most valuable organizational assets, plays a key role in human resource accounting. In today's world, organizations need specialized knowledge and skills of employees to survive and grow. By identifying and measuring the value of employee knowledge, human resource accounting allows organizations to more accurately understand the true value of their human capital. This process helps organizations plan and implement strategic investments in employee training and development more effectively.

Khan (2021) concluded that knowledge enables the continuous improvement of employees' performance and, as a result, the overall improvement of the organization's performance. By focusing on the knowledge and skills of employees, human resource accounting enables organizations to use this knowledge as a driver for innovation and competitiveness. In addition, the accurate evaluation of employees' knowledge through human resource accounting helps organizations to identify the strengths and weaknesses of their teams and in this way formulate improvement strategies and increase productivity. This approach ultimately leads to increasing the ability of organizations to face market challenges and achieve long-term goals.

6. Conclusion

In this regard, implementing integrated information systems, training and empowering employees and formulating strategies in line with environmental changes can help improve the accounting performance of human resources, which is suggested to implement integrated information systems: creating integrated information systems that can manage all human resources data Manage comprehensively.

Human Resource Accounting serves as an effective tool for managing human resources

and plays a significant role in improving organizational performance. This approach provides accurate financial and non-financial information about the value of human resources, facilitating strategic decision-making. Human Resource Accounting enables organizations to accurately assess the costs and benefits of investing in human resource development, thereby enhancing employee productivity and efficiency.

Human Resource Accounting can significantly contribute to knowledge enhancement within organizations. By identifying and measuring the value of employees' knowledge and skills, Human Resource Accounting can aid in improving organizational learning processes. This method allows organizations to better identify the educational and developmental needs of employees and design more effective training programs. As a result, the level of knowledge and expertise among employees is improved, enabling organizations to leverage this knowledge for innovation and performance improvement.

One of the primary advantages of Human Resource Accounting is its ability to increase transparency in human resource management. By accurately recording and reporting information related to the value of human resources, organizations can achieve greater accountability for their investments. This transparency can foster an organizational culture based on accountability, motivating employees to continuously improve their knowledge and skills. Therefore, it is suggested:

- Measuring the knowledge, skill, ability, attitude and moral qualifications needed by human resources and paying attention to them in the selection of competent employees.
- Collecting information for investors as the most important advantage of using human resource accounting.
- Applying knowledge and resources for appropriate strategic decisions in defense organizations.
- Adaptation of capabilities and development of human resources
- Attitude and strategic thinking in relation to human resources

- Understanding the long-term economic value of human resources
- Designing human resources valuation models
- Participation in human resources accounting goals
- Persuading colleagues to work as a team in supporting the goals of defense organizations continuously.
- Sharing knowledge and information and methods of its effectiveness.
- Platforming by defense organizations according to the human resources accounting model.
- Designing jobs in such a way that they require continuous learning and development of people.
- Identify skills appropriate to that profession and interview people when hiring or promoting accordingly.

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