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Knowledge-Based Organizational Happiness Modeling with a Data-Driven Approach: Grounded Theory and Data Mining

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ABSTRACT

The current research was conducted by designing a knowledge-based organizational happiness model using a data-driven approach. The study employed qualitative and quantitative methods, including grounded theory and data mining techniques. The data was collected through purposeful sampling from in-depth and semi-structured interviews with 25 general managers of social security insurance departments in various provinces of the country. The validity of the research data was checked and confirmed by consulting with the participants and external auditors. In the data mining section, data from registered sources and the organization's database were used. Using the data recorded in the Clementine software, the happiness and unhappiness levels of the employees in the organization were categorized. The results showed that the model of organizational happiness in the Social Security Organization was identified at three levels: group, individual, and organization. This model includes causal factors, interveners, platforms, strategies, and consequences. Additionally, the status of employees was determined based on the proposed happiness model, using the collected data. Finally, the data mining model showed a classification accuracy of 66% for happy and unhappy employees. The human resource management approach, based on organizational data, leads to correct decision-making in organizational performance. The more transparent the collected data is, the more accurately the organization's state can be predicted. Also, based on the proposed model and its implementation through data mining, it is possible to estimate the number of satisfied employees. **©authors**

1. Introduction

Electronic human resources management is the application of information technology to network and support the human resources activities of organizational actors in at least two dimensions: individual and collective (Nyathi, 2022). Electronic human resources management is a multi-level phenomenon, involving both individual and collective actors. In addition to individual actors, there are also collective actors, such as groups, organizational units, and entire organizations, that interact with each other to carry out human resource activities (Spurk, Hofer, & Kauffeld, 2021). Electronic human resource management is a strategic approach to dynamic management that emphasizes the value organizations gain through information technology capabilities. Meanwhile, it is important to adapt human resources practices to the changes brought about by digitalization within the organization and foster a sense of organizational happiness (Ilek, Maier, & Weinert, 2022). The foundation of happiness within an organization lies in its emotional and behavioral dynamics. In other words, organizational happiness is the outcome of strategic thinking (Baker et al., 2006). In successful organizations, colleagues and managers are actively and emotionally engaged with the organization and view their work as fulfilling. This demonstrates that in successful organizations, colleagues possess a positive attitude and strong motivation towards their work. Silverblatt (2010) demonstrates that dissatisfied employees incur significant economic costs, primarily due to decreased productivity.

Historically, it was believed that the happiest countries were those with a higher GDP and per capita income. However, several studies have reported the opposite effect, in the sense that objective improvements in material conditions in people's lives (such as health, education, and economy) do not necessarily lead to increased levels of happiness (Lyubomirsky & Devoto, 2011).

Layard (2005) provides evidence showing a negative relationship between increasing wealth and decreasing happiness in the developed world. This suggests that economic growth does not automatically lead to social harmony. This phenomenon has been replicated at the organizational level, and the current literature trend on the positive aspects of individuals in organizations has focused on happiness. Promoting happiness among employees is of great importance, as positive emotions serve as an antidote to negative emotions. If a colleague learns to increase their levels of positive emotions, they will experience less stress and greater flexibility.

The concept of organizational happiness considers dimensions such as professionals' participation in the organization, their job satisfaction, and their positive commitment to the organization. Baker, Greenberg, and Hemingway (2006), based on case studies, demonstrate that in a thriving organization, colleagues are more creative and proactive in implementing changes and transforming possibilities into tangible solutions that contribute to the long-term viability of the organization. In turn, leaders are motivated to create an environment that promotes collaboration, accountability for innovation, teamwork, and positivity. These features form the foundation for the success of the organizational digital process and the productivity of electronic human resources (Wehrle, Lechler, Gracht, & Hartmann, 2020).

Happiness at work can also be associated with increased work creativity and enhanced prosocial behaviors towards colleagues and customers, leading to fewer instances of counterproductive behaviors. In the era of digital competition, the key to organizational progress is to enhance the creativity and individual innovation of human resources (Martini, Cavenago, & Marafioti, 2020).

The results of the research will be important from both a psycho-social and

economic perspective for the society being studied. It will reduce costs, increase productivity, and ensure the establishment of trust in the services provided to customers. In order to create a positive work environment, it is important to identify the components of organizational vitality. This will ensure that employees are able to provide proper treatment to clients and stakeholders, address their problems with patience, and ultimately achieve their satisfaction. Additionally, employees should also prioritize their own physical and mental health and vitality. For this reason, it is considered essential to design and test a model for organizational vitality for electronic human resources in the Social Security Organization (Vial, 2019). This research aims to gather the opinions of managers from the social security organization regarding the subject of the study. The goal is to identify the organization's strengths and weaknesses, enhance organizational vitality, achieve high organizational goals, improve employee productivity, and provide high-quality services to society. Analyze and evaluate. Identifying the components of organizational vitality will satisfy employees and customers and provide high-quality, optimal services to stakeholders (Oehlhorn, Maier, Laumer, & Weitzel, 2020).

Information technology, as an enabler, can enhance internal resources, including human resources. Capabilities such as quick knowledge sharing, enhancing employees' information processing power, facilitating increased interaction, providing e-service training for employees, and other applications of information technology in organizations empower human resources (Wege, Ngige, & Dieli, 2019). On the other hand, happiness in organizations holds special significance as there is a direct correlation between organizational happiness and the enhancement of electronic performance. Moreover, an increase in employee happiness leads to higher productivity within the realm of electronic human resources management

(Orlandi, Zardini, & Rossignoli, 2020). Therefore, happiness training in organizations has many benefits, and both the organization and individuals can achieve these benefits with minimal financial investment (Moradi, Mohamed, & Yahya, 2018).

The existence of an efficient electronic human resource management system, along with proper functioning and the development of organizational learning and employee empowerment, increases the innovation power of the organization. Healthy organizations that prioritize electronic human resources management place equal emphasis on the mental and physical well-being of their employees, alongside productivity and work (Mihardjo, Jermsittiparsert, Ahmed, Chankoson, & Hussain, 2020). One of the most important concepts in a healthy work environment is ensuring the vitality and happiness of employees. Since happiness is one of the key factors that contribute to the survival and sustainability of organizational development, as well as the long-term health and progress of digitalization within the organization. The implementation of an electronic human resources management system in an organization is considered a diffusion of innovation. The adopters of this innovation first seek to understand its applications and then react to positive or negative trends that arise. The post-implementation stages include system deployment and evaluation. The outcome of this process is to make changes in the innovation implementation process, decide whether to stop or continue it. If the implementation is finally accepted, it is considered a competitive advantage (Scholz, 2018).

The conducted surveys show that workplace happiness measurement is being ignored in electronic human resources management. The direct relationship between employee happiness and organizational productivity has prompted organizations to implement happiness training programs for

their employees, aiming to enhance productivity (Wege et al., 2019). Considering the challenges that organizations face in digitalizing their operations, creating a positive work environment is crucial for long-term success in electronic human resource management (Singh & Banerji, 2022). According to research studies (Wehrle et al., 2020), many organizations show clear signs of depression, negative emotions, and neurosis. These issues arise from neglecting the importance of happiness, leading to an increase in mental-social problems and the emergence of various challenges. Among these organizations, the social security organization (insurance sector) of the country is facing challenges and problems. These include decreasing employee performance, reducing productivity and income sources of the organization, increasing the percentage of depression among employees, apathy, impatience, and decreasing friendship and intimacy among employees. High tensions caused by job stress and burnout, an increase in incurable diseases among employees and their families, and conflicts and work tension between employees are some of the challenges organizations face due to economic and social changes. These factors contribute to a sharp increase in organizational costs. Therefore, it seems that achieving a pattern of happiness in this organization can greatly impact the aforementioned issues. Therefore, this research aims to answer the question: What is the knowledge and information model of organizational happiness using a data-oriented approach?

2. Literature Review
Electronic Human Resource Management

Electronic human resources management includes planning, organizing, directing, leading, and monitoring all recruitment operations, as well as training and development, maintenance, evaluation, establishing communication, creating work motivation, and especially human resources

planning. This is done in cooperation and consultation with other managers who are responsible for these tasks (Hauff, Alewell, and Hansen, 2016). Electronic human resource management is a new term that refers to the use of information technology to support human resource management, particularly through the utilization of web technology. In fact, electronic human resource management is a specialized approach that explores how human resource management and related processes can leverage information technology for optimal results. It also involves providing consulting services to the human resource department, taking advantage of the capabilities offered by technology. (Iqbal et al., 2018).

Human resource management is a comprehensive framework that encompasses various integration mechanisms and themes between the fields of human resource management and information technology. Its primary objective is to generate value for both employees and management within and across organizations.

Technological innovations, such as electronic human resource management, are recognized as key factors for success (Selase & Avenorgbo, 2021). Also, the increase in domestic demand has hindered the implementation of electronic human resource management, which aims to design and deliver efficient human resource management. Electronic human resource management is a distinctive application of web-based technologies in all aspects of human resource functions, including human resource planning, selection and recruitment, learning and development, compensation, and performance evaluation (Stone, Deadrick, Lukaszewski, & Johnson, 2015).

Organizational Happiness

The concept of "happiness" can be translated as mental well-being. In fact, the study of mental well-being is synonymous with the study of happiness (Galván Vela et al., 2022). Happiness refers to a collection of positive experiences that contribute to a sense of well-being in human nature (Hernández et al., 2020). In fact, happiness can be understood as the experience of positive

emotions and pleasure, combined with a deeper sense of success. It indicates a positive mood in the present and a positive view of the future (Oishi & Westgate, 2022). Hernández et al. (2020) stated that the concept of happiness seems to be ambiguous because, due to its broad nature, it must be measured using indicators that demonstrate the satisfaction of needs within a social context. These indicators should include economic, social inclusion, human rights, democracy policies, social justice, and quality of life (Andrews & Withey, 2012).

The concept of happiness has been widely discussed in Western literature for decades (Sari, 2022). However, it remains an important issue to this day. The concept of happiness in the context of work is derived from psychological and economic research. It is often used interchangeably with well-being, which is defined as a state characterized by high levels of life satisfaction, abundant positive emotions, and minimal negative emotions. It is determined (Singh & Agarwal, 2018). Díaz & Alvarado (2007) argue that happiness is an emotional state in individuals that appears to be influenced by their cognitive reflection on their overall life satisfaction and the frequency and intensity of positive emotions (Alayón, 2015).

In Iran, many research studies have been conducted in the field of happiness. On one hand, happiness enhances the positive emotions of employees in the context of organizational digitalization. On the other hand, it diminishes their negative emotions, leading to increased productivity (Fani and Agha Ziarati, 2013). Organizational happiness increases commitment, health, innovation, positive attitude, sense of belonging, reduction of entry and exit delays, absence and displacement, and also leads to an increase in the performance level of electronic human resources management (Bazmara and Sheikh Esmaili, 2013).

Bagheri's evidence (2016) shows that participation, interest in work, organizational learning, and justice are the most important factors that determine happiness in an organization. Similarly, Díaz Pincheira (2018) provided evidence of a positive correlation between happiness and job satisfaction. This suggests that changes in happiness have a greater impact on perceptions of job satisfaction than changes in job satisfaction have on happiness. Therefore, it can be said that a person who possesses a high level of happiness, psychological well-being, and self-control (internal factors), as well as control over their environment (external factor), can experience a positive sense of self. Rodríguez-Muñoz et al. (2013) have shown that organizational happiness is effective in all traditional and modern aspects of the organization.

Prediction of Organizational Happiness Based on Big Data

It is now easier than ever to obtain larger-scale data, thanks to the availability of analytical formulas and the ability to develop rules (data processing algorithms) to solve problems. This allows us to gain insights in the form of new information processing or decision-making tools (Mauro et al., 2020). Big data has become a valuable resource for many analytics efforts. The original term has been applied to various domains to represent different aspects of analysis, depending on the context in which big data is mentioned. The term can now be used to denote both the processing capabilities and characteristics of data, encompassing both the technical and commercial aspects of data collection activities. They consider big data as a new feature that enables them to gather vast amounts of information and analyze it instantly. Big data is not necessarily a statement describing the size of data, but rather a term for the ability to search, aggregate, and cross-reference large datasets (LaFayette et al., 2019). HR has a vast amount of data, which includes internal information such as employee details, participation scores, and performance records. All identification of an individual or organization, in any form that can be obtained or recorded, is promptly destroyed after it is no longer needed. As a result, organizations lose the ability to extract valuable information, perform detailed analysis, and provide new opportunities, benefits, and knowledge. Therefore, data is the fundamental element of organizational success. The scope, transformation, and rapid

change in this type of data require new types of big data analysis, as well as various analysis and storage methods. This vast amount of big data needs to be thoroughly analyzed, and relevant information should be extracted. The HR department has started using data analytics to identify the top-performing employees, enhance retention rates, and leverage the positive engagement of all staff members. Therefore, we make decisions by leveraging the abundance of information and reliable data available today, thanks to the evolution of technology and the Internet. With the increasing storage capabilities and advancements in data classification methods, vast amounts of data are now readily available. Every second, more data is being generated, stored, and analyzed to extract knowledge. Organizations can also leverage their large amounts of stored data due to the low cost of data storage (Hughes et al., 2019). Organizations incur high costs from recruitment, selection, onboarding, and training in order to align with the goals of the organization. Every employee who leaves the organization is a significant loss, not only in terms of finances but also in terms of knowledge, information, experience, and valuable skills that are crucial for the organization's growth (Cherif, 2020). As a result, employee retention is a vital driver for organizational success. There are many reasons for erosion. If employees feel unhappy for any reason, they will leave their current employer and seek better opportunities elsewhere to fulfill their personal and professional needs. By linking it to organizational happiness, this issue can be better understood. Organizational happiness is the amalgamation of positive or negative emotions that employees within an organization experience towards their work and the overall organizational environment (García et al., 2019). Organizational data analysis can be a valuable tool for predicting and modeling organizational happiness. Therefore, studies show that organizations need to increase job resources, reduce demands, create a high-quality work environment, and improve leadership competence in order to enhance employee happiness. It turned out that market and consumer knowledge are important factors in employees' job satisfaction and innovative behavior. Therefore, managers should encourage employees to pursue knowledge that is outside of their field of work and beyond organizational barriers. Furthermore, for a successful creative endeavor, employees may need to take risks and be proactive, challenging well-established norms and practices. For organizations to realize the full potential of their employees and achieve innovation and high organizational performance, an integrated effort must be made at all levels. Such a concerted effort is crucial to ensuring consumer satisfaction, driving product innovation, and enhancing market performance. Finally, since employees are essential resources for any organization, companies should prioritize enhancing the well-being and flexibility of their employees. Resilience management can be an effective strategy for organizations to cope with uncertainties and unexpected conditions and learn from them. As part of localizing the organizational happiness model, it is necessary to assess the organization's level through interviews. This will enable the implementation of a data-oriented approach and the visualization of acquired knowledge.

3. Method

The current research was conducted using the qualitative-inductive method, specifically employing Strauss & Corbin's grounded theory method and semi-structured interviews. The main structure of data analysis in the Strauss-Corbin method is based on three primary coding methods: open coding, axial coding, and selective coding. The first stage of data analysis and interpretation in Grounded Theory is open coding, where the data is broken down into its smallest units. Open coding occurs in two stages: primary coding and secondary coding. Primary coding can be done by coding the data

line-by-line, phrase-by-phrase, or paragraph-by-paragraph. A concept or code is associated with each of them. In secondary coding, similar and common items are grouped together in a single category by comparing concepts. As a result, the amount of data (codes - concepts) is reduced to a specific and limited number of major categories. Then these categories are placed next to each other and connected. These other categories are: "causal conditions," "strategies," "contextual and intervening conditions," and "consequences." This step involves creating a diagram known as a "coding model". In axial coding, categories are connected to subcategories. Axial coding requires that the analyst has identified a number of categories and has them at hand. This is the process of converting concepts into main and subcategories. The third stage of data analysis and interpretation in this method is selective coding. Selective coding is the process by which the categories are linked to the central category and form the theory. At this stage, the core category is identified, and other categories are systematically related to it.

Based on the steps of data mining, the happiness status of employees was identified. The following steps are followed, with details provided below: At this stage, relevant data has been extracted from the insurance company's database using the proposed model. In the continuation of the preparation process, two important operations have been performed in the Clementine software to clear and pre-process the data: data reduction and applying changes to the data format.

The participants in the current research are subject matter experts, including managers, heads, supervisors, and experts from the Social Security Organization of Iran's insurance sector. The data collection tool used at this stage of the research was semi-structured interviews. These interviews were conducted with open-ended questions and lasted between 30 and 120 minutes. The interviews were repeated in some cases to ensure the completion and sharing of the preliminary findings. In this research, 25 people were interviewed in order to achieve the theoretical saturation index, as shown in Table 1. The researcher found that the information received is repetitive and will not provide any additional insights. The validity of the research data was verified and confirmed by reaching out to the participants and also by engaging external auditors.

Table 1. demographic characteristics of the participants

Number of interview sessions	Professional level	Level of education	Age	Gender
2	manager	BA	52	Man
1	manager	BA	51	Man
1	manager	BA	38	Man
1	manager	BA	50	Man
3	manager	MA	41	Man
1	manager	BA	58	Man

1	manager	BA	53	Man
1	manager	MA	45	Man
2	manager	MA	48	Man
1	manager	MA	41	Man
2	manager	BA	59	Man
1	manager	BA	56	Man
2	manager	Ph.D.	55	Man
3	manager	MA	53	Man
1	manager	MA	51	Man
1	manager	BA	57	Man
1	manager	MA	39	Man
1	manager	Associate Degree	56	Man
1	manager	MA	56	Man
1	manager	MA	54	Man
1	manager	MA	45	Man
1	manager	BA	48	Man
1	manager	MA	46	Man
1	manager	MA	53	Man
1	manager	MA	45	Female

In order to evaluate and fit the model obtained based on real data, a data mining method was used. In this section, the happiness status of employees in the organization has been categorized using the regression method in the Clementine software. Clementine is a sophisticated data mining toolkit that aims to empower domain experts (regular users) to conduct their own data mining. Clementine has a visual programming interface, which simplifies the data mining process.

By operationalizing the extracted categories within the insurance organization, the necessary information has been collected from the database for this purpose. The accuracy of this information was confirmed through transparency and the research and development unit of this organization.

4. Findings

In order to answer the research questions regarding the pattern of organizational happiness in the social security organization, this study examines different sections of causal factors, intervening background, and other cases. Table 2 presents the open, central, and selective coding of these factors.

Table 2. *Open, central and selective coding*

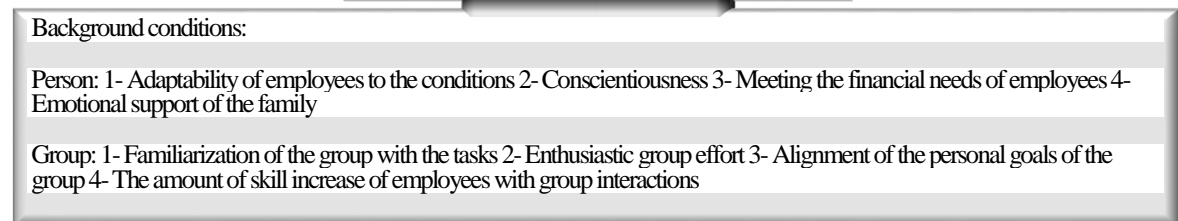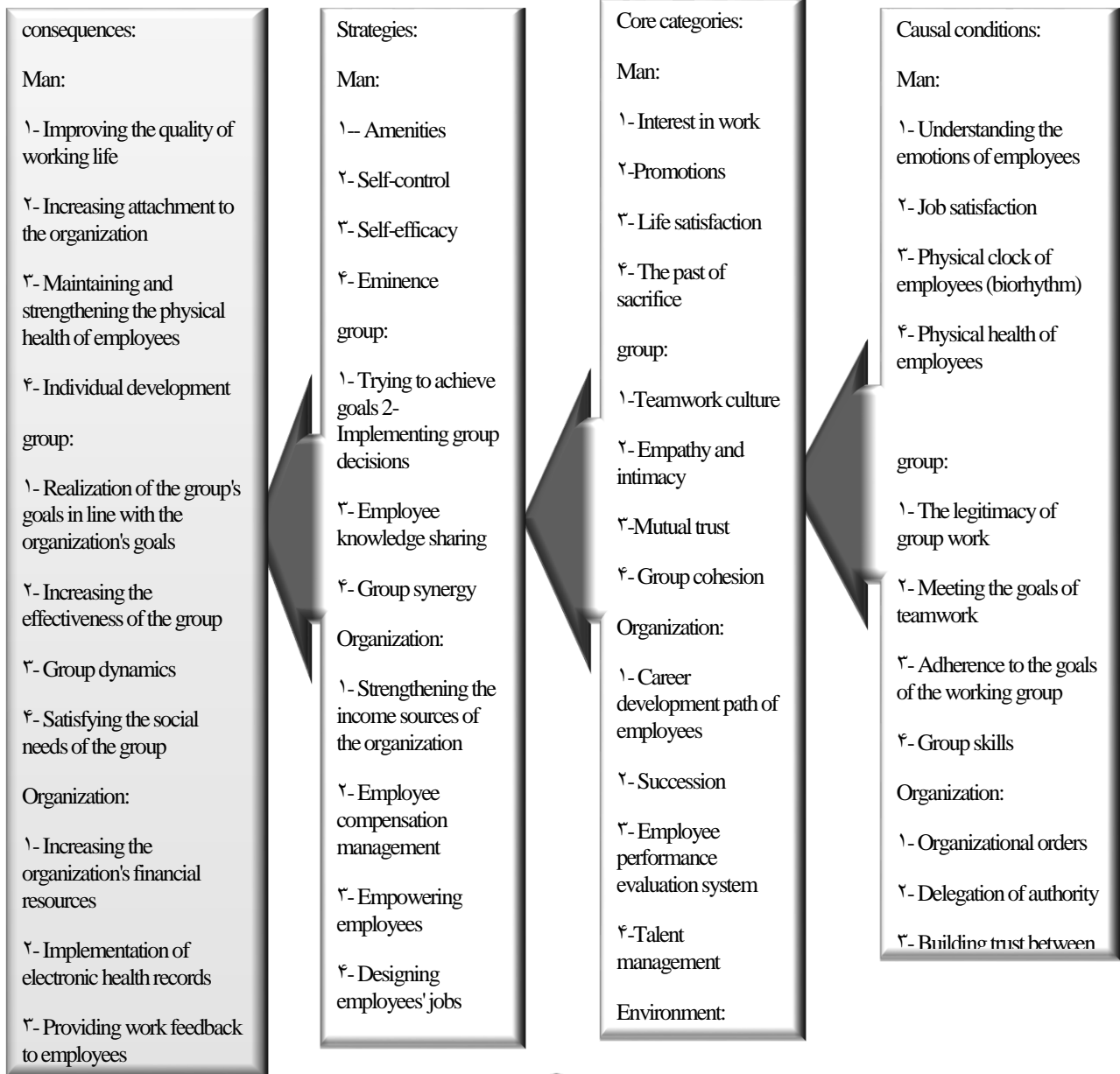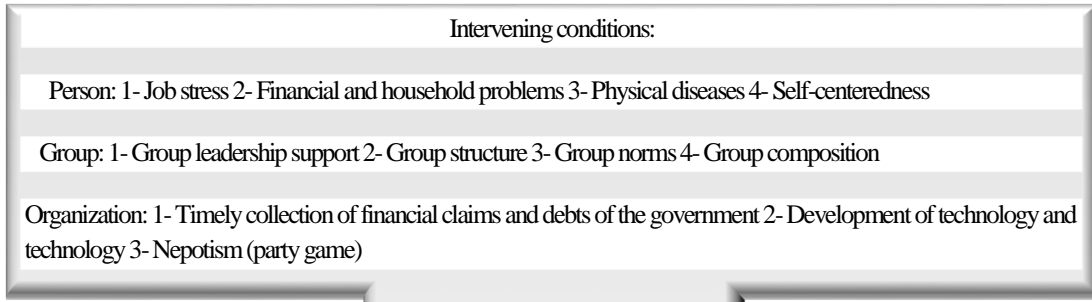| Concepts (core coding)	**Category (selective coding)**	Dimensions	Model
Empathy - Understanding others	Understanding the emotions of employees	Man	Causal conditions
Interest in the type of work - diversity in work - job support	Job satisfaction		
Biological clock of the body - the biological clock of the employees' body	Employees' body clock (biorhythm)		
Maintaining and improving the health of employees - professional health of employees	Physical health of employees		
Legitimacy - exercise of power - popularity - legitimate power	Legitimacy of group work	group	
Setting goals - meeting the needs of the group - confirming the goals	Providing teamwork goals		
Commitment to goals - interest in work - commitment to work	Adherence to group goals		
Existence of variety of expertise in the group - expertise of the group	Group skill		
Obedience to laws and regulations - clarification	Organizational orders	Organization	
Lack of concentration - transfer of authority - delegation of responsibility - right to make decisions - exercising influence	delegation of authority		
Trust building - reliability - commitment - participation - honesty	Mutual trust between		
- To believe - to be aligned	Organization and stakeholders		
Earn rank - get selected - get top score - top rank	Biological pathogens	Environment	
Biological factors - biological factors - microbial factors - pollution	Cultural factors of the environment		

Concepts (core coding)	Category (selective coding)	Dimensions	Model
Society's culture - the level of culture of customers and beneficiaries - people's lifestyle - climatic conditions - religion - the ruling system of the society	family environment		
- Family support - peace in the family, health of family members,	Threats of economic crises		
- Stagnation - inflation - embargo - exchange rate jump - global economic recession	Interested in job	Man	
- Enthusiasm for work - Interest in work - Belonging to work -	promotions		
Dependence on the organization - job security	Life satisfaction		
Timely promotion of qualified employees - promotion of employees	Passing and sacrifice		
Prosperity and comfort - satisfaction with life - love for life - no worries - good financial situation - job satisfaction -	Teamwork culture		
- Self-sacrifice - - Doing work without expectations and expectations - Giving importance to others - Putting others before oneself	Empathy and intimacy	group	
Enthusiasm for group activity - membership in group work - increasing knowledge and skills - team spirit - collective wisdom	mutual trust		
- mutual understanding - mutual friendship - understanding other people's feelings - trust - empathy - understanding and accepting the other party	Group cohesion		
Trust building - Honesty - Reliability - Commitment - Confidence - Loyalty, Faith - Compatibility - Interest - Acceptance	Career development path of employees		The central category
unity - integration - coordination - collective participation - - cohesion of people - group effort - - coupling - understanding - feeling of joint responsibility	Succession	Organization	
Choosing the right job for employees - Job needs and employee promotion - Job development - Job design - Job enrichment - Job analysis -	Employee performance evaluation system		
Substitution	talent management		
merit selection - meritology - identification of talents - identification of replacement needs	Non-attendance services		
Improving performance - improving decision-making, achieving goals - improving capacity - improving resource allocation - increasing accountability - increasing productivity	outsourcing		
Cultivating worthy managers - Employing associate managers - Retaining key personnel - Appointing based on merit - Providing future managers	telecommuting	Environment	
Using electronic services - offline and internet services - answering without being present at the place - communicating with customers without their presence - meeting needs without being present - eliminating time and place restrictions - maintaining the health of customers without leaving home or workplace - saving time - facilitating in service	non-attendance (virtual) trainings		
Sightseeing, educational and tourism facilities	welfare amenities		
Self-management - self-monitoring - self-mastery - internal care - work promotion - self-regulation - self-control	Self-control	Man	
Ability to perform tasks - Belief in one's abilities - Believing in one's ability - Coping with work	Efficacy		
Achieving moral virtues - self-sacrifice - helping one's fellow man - magnanimity - good behavior and character - philanthropy	A sense of superiority		
Transparency of goals - responsibility of the group - steadfastness of the group - support of managers - participation in the efforts of the group	Trying to achieve the group's goals		
Commitment - responsibility - support and follow-up - feedback	Implementation of group decisions	group	Strategies
Knowledge exchange - knowledge creation - transfer of experiences and learning - knowledge management - knowledge promotion and empowerment	Employee knowledge sharing		
Synergy - double effort - interaction with others	Group synergy		
Collection of insurance premiums - collection of claims - collection of outstanding claims - reduction of costs - savings - increase of covered insured persons	Strengthening the income sources of the organization		
Ensuring the livelihood of employees - timely payment of benefits - timely payment of salaries - giving bonuses - timely promotion of the group, base and rank of employees	Employee compensation management		
Modeling - empowerment - customer satisfaction - cost reduction - increasing resources - increasing productivity - increasing employee satisfaction - increasing the sense of belonging - more participation - increasing efficiency - growth and development	Empowering employees	Organization	
Designing jobs according to the capabilities of employees - job and employee adaptation - job enrichment - job classification plan	Designing employees' jobs		

Concepts (core coding)	Category (selective coding)	Dimensions	Model
Identifying customer needs - Responding quickly to customer needs - Measuring customer satisfaction - Meeting the changing needs of current and future customers - - Easy access to services - Trouble-free access to services - Empowering employees	Customer oriented	Environment	
The largest insurance organization of the country - provision of extensive services - insurance coverage of more than half of the country's population - payment of pensions with high amounts - provision of diverse services	Competitive Advantage		
Achieving sustainable competitive advantage - characterizing services - giving meaning to services - long-term survival of services - creating a sense of belonging among people	branding		
Adaptation of directives and instructions to environmental conditions - Adaptation of employment instructions and tests to regional conditions - Adaptation of services to local and regional requirements	Localization		
Self-monitoring - adjusting behavior according to the conditions - self-monitoring	Compatibility of employees with conditions	Man	Background conditions
A sense of responsibility, altruism, conscientiousness, loyalty, steadfastness	Conscientiousness		
Provision of material and spiritual needs - financial well-being - provision of benefits based on inflation - provision of basic needs and provision of high-level needs	Meeting the financial needs of employees		
Consolidation of the family - stable employment - peace in the family - lively life - dynamic life - increasing motivation	Emotional family support		
Enjoying popularity - enjoying the role and position	Acquaintance of the group with its duties	group	
Group belonging - persistence in the group - double effort	Enthusiastic group effort		
Alignment with goals - Effort towards goals - Alignment of goals with job - Correlation between goals - Conformity of goals - Consensus of goals	Alignment of personal goals of the group		
Acquiring various skills - learning various specialties - expertise - increasing ability - agility	Increasing the skills of employees with group interactions		
Participatory decision-making - proposal system - voluntary participation - micro-collective - sharing in power and authority - using points of view	Participation in decision making	Organization	
Increasing financial power - providing budget and credit - providing needed resources - fulfilling obligations	Responding to obligations		
reducing tension-friendly atmosphere-conflict management-enjoyable environment-reducing stress-	Create a calm environment		
Communication based on respect - elimination of boss-employee relations - two-way trust - easy access - sincere interaction - maintaining and strengthening communication - friendly relations	Communication with the supervisor immediately		
Positive attitude - Popularity in society - Trust and assurance - Prominent role - Satisfaction - People's organization - Enjoying trust	Gaining public trust	Environment	
Macro government decisions - government policies - supervisory references - approval of legislative bills	Governmental laws and regulations		
Artistic-sports activities	Artistic planning		
Creating the arena of competition - creating a competitive advantage - developing competition - creating a platform for developing competition - competitive capability - competitive strength	Organizational competitive environment		
Psychological pressures - behavioral violence - mood disorders	Job stress	Man	Intervening conditions
Decrease in performance - decrease in productivity - hard life - mental and physical problems - family problems - decrease in vitality and cheerfulness	Financial and household problems		
Inability to perform tasks-decreased performance-decreased work communication	physical diseases		
- Lack of career advancement	self centered		
Self-centeredness - self-superiority, insistence on fulfilling desires - selfishness	Group leadership support	group	
Leadership and guidance of members - instrumental support - emotional support - meeting needs - support and strengthening	Group structure		
Effectiveness of laws and regulations - Clarification of goals and missions - Explanation of instructions	Group norms		
Type of behavior-work rate-interaction-timing	Group composition		
Creativity - effectiveness	Timely collection of government financial claims and debts	Organization	

Concepts (core coding)	Category (selective coding)	Dimensions	Model
Responding to obligations on time - fulfilling obligations on time - increasing financial resources - creating vitality and vitality in managers and employees - satisfaction of contacts and stakeholders	Technology development		
Reduction of workload - customer satisfaction - non-personal services -	nepotism (party game)		
Failure to observe justice - discrimination - relationship instead of rule - unequal opportunity - failure to observe the rights of others	Supporting women's whistleblowing (disclosure)		
Financial problems - decrease in vitality and cheerfulness - decrease in performance - decrease in well-being - soulless interactions - depression and depression	Economic conditions of employees' living environment	Environment	
Job with class - good image - job with high income - job credit - value and dignity of job	Career prestige of people		
Happy working environment - suitable working relationships - suitable physical space - healthy interactions -	The atmosphere of the employees' working environment		
Safe environment - safe equipment - safe environment - safe employees	Safety of employees' work environment		
Job satisfaction - job security - opportunity for growth and excellence - satisfaction with the amount of salary and benefits - family support from the job	Improving the quality of work life	Man	consequences
Interest in the organization - belonging to the organization - sweat of the organization - adherence to the organization - dependence on the organization - love for the organization	Attachment to the organization		
Periodic examinations - professional health of employees - prevention of risks threatening the health of employees - optimization of the working environment	Maintaining the health of employees		
Self-belief - Self-awareness - Self-investment - Willingness to improve - Reaching the desired self	A sense of personal development		
Cultivation of working group - development of group capabilities - group empowerment	Achieving the group's goals in line with the organization's goals	group	
Commitment to goals - Optimism for each other - Dominating the atmosphere of intimacy - Sharing each other's experiences - Improving skills - Creativity	Increasing the effectiveness of the group		
competition-transformation-transformation-creativity-movement-	Workgroup dynamics		
Self-expression - gratitude and appreciation - growth and development - social relations - confirmation - freedom - security	Satisfying the social needs of the group		
Collecting your claims from the government - receiving insurance funds on time - collecting deferred claims - reducing costs - saving - increasing the number of insured - discovering new workshops	Increasing the organization's financial resources (social security fund)	Organization	
Creation of electronic health records - removal of medical records - electronic prescription - removal of physical circulation of files - provision of non-attendance services	Implementation of electronic health records		
Performance results - self-awareness of employees - self-evaluation - advice to correct behavior -	Provide employee feedback		
Saving on medical expenses - Implementation of electronic health records - Removal of insurance exemptions - Discovery and termination of unjustly established pensions - Settlement of the government's debt to the organization - Prevention of tax evasion by doctors	The effect of cost reduction on organizational efficiency		
Clients' awareness of duties and laws - the level of client's awareness of their legal rights -	Clients' awareness of the rules and regulations of the organization	Man	
Popularity - social base - social rank -	General acceptability of the organization		
High-quality services - identifying customer needs - responding quickly to customer needs - measuring customer satisfaction - meeting the changing needs of current and future customers	The quality of the organization's services		
Fulfilling the obligations - providing the current and future needs of society - solving public problems - satisfaction with performance	Creating vitality and freshness in the society		

As shown in Table 2, there are a total of 59 concepts related to influencing background conditions, 75 concepts related to intervening conditions, 79 concepts related to influencing strategies, 81 concepts related to the central category, and 105 concepts related to the consequences of organizational vitality.

These concepts are identified and extracted in relation to causal conditions affecting organizational vitality in individual, group, organization, and environment dimensions.

Intervening conditions:

Person: 1- Job stress 2- Financial and household problems 3- Physical diseases 4- Self-centeredness

Group: 1- Group leadership support 2- Group structure 3- Group norms 4- Group composition

Organization: 1- Timely collection of financial claims and debts of the government 2- Development of technology and technology 3- Nepotism (party game)

consequences:

Man:

۱- Improving the quality of working life

۲- Increasing attachment to the organization

۳- Maintaining and strengthening the physical health of employees

۴- Individual development

group:

۱- Realization of the group's goals in line with the organization's goals

۲- Increasing the effectiveness of the group

۳- Group dynamics

۴- Satisfying the social needs of the group

Organization:

۱- Increasing the organization's financial resources

۲- Implementation of electronic health records

۳- Providing work feedback to employees

Strategies:

Man:

۱-- Amenities

۲- Self-control

۳- Self-efficacy

۴- Eminence

group:

۱- Trying to achieve goals 2- Implementing group decisions

۳- Employee knowledge sharing

۴- Group synergy

Organization:

۱- Strengthening the income sources of the organization

۲- Employee compensation management

۳- Empowering employees

۴- Designing employees' jobs

Core categories:

Man:

۱- Interest in work

۲-Promotions

۳- Life satisfaction

۴- The past of sacrifice

group:

۱-Teamwork culture

۲- Empathy and intimacy

۳-Mutual trust

۴- Group cohesion

Organization:

۱- Career development path of employees

۲- Succession

۳- Employee performance evaluation system

۴-Talent management

Environment:

Causal conditions:

Man:

۱- Understanding the emotions of employees

۲- Job satisfaction

۳- Physical clock of employees (biorhythm)

۴- Physical health of employees

group:

۱- The legitimacy of group work

۲- Meeting the goals of teamwork

۳- Adherence to the goals of the working group

۴- Group skills

Organization:

۱- Organizational orders

۲- Delegation of authority

۳- Building trust between

Background conditions:

Person: 1- Adaptability of employees to the conditions 2- Conscientiousness 3- Meeting the financial needs of employees 4- Emotional support of the family

Group: 1- Familiarization of the group with the tasks 2- Enthusiastic group effort 3- Alignment of the personal goals of the group 4- The amount of skill increase of employees with group interactions

Based on the structure of data mining, the clustering technique used in this study is the k-means clustering technique. This technique has been chosen due to its high accuracy and speed, as well as its previous use by researchers in similar studies for data analysis in the research field. In Figure 2, the specifications of the category in the Clementine software are shown. In the table below, the sample operationalization of the codes used in data mining is specified.

***Table 3.** operationalization of the codes*

Codes	operationalization of the codes
Understanding the emotions of employees	operationalization of the codes
Job satisfaction	operationalization of the codes
Employees' body clock (biorhythm)	The physical facilities of the workplace are standard for employees
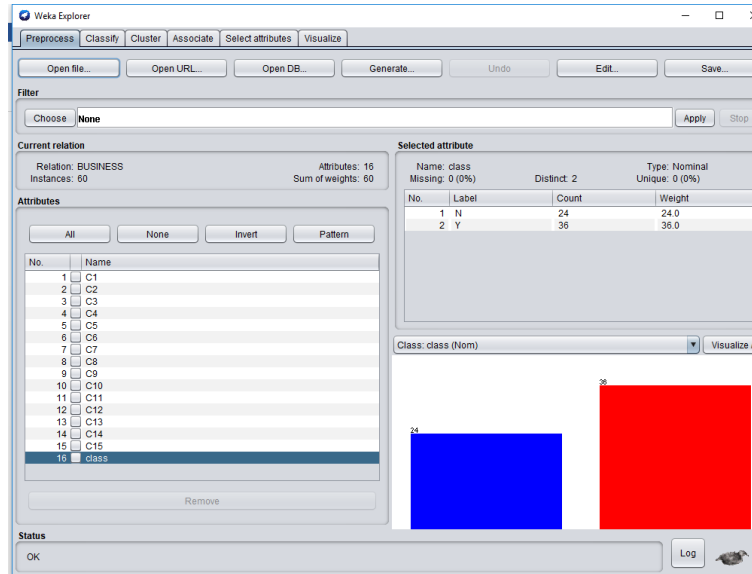
***Figure 2.** Data Classification*

In this section, we discuss the implementation of the SIMPLE K-MEANS clustering algorithm for 60 records using a numerical value of k=2. We also present the clusters generated by this algorithm and provide its specifications below.

***Table 3.** Clustering with Simple K-means technique*

Category results		Seed Value	K	Distance type
N	Y	10	2	Euclidean distance
(24) 4.%	(36) 60%			

Based on the classifications performed using decision tree classification techniques, it was found that the KMEANS technique (k=1, seed=1) had the highest classification accuracy of 60% in the business model. This technique randomly selects a number of indices to build a tree. Therefore, the indicators used should be improved.
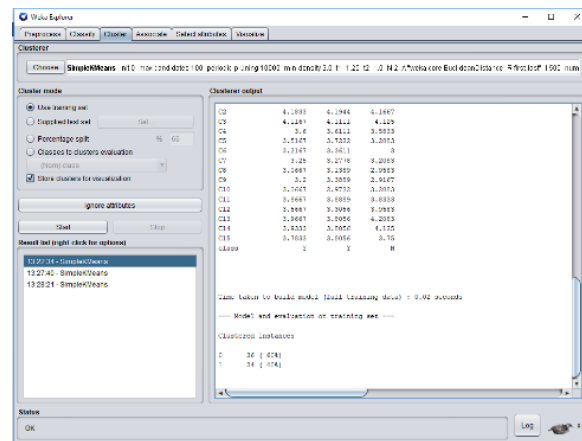
***Figure 3.** VCA output in SIMPLE Kmeans clustering*

5. Discussion

Modern data is becoming more dynamic and reusable. In various applications, workflows, and other areas, information flows throughout an organization. It is used - and reused - by information stakeholders more than ever before. This creates both challenges and opportunities for technology-savvy organizations that support specific data needs. Regarding the causal factors affecting the design of the organizational happiness model for electronic human resources, the results of the qualitative part of the research show that these factors were identified in four dimensions: individual, group, organization, and environment. Effective causal factors in the individual dimension include understanding employees' emotions, coordinating employees' working hours with their body clocks, job satisfaction, and physical health. In the group dimension, factors include the legitimacy of group work, adherence to work group goals, achieving group work goals, and group skills. In the organizational dimension, a factor is accepting orders. Organizational factors such as employee organization, delegation of authority, mutual trust between the organization and stakeholders, recognition through organizational badges and honors, as well as external cultural influences on organizational culture, the impact of biological pathogens on employee performance, the threat of economic crises, and the family environment were identified as causal conditions in the formation of organizational vitality.

Regarding the background factors affecting organizational vitality, the results of the qualitative part of the research show that these factors were identified in four dimensions: individual, group, organization, and environment. Revised 2: Effective contextual factors in the individual dimension of employees' adaptation to changing conditions include conscientiousness and providing for the financial needs of employees. Emotional support from the family is also important. In the group dimension, enthusiastic efforts in the work group and alignment of personal goals with group goals contribute to employee adaptation. Familiarization of the group with its tasks and increasing employees' skills in group interactions are also crucial. In the organizational dimension, the organization's response to its obligations with the available resources and managers' efforts to create a calm environment are significant. Participation in decision-making and immediate communication with supervisors are also important. Additionally, the organization's reputation and public trust, planning for artistic works, governing rules and regulations, and the organizational competitive environment are identified as background conditions and organizational factors. Reason 2: The original text had several run-on sentences and lacked clarity. The revised version breaks down the factors into separate sentences and provides clearer explanations for each factor.

Regarding the intervening factors that affect organizational vitality, the results of the qualitative part of the research indicate that these factors were identified in four dimensions: individual, group, organization, and environment. Revised 2: Effective factors that contribute to job stress can be categorized into three dimensions: individual, group, and organizational. In the individual dimension, factors such as employees' insistence on fulfilling their demands, financial and household problems, and physical diseases can all contribute to job stress. In the group dimension, the support provided by group leadership to its members, the influence of norms in stabilizing group values, and the composition and structure of the group can all impact job stress levels. In the organizational dimension, factors such as the timely collection of demands and debts, financial

resources of the organization, the use of up-to-date technology, and the organization's support for whistle-blowing by women (who report any violations) can all influence job stress. Other factors include nepotism (favoritism within the organization) and the overall work environment. Additionally, economic conditions in employees' living environments, the prestige associated with their work, the physical conditions of their work environment, and the safety of the work environment can all contribute to job stress. Overall, these factors can act as stressors and disrupt employees' well-being. The support of the group's leadership, the influence of norms in stabilizing the group's values, the impact of timely collection of the government's financial demands and liabilities on the organization's resources, the use of technology, the organization's support for women whistleblowers (individuals who disclose any violations), and the professional prestige of individuals were identified as facilitating factors.

Regarding the factors influencing the organizational happiness model for electronic human resources, the results of the qualitative part of the research show that these factors were identified in four dimensions: individual, group, organization, and environment. Various factors were identified in different dimensions that contribute to timely promotions, life satisfaction, dedication and sacrifice, interest in work, empathy and intimacy, consensus in the group, teamwork culture, mutual trust, succession planning, utilization of talented individuals in key positions, career development opportunities for employees, employee performance evaluation system, non-attendance services, outsourcing, virtual trainings, and remote work.

Regarding the strategies that impact the organizational happiness model for electronic human resources, the qualitative findings of the research indicate that these factors were identified across four dimensions: individual, group, organization, and environment. Effective factors in the individual dimension include self-control, self-efficacy, sense of excellence, and comfort facilities. In the group dimension, sharing experiences, double effort in teamwork, trying to achieve group goals, and implementing group decisions are important. In the organizational dimension, strengthening the organization's income resources, holding courses to increase employee empowerment, managing employee compensation, and designing employee jobs are crucial. Additionally, creating an environment that responds to clients' needs, focusing on service branding, customer-centricity, and localization were identified as effective strategies.

Regarding the implications of the organizational happiness model for electronic human resources, the findings from the qualitative portion of the study indicate that the implications were identified across four dimensions: individual, group, organization, and environment. The consequences of the individual dimensions include satisfaction with the quality of work life, increased attachment to the organization, employee health maintenance, a sense of individual development in the group dimension, improved group effectiveness, dynamic group work, achievement of the group's goals aligned with the organization's goals, and fulfillment of the social needs of the group in the organizational dimension. The financial resources of the organization, feedback on work performance, the impact of cost reduction on productivity, the implementation of electronic health records, and raising clients' awareness of the organization's rules and regulations were identified as factors in the organizational happiness model. These factors contribute to the creation of vitality and freshness in society, the overall acceptability of the organization, and the quality of its services.

Today, organizations strive for survival and growth by aiming for rapid expansion, efficiency, and profitability through their resources. The adoption of electronic human resources management is considered the primary driver of value creation within an organization and a key competitive advantage. Therefore, participating in virtual group work and legitimizing group work within the organization by granting authority and legitimate power from managers can lead to increased authority and satisfaction among work groups. This can also provide strong support for the organization's primary goals and contribute to the development of happiness within the organization through a digitalization approach. Moccia (2016) has shown that organizational purposefulness in the field of human resource management, when combined with information technology, leads to increased organizational happiness. Oishi et al. (2022) also showed a direct relationship between digital productivity and organizational happiness. Ravina Ripoll et al. (2022) found that the use of information technology is necessary to foster creativity and, consequently, enhance employee happiness. Adabi et al. (2018) demonstrated that organizational happiness is a crucial factor for service-oriented organizations and the productivity of modern management systems.

6. Conclusion

By utilizing online performance evaluation systems and the intranet, employees are able to electronically submit their performance information directly to the human resources department. This information is then used to assess and reward individual and group performance, thereby promoting collaboration and fostering a positive organizational culture. In addition, fostering mutual trust between the organization and its stakeholders requires the organization to prioritize the needs and desires of its stakeholders, acknowledge them, and fulfill its commitments. In the realm of mutual respect, cooperation, and honesty, it is essential to cultivate trust in order to foster a long-lasting relationship. This action brings satisfaction to the parties.

It has been found that insurance employees are satisfied with the historical range of data collected by the assessment conducted within the established thresholds for satisfaction, as a result of the research conducted. Although there were no significant differences in terms of gender, age, and marital status, which are demographic characteristics. The accuracy of the data mining method based on the Landa index was determined to be 0.81. It can be said that if data is collected transparently, it is possible to predict the level of organizational happiness and also enhance it.

Data-centricity can help organizations make more informed and data-driven decisions, leading to improved efficiency, agility, and competitiveness. It also requires organizations to adopt a data-driven culture and mindset, which can be challenging but ultimately rewarding. So, the development of data generation systems for an operational or analytical program is complete. Because of this, developers must become more data-centric in order to enhance organizational satisfaction and empower data-consuming employees and managers, including internal teams, partners, and customers. Data-driven developers are expanding their sphere of influence to extract knowledge and maximize the value of data.

The payment structure has an effect on innovation, risk-taking, and pioneering in service provision. Efforts should be made to ensure the timely collection of the government's financial claims and debts owed to the organization, as well as the timely collection of insurance premium funds. This includes fulfilling obligations on time and increasing the organization's financial resources. These efforts will lead to the

satisfaction of the organization's contacts and beneficiaries, as well as the enthusiasm of its managers and employees. The organization should provide a platform for the general public to freely and easily access the current directives and regulations. This will inform clients about the laws and regulations, making them familiar with their legal rights and ultimately leading to their satisfaction. Cultural factors outside the organization's environment, such as societal culture, the cultural level of customers, people's lifestyles, climatic conditions, religion, and the governing system of society, have an impact on the organization's culture. Therefore, values, norms, beliefs, customs, traditions, opinions, and ideas can influence the happiness and unhappiness within an organization's culture. The alignment and integration of the shared elements of the broader culture with the organizational culture brings about a sense of joy and support. In addition, key positions within the electronic human resources management organization should be filled by talented employees. The organization should ensure that it has a pool of talented individuals to meet its present and future needs, and should develop plans to identify and nurture these talents. Creating a calm working environment with a friendly atmosphere, free from tension and conflict, and ensuring appropriate and respectful treatment, is not only pleasant and enjoyable but also contributes to the employees' cheerfulness. Managers should note that in order to facilitate happy and dynamic activities, the development of electronic human resources management and the adoption of information systems should always be considered as fundamental and dynamic factors to increase productivity in the organization.

Declaration of Competing Interest
The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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