

Presenting model of the intelligent operating system of behavioral responses in the platform of blockchain (Case study: sports teachers using club shoes)

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Abstract

Subject and purpose: The intelligent operating system management decides based on its knowledge and experience which behavioral model to use in order to have the greatest effect on the behavior. The purpose of this article is to present the intelligent operating system management model of behavioral responses.

Methodology: This research is practical in terms of purpose and qualitative research in terms of data collection. The statistical population includes sports experts and the sample size was estimated to be 14 people using the purposeful sampling method with theoretical saturation. The data collection tool was a semi-structured interview. The validity and reliability of the work were used with Goba and Lincoln criteria. The systematic method of Strauss and Corbin with open, central and selective coding was used to analyze the data.

Findings: The results obtained in this research showed 83 open codes, 31 categories in 6 general categories

Conclusion: This research led to the presentation of an intelligent operating system model of behavioral responses in the blockchain platform.

Keywords: intelligent operating system management, behavioral responses, blockchain.

Introduction

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The progress of providing services on the web has caused IT specialists to use this entrepreneurial opportunity and provide services as start-up companies (Beyonce and Bruno, 2024). The main goal of start-up companies is to provide services with minimum time and cost, which currently have a well-known position in the world, especially in advanced countries (Ab and Jamili, 2022). Today, leading organizations seek to optimize processes by evaluating and improving their own performance and that of their dependent subgroups, and increasing the performance efficiency of what has been invested has become more important (Yang et al., 2023). In the past decade, many organizations have invested a lot in information technology, both software and hardware (Fatimohamkaran, 2024). In today's economy where costs must be reduced, organizations and companies are asking themselves: How much have we invested in technology so far? In the information age, he who has information has power (Johnson, 2022). With the expansion of computer science and, as a result, computer and electronic systems, the use cases of these tools in human daily life have been increasingly developed (Mukherjee and Chitipaka, 2024).

In this way, the role of the mentioned systems in life has become more prominent day by day and it seems more difficult to ignore their capabilities. Smartening means using technical and informational tools and techniques for proper management of affairs, facilitating activities, improving and improving lifestyles, accelerating accurate and more professional execution of affairs, reducing energy consumption and making maximum use of information technology services in order to improve indicators. Life is individual and social (Kasavan et al., 2023). One of the solutions of e-commerce is the use of software agents with the ability to learn and make intelligent decisions that can be used in buying and selling, making offers in tenders and auctions, negotiating and concluding contracts. Intelligent software agents are intermediaries that have fulfilled the human desire to automatically perform many activities in business (Nandi et al., 2022). Agents are used to automatically perform time-consuming and repetitive user tasks, searches, recommendations, as well as retrieve and manage information obtained for the buying and selling process, as well as in the development and transition of various stages of the customer's buying behavior process, from the traditional method to the methods compatible with modern e-commerce. have been very effective (Kim and Song, 2024). Smart factories are equipped with advanced sensors, multiple software and robotic technology (Shim and Kim, 2020). These tools collect and analyze data and enable better decision making.

These digital technologies lead to increased automation, forward-looking equipment monitoring and maintenance, self-optimization to improve processes, and above all, a new level of productivity and responsiveness to customers that was not possible before. The development of smart factories provides a great opportunity for the manufacturing industry to enter the fourth industrial revolution. Analysis of large volumes of big data collected from sensors deployed in the factory ensures real-time monitoring of production assets (Arshad Ali and Farooqi, 2023).

It can be said that these are the important achievements of the industry in connection with the fourth industrial revolution and artificial intelligence. In this article, an attempt is made to define intelligent agents and the quality of their activity in the field of electronic commerce (Alkinani et al., 2023). An intelligent agent may learn a lot of information and things from the environment to achieve its goals (Jang Wei et al., 2022). The use of intelligent agents can increase the competitiveness of an organization and differentiate it from other organizations. This solution allows organizations to exploit the advantages of being competitive and leading by using the available information (Mukherjee and Chitipaka, 2024).

Today, intelligent learning agents have many applications and importance. These agents play a key role in e-commerce, information processing, information personalization, Instagram social network, information customization, product and service pricing, image tagging, sales and customer service (Yang et al., 2023). . Any organization and company that has this power will be distinguished and privileged in its industry and profession compared to its competitors. Organizations and companies move and change at a fast pace. Obtaining the correct intelligent information at the correct time is the foundation of these organizations (Ab and Jamili, 2022). Another reason for using smart agents is to reduce costs and increase revenues. (Nandi et al., 2022). The innovation of this research is in presenting a new paradigm model with the title of providing a management model of the intelligent operating system of behavioral responses in the blockchain platform. Intelligent agents are multi-dimensional, simplified and controllable entities that enable value creation from data. By using the blockchain, the data used in the smart agent is stored transparently and without manipulation. According to the issues raised, the main question of the research is: What is the model of presenting the management model of the intelligent operating system of behavioral responses in the platform of blockchain?

Literature Review and background

Intelligent operating system management in the context of artificial intelligence refers to an entity that recognizes its surroundings in an environment and performs actions on the environment, and all actions it performs are aimed at achieving its goals (Beyons and Bruno, 2024). The intelligent agent detects the environment through sensors and performs tasks such as recognizing, thinking and acting in a program (Kim and Song, 2024). This system is capable of learning and then uses its acquired knowledge to accomplish its goals. This factor may be very simple or complex (Kasvan et al., 2023).

An artificial intelligence system is divided into two parts, agent and environment. An intelligent agent is considered a software entity that provides the possibility of performing the required operations in artificial intelligence. This entity perceives the environment and uses leverage to initiate AI operations. In simpler terms, it can be said that an intelligent agent is an entity in artificial intelligence that has the power to make decisions (Yang et al., 2023).

Since the data used in the smart agent must be kept transparent and without manipulation, this technology needs the blockchain industry. Public blockchain networks produce immutable digital records that allow users to trace the origin of data without the need for trust between parties. In addition, blockchain technology helps smart agent professionals to increase data security by creating an accessible audit trail (Mukherjee and Chitipaka, 2024).

Blockchain is one of the preferred methods for maintaining data integrity in artificial intelligence and machine learning. AI systems analyze huge amounts of data, so security and reliability are critical to their success. Blockchains give AI scientists access to a decentralized network of verifiers that can accurately spot wrong or fake data. Blockchains also dramatically reduce the possibility of data breaches or hacking. As a result, blockchains enable AI scientists to build widespread networks of trust that increase transparency and cooperation (Yang et al., 2023).

In today's world, the range of attention and patience of customers is becoming more and more limited. Today, platforms based on artificial intelligence are a vital element for the success of e-commerce (Alkinani et al., 2023). These software agents have three main tasks in today's business: matching buyers with sellers, facilitating transactions and providing organizational infrastructure (Mukherjee and Chitipaka, 2024). Intelligent agents can create customer and consumer loyalty by creating interactive chat programs. . Chatbots can be a more effective way to communicate with customers (Lee Barker et al., 2022). The summary of the internal and external background of this research is as follows.

Table 1: Summary of internal research

Summary of research results	Title of the article	The authors of the article
In this article, an attempt has been made to introduce intelligent agents and the role they can play in information services. For this purpose, their mode of operation and applications have been discussed, and at the end, a model of intelligent agents and its role and applications in the library environment has been introduced. It is obvious that familiarizing librarians with these tools - which are a new generation of information retrieval and management tools - can be important for them in performing their duties.	An overview of intelligent agents and their role in library services	Hassanzadeh and Mohammadkhani 2009
The use of intelligent agents in software engineering is one of the new topics in the implementation of complex distributed software systems. The purpose of this article is to study the role of agent characteristics in improving e-government activities. Then, while categorizing the characteristics of intelligent agents, an evaluation platform is proposed to improve the performance of electronic government. The use of agent-oriented methods in the production of reliable and complex software systems for different sectors of electronic government is one of the future researches in this field.	The role of intelligent agents in improving e-government activities	Nami et al 2009
Artificial intelligence techniques, such as learning, are widely used in agent-based systems. In this research, focusing on the requirement analysis stage as one of the first stages of the software production process, tools and techniques are proposed to solve these deficiencies in the analysis stage. In this article, the method of using the provided patterns to analyze the agent's learning ability in two different agent-based systems is described. These patterns can be used as a guide in the analysis of learning software agents. The advantage of using these models compared to the classical methods of software analysis is that, in addition to the common classes related to learning in the problem domain, they represent metaclasses in the system analysis model that also model the knowledge related to learning analysis.	Patterns of learning stability analysis in intelligent software agents	Faithful and Abdallahzadeh 2012
Organizations are trying to find tools to perform the knowledge management process with high speed and accuracy. One of the tools that has proven to be effective and efficient in this field is intelligent agents. In this research, the goal is to provide an infrastructure of knowledge management by using intelligent agents; In a way that takes into account all aspects of knowledge management and facilitates the organization's decision-making, the simulation of the proposed system in a car manufacturing plant shows its efficiency and effectiveness in supporting and improving decision-making.	Application of intelligent multi-agent system in decision making with knowledge management approach	Moradi et al 2012
One of the most effective achievements of information technology is the improvement of business intelligence. Therefore, the use of intelligent software agents in supply chain management can improve management in this field. In this article, while providing general information in the field of supply chain management and intelligent software agents, some aspects of the application of these agents in supply chain management will be examined, and some aspects of this application, such as the agent-based negotiation model, will be examined.	An overview of the role of intelligent software agents in paper supply chain management	Sargazi Moghadam and Shahesvari 2015

Examining the evolution of data management shows that the emergence of different technologies not only did not reduce the value of data over time, but also promoted its position by creating fundamental changes. So far, four revolutions arising from printing technology, computer technology, Internet technology, and social network technology have led to the formation of four revolutions in the field of data management, and the world is on the threshold of the fifth revolution, which is the use of intelligent agents in data management. The distinctive features of the fifth revolution have revealed the need for macro-policy and platform building for interdisciplinary collaborations for data management. In this article, the characteristics of each of the developments in the field of data management are explained and finally the formation of the National Data Organization is suggested.	The fifth data revolution, the irreplaceable role of intelligent agents and the necessity of a national data organization	Hassanzadeh 2021
Artificial intelligence is one of the branches of computer science and refers to the development of hardware and software that imitate human thinking. In the field of auditing, various issues, such as increasing competition, legal issues and the desire to increase efficiency and effectiveness, create the necessary motivation to use information technology and artificial intelligence, and cause computer-based information systems to be presented as important tools in the profession.	Examining the obstacles to the use of intelligent agents in independent auditing	Khan Mohammadi 2021

Table 2: Summary of foreign research

Summary of research results	Title of the article	The authors
In this article, chiller troubleshooting methods are proposed with the help of digital structure and intelligent agent. In this stage, performance data is collected, analyzed and decisions are made through the intelligent agent and the Internet of Things.	Fault detection in working conditions of intelligent agent-based chillers using deep learning model	Lee Barker et al 2022
The smart agent has unique design features that are available through various devices with today's technology. The research model integrates AI perceptions and perceived self-expansion into a new integrated model of the IT continuum. The findings show the role of big data and users' perceived intelligence on the continuation of the intention to use smart agents.	The role of users' perceptions in the continued use of smart agents	Mousavi et al. 2022
Customers believe that AI service agents perform better than human agents. The research results of this study showed that in terms of security issues, customers preferred the use of artificial intelligence agent services that are less human-like.	Customer orientation and customers' willingness to use artificial intelligence service agents	Yang et al 2023
To analyze the efficiency of data in the intelligent transport logistics network, advanced techniques such as artificial intelligence should be used to be able to make the transport system intelligent. The intelligent logistics framework is built on a parallel neural network architecture known as Swarm-Neural Network (SWNN). The proposed SWNN model analyzes sensory data based on augmented and virtual reality and intelligently recognizes public transportation in networks.	Design and analysis of intelligent transportation logistics network	Alkinani et al. 2023
This paper uses intelligent agent-based machine learning techniques to select the best suppliers and optimal data processing. The framework also integrates machine learning techniques with intelligent agents to improve solving highly complex problems	Integration of machine learning and basic reasoning system based on intelligent agents	Kaswan et al 2023
It is more efficient to use multiple intelligent surrogate agents to design and simulate real-world scenarios. In this article, a knowledge-based framework is presented that can be useful in the age of Corona, with the help of the proposed algorithm in this framework, the knowledge base can be updated. Smart operating systems can be effective in web mining.	Examining the interaction between several intelligent operating systems in web mining	Arshad Ali and Farooqi 2023
Smart agents are very effective in the food supply chain. The findings showed that several factors in TOE significantly contribute to the acceptance of IAT. This research presents a new paradigm for the adoption of this innovation in FSC. The TOE framework includes comparative advantage, reliability, complexity, cost, innovation acceptance, top management support, skilled employees, information technology awareness, environmental uncertainty, competitive pressure, information intensity and Identify supplier pressures that aid the adoption process.	Analysis of adoption of intelligent agent technology in food supply chain management	Mukherjee and Chitipaka 2024
Wireless sensor networks play an important role in collecting data (including big data), performing calculations, and returning results to users. Wireless sensor networks have a positive and vital effect in strengthening the intelligent agent, and the intelligent agent can make decisions with its perceptions.	Intelligent agent enhancement for multiple access protocols in wireless sensor networks	Fatima co-workers 2024
The results of this research showed that when users are asked to provide their life information, they are worried about compromising their privacy. Users believe that the artificial intelligence agent has made their privacy more secure, but at the same time, they are always worried about the security	AI is safer for my privacy	Kim and Song 2024
This article describes the design and development of a warehouse management system based on an intelligent agent. It also pushes the limits of the human operator.	An intelligent agent-based framework for enhancing warehouse management systems	Beyonce and Bruno 2024

Research Methodology

The systematic approach of Strauss and Corbin has been used in this research. Database theorizing is based on structured approach based on 3 types of open, central and selective coding. In open coding, the main categories and themes around the studied phenomenon are identified. In focus coding, categories are systematically refined and linked with subcategories. Finally, through selective coding, the research paradigm model is presented. A paradigmatic model includes causal conditions, contextual conditions, intervening conditions, strategies and consequences.

The community of participants in the qualitative research method of this study included sports experts. Theoretical saturation was used to determine the sample size. Theoretical saturation is a point in qualitative research that indicates the adequacy of the collected data for analysis and presentation of the final report. The point of theoretical saturation refers to the repetition of data in the research, and this repetition of data and the results obtained from it, in methodology, indicates the reliability of the research method. Theoretical saturation was achieved in conducting the interview process in 14 people. The snowball sampling method was used to select the sample. In this method, the researcher took help from the sample members to know other sample people. In this method, first a qualified person who has scientific articles in the fields of artificial intelligence, management of smart operating systems, blockchain was identified, and then he was strongly requested to introduce a person similar to him. The sample specifications were as described in Table No. 3.

Table No. 3: Characteristics of the sample of experts

Area of activity	years	gender	education	string	connoisseur	Area of activity	years	gender	education	string	connoisseur
Industry and university	24	woman	Ph.D	Sports management	The eighth expert	Industry and university	14	the man	Ph.D	Sports management	The first expert
Industry and university	22	woman	Ph.D	Sports management	The ninth expert	Industry and university	16	the man	Ph.D	Sports management	The second expert
Industry and university	19	the man	Ph.D	Sports management	Expert 10	Industry and university	24	the man	Ph.D	Sports management	The third expert
Industry and university	21	the man	Ph.D	Sports management	The eleventh expert	Industry and university	19	the man	Ph.D	Sports management	The fourth expert
Industry and university	14	woman	Ph.D	Sports management	The eleventh expert	Industry and university	26	the man	Ph.D	Sports management	The fifth expert
Industry and university	18	the man	Ph.D	Sports management	Thirteenth expert	Industry and university	23	woman	Ph.D	Sports management	The sixth expert
Industry and university	25	woman	Ph.D	Sports management	The fourteenth expert	Industry and university	16	the man	Ph.D	Sports management	The seventh expert

Various tools can greatly help to reduce the validity threats of quantitative analysis and increase the credibility of the results of a research study. In this research, a sound or video recording device was used instead of the researcher's notes, which allows for a detailed examination of the raw data. While producing the interview text verbatim instead of the interviewer's selective notes, which is called "rich" data, provides a deeper and more revealing picture. The following two methods were used to verify reliability quantitatively:

The first method: from the Kappa coefficient

This coefficient measures the consistency and correlation of scores between participants, which is also called the coefficient of agreement. The kappa coefficient and the statistical analysis based on it is a numerical measure between -1 and +1, the closer it is to (+1), it indicates the existence of proportional and direct agreement. Sizes close to (-1) indicate the presence of inverse and opposite agreement, and sizes close to zero indicate lack of agreement.

The second method - Holstein's reliability coefficient:

To calculate the reliability with the Holstein method, the texts are coded in two steps. Finally, the reliability is calculated based on the observed percentage of agreement. In this method, the categories were first extracted by the researchers, and in the second step, they were re-identified by referring to the experts. By comparing these two steps, the reliability coefficient was calculated based on the agreement of the two coding steps. In this method, the coding method is used to analyze the data collected from the interview. The process of coding in the field theories is based on the method of constant comparisons. And it relies on theoretical sampling. First, the interviews are carefully studied and coded in a preliminary way to identify the important and unimportant parts of the texts. Also, notes are used to guide the researcher in choosing the appropriate scientific words to create codes, then based on the coding model of Ostravas and Corbin, the code is applied. Open, central and finally selective coding is done to create primary codes, categories, central codes and relationships between them. Grounded theory or grounded theory is a qualitative research method that is used to theorize about the studied phenomenon. This method is used when the research literature on the subject does not have the necessary richness. Also, the aim is to present a new theory that has not been proposed in the research communities. In this research, because the research literature on the subject did not have the necessary richness, the foundational data theory was used to analyze the data.

In open coding, the concepts in the interviews and documents were classified based on their relationship with similar topics. The result of this step is to distill and summarize the mass of information obtained from the interviews and documents into the concepts and categories that are included in this The questions are similar.

Research Findings

In the selective coding of concepts and categories, their characteristics and dimensions are discovered in the data. This is shown in Table 4:

Table 4: Open-centered and selective coding

The authors	Some concepts	Categories	axis
(Beyoncé and Bruno, 2024)	It is an analytical tool in order to evaluate the level of technological readiness (technology) and the level of risk caused by the use of technology for product development. It is a correct understanding of management, performance and timing constraints. It is a tool to help transfer technology and determine the right time for implementation.	Technology readiness and maturity level	Causal
(Kasavan et al., 2023) (Arshad Ali and Farooqi, 2023)	In virtual reality, all the elements perceived by the user are created by the computer.	Augmented and virtual reality technology	Causal
(Kridalukmana et al., 2022) (Mukherjee and Chitipaka, 2024)	The company's ability to maximize technological information in order to protect the company's innovation and the company's competitive ability in the market, the ability to effectively use technological knowledge, the knowledge and skills needed to identify, evaluate, apply and develop technology and techniques related to the industry, efficient use capability of technological knowledge in various actions to simulate, use, adapt, change existing technology	Technological capabilities	Causal
(Abu Hadbah Vanfa, 2021) (Fatima Ohmkaran, 2024)	Peer-to-peer transaction, the hash solution prevents fraud and changing the information recorded on the blockchain, the data center where blockchains are located is completely decentralized, the information stored on this type of system is shared among all members of a network. It is possible, by using encryption and data distribution, the possibility of hacking, deleting and manipulating the recorded information is eliminated, the information is recorded in blocks and the blocks are linked together in a chain.	Blockchain	Causal
(Beyoncé and Bruno, 2024) ((Abu Hadbah Vanfa, 2021) (Yang et al., 2023)	A huge amount of data, collecting and analyzing massive information in a short time, processing and analyzing information at a very high speed, storing a large amount of information, numerous categories for collecting and storing information, preparing comprehensive and integrated systems for orderly and practical categories to control information. Making smart decisions with back data	big data	Causal
(Arshad Ali and Farooqi, 2023) (Kridalukmana et al., 2022)	Smart sensors enable more accurate and automated collection of environmental data—with less error noise—among precisely	Smart digital	Causal

	recorded data. A smart sensor consists of at least one sensor, a microprocessor and a communication technology. The environment is observed by the intelligent agent through sensors.	sensors	
(Abu Hadbah Vanfa, 2021) (Fatima Ohmkaran, 2024)	It is also called a lever and it is one of the components of the machine that converts energy into motion. Operators are responsible for moving and controlling the system.	Smart digital actors	Causal
(Kridalukmana et al., 2022) (Fatima Ohmkaran, 2024)	The Internet of Things refers to the billions of physical devices around the world that are connected to the Internet and collect and share information with the user and other connected devices.	Internet of Things	Causal
(Abu Hadbah Vanfa, 2021) (Arshad Ali and Farooqi, 2023)	Airborne technique of data recovery in the form of software and hardware	Smart data recovery	Causal
(Shim and Kim, 2020) (Alkinani et al., 2023)	Big Data Analysis, Web Data and Search Engine Optimization, Generic Algorithms in Artificial Intelligence Marketing.	Smart analysis	Causal
(Jang Wei et al., 2022) (Alkinani et al., 2023)	Performing advanced calculations by the website, making decisions about the content of the site and coloring by the smart website, accuracy of information, usability, security and integrity, adjustability by the user, interaction, reliability, storage capacity, responsiveness, assurance, content quality, compensation	Smart website	Causal
(Kridalukmana et al., 2022) (Abdul Salim et al., 2021) (Beyoncé and Bruno, 2024)	Completing boring daily processes, reducing manual tasks, focusing on issues without the need for complex decision-making, no need for special coding, reasonable cost, less employee resistance, organizations focusing on automation.	Robotic automation of processes	Causal
(Arshad Ali and Farooqi, 2023) (Sidlavskine, 2021)	Communicating with users and customers intelligently and using machine intelligence. Designing communication channels with users and customers using artificial intelligence system.	Smart communication	Causal
(Yang et al., 2023) (Mukherjee and Chitipaka, 2024)	It is a software entity of an artificial intelligence system based on blockchain. Has the power of perception and decision making. Based on his knowledge and experiences, while examining the dimensions of consumers' behavioral responses, he automatically deals with the intelligent understanding of consumer behavior in the three stages of reaction, confrontation and adaptation and its consequences. It decides which behavior model to use to have a maximum and effective influence on the behaviors and habits of consumers .	Management of the intelligent operating system of behavioral responses	A central phenomenon
(Andy et al., 2022) (Abu Hadbah Vanfa, 2021) (Shim and Kim, 2020)	Creation and development of telecommunication networks and services, transmission networks, establishing multimedia communications, acquiring and supplying information, storing information, engineering protocols, encryption and security technologies.	Transparency of facilitating rules	Background factors

(Sidlavskyne, 2021) (Alkinani et al., 2023)	Perceived usefulness, perceived ease of use, mental attitudes and norms, behavioral intention	Acceptance of smart digital technology	Background factors
(Ab and Jamili, 2022) (Abdul Salim et al., 2021) (Kim and Song, 2024)	The culture of smart innovation, the culture of knowledge sharing, the culture of entrepreneurship and intelligence, the culture of cooperation, the value and importance of technology. Information in the organization, data-driven decision making, collaboration, open culture, digital mindset. Agility and flexibility, customer orientation, emphasizing the value of digital technologies, institutionalizing customer focus in the decision-making process, displaying values of respect for the ecosystem.	Smart culture	Background factors
(Abu Hadba and Nafa, 2021) (Sidlavskyne, 2021) (Fatima Ohmkaran, 2024)	foundation, background knowledge, central competence, attitude and point of view	Digital literacy	Intervening factors
(Nandi et al., 2022) (Mukherjee and Chitipaka, 2024)	It is a powerful tool for profiling .NET applications. This tool is able to determine the amount and manner of using the processor, I/O and memory at the program level. This tool provides the ability to profile large and voluminous programs with minimal additional load (zero). It is possible to integrate the tool with the production environment.	Data profiling	Intervening factors
(Lee Barker et al., 2022) (Abdul Salim et al., 2021) (Arshad Ali and Farooqi, 2023)	Process modeling is a technique designed to understand and describe a process. Modeling establishes a connection between the current and future state of the process. Process modeling captures processes and interactions between different departments and displays a clear picture of current processes. Process modeling helps identify backlogs and bottlenecks and creates a better and more efficient process.	Process modeling	Intervening factors
(Abu Hadba and Nafa, 2021)(Shim and Kim, 2020)(Ab and Jamili, 2022)(Kasavan et al., 2023)	McKinsey's 7S combination, data visualization, ability to access knowledge and information, comprehensive organizational parametric base information tables, ability to combine and distribute information, ability to conceptually select data, acquire knowledge, distribute and interpret knowledge, and participate in knowledge production.	Knowledge development and intelligence	Strategy
(Nandi et al., 2022) (Shim and Kim, 2020) (Fatima Ohmkaran, 2024)	Creating sustainable and added value, realizing the goals of domestic production, creating culture and creative development, increasing the efficiency of strategic plans, increasing the efficiency of laws and regulations, preparing a mental framework and conceptual model and guiding ideas, a combination of value-added activities, creating value for the customer through linking processes Added value of a company	Value creation and value creation	consequence
(Lee Barker et al., 2022) (Abdul Salim et al., 2021) (Mukherjee and Chitipaka, 2024)	The effective process of digesting, storing, organizing, and maintaining data generated and collected by an organization. Data management can be used to make informed business decisions, improve marketing activities, optimize business operations and reduce costs, with the goal of increasing revenue and profitability.	Effective use of data	consequence

(Arshad Ali and Farooqi, 2023)	Making processes more efficient and effective, facilitating monitoring and management, helping decision-making, creating continuous improvement of processes, improving customer services, replacing or controlling human tasks by automating activities, increasing transparency and speed of information flow, providing more valuable services and products to customers.	Automatic execution of processes	consequence
(Jang Wei et al., 2022) (Alkinani et al., 2023)	- The need to prevent the occurrence of human errors due to the size of the system, physical fatigue, unsuitable physical conditions and the lack of time necessary to perform a task.	Reduce human error	consequence
(Lee Barker et al., 2022) (Arshad Ali and Farooqi, 2023)	Determining smart goals, increasing market share, correct valuation, meeting customer needs. Characterization of customers, giving gifts instead of discounts, communication with customers. Using a variety of new advertising methods	Increase sales and market share	consequence
(Nandi et al., 2022) (Abdul Salim et al., 2021) (Kim and Song, 2024)	The amount of appropriate interactions in competitive conditions, differentiation in features to provide better services than competitors, superiority of capabilities over competitors, providing value to customers that is not offered by potential and actual competitors.	Competitive advantage	consequence
(Shim and Kim, 2020)	Moving fast, agile, active and agile is the ability to move quickly and easily and to be able to think quickly and in an intelligent way.	Increase agility	consequence
(Francis et al., 2022) (Abdul Salim et al., 2021) (Fatima Ohmkaran, 2024)	Smart contracts are much easier to move, transfer and send than traditional contracts. It is not necessary for both parties to be present in the same place to sign the contract. Blockchain helps the transaction parties to save time, increase the company's net profit, improve economic value added, improve market value added, increase net profit, improve return on assets. Improving the return on equity, increasing the return on capital employed, improving financial strength indicators.	Increasing efficiency and profitability	consequence
(Johnson, 2022) (Mukherjee and Chitipaka, 2024)	In blockchain, you don't even need to trust the other party. Because the whole process will be done by the system and the contract itself.	Increase confidence	consequence
(Beyonce and Bruno, 2024) (Lee Barker Associates, 2022)	The business enterprise should consider the customer life cycle process in combination with the product life cycle process in its business. Increasing customer life cycle, identifying more potential customers and reducing customer acquisition costs, increasing profitability, prolonging the growth and maturity stage.	Increase customer life cycle	consequence

According to the code changes made and the opinion of experts, the paradigm model is as follows

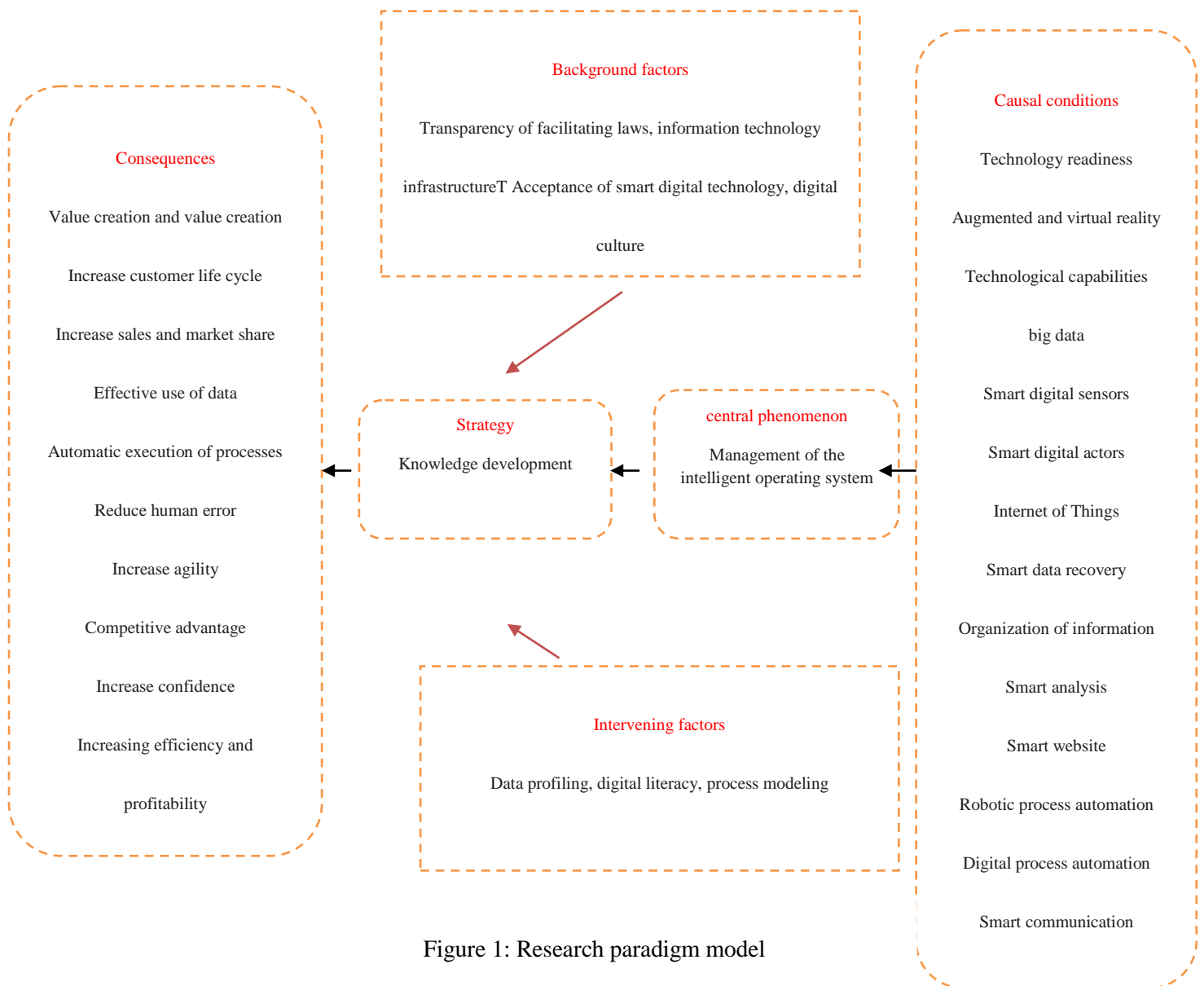


Figure 1: Research paradigm model

Discussion and Conclusion

The purpose of this research was to provide a management model of an intelligent operating system for behavioral responses in the blockchain platform. The management of the intelligent operating system of behavioral responses is a software entity of an artificial intelligence system that has the power of perception and decision-making and based on its knowledge and experiences, while examining the dimensions of the behavioral responses of sports teachers in using club shoes automatically and intelligently, analyzes their behavior in three stages of reaction, confrontation and adaptation and decides which optimal behavior model to use to have maximum impact on sports teachers' behaviors and habits (Beyons and Bruno, 2024). In this research, the management of the intelligent operating system is the behavioral responses of sports teachers as a central phenomenon and the most important antecedents influencing it, including the level of preparation and maturity of technology, augmented and virtual reality, technological capabilities, big data, smart digital sensors, smart digital actors, Internet of Things, intelligent information retrieval, information organization, content knowledge, intelligent analysis, intelligent website, robotic process automation, digital process automation, intelligent communication. The present research led to the presentation of a paradigmatic model with the title of intelligent agent of sports teachers' behavioral responses. One of the important antecedents identified is the level of technology readiness and maturity.

One of the criteria used to determine the level of readiness and maturity of technology is the level of technology maturity, which is an analytical tool to assess the level of technology readiness and the level of risk resulting from the use of technology for product development (Kim and Song, 2024). Then the computer productions are mixed with an interactive interface with environmental elements, so that it is perceived as a real world. Along with augmented reality technology, there is virtual reality technology. This technology interacts by creating a virtual environment in front of the user's eyes and based on the movement of the head and body of that virtual environment (Kasvan et al., 2023). Another identified antecedent is technological capabilities. It means the company's ability to maximize technological information in order to protect the company's innovation and the company's competitive power in the market, and in general, the ability to use technological knowledge effectively (Alkinani et al., 2023). Another recognized precursor is big data. Big data is a term used to describe the large amount of structured and unstructured data and information that every business is increasingly inundated with. (Beyons and Bruno, 2024).

Smart digital sensors are one of the key drivers identified. A smart digital sensor is a device that detects environmental changes digitally and intelligently and sends information to other devices. The environment is observed by the intelligent agent through these sensors. Among the other important identified precursors are intelligent digital actuators, which are considered important components of the machine. In fact, the actuators convert energy into movement; Also, the operators are responsible for moving and controlling the system intelligently (Yang et al., 2023).

Another identified precursor is the Internet of Things. In the Internet of Things paradigm, many of the objects that surround us are networked in one or more forms. Sensor network technologies are increasing to

meet this new challenge in which invisible information and communication systems are embedded in our surroundings (Alkinani et al., 2023). This generates a large amount of information that must be integrated, efficient and can be easily interpreted, stored, processed and presented. Cloud computing can provide a virtual infrastructure for such computing that integrates monitoring devices, storage, analytics tools, and visualization platforms (Lee Barker et al., 2022).

Intelligent information recovery is one of the other identified antecedents, which can be defined as an intelligent process of obtaining information that has been lost due to digital media damage. Recovery centers are able to interpret the logical structure of storage by using information intelligence technology (Francis et al., 2022). Organization of information, content and knowledge is another important prerequisite, which consists of entering a specific content structure in a set of documents and presenting this structure to the user. These documents are available through the information retrieval system in response to the user's query. Information organization as a field of study is related to the nature and quality of the process with knowledge organization systems that are used to organize and represent documents and concepts (Ab and Jamili, 2022). Smart website has already been identified. Performing advanced and intelligent calculations by the website and making decisions about the content and coloring of the site is done by the intelligent website (Fatimah Hamkaran, 2024). Another identified precursor is robotic process automation. The goal of robotic process automation is to improve business processes in the organization. is an emerging technology that can be used to automate high-volume but low-value repetitive tasks. By automating and optimizing tasks, increasing work quality and reducing errors and risks in processes, it increases business productivity (Kridalukmana et al., 2022).

Digital process automation is also one of the identified precursors, due to which digital technology is used to automate one or more tasks involved in a business process (Johnson, 2022). The last identified predecessor of intelligent communication, which means establishing communication channels with users and customers by using intelligent agents (Mukherjee and Chitipaka, 2024). Finally, the variables of value creation and value creation, effective use of data, automatic execution of processes, reduction of human error, increase in sales and market share, increase in agility, increase in customer life cycle, competitive advantage, increase in trust, increase in efficiency and profitability were identified as important suffixes.

Practical suggestions

- * It is suggested that companies use the intelligent operating system management program in neural marketing systems, customer relationship management and responding to complaints. This program, while increasing security, reduces human errors and records accurate information.**
- * It is suggested that companies use blockchain technology to store administrative and financial records.**
- *Using robotic process automation strategy in smart businesses can lead to cost reduction and increase sales team efficiency, increase speed and accuracy.**
- * Leading and active companies in the field of technology can use taxonomy smart agents to increase the ability to adapt to the environment, solve problems at the moment and optimally analyze errors or successes.**

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