BIG DATA AND AMOEBA ORGANIZATIONS: INNOVATIVE MANAGEMENT IN DECISION MAKING

Big Data and Amoeba Organizations: Innovative Management in Decision Making Processes

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ÖZ

Bu çalışma, büyük veri ve amip organizasyonlar arasındaki etkileşimi inceleyerek karar alma süreçlerindeki yenilikçi yönetimi ele almaktadır. Çalışmada, büyük verinin iş süreçlerine olan etkisi ve amip organizasyonların yapısal özellikleri detaylı bir şekilde ele alınmıştır. Ayrıca, büyük verinin amip organizasyonlardaki karar alma süreçlerine entegrasyonu ve bu entegrasyonun inovasyon ve teknolojik gelişmelerle nasıl etkileşimde bulunduğu incelenmiştir. Yenilikçi yönetim stratejilerinin bu bağlamda ne şekilde uygulanabileceği ve bu stratejilerin organizasyonlardaki etkisi detaylı bir şekilde analiz edilmiştir. Çalışma, büyük veri ve amip organizasyonların karar alma süreçlerindeki etkileşimi daha anlaşılır kılmayı amaçlamaktadır. Çalışmada ayrıca, zorluklar ve çözüm yolları da tartışılarak, bu alandaki gelecek çalışmalar için önerilerde bulunulmuştur.

Anahtar Kelimeler: Büyük Veri, Amip Organizasyonlar, Yenilikçi Yönetim, Karar Alma Süreçleri

ABSTRACT

This study examines the interaction between big data and amoeba organisations and addresses innovative management in decision-making processes. In the study, the impact of big data on business processes and the structural characteristics of amoeba organisations are discussed in detail. Furthermore, the integration of big data into decision-making processes in amoeba organisations and how this integration interacts with innovation and technological developments are examined. How innovative management strategies can be applied in this context and the impact of these strategies in organisations are analysed in detail. The study aims to make the interaction of big data and amoeba in the decision-making processes of organisations more understandable. Challenges and solutions are also discussed and suggestions are made for future work in this area.

Keywords: Big Data, Amoeba Organisations, Innovative Management, Decision-Making Processes

INTRODUCTION

Traditional management models and decision-making processes are exposed to ever-changing dynamics and complexities in today's business world, forcing organisations to become faster, more flexible and innovative. In this context, the interaction between big data and amoeba organisations is creating a radical change in decision-making processes. Big data dominates business processes and offers organisations a competitive advantage in decision-making processes. Amoeba organisations, on the other hand, attract attention with their flexible structures and their ability to adapt to continuous change, which causes traditional hierarchical structures to be questioned.

The main purpose of this study is to understand the interaction between big data and amoeba organisations in depth and to reveal how this interaction is reflected in innovative management

strategies in decision-making processes. In this context, the impact of big data on business processes and the structural characteristics of amoeba organisations will be examined in detail to clarify how these two concepts interact in decision-making processes. The study also examines the integration of big data into decision-making processes in amoeba organisations and how this integration interacts with innovation and technological developments.

BIG DATA ANALYSIS AND BASIC PRINCIPLES

THE CONCEPT OF BIG DATA

Big data is a concept that has emerged in today's rapidly changing and digitalizing world. Big data consists of three basic components: volume, variety, and speed. Big data covers enormous amounts of data. Traditional databases cannot process this large volume, so big data technologies have the capacity to store and process petabytes of data (Kar et al., 2023: 2). Big data includes structured, semi-structured, and unstructured data types. Structured data is data organized in a table format found in a typical relational database. Semi-structured data is data that has a certain order, such as XML or JSON, but is not completely structured. Unstructured data, on the other hand, includes data that does not have any order, such as text documents and social media posts. Big data is data that is produced and processed quickly. Internet offices, sensor networks, and other sources produce data sets instantly (Quvvatov, 2024: 119). Being able to process this data flow quickly is important for increasing the speed of decision-making processes.

Big data enables businesses and organisations to access and understand information that was previously difficult to access, and to make more informed and strategic decisions. Big data analytics enables meaningful information to be extracted from these data sets, which enables organisations to gain competitive advantage and increase their innovation (Khang et al., 2023: 54). Big data has a wide range of applications and helps to discover valuable information in

business, science, healthcare, marketing and many other fields. The concept of big data is an important tool that helps organisations make better decisions, optimise their operations and gain competitive advantage.

THE IMPACT OF BIG DATA ON BUSINESS PROCESSES

Big data has become an important player in today's business world, and has taken on a transformative role, especially in terms of its impact on business processes. This impact has the potential to go beyond traditional data management methods and make business processes more effective and efficient.

When integrated into business processes, big data enables organisations to make significant progress in data-based decision-making processes. Big data provides competitive advantage to organisations with its ability to adapt business processes to rapidly changing conditions. Through instant data analysis, organisations can quickly adapt to market trends, customer behaviour and the competitive environment. This offers a wide range of advantages from crisis management to daily business operations with fast and flexible response capability. Integration of big data into business processes is an effective tool to increase operational efficiency (Bag et al., 2023: 34). Big data analytics also offers the potential to use resources more effectively and optimise processes by evaluating the efficiency of business processes. This results in cost savings and increased efficiency in business processes. Big data also has a significant impact on customer relationship management and marketing strategies (Mortaheb and Jankowski, 2023: 6). The integration of big data into business processes contributes to organisations becoming more competitive, data-driven and open to innovation. This situation supports smarter and more strategic management of business processes, strengthening decision-making processes and better preparing organisations for the future.

BIG DATA ANALYTICS AND DECISION MAKING

Big data analytics is a powerful tool that enables organisations to extract meaning from large and complex data sets (Bose et al., 2023; Gillborn et al., 2023). These analytical methods create a unique impact on the decision-making processes of amoeba organisations and offer solutions based on innovative management strategies (Mortaheb and Jankowski, 2023: 8).

For example, Amazon's personalized recommendation systems, which examine the purchase history, search preferences and behaviors of its customers using big data analytics, have greatly increased the company's competitive advantage (West, 2019: 27-28). Similarly, large retail companies such as Walmart use big data analytics to optimize their inventory management and logistics operations. Walmart's use of big data analytics to monitor inventory movements in real time and predict sales trends has increased efficiency by minimizing stock shortage problems (Zhai, 2024: 37-38).

Big data analytics reduces decisions based on subjective judgments in decision-making processes, enabling more rational and data-supported decisions to be made. Especially in the finance sector, big data allows financial institutions to more accurately assess the credit risk they provide to customers in complex decision-making processes such as credit risk analysis (Mahmudi, 2024: 1-3).

Financial institutions can make more accurate decisions in credit risk assessments by using big data analytics. For example, banks manage credit approval processes more accurately by analyzing various data such as customers' past credit usage, payment habits and income levels. Big data analytics provides faster and more reliable results compared to traditional methods used in calculating credit scores, which minimizes credit risk (Bhatore et al., 2020: 112-113). Big data analytics also plays an important role in the healthcare sector. For example, IBM Watson develops personalized treatment plans for cancer patients using big data analytics. Doctors determine the most appropriate treatment options by analyzing patients' genetic

information, medical history and treatment responses. This data-driven decision-making process increases treatment efficiency and reduces healthcare costs (Batko and Ślęzak, 2022: 3). Airlines use big data analytics to optimize flight operations and fuel consumption. For example, Delta Airlines analyzes aircraft flight data to optimize routes, reduce fuel consumption, and improve maintenance processes. In this way, the company has reduced operational costs, increased on-time takeoff and landing rates, and increased customer satisfaction (Hausladen and Schosser, 2020: 77-78). As a result, the integration of big data analytics into decision-making processes both reduces costs and speeds up processes, which is an important factor for businesses to maintain their competitive advantage.

Big data analytics provides organisations with the ability to make in-depth explorations of large volumes of data sets and detect intrinsic/radiational patterns. This increases the ability of amoeba organisations to learn from past data sets and predict future trends, enabling decision makers to make more informed decisions. Big data analytics, when integrated into business processes, also helps to analyse data quickly and reach immediate results (Quvvatov, 2024: 119). This helps amoeba organisations to react quickly and effectively to real-time changing conditions, optimising decision-making processes. Big data analytics creates personalised decision support systems with a detailed focus on individual customer behaviour, preferences and needs. This enables amoeba organisations to enhance the customer experience and provide customised services. Big data analytics help organisations to identify potential risks in advance and develop preventive measures (Udeh et al., 2024: 224). By using these analytical capabilities, amoeba organisations can quickly adapt to changes in the market and gain a sustainable competitive advantage.

AMOEBA ORGANIZATIONS

The amoeba organisation is an organisation model that focuses on flexibility, adaptability and cooperation outside traditional hierarchical structures. This concept was inspired by the characteristics of amoeba cells. Amoeba cells are single-celled organisms that can move on their own and interact with their environment. Similarly, amoeba organisations are organisations that can quickly adapt to changing business conditions and develop an internal culture of collaboration (Adler et al., 2020: 408).

Amoeba organisations have a flexible structure that can adapt to complex and changing business environments. This flexibility increases the organisation's ability to react quickly and adapt to changing conditions. In amoeba organisations, effective communication and collaboration between individuals and units are encouraged (Yang, 2018: 467). This improves decision-making processes by increasing information sharing. Unlike traditional leadership, leadership in amoeba organisations is more adaptive and distributed. Leadership can be seen as a shared responsibility between individuals at different levels of the organisation rather than a specific person. In amoeba organisations, decision-making authority is decentralised. This gives employees the opportunity to take more responsibility and participate in decision-making processes (Inamori, 2013: 67). The ability to adapt quickly to changing conditions allows amoeba organisations to foster innovation. These organisations continuously improve business processes and seize new opportunities. By focusing on customer satisfaction, amoeba organisations tend to evaluate customer feedback and continuously improve their products or services.

AMOEBA ORGANIZATION CONCEPT

Amoeba organisation is a business organisation model inspired by the flexible structures of amoebas in nature. This model enables businesses to create a flexible and dynamic structure to adapt to rapidly changing business environments. The amoeba organisation is a structure that does not have a central structure, where small, independent units work together to form a large organisation (Kusrini and Arifsa, 2019: 42). The structure of the amoeba organisation provides an advantage in quickly adapting to changing market conditions and seizing new opportunities. In amoeba organisations, interaction and cooperation between individuals are at the forefront. Communication channels are open and effective, which increases the flow of information. Amoeba organisations ensure cooperation in decision-making processes and facilitate coordination between different units within the organisation (Urban, 2017: 18). Amoeba organisations tend to be innovative and develop rapid adaptation capabilities in a constantly changing business environment. Instead of resisting change, these organisations tend to see change as an opportunity. In amoeba organisations, decision-making processes are often decentralised. This allows individuals at different levels within the organisation to take more responsibility and participate in decision-making processes (Desai et al., 2008: 321). Amoeba organisations tend to make effective use of data-driven tools such as big data analytics. These organisations make more informed, data-driven decisions through big data analytics and base their strategic management on these analytical capabilities. Amoeba organisations prioritise customer satisfaction and experience (Ochuba et al., 2024: 568). By evaluating customer feedback through big data analytics, they develop customer-oriented strategies and increase customer satisfaction. These characteristics highlight the unique strategies and innovative management approach that amoeba organisations follow to succeed in the modern business world.

For example, Japan-based Kyocera is one of the best-known practitioners of the amoeba organisation model. Developed in the 1960s by the company's founder Kazuo Inamori, this model has played an important role in Kyocera's success. The company created an independent structure with small units of amoebas, with each unit responsible for profit and loss. This structure has contributed to Kyocera's rapid growth and success in various sectors (Adler and Hiromoto, 2012: 62). Haier, a Chinese white goods manufacturer, is another large company that has adopted the amoeba organisation model. Haier is divided into micro-enterprises and each micro-enterprise operates independently. This model enables the company to innovate and respond quickly to customer needs. By 2023, the Haier Group had reached annual revenues of more than USD 30 billion and had a market share of more than 10% in the global white goods market. Morning Star, a US-based food processing company, uses a version of the amoeba organisation model (Haier, 2023: 2).

FLEXIBILITY AND RAPID RESPONSE ABILITY

Amoeba organisations tend to have a flexible structure. By overcoming the limitations of traditional hierarchical structures, amoeba organisations make their business processes more flexible. Big data, as part of this flexible structure, helps organisations adapt to rapidly changing business environments. Data analytics enable organisations to continuously evaluate and adjust their business processes and react flexibly when necessary. One of the key characteristics of amoeba organisations is their ability to react quickly and adapt to changing conditions (Bataineh et al., 2024: 529). Big data analytics support this rapid response capability. In real-time data analysis, organisations react quickly to immediate events. This increases the competitive advantage of amoeba organisations with the ability to quickly adapt to market changes, customer demands or competitive challenges. Flexibility and the ability to react quickly influence the strategic decision-making processes of amoeba organisations. Big data analytics

enables organisations to make more informed decisions through instant data analysis and the capacity to make meaningful data inferences. Flexible management strategies support decision-making processes based on instant data and enable organisations to manage more effectively in a dynamic business environment (Ahmed et al., 2023: 8).

The flexibility and rapid response of amoeba organizations encourages continuous improvement and innovation. Big data analytics helps organizations evaluate current processes and strategies, contributing to the creation of a culture of continuous improvement (Chen and Kim, 2023: 12). This increases the competitive advantage of organizations. Big data analytics helps amoeba organizations quickly adapt to changing conditions.

THE IMPACT OF AMOEBA ORGANIZATIONS ON INNOVATION

Amoeba organisations have created a remarkable model in the business world by adopting a flexible, adaptive and innovative approach outside of traditional hierarchical structures. When the innovative management approach of these organisations is integrated with big data, it can make significant contributions to the innovation processes of organisations.

Amoeba organisations are known for having a flexible structure. Flexibility means the ability to adapt quickly to changing conditions. This flexible structure increases the innovation appeal of organisations. Big data enables organisations to identify innovation opportunities within this flexible structure by analysing market trends, customer feedback and competitive environment (Makhloufi et al., 2023: 17). Amoeba organisations make data-driven decisions using big data analytics. Data-driven decisions enable organisations to determine more accurate and effective innovative strategies. Big data analytics increases the capacity of organisations to identify future innovation areas by evaluating existing data sets. Amoeba organisations foster a culture focused on communication and collaboration. This culture increases the flow of information between different units and accelerates innovation processes (Demircioglu, 2023: 134). Big

data supports the emergence of new ideas and innovative solutions by facilitating data sharing between stakeholders within the organisation.

Amoeba organisations have set a remarkable example in the business world by adopting a flexible, adaptable and innovative management model independent of traditional hierarchical structures. These organisations further strengthen their innovation processes by using the opportunities provided by big data. Today, large companies such as Amazon, Google and Zappos accelerate their innovation processes with amoeba-like flexible organisational structures (Frimousse, 2019: 5). These organisations are known for their ability to quickly adapt to changing market conditions, and this flexibility, combined with big data analytics, enables more effective innovation opportunities to emerge. For example, Amazon's ability to develop new products and services by tracking customer behaviour through big data analytics is a result of the organisation's flexible structure (McAfee and Brynjolfsson, 2012; 62-64).

The flexible nature of Amoeba organisations means the ability to adapt quickly to changing conditions. This flexibility increases the innovation capability of organisations. Big data analytics makes it possible to identify innovation opportunities by analysing market trends, customer feedback and the competitive environment within this flexible structure (Yazıcı, 2020: 160-161). Google, in particular, quickly evaluates user feedback using big data analytics and utilises this data in new product development processes. This allows Google to quickly adapt to market trends and offer innovative products (Benjamin et al., 2024: 232-234). Amoeba organisations make data-driven decisions using big data analytics. Data-driven decisions allow organisations to identify more accurate and effective innovation strategies. Furthermore, amoeba organisations foster a culture based on communication and collaboration. This culture increases the flow of information between different units and accelerates innovation processes. Big data supports the emergence of new ideas and innovative solutions by facilitating data sharing between stakeholders within the organisation. For example, Facebook's internal

communication and data sharing platforms contribute to the development of new products and services by increasing collaboration among employees (Helmond et al., 2019: 123-125).

DECISION-MAKING PROCESSES IN AMOEBA ORGANIZATIONS

Decision-making processes in amoeba organisations are based on a communication and cooperation-oriented approach. Collaboration takes the form of open communication between different departments and teams. Big data analytics increases data sharing among stakeholders in this process, making decision-making processes more holistic and knowledge-based (Ahmed et al., 2022: 64). Decisions in amoeba organisations emphasise flexibility and adaptability. These organisations develop the ability to react quickly to changing conditions. Big data analytics helps to continuously adjust and optimise decision-making processes with the information obtained through continuously updated data sets (Carrasco-Carvajal, 2023: 2). In amoeba organisations, decisions are made on a data-driven basis. In this process, big data analytics offers organisations the capacity to evaluate large data sets and make meaningful data inferences. Data analytics make the decision-making processes of organisations more objective and information-oriented (Ayokanmbi, 2021: 3). The decision-making processes of amoeba organisations are based on the ability to react quickly. Big data analytics enables organisations to react quickly to instant events with real-time data analysis. This supports organisations to adapt to dynamic business environments. Decision-making processes in amoeba organisations are often based on decentralised delegation (Chatterjee et al., 2024: 604).

USE OF BIG DATA IN AMOEBA ORGANIZATIONS

Amoeba organizations have the capacity to effectively integrate big data analytics with their dynamic structure and flexible business model. The use of big data in amoeba organizations

plays an important role in improving decision-making processes, increasing flexibility and encouraging innovation.

Amoeba organisations can develop a culture of data-driven decision making through big data analytics. Big data offers the capacity to analyse large and diverse data sets related to the organisation's activities, enabling more informed and accurate decisions to be made. Big data also helps amoeba organisations to predict future trends and possible scenarios by evaluating historical data sets (Pedraza-Rodríguez et al., 2023: 2). This enables organisations to improve their strategic planning and make more effective decisions for the future.

Big data helps amoeba organisations to make their business processes more efficient. To increase operational efficiency, data analytics allows organisations to use their resources more effectively and optimise business processes. Big data analytics enables amoeba organisations to be more effective in identifying and managing potential risks. It also helps organisations strengthen their cyber security measures and improve data security. Big data supports the innovation processes of amoeba organisations (Rumanti et al., 2023: 3). In identifying innovative ideas and new projects, big data analytics helps organisations to continuously renew themselves and gain competitive advantage. In this context, the use of big data in amoeba organisations makes a significant contribution to their efforts to adapt to rapidly changing business environments and improve their decision-making processes (Udeh et al., 2024: 223).

INNOVATIVE MANAGEMENT STRATEGIES

The interaction between big data and amoeba organisations enables organisations to adopt innovative management strategies and gain competitive advantage. These strategies aim to adapt quickly to change in dynamic business environments, encourage innovation and create sustainable competitive advantage.

Innovative management strategies aim to make organisations' decision-making processes data-driven. Big data analytics enables managers to make knowledge-based decisions by extracting meaning from large and complex data sets. This strategy supports organisations to make more informed and accurate decisions. Innovative management strategies go beyond traditional leadership models and emphasise flexible and adaptive leadership. Leaders adopt leadership approaches that can quickly adapt to changing conditions, take risks and trust their employees (Abbas et al., 2024: 2). This enables amoeba organisations to fulfil their leadership roles more effectively in rapidly changing business environments.

Innovative management strategies focus on increasing customer satisfaction and evaluating customer feedback. Big data analytics provide strategies to understand customer behaviour and improve the customer experience through recommendation systems. Innovative management strategies aim to improve the organisation's human resources and talent management. By using big data analytics in areas such as talent analysis, identifying training needs and monitoring employee performance, it helps the organisation to manage its human resources potential more effectively (Sudjatmoko et al., 2023: 8; Öztırak and Güney, 2022: 322). Innovative management strategies aim for organisations to take leadership in sustainability and social responsibility.

Innovative management strategies aim to increase customer satisfaction and strategically evaluate customer feedback. Netflix analyses audience preferences using big data analytics and produces new content in line with this data. Netflix's recommendation algorithms provide personalised recommendations based on users' viewing histories and interests. This strategy has strengthened the company's competitiveness by increasing customer satisfaction (Khandelwal et al., 2023: 1739-1740). Similarly, organisations with an amoeba structure combine customer feedback with big data analytics to make innovative improvements to their products and services and increase customer loyalty.

The use of big data analytics in innovative management strategies also contributes to human resources and talent management processes. For example, IBM uses big data analytics to analyse employee performance and training needs. In this way, the organisation's talent management becomes more strategic and employee productivity is increased. Amoeba organisations' use of big data in human resources processes enables them to monitor employee performance and optimise training processes (Yanamala, 2024: 2). These strategies contribute to organisations gaining competitive advantage by maximising their talent potential.

The interaction of big data analytics and amoeba organisations strengthens the ability of businesses to adapt to rapidly changing business environments and develop innovative management strategies. Since amoeba organisations are built on flexibility and agility, big data analytics makes their business processes more effective. For example, digital platforms such as Spotify use big data analytics to analyse their users' music preferences and offer personalised recommendations. This data-driven approach helps the organisation develop innovative management strategies, while at the same time increasing customer satisfaction. Spotify's use of big data has encouraged innovation by establishing a system based on the processes of learning from user interactions and sharing this information with content producers (Nwaimo et al., 2024: 1864-1865).

Big data analytics accelerate the decision-making processes of amoeba organisations while increasing the accuracy of strategic decisions. Airbnb has optimised its pricing strategies by analysing customer feedback and booking trends using big data analytics. Airbnb determines accommodation prices by analysing market dynamics in different regions with big data and thus responds faster to customer demands. It also utilises big data analytics to increase customer satisfaction and provide feedback to hosts (Kirkos, 2022: 4-5). This data-driven strategy of Airbnb is an example of how organisations with an amoeba structure can adapt to rapidly changing conditions.

In addition, big data analytics plays an important role in the human resources management of amoeba organisations. Unilever develops data-driven strategies for talent management and employee satisfaction by using big data analytics in human resources processes. With the help of big data, Unilever monitors employee performance and identifies areas for development, while at the same time analysing training needs and offering more personalised training opportunities to its employees. In this way, it increases productivity within the organisation and strengthens employee loyalty (Chima and Nwinykpugi, 2023: 268). The flexible management approach of amoeba-like organisations makes it possible for Unilever to implement innovative management strategies in human resources processes.

Finally, amoeba organisations take the lead in social responsibility and sustainability by using big data analytics. Patagonia uses big data analytics to develop its sustainability strategies. By analysing supply chain data to minimise its environmental impact, Patagonia optimises resource use and promotes sustainable practices in its production processes. This data-driven approach, combined with the flexibility of the Amoeba structure, enables the organisation to provide innovative leadership in social responsibility and environmental protection (Ekechukwu, 2021: 5-6). Patagonia's leadership in sustainability using big data analytics demonstrates how amoeba organisations can gain strategic advantages in environmental awareness and social responsibility.

IMPLEMENTATION OF INNOVATIVE STRATEGIES IN MANAGEMENT

The interaction of big data and amoeba organisations in decision-making processes requires the implementation of innovative strategies in management. These strategies aim to help organisations adapt to changing business environments, foster innovation and achieve sustainable competitive advantage.

Innovative strategies are based on strategic innovation and long-term visioning of organisations. Managers determine the future goals of their organisation using the information obtained through big data analytics. This strategy supports innovation by defining the mission and strategic orientation of the organisation. Innovative strategies aim for organisations to create a flexible and adaptive structure. Big data helps organisations to adapt faster to environmental changes (Audretsch and Belitski, 2023: 3). This strategy, together with the ability to continuously review and improve business processes, allows organisations to adapt more effectively to changing conditions.

Innovative strategies adopt agile and fast decision-making processes. Big data analytics provide access to real-time data, enabling managers to make faster and better-informed decisions. This strategy helps organisations maintain their competitive advantage. Innovative strategies encourage the creation of a culture that values employee ideas and opinions. Big data analytics help managers to evaluate employee feedback and highlight innovative ideas (Prakash, 2024: 14). This strategy increases innovation by evaluating contributions from all levels within the organisation. Innovative strategies adopt a continuous improvement and feedback loop. Big data analytics allows organisations to monitor their performance and continuously improve their business processes. This strategy enables organisations to continuously renew themselves (Alaskar et al., 2024: 3).

INNOVATIVE MANAGEMENT IN THE CONTEXT OF BIG DATA AND AMOEBA ORGANIZATIONS

Big data is a important tool for amoeba organisations to adopt innovative management practices. In this context, the dynamic nature of amoeba organisations combined with the opportunities offered by big data provides an important basis for the development of an innovative management approach.

Big data offers managers of amoeba organisations the capacity to provide information in real time and over large data sets. This enables the development of data-based decision-making processes. Managers can make more informed and effective decisions based on data supported by big data analytics. Big data helps amoeba organisations to adapt quickly to changes in their business environment. Innovative management emphasises the ability of organisations to be flexible and adaptive (Valero-Gil et al., 2023: 2; Öztırak, 2023: 270). Adaptive management strategies supported by big data analytics allow organisations to quickly adapt to dynamic conditions. Big data feeds the innovation processes of organisations. Innovative management encourages employee creativity and creates a culture open to new ideas. Big data analytics helps organisations identify internal and external sources of innovation, enabling them to continuously generate innovative solutions (Fosso Wamba, 2017: 472).

Big data offers valuable insights into customer behaviour. Innovative management emphasises customer centricity and uses big data to improve the customer experience. Personalised services and products provide competitive advantage by increasing customer satisfaction. Innovative management encompasses organisations' ability to understand and effectively manage risks. Big data analytics combined with predictive analytics enable organisations to identify future risks and take proactive measures against them. Innovative management encourages employee participation and team collaboration (Purwanto et al., 2023: 4). Big data supports organisations in assessing employees' views and contributions, increasing knowledge sharing within the team and using collective intelligence. Innovative management in the context of big data and amoeba organisations supports organisations to successfully adapt to changing business environments and gain competitive advantage (Ekambaram et al., 2018: 854).

BIG DATA AND ITS IMPACT ON DECISION MAKING PROCESSES IN AMOEBA ORGANIZATIONS

Big data has an increasingly important impact on the decision-making processes of amoeba organisations. This chapter describes the positive effects of big data on decision-making in amoeba organisations.

Big data gives amoeba organisations access to large and diverse data sets. These rich data sources give managers the chance to conduct data-driven decision-making processes. Big data analytics enables organisations to make more informed and accurate decisions based on historical data. The dynamic nature of Amoeba organisations necessitates fast and effective decision-making processes. Big data, combined with real-time data analytics, enables organisations to make instant situation assessments and make quick decisions based on this information. In this way, organisations can maintain their competitive advantage and evaluate opportunities more quickly (Jung and Shegai, 2023:4; Öztırak and Orak, 2022: 608). Big data provides detailed information about customer behaviour. Amoeba organisations can personalise and improve the customer experience by using this data. Organisations that adopt customer-oriented strategies in their decision-making processes gain competitive advantage by increasing customer satisfaction. Big data helps organisations to encourage innovation (Vasilopoulos et al., 2023: 472). Amoeba organisations can develop creative solutions by identifying new opportunities and trends with big data analytics. This enables the adoption of more innovative and competitive strategies in decision-making processes. Big data enables amoeba organisations to manage their operational processes more efficiently. Data analytics helps organisations to optimise internal processes, use resources more effectively and reduce costs (Zhang et al., 2023: 184). This contributes to increasing operational efficiency in decision-making processes. This interaction between big data and amoeba organisations contributes to

strengthening the competitive advantage of organisations by making decision-making processes more informed, fast and effective.

DATA-BASED DECISION MAKING

The interaction between big data and amoeba organizations highlights data-based decision-making processes. Data-based decision-making is a strategy that aims to enable organizations to make more informed and effective decisions using comprehensive data sets obtained through big data analytics.

Big data offers a wide range of data to amoeba organizations. Large and diverse data sets from different sources add depth to organizations' decision-making processes. This diversity provides decision makers with a more comprehensive perspective, allowing them to make more accurate and informed decisions. Data-based decision-making benefits from the real-time analysis opportunities offered by big data analytics. Amoeba organizations can make quick decisions and instantly optimize their business processes by evaluating instant data streams (Soto Setzke et al., 2023: 1121). This is a critical factor in providing competitive advantage. Machine learning algorithms integrated with big data give amoeba organizations the ability to predict future trends and possible scenarios. Data-based decision-making allows organizations to shape their strategic decisions using these predictive analyses.

Big data has the capacity to provide personalized recommendations based on the past behavior of individual users. Data-based decision making helps leaders and decision makers make more effective decisions by providing them with analysis specific to their needs using this personalized data (Patwary et al., 2024: 671). Data-based decision making processes include evaluating possible risks with big data analytics and developing strategies against these risks. Decisions based on reliable and accurate data help amoeba organizations cope with uncertainties and minimize risks. Big data analytics plays an important role in monitoring and

evaluating the performance of organizations. Data-based decision making processes adopt continuous improvement strategies using the information obtained from these analyses.

FAST DECISION MAKING AND FLEXIBILITY

The interaction between big data and amoeba organizations brings fast decision making and flexibility to the forefront. These elements are critical for organizations to gain competitive advantage and adapt to the rapidly changing business world.

Big data offers amoeba organizations real-time data analysis. This allows organizations to make fast decisions by evaluating instant data streams. Real-time data analysis is critical for gaining competitive advantage and responding quickly to changes in the market. Big data gives organizations the power to predict future trends with predictive analytics. This allows amoeba organizations to identify future challenges and opportunities in advance and make fast and informed decisions. Fast decision making and flexibility refer to the ability of amoeba organizations to quickly adapt to changing conditions (Somwethee et al., 2023: 3). Big data offers organizations the capacity to integrate information from various data sources and determine flexible strategies based on this information. This allows organizations to keep up with rapidly changing market dynamics.

Big data provides organizations with decision-making capabilities supported by AI and machine learning algorithms. This allows amoeba organizations to make smarter and faster decisions by extracting meaningful information from large data sets. Fast decision-making and flexibility drive innovation. Big data analytics enable organizations to continuously evaluate new opportunities and implement rapidly applicable innovations. This is important for maintaining competitive advantage. Flexibility refers to the ability of employees and teams to quickly adapt to various scenarios (Robertsone and Lapiņa, 2023: 5). Big data increases this

flexibility by providing employees with better information access and enabling teams to collaborate based on data.

In the context of big data and amoeba organizations, fast decision-making and flexibility are key elements for organizations that want to maintain competitive advantage and adapt to changing business environments. This article provides organizations with guidance on these important issues by discussing these concepts in detail.

INCREASED DECISION-MAKING QUALITY

The integration between big data and amoeba organizations brings about a qualitative increase in decision-making processes. This section discusses in detail how big data increases the quality of decision-making and how amoeba organizations can use this advantage.

Big data provides organizations with access to large and diverse data sets. This diversity enables the use of more accurate and reliable information in decision-making processes. Decision makers can make more robust decisions by integrating information obtained from various data sources. Big data analytics gives amoeba organizations the power to predict future trends and possible scenarios. This allows decision makers to make more informed decisions by providing the ability to predict factors that they could not predict before. The increase in decision-making quality is based on data-driven strategies (Nnaji et al., 2024: 86). Big data allows organizations to evaluate their past performance through data analytics and determine their future strategies accordingly. This supports more effective and strategic decisions.

Big data offers comprehensive analysis capabilities to amoeba organizations. In-depth data analysis allows decision makers to better understand and solve problems. Thus, decisions are made based on more information and understanding, which increases the quality of decision making. Machine learning algorithms integrated with big data help decision makers analyze more complex data sets and extract meaning from them. This enables smarter and data-driven

decisions in decision making processes. Big data offers organizations the ability to evaluate sensitive information including customer feedback, sentiment analysis, and social media data (Arowoogun et al., 2024). This increases the quality of decision making by enabling decision makers to respond more responsively and quickly to customer needs.

This increase in decision quality allows amoeba organizations to develop more robust strategies and gain competitive advantage. This article examines in detail the methods of improving decision quality in the context of big data and amoeba organizations and explains how these advantages can be maximized.

CONCLUSION

The interaction between big data and amoeba organizations has opened the doors to a new era in decision-making processes. Big data has given amoeba organizations the chance to adopt a data-driven decision-making culture. Decision makers make more informed and accurate decisions by integrating information from various data sources. This allows organizations to optimize their strategic management and become more competitive. Big data has provided amoeba organizations with rapid decision-making and flexibility capabilities. Thanks to real-time data analysis, predictive analytics, and machine learning-supported decisions, organizations can quickly adapt to dynamic business environments and maintain their competitive advantage. Analytical methods integrated with big data have increased the quality of decision-making processes. Accuracy, predictive capabilities, comprehensive analysis capabilities, and sensitivity have enabled organizations to make more informed and effective decisions. Big data offers organizations the potential to promote innovation and creativity. Data analytics guide organizations in identifying new opportunities, predicting trends, and continuously improving business processes, thereby increasing their competitive advantage.

RECOMMENDATIONS

This study emphasizes the importance of an innovative management approach in decision-making processes by addressing the interaction between big data and amoeba organizations. In this context, the following recommendations are presented to managers.

- Organizations should create a data strategy to use big data effectively.

- Big data and innovative management strategies require managers and leaders to have knowledge on this subject. Managers should be encouraged to receive continuous training in order to improve their knowledge and skills on big data analytics, artificial intelligence and other innovative technologies.

- Real-time data analysis allows organizations to extract meaning from instantly changing data streams and make quick decisions. Managers should optimize their business processes and gain competitive advantage by using these technological opportunities.

- Managers should encourage their teams, encourage creativity and enable continuous improvements in business processes.

- Managers should increase security measures in the use of big data and give special importance to data ethics issues and raise awareness in their organizations on this issue.

- Managers should encourage employees' participation in this process, provide them with training and development opportunities, and reward their success in this area.

ROADMAP FOR FUTURE RESEARCH

This study sheds light on the current situation and developing management strategies by addressing the interaction and innovative management between big data and amoeba organizations. In future research, it is important to understand the evolution of the relationship between big data and amoeba organizations. The effects of factors such as technological developments, cultural changes, and market dynamics on this relationship should be

investigated in depth. Future research should focus on how to develop methods to establish big data ethics standards and ensure compliance with these standards. Artificial intelligence and machine learning can further optimize decision-making processes by combining with big data analytics. Future research should examine how these technologies can be integrated into management strategies in amoeba organizations and what kind of advantages this integration can provide to organizations.

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