



The Linkage HR Agility and Organizational Innovation: An Analysis of Technology-Based Companies

Megawaty¹, Hendriadi²

¹Management Department, Institut Bisnis dan Keuangan Nitro Makassar

²Management Department, Universitas Sulawesi Tenggara Kendari

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Abstract

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This research aims to understand the relationship that exists between HR Agility and organizational innovation in the context of technology-based companies. Rapid technological transformation and constant changes in the business environment require technology-based companies to be highly responsive to change and innovate continuously. One important element in responding to these changes is human resource agility. This research uses a qualitative descriptive approach by conducting analysis on a number of technology-based companies in the city of Makassar that have demonstrated a high level of innovation. Data was collected through in-depth interviews with stakeholders and observations of the company environment. The research results show that there is a strong relationship between HR's ability to adapt to change (HR Agility) and the level of organizational innovation. Companies that have strong HR Agility practices tend to have higher levels of innovation. This research identifies factors that support HR Agility in the context of technology-based companies, including employee development, an organizational culture that supports innovation, and a management system that is responsive to change. The results of this research provide valuable insights for organizational leaders and human resources professionals in understanding the role of HR Agility in driving organizational innovation in a rapidly changing business environment.

✉ Corresponden Author
(*) Author

Email:
mega.hendriadi@gmail.com¹, hendriadi.my@gmail.com²

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Introduction

Technological developments and increasingly dynamic markets have encouraged organizations, especially technology-based companies, to continue to

innovate in order to maintain their competitiveness. Innovation is one of the key factors in achieving long-term success in the business world (Jovanović, et al., 2017). However, organizational innovation cannot be achieved without a strong link between human resources (HR) and innovation strategy.

Human resources who have agility in various aspects of work and skills that are relevant to changing market demands have an important role in spurring innovation within organizations (Azeem, et al., 2021). The skills, knowledge and abilities of individuals in organizations can be key drivers of change and innovative development. Therefore, understanding the relationship between HR agility and organizational innovation is very important.

On the other hand, technology-based companies often operate in highly competitive and rapidly changing environments. They must pay attention to the latest technology trends, respond to market changes, and adapt quickly. Therefore, these companies have a greater need to have human resources who have high agility and can contribute to the innovation of their organizations.

Like many technology companies in Makassar City, which, like many cities around the world, is experiencing climate change and other environmental challenges and has been affected by the Covid-19 pandemic situation that has just been faced. The new normal era that we are currently facing has forced many companies to change their operations (Adam & Alarifi, 2021). Technology companies in Makassar City face challenges in maintaining the continuity of their operations and ensuring their employees are safe. Apart from that, the pandemic has affected consumer patterns and market needs. Some technology companies have seen an increase in demand for digital solutions, while others could face a decline in demand. These changing environmental demands are also driving significant changes in ways of working, including the adoption of remote work. Technology companies in Makassar City must adapt to a more flexible working model and consider the long-term impact.

Flexibility in work models is essential considering changes in market dynamics, technological developments and ever-evolving global challenges. By adopting a more flexible work model, companies can increase responsiveness to external changes, increase employee productivity and increase competitiveness (Ahammad, et. al., 2020). This adaptation is not only related to time flexibility, but also involves flexibility in the way employees collaborate and communicate. The use of digital technology and online collaboration tools can facilitate teamwork without geographic boundaries, allowing employees to work efficiently without being limited by the physical boundaries of the office. It can also improve employees' work-life and personal life balance, creating a more inclusive work environment. However, while adopting a more flexible working model, companies need to consider the long-term impact. This includes evaluating employee welfare, maintaining company culture, and managing internal communications. Implementing a more flexible work model must be balanced with efforts to ensure that employees remain connected, informed and engaged in the company's vision and values.

However, despite its importance, not much research has specifically explored the relationship between HR agility and organizational innovation, especially in technology-based companies. Therefore, this study aims to investigate and analyze the relationship between HR agility and the level of

organizational innovation in the context of technology-based companies. It is hoped that the results of this research will provide valuable insights for further research as well as for managers and organizational leaders in their efforts to increase the innovation and competitiveness of their companies in this fast-paced, digital era.

HR Agility

HR Agility, or Human Resource Agility, is a concept that includes the ability of the human resources department to face and adapt to change quickly and effectively (Ahammad, et. al., 2020). This theory emphasizes the importance of organizational flexibility, which involves adapting HR structures, processes and policies according to the dynamics of the internal and external environment. This flexibility is key in dealing with changes in business conditions, technology and market competition that can occur suddenly. By adapting organizational structures, companies can be more responsive to new opportunities or emerging challenges. Likewise, adapting HR processes and policies enables organizations to utilize human resources more efficiently according to evolving demands. In this essence, HR agility views organizational flexibility as the basis for achieving the adaptability needed to face continuous change in the business world. Organizational flexibility is essential to ensure that companies can respond to new challenges and opportunities quickly and effectively. This creates an environment where change is not viewed as an obstacle, but as an opportunity to improve and develop.

HR agility also includes establishing a culture of innovation within the organization, creating an environment where employees feel encouraged to contribute with new ideas and experimentation. Investment in employee development is a key element, with a focus on developing skills that support adaptation and problem solving. Responsive HR systems and technology, supportive leadership, and the ability to manage change well are also important elements in HR agility theory. Thus, this concept views HR as a strategic partner capable of responding to market dynamics and ensuring the organization remains competitive through rapid adaptation and continuous innovation. Every human resource in the organization is open to collaboration and contribution in order to provide the best for the organization and the parties who interact directly with the organization. Directly and indirectly, organizations that have agile human resources will make the organization more agile and perform better.



Figure 1. Relationship between Agile HR and Agile Organizations
Source: Munteanu et al. (2020)

The image below shows that agility must be built from the personality of every human resource in the organization. To be able to compete globally, you have to be fully agile. Agility cannot be done half-heartedly. Therefore, companies must be able to make their human resources agile by creating programs that create the ability to adapt, innovate, collaborate and move quickly.

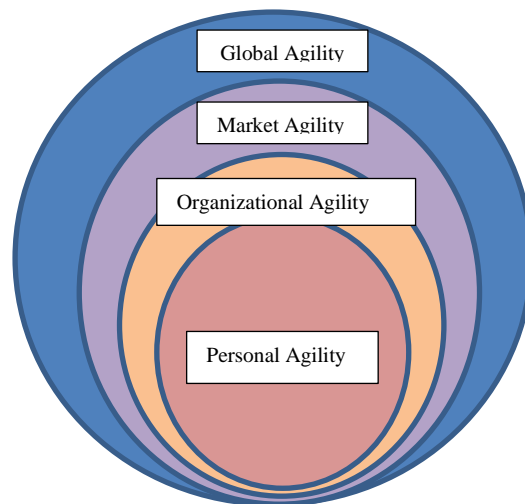


Figure 2. Agility Environment
Source: Perkin & Abraham (2017)

Organizational Innovation

Organizational innovation is a concept that includes the transformation and implementation of new ideas or creative solutions to improve performance and achieve organizational goals. It is not just about developing new products or services, but also involves changes in structure, processes, culture and management practices. Organizational innovation can arise from a variety of sources, including individual creativity, teamwork, and the adoption of new technologies. First, organizational innovation drives cultural change. An innovative culture creates an environment where employees feel encouraged to share ideas, take controlled risks, and engage in a continuous learning process. The drive to innovate does not only come from the management level, but is also upheld at all levels of the organization. Second, organizational innovation involves technology adoption and process updates. Innovative companies use technology as a tool to improve operational efficiency, accelerate product development, and create better customer experiences. Business process updates may also include internal restructuring to improve collaboration and responsibility. Furthermore, organizational innovation creates competitive advantage. Companies that are able to continuously innovate can respond better to market changes, get ahead of competitors, and build a reputation as industry leaders. Innovation may involve developing new products or services, diversifying a business, or expanding into new markets. Lastly, organizational innovation requires supportive leadership. Leaders who understand the value of innovation and provide support for experimentation and risk-taking play a key role in motivating employees to innovate (Hughes, et al., 2018). They also facilitate an open culture that encourages the exchange of ideas and collaboration. Thus, organizational innovation is not just about creating something new, but also about comprehensive transformation, forming a culture that supports creativity, adopting the latest technology, creating competitive advantages, and requires visionary leadership.

The importance of HR agility and organizational innovation for technology companies cannot be underestimated, considering the rapidly changing dynamics

of this industry. HR agility, with its focus on flexibility and adaptability in human resource management, is crucial as technology companies are often faced with sudden technological changes and the need to meet rapidly changing market demands. Employees who have adaptability and skills that continue to develop become valuable assets in this ever-changing environment (Azeem, et al., 2021).

Additionally, organizational innovation is a fundamental pillar for the success of technology companies. As an industry driven by technological developments and fierce competition, innovation is the key to leading the market and creating added value for customers. Technology companies that are able to create a strong culture of innovation and facilitate collaboration between departments can respond more quickly to market trends, produce superior products or services, and maintain a competitive advantage over the long term.

In this context, HR agility and organizational innovation are interrelated and mutually reinforcing. HR agility creates a work environment that allows employees to respond quickly to changes and new challenges, while organizational innovation creates a foundation for the development of new ideas and the implementation of creative solutions. Technology companies that successfully integrate HR agility and organizational innovation can create a responsive ecosystem, motivate employees to contribute innovative ideas, and ensure that the organization remains relevant in an era of ongoing digital transformation.

The research focus of this study is what is the relationship between HR agility and organizational innovation in technology companies in the city of Makassar? And what are the factors that support HR agility in the context of technology companies?

RESEARCH METHODS

This research on the relationship between HR agility and organizational innovation uses a qualitative approach. A qualitative approach is a research procedure that produces descriptive data in the form of written or spoken words from people and attitudes or behavior that can be observed directly. The qualitative approach is a particular tradition in social science that fundamentally relies on observing humans within their own reach and relating to these people in their own language and terminology (Sarosa, 2021). With this approach, researchers are expected to be able to collect and capture reality in the field by collecting data directly through interviews, documentation and direct observation of technology companies in the city of Makassar.

The data sources used in this research are primary data and secondary data. Primary data is data taken or obtained directly from the field or can also be called original data. This data source was taken from interviews with several middle and top management at technology companies in the city of Makassar. Secondary data is data obtained through previously existing sources and can be in the form of books, scientific magazines, official documents or similar literature. For this research, the data obtained was from written sources from books or literature related to the title and theme of the research.

Informants in qualitative research are needed to obtain information related to the research theme. Informants are individuals or groups who provide information, insight, or their personal experiences to researchers (Sarosa, 2021).

They are the main source of data in this study. Informants can come from various backgrounds and have relevant experience related to the research topic. Informants can provide in-depth insights, opinions and perspectives that are valuable for researchers to understand the topic being researched. The interaction between researchers and informants is often at the heart of data collection in qualitative research. In this study, informants were selected based on a purposive method, namely informants who were deemed to know in detail regarding the research topic, so that the informants were the leaders and HRD managers of 5 technology companies in the city of Makassar.

Data collection techniques in this research were carried out by interviews and observation. In-depth interviews were conducted based on the research instruments/questions needed to answer the research focus. The observations were carried out involving direct observation of behavior, interactions or conditions in the technology company environment in Makassar. Observations were carried out by researchers without intervention on the subjects being observed.

The research instrument is questions asked to informants to find out and analyze the relationship related to HR agility and organizational innovation, namely: 1). Explain your understanding of the concept of HR agility in an organizational context?; 2). How do you define organizational innovation in the context of technology companies?; 3). What factors drive the need for technology companies to become more agile in HR management?; 4). How does your company integrate the concept of HR agility into HR management practices?; 5). What concrete steps has the company taken to create a work environment that supports flexibility and adaptability?; 6). How does your company encourage creativity and innovation among employees?; 7). How does HR agility contribute to a company's ability to innovate?

Data analysis techniques are used with the help of the NVIVO qualitative data processing application to draw facts and relationships connected between HR agility and organizational innovation in technology companies in the city of Makassar. Sutopo (2021) said that data analysis is a process that regulates the sequence of data, organizing it into patterns, categories and basic units of description. In this research, the author used non-statistical data analysis techniques. Remembering that the written data is not in the form of statistical data, so it does not use a mathematical model. This data analysis is only carried out in data processing such as checking field data, which in this case includes conversations or interviews and a collection of opinions that have been obtained in research and then the process of decomposition and interpretation is carried out. The research data that has been obtained is then analyzed and processed in the following way: 1). Data reduction, this process is a step in selecting or focusing attention at a simpler level, providing an overview of the transformation of existing data and processing from data in the field. This process is also called a form of analysis that sharpens data results by sorting or discarding unnecessary information and organizing data so that final conclusions can be drawn and verified more easily. 2). Data presentation, presentation of a collection of information from the field that is compiled and provides the possibility for drawing conclusions and taking further action. 3). Data verification, drawing conclusions from information obtained from the field that can be reviewed and tested for truth.

RESULT

In this research, data was collected through 10 (ten) informants whose characteristics can be seen in the following table.

Table 1. Characteristics of Informants

Informant	Age	Position	Gender
1	44 Years Old	Director	Male
2	48 Years Old	HR Manager	Male
3	39 Years Old	Branch Head	Male
4	32 Years Old	Head of HR Division	Female
5	49 Years Old	Director	Male
6	45 Years Old	HRD Department	Male
7	40 Years Old	Leader	Male
8	31 Years Old	HR Manager	Male
9	41 Years Old	Head Office	Male
10	30 Years Old	HR Division	Female

Source: Interview Results (2023)

The results of this research show that there is a very close relationship between HR agility and organizational innovation in technology companies in the city of Makassar. The 10 informants who were interviewed showed the importance of the role of management. Human resources in encouraging the company's innovative capabilities. This close relationship can be interpreted as a link between human resource management policies and practices that support flexibility and adaptability with the company's ability to create and adopt innovative solutions.

Table 2. Data Analysis Results

No.	Instrument	Average Informant Answers	Nvivo Data Reduction
1.	Instrument 1	HR Agility as a concept highlights the HR department's ability to adapt or respond to change quickly and effectively.	Respond quickly to conditions.
2.	Instrument 2	The process or activity that involves developing and implementing new ideas, practices, or creative solutions in various aspects of an organization. In technology companies, organizational innovation is not limited to the development of new products or services, but also includes changes in corporate structure, processes and culture.	Development of creative ideas and solutions.
3.	Instrument 3	Here are some key factors: Human resource development, remembering	The three main factors are HR

		that companies need creative and innovative teams to produce products or services, an innovative organizational culture, and a management system that can help companies strengthen operational activities.	development, innovative culture, and management system.
4.	Instrument 4	The company prioritizes the concept of HR agility as the main foundation in managing Human Resources (HR). Companies integrate management practices that support flexibility, adaptability, and innovation in response to an ever-changing business environment. The company systematically develops employee skills through training programs that focus on leadership development, problem solving and creativity.	Integrate flexible, adaptable and innovative management practices.
5.	Instrument 5	Concrete steps taken by the company: developing a work flexibility policy, implementing a hybrid work model, investing in collaborative technology, building an open and inclusive culture, facilitating employee training and development, involving employees in decision making, setting clear goals and evaluating performance, providing work options. life balance, promoting team collaboration, as well as continuous monitoring and assessment.	Flexibility policies, technology and HR performance evaluation.
6.	Instrument 6	The company encourages creativity and innovation among employees through a number of initiatives designed to provide encouragement, support and a platform for new ideas. Here are some concrete steps: innovation programs, collaboration forums, multifunctional work teams, innovation awards, creativity training, innovation management processes, innovation centers or creativity laboratories, technological facilities and collaboration tools, a culture of accepting controlled risks, and linking innovation with business goals.	The company creates an environment where creativity and innovation can thrive, driving growth and excellence in an ever-changing marketplace.
7.	Instrument 7	HR agility plays a central role in improving a company's ability to innovate successfully. Through an adaptive and responsive approach,	Establishing a performance management

		<p>HR can form a team consisting of individuals with skills and talents that support innovation. A strategic recruitment process ensures that the company has human resources who have relevant skills and the ability to think creatively. Employee development is a key focus of HR agility, with the provision of ongoing training and access to the latest updates in the industry. A responsive performance management system enables the identification and recognition of performance that supports innovation. HR agility also plays a key role in shaping an organizational culture that encourages creativity and experimentation.</p>	<p>system, providing training and an innovative organizational culture.</p>
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Source: Data Analysis Results (2023)

Based on table 2 above, it can be explained that the relationship between HR agility and organizational innovation in technology companies in Makassar City is very close and crucial to achieving competitive advantage in a dynamic business environment. HR agility in this context includes the ability to respond and adapt company HR to rapid changes, including technological changes, industry trends, and market needs (Mollet & Kaudela-Baum, 2022). First, technology companies in Makassar City that have high HR agility tend to have smart recruitment and selection policies. They can quickly identify and recruit individuals with the technical and creative skills necessary for innovation. A recruitment process that is responsive to market and technological changes is one of the key aspects of HR agility. Second, HR agility supports sustainable employee development. Through training and development programs, employees can continually update their skills, keep up with technological developments, and gain a deep understanding of the latest industry trends. This provides a strong foundation for innovation, as employees have a deep understanding of the changes and opportunities around them. Furthermore, responsive performance management is an integral part of HR agility. An evaluation system that focuses on achieving innovative goals, assessing creativity, and adaptability creates an environment where employees feel encouraged to create new solutions and innovate. HR agility also influences the company's organizational structure. A more flexible and collaborative structure supports the exchange of ideas and teamwork, which are essential for innovation. Technology companies that have HR agility tend to have diverse and multidisciplinary work teams, encouraging collaboration between departments to produce innovative solutions. In this context, HR agility also plays a role in shaping an organizational culture that supports innovation. A culture that encourages experimentation, creativity, and controlled risk-taking creates an environment conducive to new ideas and the development of innovative solutions (Baran & Woznyj, 2021).

DISCUSSION

Findings in several literatures indicate that HR agility has a significant role in driving organizational innovation in the technology sector (Christofi, et al., 2021). The close link between HR agility and innovation is apparent through responsive recruitment policies, with companies tending to attract talented individuals who possess innovative skills. Employee development is also an important focus, with HR agility reflected in the company's efforts to continue developing skills in line with the demands of innovation and technological development. Performance management that supports innovation and an organizational culture that encourages creativity are other key elements that can be found in previous research (Alqudah, et al., 2022). Moreover, flexible and adaptive organizational structures are also identified as factors that support innovation. This is also what is new in this research, namely that this research explores the relationship between HR agility and technology-based organizational innovation. This research can fill the knowledge gap by discussing how technology companies in Makassar City manage critical aspects of HR agility, such as recruitment, employee development, and performance management, to support the innovation process. The research findings can provide practical insights to companies in the region on how to improve their innovative capabilities through more adaptive HR management practices (Affandy, 2018). By exploring the relationship between HR agility and organizational innovation in a technological context, this research can also enrich the management and innovation literature with a specific perspective on the technology industry. The research results can provide more concrete guidance for technology companies in Makassar City in optimizing their HR strategies to achieve higher levels of innovation. Thus, the uniqueness of this research lies in its contribution to the understanding of the relationship between HR agility and organizational innovation in the context of a very dynamic and developing technology business in Makassar City.

CONCLUSION

Based on the results of the research and discussion, it can be concluded that HR agility plays a crucial role as the main driver of innovation in technology companies in the city of Makassar. HR's ability to adapt to change, recruit innovative talent, and develop employee skills has been positively associated with high levels of innovation. The factors that support HR agility in the context of technology-based companies include employee development, an organizational culture that supports innovation, and a management system that is responsive to change.

This research makes a significant contribution both at the theoretical and practical levels in understanding the relationship between HR agility and organizational innovation, especially in the context of technology companies in Makassar City. From a theoretical perspective, this research opens a new window of insight into how HR agility can be a key driver of innovation. Theories previously related to human resource management and innovation receive further strengthening and development through contextual understanding and special factors faced by technology companies in Makassar City. The integration of the concept of HR agility as a foundation for adaptability and responsiveness in the context of organizational innovation provides a valuable contribution to the management literature. From a practical perspective, this research provides valuable guidance for practitioners and decision makers in technology companies.

The practical implications of the research findings, such as adaptive recruitment strategies, emphasis on employee development, and the creation of an organizational culture that supports innovation, can be implemented to improve companies' innovative performance. Companies can use the results of this research as a basis for designing and updating their human resources policies so that they are more responsive to the demands of innovation in a rapidly changing business environment.

For future research, a number of suggestions can be taken as a basis for developing a deeper understanding of the relationship between HR agility and organizational innovation. First, research could explore specific variables that influence these associations, such as organizational culture, leadership policies, or other contextual factors. Furthermore, comparative studies across industries or regions can provide more detailed insights, allowing the identification of best practices and significant differences. A more comprehensive measure of innovation, involving various aspects of innovation, could also be the focus of future research. Analysis of how technological changes influence the dynamics between HR agility and innovation could be an interesting research area amidst continuing technological developments. A longitudinal approach can help track changes and the long-term impact of human resource management practices on innovation. Experimental or intervention studies could also provide stronger causal evidence about the impact of HR agility strategies on innovation. The influence of globalization and employee perspectives can also be integrated to provide a more comprehensive understanding. In addition, research in a specific industry context or with a focus on leadership roles can provide deeper and more relevant insights according to the needs of that sector. By taking these approaches, it is hoped that future research can make a more meaningful contribution to management theory and provide more effective guidance for practitioners in managing HR agility and stimulating organizational innovation.

Although this research provides valuable insight into the relationship between HR agility and organizational innovation in technology companies in Makassar City, several limitations need to be noted. First, the generalizability of the findings may be limited because this research is focused on a specific geographic context, namely Makassar City. This may limit the transferability of results to other industrial or regional contexts. Second, the use of certain qualitative methods in this research may carry limitations related to the viewpoint adopted. These methods do not cover all the complexities of the dynamics of the relationship between HR agility and organizational innovation. Furthermore, this research is limited to an internal perspective of the company, and external factors that may influence the relationship may not have been fully explained. Data limitations are also an obstacle, especially the data obtained does not cover the entire desired time period or certain data is difficult to access. Finally, the rapidly changing dynamics of technology businesses may mean this research does not represent recent changes in the industry. Therefore, while this study makes an important contribution, recognition of these limitations would provide a good basis for further, more in-depth and holistic research.

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