International Journal of
Economics Development Research, Volume 4(6), 2023
pp. 2805-2820

The Effect of Agile Leadership, Organizational Culture and Dynamic Capabilities on Organization Agility Mediated by Innovation in Automotive Manufacturing Companies

Dwi Astuti [1], S.Pantja Djati [2], Wahyuningsih Santosa[3]

Abstract:

The purpose of this study was to analyze the influence of agile Leadership, Organizational Culture and Dynamic Capability on Organization Agility with Innovation as a mediating variable in automotive manufacturing companies in the Bekasi industrial area. The research method used in this study is quantitative research. Based on the Haier Sampling calculation, which is 5 times 73 indicators, it is known that the number of samples is 365 respondents who are middle and top management leaders with questionnaires distributed to respondents, namely 370 questionnaires. Data analysis in this study used the SEM-PLS (Structural Equation Model-Partial Least Squares) method with SmartPLS 3.0 software. The results of this study indicate that agile Leadership has a positive influence on Organization Agility. Organizational Culture has also been shown to have a positive effect on organizational agility. However, no significant effect was found from dynamic capabilities on organizational agility. Innovation plays a positive role in increasing Organizational Agility. Agile Leadership has a direct effect on innovation. Dynamic Capabilities have a positive impact on innovation, as well as organizational culture has an effect on innovation. In addition, agile leadership and organizational culture also affect organizational agility through innovation. Dynamic Capabilities also have a positive effect on organizational agility through innovation. The implication of this study is that Agile leadership and a supportive organizational culture play an important role in enhancing agility and innovation in the manufacturing sector. Management should encourage agile leadership by accelerating decision-making processes, improving transcription, and encouraging collaboration, as well as building an adaptive and collaborative culture. Although dynamic capabilities do not directly increase agility, they are still important to support innovation and adaptability. Continuous innovation in products, processes, and technologies must be driven through a culture that encourages creativity and learning from failure. By investing in the development of dynamic capabilities and new technologies, companies can continue to maintain competitiveness and responsibility in a dynamic market.

Keywords: *Agile Leadership, Organization Agility, Organizational culture Dynamic Capabilities, Innovation*

[1] *Faculty of Economics and Business, Universitas Trisakti, Indonesia. astutidwi307@gmail.com*
[2] *Institut Pemerintahan Dalam Negeri, Universitas Esa Unggul, Indonesia. sundring.pantja@esaunggul.ac.id*
[3] *Institut Pemerintahan Dalam Negeri, Universitas Trisakti, Indonesia. wahyuningsih@trisakti.ac.id*

1. Introduction

The development of the world today is rappidly increase, especially in the industrial sector. This has an impact on increasingly tight competition between existing industries or companies. Various efforts are made to become the best industry/company. Therefore, the role of management becomes important in its position, both production/operational management, marketing, human resources and finance. Operational management is an important management function for an organization or company. Operational management is closely associated with the birth of Innovation and new technologies that are often applied in business operations.

Today's global challenges are increasingly complex and changing rapidly. Volatility, Uncertainty, Complexity, Ambiguity (VUCA) has become a key feature of the environment we face. Initially, the term VUCA was introduced by the *United States Army War College* to describe the impact of the Cold War. However, in the modern context, VUCA conditions have re-emerged, especially in response to the pandemic that has hit the world. This VUCA era requires organizations to adapt to changing situations. Business models that are too rigid or too rigid must be updated to more agile models in order to be able to face the various challenges that arise in this era. (Millar et al., 2018).

The background of this research is conducted in automotive manufacturing companies, the automotive sector is a very relevant topic considering the dynamics of the automotive industry which is fast and continues to grow. In this context, a number of problems arise that require in-depth understanding and the right strategy to improve the company's Organization Agility in this highly competitive industry.

The automotive industry, especially in the automotive manufacturing sector, is faced with a number of challenges that need to be overcome. First of all, the tight global competition requires automotive companies to continue to improve the company's competitiveness. In the face of increasingly tight global competition, these companies need to understand and manage factors such as production costs, product quality, and technological innovation to maintain and increase market share.

In addition, rapid changes in automotive technology are one of the main issues faced by automotive manufacturing companies. Technological developments such as electric vehicles, automation, and connectivity are changing the traditional paradigm in vehicle production and design. Therefore, these companies need to have high adaptability and innovation to keep up with the latest technology trends and meet the ever-growing demands of consumers.

Equally important, environmental and sustainability issues are also in the spotlight in the context of the automotive industry. The demand for more environmentally friendly vehicles and increasingly stringent regulations regarding greenhouse gas emissions require automotive companies to develop more environmentally friendly technologies and modify production processes to be more sustainable.

Agile Organization variables are central to responding to these issues. Organizations that acquire agile characteristics are able to adapt to change efficiently, innovate

quickly , and understand market needs better. Successful implementation of Agile practices in an organizational structure can create a work environment that facilitates collaboration between units, gives employees the freedom to innovate , and improves the organization's ability to anticipate and respond to external changes. Speed and responsiveness in dealing with market, technology, and policy changes are key to maintaining competitiveness. In the automotive business, where product and technology cycles are evolving rapidly, the need for business continuity through rapid adaptation is becoming increasingly urgent.

In this context, the human aspect of the organization becomes key to achieving the desired characteristics of an Agile organization. According to (Crowe and Abraham, 2019), success in moving towards an agile organization is highly dependent on the skills, attitudes, and behavior of the organization's people who are able to adapt to new strategies, structures, work processes, and even the autonomy possessed by teams and individuals.

Agile organization does not only depend on structural or procedural aspects. As shown by research (Sakitri, 2021), this success is highly dependent on the abilities, attitudes, and behaviors of individuals in the organization who are able to adapt to changes in strategy, structure, work processes, and the granting of new autonomy to teams and individuals.

The importance of Innovation is recognized in this study as a mediating variable that connects Agile Leadership, Organizational culture, and Dynamic Capabilities with Organization Agility. By carrying the concept of Innovation as mediator, this study tries to provide a significant contribution to the understanding of how Agile Leadership, Organizational culture, and Dynamic Capabilities can synergize and provide a positive impact towards organization's adaptability and Organization Agility.

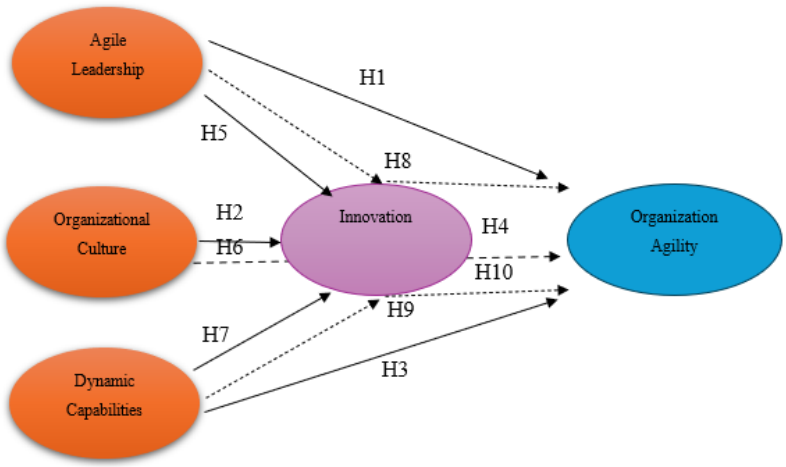

Figure 1. Conceptual Framework

2. Methodology

The research method used in this study is quantitative research by collecting data using research instruments with a cross-sectional data model collected at one point in time from

various subjects, data analysis is quantitative or statistical, so with quantitative research methods, the object to be studied is the influence of agile leadership, organizational culture and dynamic capabilities on organizational agility with innovation as an mediating variable, on the leaders of automotive manufacturing companies with data collection through statistical instruments and analysis. (Gunawan, 2016). Aims to develop a mathematical model, where this research does not only use theories taken from literature or theory studies, but it is also very important to build hypotheses that are related to the natural phenomena to be studied (Salmaa, 2021).

Sampling Techniques

The sample was taken using a non-probability technique, namely by purposive sampling. Based on the Haier Sampling calculation, namely 5 times 73 indicators, it is known that the number of samples is 365 respondents who are middle and top management leaders. A number of 370 Questionnaires distributed to respondents.

Automotive manufacturing company leaders at the strategic policy-making level. The number of samples in this study that were successfully obtained would be respondents, using primary data and distributing questionnaires. The distribution of questionnaires in this study used research data collection techniques via mail/online questionnaires filled out directly by respondents via google form, with following criteria:

1) The leader has worked for more than 1 year in the company.
2) Each company is represented by middle and top management, with this level being the level that determines strategic policy.
3) The sample used for open questions in order to triangulate data to obtain in-depth information from all officials/staff of the decision-making institution.

Data Analysis Methods

Data analysis in this study used the SEM-PLS (Structural Equation Model-Partial Least Squares) method with SmartPLS 3.0. Researchers used the SEM-PLS method because it can be used for all types of data scales, including parametric and non-parametric, and easier assumptions.

Hypothesis Testing

Hypothesis testing in this study uses structural model testing (Inner Model). This structural test aims to test the relationship between latent constructs. Inner Model evaluation is carried out by bootstrapping test. This analysis is carried out by comparing the t-table value with the t-statistic value which will later come from the bootstrapping results.

Hypothesis testing is done by looking at the path coefficient value (β) and the significance value (p-value). If the path coefficient value is positive, this indicates that the exogenous construct is positively related to its endogenous construct, while if the path coefficient value is negative, the exogenous construct is negatively related to its endogenous construct. To find out whether a significant relationship can be seen from the P-value , whether the hypothesis is supported or not. The hypothesis is supported if the P-value Coefficient can be stated as significant, if the p-value (p-value) is smaller than the significance level, then it is stated as significant. In the application, it usually assumes a significance level of 5%. if the p-value (p-value) is below 0.05 (<5%) (significance level = 5%) and (significance level = 1%) it can be said to be significant. The hypothesis is supported (accepted) if the t-statistic value is higher than the t-table value with significance through P-value a < 5%, p-

val < 0.05 (Hair and Joseph, 2017)

3. Empirical Findings/Result

Table 1. Characteristics Respondents

No	Characteristics	Frequency	Percentage (%)
1	Gender		
	Man	216	58.4
	Woman	154	41.6
	Total	370	100.0
2	Age Group		
	> 50 Years	22	5.9
	41 - 50 Years	106	28.6
	31 - 40 Years	129	34.9
	21 - 30 Years	113	30.5
	Total	370	100.0
3	Education		
	Doctorate / S3 / equivalent	7	1.9
	Master / S2 / equivalent	61	16.5
	Bachelor / S1 / equivalent	187	50.5
	High school / equivalent	33	8.9
	Total	370	100.0
4	Position		
	Director / equivalent	27	7.3
	Director / equivalent	48	13
	Head of Division / General Manager	80	21.6
	Head Department / Manager	103	27.8
	Head of Sub Department / Supervisor	112	30.0
	Total	370	100.0
5	Length of work		
	> 20 Years	19	5.1
	16 - 20 Years	48	13.0
	11 - 15 Years	77	20.8
	6 - 10 years	119	32.2
	15 years	107	28.9
	Total	370	100.0

Source : Processed by Researcher

Analysis of Research Results

Table 2. Reliability Test Results

Variables	Dimensions	Cronbach Alpha	Conclusion
Organization Agility	*Sensing agility*	0.827	Reliable
	Decision making agility	0.811	Reliable

Variables	Dimensions	Cronbach Alpha	Conclusion
	Acting agility	0.874	Reliable
Agile Leadership	*Result Orientation*	0.690	Reliable
	Competence	0.873	Reliable
	Team Collaboration	0.896	Reliable
	Change oriented	0.853	Reliable
	Flexibility	0.868	Reliable
	Quickness	0.891	Reliable
Organizational culture	*Clan Culture*	0.784	Reliable
	Adhocracy Culture	0.692	Reliable
	Market Culture	0.736	Reliable
	Hierarchy Culture	0.751	Reliable
Dynamic Capabilities	*Knowledge Absorption*	0.744	Reliable
	Knowledge Exploitation	0.781	Reliable
	Utilization of Knowledge	0.716	Reliable
Innovation	*Product Innovations*	0.673	Reliable
	Production Process Innovations	0.730	Reliable
	Managerial Innovations	0.735	Reliable
	Marketing Innovation	0.746	Reliable

Source : Processed by Researcher

Hypothesis Test Results Study

Table 3. Results of Direct Relationship Hypothesis Testing

Influence	BETA	P-Values (1-tail)	Decision
Agile Leadership -> Organizational Agility	0.428	0.000	H_1 supported
Organizational Culture -> Organizational Agility	0.164	0.033	H_2 supported
Dynamic Capabilities -> Organizational Agility	0.028	0.195	H_3 not supported
Innovation -> Organizational Agility	0.186	0.005	H_4 supported
Agile Leadership -> Innovation	0.347	0.000	H_5 supported
Organizational Culture -> Innovation	0.178	0.020	H_6 supported
Dynamic Capabilities -> Innovation	0.369	0.000	H_7 supported

Source : processed by researcher using SmartPLS 3.0

Table 4. Indirect Relationship Hypothesis Test Results

Influence	BETA	P-Values (1-tail)	Decision
Agile Leadership -> Innovation -> Organizational Agility	0.065	0.016	H_8 supported
Organizational Culture -> Innovation -> Organizational Agility	0.033	0.026	H_9 supported
Dynamic Capabilities -> Innovation -> Organizational Agility	0.069	0.010	H_{10} supported

Source : processed by researcher using SmartPLS 3.0

4. Discussion

H_1: The Influence of Agile Leadership on Organization Agility

In practice, the positive impact of agile leadership on organizational agility can be seen from various case studies and experiences of organizations in various industries. Agile Leadership encourages open and transparent communication, so that information can flow more quickly and efficiently throughout the organization. In addition, agile leaders tend to be more proactive in facing challenges, meaning leaders not only react to change but also look for opportunities in it. This allows organizations to respond more quickly to the market, introduce Innovation more efficiently, and overall increase the organization's resilience to external disruptions.

Agile Leadership implementation often involves Agile work methods such as Scrum, Kanban, and Lean methods. By implementing these methods, organizations can increase operational flexibility and accelerate product or service development cycles. For example, in the technology industry, companies that implement Agile Leadership are able to roll out software updates faster, get feedback from users in a shorter time, and make necessary adjustments in real time. As a result, organizations not only become more Agile but also more competitive in the marketplace.

Overall, from both a theoretical and practical perspective, it is clear that agile leadership plays a crucial role in enhancing organizational agility. Responsive, collaborative, and innovative leadership not only facilitates faster adaptation to change, but also fosters an organizational culture that is ready to face future challenges with more confidence and efficiency.

H_2: The influence of organizational culture on organizational agility

Automotive manufacturing companies that successfully implement a positive organizational culture often demonstrate high levels of agility. For example, companies like Toyota that have adopted the principles of lean manufacturing and kaizen (continuous improvement) have a culture that strongly supports flexibility and adaptability. Employees at all levels are encouraged to contribute to process improvement and innovation, which ultimately allows the company to react quickly to challenges and opportunities in the marketplace. This culture not only improves operational efficiency but also allows the company to quickly adjust production to changing consumer demand and market conditions.

Thus, the hypothesis that organizational culture has a positive effect on organizational agility in the automotive manufacturing context is proven to be relevant. A culture that supports innovation, collaboration, and open communication can accelerate the decision-making process and the implementation of strategic change, allowing companies to remain competitive in an ever-evolving market. Practical implementations of this concept can be seen in various industry best practices, such as the Toyota production system, which demonstrates how the right culture can drive agility and long-term success.

H_3: The influence of Dynamic Capabilities on Organizational Agility

Automotive manufacturing companies may need to combine dynamic capabilities with other strategies and tools to increase agility. For example, adopting digital technologies and automation can provide greater flexibility in production and distribution, while a more agile and decentralized management approach can reduce bureaucratic barriers and enable faster response to market changes. In addition, collaboration with suppliers and other partners in the supply chain can also improve a company's ability to adapt to changes in the external environment more effectively.

Thus, while dynamic capabilities are important, they may not be the only factor determining organizational agility in the automotive industry. Companies need to adopt a more holistic and integrative approach to address the complex and dynamic challenges of today's global marketplace.

H_4: Influence of Innovation on Organizational Agility

Organizations build new business models to combine existing resources into more dynamic, mobile capital (Hock-Doepgen et al., 2021). By leveraging knowledge-based dynamic capabilities, organizations are able to respond to market changes quickly and effectively, and improve their ability to adapt to changing conditions. This suggests that an organization's ability to innovate and develop new strategies directly impacts their agility in facing challenges and opportunities in the market, which ultimately improves overall organizational performance. Therefore, this study supports the idea that innovation is a key factor driving organizational agility, in line with the hypothesis proposed in the initial conceptual development of this study.

The results of the study are in accordance with (Ravichandran, 2018) who found that the company's innovation capacity and IT competence have an impact on agility. Consistent with the theory, the results of this study found that companies with higher innovation capacity are able to utilize the company's digital platform capabilities more widely in increasing the company's agility. In this context, organizational agility is the company's ability to adapt and respond to internal and external changes quickly and effectively. Innovation plays an important role in increasing this agility, because by innovating , companies can reduce the time required to develop and market new products, optimize business processes, and increase operational efficiency. As a result, automotive companies that integrate innovation into the company's business strategy tend to be more resilient and competitive, able to survive and thrive in a changing market.

In conclusion, both theoretically and practically, the relationship between innovation and organizational agility in automotive manufacturing companies is significant and positive. Innovation not only drives product and process improvements but also strengthens the company's ability to adapt quickly to change, which in turn improves the company's competitiveness and long-term sustainability.

H_5: The Influence of Agile Leadership on Innovation

The results of this study are supported by (Özdemir, 2023) that perceptions of agile leadership positively and significantly predict leaders' perceptions of innovation management competency. In addition, innovative leaders; who are expected to be agile leaders and have goals for learning, researchers, innovative, adaptable to change, are pioneers in many ways, make decisions together, care about collaborative work, have strong intuition, pursue new visions, try to present today's technological innovations to schools and can show sufficient flexibility in each subject. In this context, we can interpret that perceptions of agile leadership influence the perceptions of those who consider themselves competent in innovation management.

Study held by (Bayram and Öztirak, 2023) emphasize importance agile leadership and behavior innovative to perception employee to empowerment psychological. For reach success in leadership, need applied an approach that shows that employees and jobs they important for developing feature agile, following development technology, system communication and information For increase behavior innovative, and improve empowerment psychological.

Study from (Weiss et al., 2024) add confirmation study reach performance innovation sustainable Still become challenge big for company established Because need flexibility and capability high adaptability in organizations that usually structured in a way efficient. One of the method For overcome challenge. This lies in the formation of effective behavior for succeed build and implement mechanism leadership innovation in a emerging agile leadership organization can give effective behavior.

In addition, agile leadership also encourages culture an open and adaptive company, where every member of the team own voice and role in the process of taking decision. This is not only increase involvement employee but also possible company For more fast identify and address problems, and utilise new opportunity. Thus, agile leadership serves as a catalyst that accelerates the pace of innovation and increases the competitiveness of automotive companies in the dynamic global market.

H_6: The Influence of Organizational Culture on Innovation

This study is supported by (Büschgens et al., 2013) The results of this study are in line with the hypothesis proposed regarding the influence of organizational culture on innovation. Cumulative data show that managers in innovative organizations tend to implement a development culture that emphasizes external orientation and flexibility, which supports the hypothesis that an adaptive and open-to-change organizational culture is more supportive of innovation. Group culture and rational culture are also found to be consistent with the goals of innovative organizations, indicating that collaborative and results-based approaches can be effective social control strategies in the context of innovation. In contrast, hierarchical cultures that focus on control and internal orientation tend to be less supportive of innovation, consistent with the hypothesis that rigid organizational structures can hinder the innovation process. The analysis shows that the relationship between culture and innovation is not influenced by the difference between radical and incremental innovation, and there is only weak evidence regarding the difference in influence between innovation adoption and

innovation generation. These findings support the argument that different types of organizational cultures can affect innovation capabilities in different ways, but in essence, more open and adaptive cultures are more supportive of innovation.

The results of the study (Schuldt & Gomes, 2020) show that an organizational culture characterized by a small power distance and a high level of collectivism has a positive effect on the innovation development environment and organizational performance. This finding is in line with the hypothesis proposed in the development of the theory, which states that organizational culture has a significant influence on innovation. A culture with a small power distance creates a more egalitarian work atmosphere, allows for more open communication, and more effective collaboration among employees. Meanwhile, high collectivism encourages teamwork and mutual support, which ultimately increases the organization's ability to innovate. Therefore, the results of this study confirm that an organizational culture that supports collaboration and active participation from all members can create an environment conducive to innovation, in line with the previously proposed hypothesis that organizational culture influences innovation development.

Empirical research supports the hypothesis that positive organizational culture has a significant effect on innovation in the automotive industry. The study emphasizes that companies with strong and positive organizational cultures have a better ability to adapt to market changes, new technologies, and changing consumer trends. This not only helps them stay competitive but also enables them to become leaders in the development of advanced automotive technologies such as electric and autonomous vehicles.

Thus, to achieve long-term success, automotive manufacturing companies must actively build and maintain an organizational culture that supports innovation. Practical steps such as creating a supportive work environment, providing ongoing training, and recognizing and rewarding innovative contributions all play a critical role in shaping a culture that not only accepts but also encourages innovation.

H_7: The influence of Dynamic Capabilities on Innovation

In the study of (D.J. Teece, 2020) The dynamic capabilities framework takes a systemic approach to identifying sources of sustainable competitive advantage, encompassing the organization, its strategy, and the business environment. In contrast, open innovation focuses on relevant parts of the value chain but only implicitly involves strategy formulation, organizational design, regulatory influence, and so on. On the one hand, it is a principle, but also a set of processes that can be considered as micro foundations for higher-level capabilities in sensing, capturing, and transforming. The dynamic capabilities perspective is best suited to (but not limited to) thinking about high-level issues such as how open a company’s innovation process is, how well a company collaborates and learns from partners, or how successfully a company markets a new product. The application of open innovation principles is very useful for addressing not only high-level issues, but also the specific project level of innovation and its exploitation.

The results of the study (Saryadi & Arini, 2023) show that dynamic capabilities have

a significant positive effect on innovation performance. This finding is in line with the hypothesis proposed in the development of the theory, which states that dynamic capabilities affect innovation. Dynamic capabilities , which include the ability to sense and capture opportunities and threats, and the ability to reconfigure organizational resources, enable companies to adapt quickly to market and technological changes. This, in turn, drives innovation by providing flexibility and agility in new product development and process improvement. Therefore, the results of this study support the theory that dynamic capabilities are an important factor that facilitates innovation, and strengthen the argument that companies that actively develop and utilize dynamic capabilities are more likely to achieve competitive advantage through continuous innovation.

Thus, the positive relationship between dynamic capabilities and innovation in the context of automotive manufacturing companies is not only a theoretical concept but also proven in practice. Companies that successfully develop and utilize dynamic capabilities tend to be at the forefront of innovation, able to create superior products, and maintain competitiveness in the ever-changing global market.

H_8: The Influence of Agile Leadership on Organization Agility Through Innovation

From a practical perspective, in the automotive manufacturing sector, the application of agile leadership can be translated into a variety of initiatives. For example, an agile leader might encourage the use of work methodologies such as Scrum or Kanban to manage projects, allowing teams to be more flexible and responsive to changing production or design needs. Additionally, companies can promote a culture of innovation by providing the necessary resources for research and development, as well as creating space for employees to experiment and test new ideas without fear of failure.

Innovation is key in the relationship between agile leadership and organizational agility. Agile leaders tend to facilitate the innovation process by encouraging creative and collaborative thinking, and by creating an environment that supports calculated risk-taking. In the automotive sector, this could mean the development of new technologies, such as electric vehicles or advanced production automation systems. This kind of innovation not only helps companies adapt quickly to market changes, but also allows them to remain competitive and lead the industry.

Overall, in the automotive manufacturing industry, agile leadership has a significant positive impact on organizational agility through innovation. By adopting an agile leadership approach , companies can create an environment conducive to innovation , which in turn enhances the company's ability to adapt and thrive in a changing business environment.

H_9: The Influence of Organizational Culture on Organizational Agility Through Innovation

According to research (Alateeg & Alhammadi, 2024) shows that organizational culture has a positive and significant influence on organizational innovation, which is in line

with previous hypotheses about the relationship between organizational culture and organizational agility. This study confirms that the alignment between organizational culture and innovation goals is a key factor for success in a dynamic and competitive business environment. An organizational culture that supports innovation creates an environment that facilitates creative and adaptive processes, which in turn indirectly increases organizational agility. These findings support the hypothesis that organizational culture can affect organizational agility through innovation, suggesting that organizations that build a culture that supports innovation will be better able to adapt and thrive in a rapidly changing market.

According to (Idrees et al., 2022) shows that business model innovation positively and significantly moderates the relationship between knowledge management capabilities and organizational agility. This finding is in line with the hypothesis proposed in the development of previous theories, which states that organizational culture can indirectly affect organizational agility through innovation. In this context, business model innovation acts as a link that strengthens knowledge management capabilities in creating an adaptive and responsive environment to change. In other words, an organizational culture that supports innovation encourages more effective use of knowledge, which ultimately increases organizational agility. This finding underscores the importance of integrating innovation into knowledge management strategies to achieve higher organizational agility, so that organizations can respond to market changes quickly and effectively.

Through innovation driven by a strong organizational culture, automotive companies can develop new technologies, such as electric vehicles and automation systems, which enable companies to remain competitive in a dynamic global market. Therefore, the positive influence of organizational culture on organizational agility through innovation is very significant. This not only enhances the company's ability to adapt and survive in a rapidly changing business environment but also drives long-term growth and sustainability in the automotive industry.

H_{10}: The Influence of Dynamic Capabilities on Organizational Agility Through Innovation

The results of this study are in accordance with (D. J. Teece et al., 2016) agility in the dynamic capabilities framework, this study puts forward the idea that agility should be sought only in line with the requirements of the business environment and with the company's strategy. Agility is usually not needed in a business environment that only faces risks. On the other hand, it is important when facing deep uncertainty and the threats and opportunities associated with today's innovation economy.

Innovation is the end result of the interaction between dynamic capabilities and organizational agility. Innovation can take the form of developing new products, implementing advanced production technologies, or improving business processes. In practice, automotive companies with strong dynamic capabilities can quickly identify and exploit innovation opportunities , which then increases the company's agility. For example, a company might develop a new electric vehicle by using its dynamic capabilities to integrate the latest battery technology, transform production lines to support the manufacture of the new vehicle, and train employees to work with this new technology.

In practical terms, this relationship is seen in how leading automotive companies such as Toyota, Tesla, and BMW manage their operations. Toyota, with its renowned production management approach, the Toyota Production System (TPS), demonstrates how dynamic capabilities are applied to improve efficiency and flexibility. Tesla, on the other hand, continues to push the boundaries of technological innovation in electric and autonomous vehicles, demonstrating how the company's dynamic capabilities help create organizational agility that allows the company to stay at the forefront of the automotive industry. BMW also leverages its dynamic capabilities to continue to innovate in vehicle design and technology, maintaining its position as a leader in the luxury vehicle market.

In conclusion, automotive manufacturing companies that are effective in developing and utilizing dynamic capabilities can improve the company's organizational agility through continuous innovation. This allows the company not only to remain competitive but also to lead change in the ever-evolving global automotive industry.

4. Conlusion

This are conclusion from each result testing hypothesis For every variables studied in this study:

1. Agile Leadership has positive influence to organization agility, which means agile leadership capable increase agility organization. This is important in industry frequent manufacturing face change market demand and technology.
2. Strong and supportive organizational culture has positive influence to organization agility, shows that an adaptive and collaborative organizational culture is essential in create agile organization in the sector manufacturing.
3. Not found influence significant positive between dynamic capabilities and organizational agility. This show that ability dynamic, such as ability to integrate, build, and configure repeat internal and external competencies, there is no direct increase in organization agility in context manufacturing sector.
4. Innovation influential has positive influence to organization agility. In manufacturing industry, innovation in process, product and technology can give company superiority competitive and ability for respond market changes with fast.
5. Agile Leadership has positive influence to innovation. Agile leadership is able to increase innovation with allow company for more responsive to market changes and needs customers. In the manufacturing company, application agile leadership can applied through taking quick decisions, flexibility in operational, as well as empowerment employee for Innovation.
6. Dynamic Capabilities has positive influence to innovation. Dynamic Capabilities of company to integrate, build, and configure repeat internal and external competencies use fast paced environment change is very important For innovation. In the context of manufacturing, dynamic capabilities can applied through investment in new technology, employees' training, and the development of adaptive business processes.
7. Organizational culture has positive effect on innovation. Organizational culture that supports innovation encourages employees to think creatively and take calculated risks. Manufacturing companies can develop this culture by encouraging

collaboration between teams, rewarding new ideas, and creating a work environment that supports experimentation and learning from failure.

8. Agile Leadership also has a positive effect on innovation, which then has a positive effect on organizational agility. This shows that agile leadership not only directly increases organizational agility but also through the resulting innovation.
9. Organizational culture also has a positive effect on innovation, which then has a positive effect on organizational agility. This indicates that a good organizational culture can encourage innovation, which in turn increases organizational agility.
10. Dynamic Capabilities have a positive effect on innovation, which then has a positive impact on organizational agility. This shows that dynamic capabilities can support innovation, which in turn can increase organizational agility.

Agile leadership has a positive impact not only directly on organizational agility but also through increased innovation. Therefore, companies should focus on developing agile leadership to drive higher innovation. Adaptive and responsive leadership can help teams respond to market changes more quickly and effectively, which in turn increases organizational agility. An organizational culture that supports innovation also has a positive impact on organizational agility. A culture that promotes creativity, openness, and collaboration will drive greater innovation, which will further strengthen the organization's ability to adapt to change. Therefore, companies should build and maintain a culture that values innovation and facilitates a work environment that supports new ideas. Dynamic capabilities also play an important role in increasing organizational innovation and agility. Dynamic capabilities include skills and processes that enable organizations to respond to change quickly and effectively. By improving dynamic capabilities, companies can accelerate the innovation process and increase organizational agility. Therefore, investing in the development of dynamic capabilities, such as training and new technologies, is essential to maintaining the company's competitiveness and adaptability in a changing market.

Some recommendations that can be studied to be developed in further research include:

1. Conducting longitudinal research that allows researchers to collect data over a longer period of time, so that they can observe the development and changes in research variables more comprehensively.
2. Further research can involve collaboration with academics or research institutions that have access to a wider journal database. This can help in obtaining more and quality articles.
3. Further research can use more diverse data collection methods, such as in-depth interviews, focus group discussions, or direct observation. These methods can provide richer insights and reduce bias that may arise from online questionnaires.

References:

Alateeg, S., & Alhammadi, A. (2024). The Impact of Organizational Culture on Organizational Innovation with mediation role of Strategic Leadership in Saudi Arabia. *Journal of Statistics Applications and Probability*, *13*(2), 843–858. https://doi.org/10.18576/jsap/130220

Bayram, V., & Öztirak, M. (2023). A Study on the Impact of Agile Leadership and Innovative Behaviors on Psychological Empowerment. *Cumhuriyet Üniversitesi İktisadi ve İdari Bilimler Dergisi*, *24*(4), 547–559. https://doi.org/10.37880/cumuiibf.1297204

Büschgens, T., Bausch, A., & Balkin, D. B. (2013). Organizational culture and innovation: A meta-analytic review. *Journal of Product Innovation Management*, *30*(4), 763–781. https://doi.org/10.1111/jpim.12021

Crowe, M., & Abraham, P. (2019). A GUIDE TO BUILDING AN AGILE CULTURE. In *Crank and Excel Unlimited*. https://wearecrank.com/wp-content/uploads/2019/11/Crank-Guide-to-Building- Agile-Culture.pdf

Gunawan, I. (2016). Metode Penelitian Kuantitatif. *Retrieved June*, *7*, 2017.

Hair, & Joseph. (2017). A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM). Thousand Oaks. In *Sage*.

Hock-Doepgen, M., Clauss, T., Kraus, S., & Cheng, C. F. (2021). Knowledge management capabilities and organizational risk-taking for business model innovation in SMEs. *Journal of Business Research*, *130*(December), 683–697. https://doi.org/10.1016/j.jbusres.2019.12.001

Idrees, H., Hynek, J., Xu, J., Akbar, A., & Jabeen, S. (2022). Impact of knowledge management capabilities on new product development performance through mediating role of organizational agility and moderating role of business model innovation. *Frontiers in Psychology*, *13*. https://doi.org/10.3389/fpsyg.2022.950054

Millar, C. C. J. M., Groth, O., & Mahon, J. F. (2018). *Management Innovation in a VUCA World: X*(X), 5–14. https://doi.org/10.1177/0008125618805111

Özdemir, G. (2023). The Relationship between School Administrators' Agile Leadership and their Innovation Management Competencies. *International Journal of Education and Literacy Studies*, *11*(1), 175–184. https://doi.org/10.7575/aiac.ijels.v.11n.1p.175

Ravichandran, T. (2018). Exploring the relationships between IT competence, innovation capacity and organizational agility. *Journal of Strategic Information Systems*, *27*(1), 22–42. https://doi.org/10.1016/j.jsis.2017.07.002

Sakitri, G. (2021). Agilitas Organisasi dan Talenta Esensial. *Forum Manajemen Prasetiya Mulya*, *35*, 1–11.

Salmaa. (2021). *Penelitian Kuantitatif: Pengertian, Tujuan, Jenis-Jenis, dan Langkah Melakukannya*. Https://Penerbitdeepublish.Com/Penelitian-Kuantitatif/.

Saryadi, S., & Arini, L. D. D. (2023). The Influence Of Dynamic Capabilities , Competencies , Motivation , And Information Technology On Innovation Performance For Nursing. *The International Science of Health Journa*, *1*(1), 17–24.

Schuldt, K., & Gomes, G. (2020). Influencia de la cultura organizacional en los entornos de innovación y desempeño organizacional. *Gestao e Producao*, *27*(3), 1–26.

Teece, D. J. (2020). Hand in Glove: Open Innovation and the Dynamic Capabilities

Framework. *Strategic Management Review*, *1*(2), 233–253. https://doi.org/10.1561/111.00000010

Teece, D., Peteraf, M., & Leih, S. (2016). Dynamic capabilities and organizational agility: Risk, uncertainty, and strategy in the innovation economy. *California Management Review*, *58*(4), 13–35. https://doi.org/10.1525/cmr.2016.58.4.13

Weiss, L., Vergin, L., & Kanbach, D. K. (2024). Innovation Leadership in Practice: How Leaders Turn Ideas into Value in a Changing World. *Emerald Publishing Limited*, 223–242. https://doi.org/https://doi.org/10.1108/978-1-83753-396-120231012