



Organizational Agility Predicted by Adhocracy Culture And Workforce Agility

Pina Panduwinarsih¹ Vivi Gusrini Rahmadani^{2,*}

¹ Faculty of Psychology, Universitas Sumatera Utara, Angkasa Pura Aviast

² Faculty of Psychology, Universitas Sumatera Utara

*Corresponding author. Email: vivi@usu.ac.id

ABSTRACT

Changes are currently happening more quickly and the flow of information is increasingly unstoppable. Organizations must have capabilities that are built on an ongoing basis to respond to changes in an agile, effective, timely and sustainable manner. This study aims to examine organizational agility predicted by adhocracy culture and workforce agility. This research was conducted on companies engaged in the aviation industry, especially an airport operator. An airport is the main economic driver for the economy in a country that offers speed, connectivity and agility. The data has been obtained from three scales used, namely organizational agility maturity scale, organizational culture assessment instrument, and workforce agility scale with a total sample of 440 employees. The data then obtained and analyzed using multiple regression statistical analysis. Based on the proposed hypothesis, it is concluded that adhocracy culture and workforce agility altogether predict organizational agility, with F count = 679,800 with $p = 0.000$ ($p < 0.005$) and adjusted R Square value of 0.756. Partially, adhocracy culture predicts organizational agility ($R = 0.673$ $p < 0.05$) and workforce agility predicts organizational agility ($R = 0.083$ $p < 0.05$). Leveraging technology enhances organizational agility in the aviation sector by enabling efficient decision-making and operational responsiveness. Fostering an ad hoc culture through empowering employee decision-making, combined with investing in workforce agility via continuous learning and development, equips organizations to rapidly adapt to market changes and innovate effectively. These strategies collectively form a robust framework for achieving heightened agility and competitiveness in a dynamic industry landscape.

Keywords: Organizational agility, Adhocracy culture, Workforce agility, Airport operator.

1. INTRODUCTION

Changes in an organization are transformations from initial to better situations that are more suited to future needs [1]. Technology and the rapid flow of information are boosting the rate of change intensity. In responding to this phenomenon, companies should rapidly adjust to very dynamic environmental conditions [1]. Therefore, it is necessary to search for creative methods and new approaches to respond to change [2].

Besides information technology, the emergence of the Coronavirus Disease 2019 (COVID-19) is one of the factors that drives change and triggers obstacles for business today. The data showed that 76,858,506 people worldwide have been infected on October 30, 2020 [3]. It has affected the operations of most of the world's sectors and brought many industries to a standstill. Furthermore, the pandemic caused movement restrictions and travel bans from several countries. Following these restrictions, the transportation sector, especially the aviation business, felt the worst effect [4].

Based on the International Civil Aviation Organization [5], around April 2020, air traffic/transportation fell drastically to almost zero and contracted by up to 90% due to the implementation of lockdown policies. For the first

half of 2020, the passenger decline was 56% compared to 2019. The decline in air cargo also reached its lowest level in history, which is a -2.8% reduction. Airports are one of the main economic drivers for a country's economy because it is a business community between land and air transportation [6]. The presence of an airport in an area affects job vacancies, regional prosperity, and economic stability [7]. Additionally, several industries congregate in and around airports to take advantage of accessibility, speed, and mobility [8].

When dealing with disruption, companies were classified into three types, type 1 do not change or disrupt themselves until they fail, type 2 change to guide their business, and type 3 engage in vertical integration to thrive [9]. Businesses should continuously develop their capacity to take advantage of opportunities and counteract current challenges while adapting to change in an agile, efficient, timely, and sustainable manner [1].

Organizational agility, an emerging concept in the business field, is becoming increasingly vital as new technologies and globalization demand greater flexibility, timeliness, and effectiveness from organizations. These attributes are essential for adapting to the dynamic global market, ensuring survival and maintaining a competitive edge. [10]. Organizational agility is a paradigm that illustrates a change as an opportunity to respond, exploit and benefit from an opportunity [2]. It is considered a key competency in competitive advantage, creating strategic and innovative thinking, and taking advantage of change with sustainable adaptability and agility. Therefore, agility is not an option but an organizational obligation in managing the business [11].

Since organizational agility development does not have a specific formula, companies can become increasingly agile. However, they may not be entirely agile because agility is a continuous process that will lead to continuous improvement [12] [13] [14] [15]. One of the factors to be considered in increasing organizational agility is supportive culture. Organizational culture is a view and belief of members consisting of values related to work mechanisms, worker involvement, work behavior, relationship patterns, and leadership processes [16]. It creates stability in an organization facing change [17].

An organization has one or four culture combinations, namely clan, adhocracy, market, and hierarchy [18]. Adhocracy is a type of culture that will lead the organization to become agile [19]. It is the most creative culture, and it promotes adaptability, flexibility, and creativity to overcome uncertainty and ambiguity. Due to these principles and realities, organizational change is viewed not as a threat, but as a positive phenomenon and opportunity [18].

Besides culture, one of the most important factors that play a positive role in the formation of agility is human resources [20]. Chonko and Jones [21] stated that companies could not be agile without creating the right workforce in their programs [22]. An agile workforce is the biggest part of an organization in achieving agility. Meanwhile, cooperation, loyalty, and individual ability are the basis of an organization which is the main and important challenge in achieving agility [23]. Workforce agility shows proactive, adaptive, and generative behavior by workers in an organization [24] [25].

Based on the explanation, an adhocracy culture has cultural values that direct organizations to innovate, transform and be agile in facing change [18]. Moreover, support from workers are factors that promote the formation of organizational agility [26]. This research adds to the body of knowledge by pointing out practical levers that aviation industry organizations may use to maintain their agility in the face of the swift changes and obstacles that define the modern business environment.

2. LITERATURE REVIEW

2.1. Organizational Agility

Organizational agility is the ability to deal with change as well as to sense, perceive, and predict change in a business environment [2]. An important concept is that the organization can respond, take advantage of change through strategic methods, and respond appropriately in the business environment [2]. The concept of organizational agility consists of two main factors [27] [28], namely (1) responding to change using appropriate techniques and timing, and (2) exploiting and utilizing these changes as opportunities [2]. Meanwhile, the main characteristics include (1) flexibility and adaptability, (2) responsiveness, (3) speed, (4) low integration and complexity, (5) mobilization of core competencies, (6) high-quality and customized products, and (7) culture of change [29].

2.2. Workforce Agility

Some research defines workforce agility from the perspective of ability, while others define it from the perspective of attitudes or behaviors shown by workers [30]. From an ability perspective, Kidd [28] described the concept as the ability to respond to change on time and exploit the benefits. In the same perception, Sharifi & Zhang [2] defined it as a worker who has a broad vision and can capture opportunities from volatile market conditions [29].

From a behavioral perspective, agile workers are described as having the ability to process information quickly, adaptive to a turbulent work environment, and motivated by opportunities for self-development [31] [32]. Additionally, Dyer and Shafer [33] defined workforce agility as workers' proactive, adaptive and generative behavior. It has long been recognized as one of the cornerstones of organizational agility. Any strategy for establishing new ways of working is bound to fail in the absence of an adaptable workforce [31] [34] [35].

Workforce agility is related to openness to adopt different roles, accept different levels of responsibility, and a tendency to value cooperation and information sharing depending on project requirements [31] [24]. The concept of agility combines two characteristics, namely adaptability, and flexibility. Furthermore, It is the manner in which employees deal with and respond to change by adapting to new circumstances using the company's or organization's resources [36]. The behaviors reflecting workforce agility are proactive, adaptive, and resilient [25].

2.3. Adhocracy Culture

Adhocracy culture is an organization that focuses on external positioning with high flexibility and individuality [18]. It is considered the most responsive to change and increased risk. Additionally, it is very initiative and innovative to direct the organization to success, especially in developing new products and services in response to market change. The main task of management with an ad hoc culture is to help the development of entrepreneurship, creativity, and risk-taking.

The main goal of this culture is to encourage adaptability, flexibility, and creativity in conditions of uncertainty, ambiguity, and information overload. An important aspect that unites organizations is continuous experimentation and a commitment to innovation. The indicator of success is to acquire different and new products or services because the long-term focus of an ad hoc culture is growth, business improvement, and acquiring new resources.

Businesses that are firmly rooted in traditional, inflexible operational frameworks must become more adaptable in order to satisfy the needs of a market that is changing quickly and is varied. To put it simply, these organizations must be flexible and quick to adjust to changes in the business environment. If they don't, they will unavoidably become gradually and definitely obsolete. This phenomena calls for the development of high-caliber individual capabilities—often referred to as workforce agility—in parallel. In order to support this requirement and enable the achievement of organizational agility, individuals of the organization must exhibit unified beliefs and behaviors that are directed toward the accomplishment of group objectives by embracing an ad hoc culture. Thus, the hypothesis of this research:

Hypothesis: "Both adhocracy culture and workforce agility positively and significantly impact the organizational agility"

3. RESEARCH METHODS

3.1. Population and Sample

This research is a cross sectional quantitative survey method that included 440 staff and managers (Male= 74.1%, Female= 25.9%) of PT Angkasa Pura Aviassi in Indonesia. After the permit was granted by the company, the survey was distributed online through a google form for about two weeks. Informed consent was written along with the survey ensuring confidentiality and no ethical misconduct was performed.

3.2. Research Instruments

We measured organizational agility using 22 items modified from Wendler & Stahlke [37] e.g., “Information systems and technology within our organization enable decentralization of decision-making”, “Our leaders understand the value of IT investments from a company-wide view”.

We measured the workforce agility using 11 modified items taken from Sherehiy et al. [25]: e.g., “I can work effectively in demanding or stressful environments”, “I can switch from one project to another quickly”.

We measured adhocracy culture using 6 items taken from Cameron & Quinn [18]: e.g., “My company has a vibrant, creative, and entrepreneurial work atmosphere”, “The organization's dedication to ongoing innovation and experimentation serves as its glue”.

All three scales feature five response options, ranging from 1 = 'strongly disagree' to 5 = 'strongly agree'. Moreover, they are all validated using CFA (Confirmatory Factor Analysis) and had satisfactory Cronbach Alpha values namely, 0.935 (organizational agility), 0.860 (workforce agility), 0.843 (adhocracy culture).

3.3. Data Analyses

After all the data were collected, checked, and coded, they were analyzed with multiple regression statistical analysis with SPSS Ver 26.

4. RESULTS

4.1. Hypothesis testing

The hypothesis is "Adhocracy culture and workforce agility positively and significantly impact organizational agility." Based on the results of the multiple regression analysis, the following findings are produced:

Table 1. F test result

ANOVA ^a						
	Model	Sum of Square	df	Mean Square	F	Sig.
1	Regression	46826.790	2	23413.395	679.800	.000 ^b
	Residual	15050.983	437	34.442		
	Total	61877.773	439			

a. Dependent Variable: Organizational Agility (Y)
b. Predictors: (Constant), Adhocracy Culture (X1), Workforce Agility (X2)

Based on the table, the calculated F value is 679,800 with a significance value of 0.000 ($p < 0.005$). The F table value obtained from $df_1 = 2$ and $df = 437$ with a significance value of $p = 0.05$, the F table value is 0.051. Therefore, the calculated F value $>$ F table ($679.800 > 0.051$), and cannot be concluded that ad hoc culture and workforce agility significantly affect organizational agility. The effect of adhocracy culture and workforce agility variables on organizational agility can be seen in the determination test obtained below:

Table 2. Model summary

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.870 ^a	.757	.756	5.869

a. Predictors: (Constant), Adhocracy Culture (X1), Workforce Agility (X2)

The coefficient of determination of organizational agility is 0.756 (as seen from adjusted R Square). Therefore, a 75.6% variance in organizational agility is affected by its assessment of adhocracy culture and workforce agility. The remaining 24.4% is affected by other variables outside of this research. From this interpretation, it can be concluded that the research hypothesis is accepted. Therefore, ad hoc culture and workforce agility positively affect organizational agility. This research also performed a stepwise regression analysis to describe the independent variables that most affect organizational agility, as shown in the table below:

Table 3. Stepwise regression analysis result

Variable	B	Std Error	Sig	R	R square	R square change
(Constant)	25.347	2.191	.000	.821	.673	.673
Adhocracy Culture	2.635	.088	.000			
(Constant)	5.217	2.508	.038	.870	.756	.083
Adhocracy Culture	19.38	.095	.000			
Workforce Agility	.797	.065	.000			

The table above shows that ad hoc culture and workforce positively affect organizational agility. The effect of the independent variable on the dependent variable can be seen from the value of R square change. The R square value of change in adhocracy culture is 0.673. The effect of the adhocracy culture variable is 67.3%. The value of R square change workforce agility is 0.083, implying the effect of the workforce agility variable is 8.3%.

Hypothesis testing on research sample data has proven that adhocracy culture and workforce have a positive effect in shaping organizational agility by contributing 75.6%. The adhocracy culture variable is the most dominant in creating agility, with a value of 67.3 %. Meanwhile, workforce agility contributed 8.3%. It can be concluded that the ad hoc culture and workforce are directly proportional to the agility of the organization. These results align with previous research [38] [39], where organizational culture has a positive and significant effect on agility.

Furthermore, the results suggest that ad hoc culture affects the creation of organizational and workforce agility. It has also been tested and strengthened the findings in this research. Felipe [19] showed that adhocracy culture affects creating organizational agility. Therefore, an ad hoc culture has a positive effect on organizational agility. This is in line with the theory that states agility is found in companies with flexibility and adaptability [36], which can be obtained from an ad hoc work culture.

Adhocracy culture is the most responsive work culture to change and increase risk, very initiative and innovative in directing the organization to success [18]. The other characteristics of organizations that adopt an ad hoc culture are less bureaucratic and simpler in decision-making, thus allowing organizations to be more flexible and quickly reconfigure resources and processes. This decision making process provides a strong success for companies to become more dynamic and agile.

Furthermore, Ragin-Skorecka [40] stated that agile companies include two aspects—the features of internal organizational identity that determine agility and the characteristics of human life values, which are potential for building agility. Thus, human resources or workforces in the organization are also important to take into consideration in building organizational agility. Finally, efforts to develop and maintain agility should always be to remember that an organization cannot be truly agile. This is because agility is a process that will lead to continuous improvement [12].

Companies who are actively seeking digital transformation, automation, robots, and real-time data analytics as survival strategies in the face of the disruptive times we live in must realize that technology is not enough on its

own. Fostering an adhocracy culture and improving workers' adaptability are crucial for maintaining creativity and agility, in addition to technology adoption. A core culture that values adaptability, creativity, and quick decision-making serves as the cornerstone upon which technology efficiencies are created. Furthermore, the mere automation of jobs and strategic data analysis calls for a workforce that is not just smart and agile but also committed to ongoing learning, requiring more than simply technological tools. Therefore, the argument stands that the triumph of technological advancements is inextricably linked to an organizational ethos that champions empowered decision-making and prioritizes the perpetual growth of its workforce. Ignoring this vital interdependence is to risk the full potential of technological investments, underscoring the imperative for a holistic strategy that integrates technological prowess with organizational culture and workforce development to truly achieve and sustain organizational agility.

This study offers empirical proof that developing an agile organization necessitates a more all-encompassing strategy that is backed by the social system—its people and culture—within the organization as well as the technical side, or technological expertise. More research is undoubtedly required, particularly to validate this model in industry sectors other than aviation and to take into account other, more practical aspects of human resources, such as the capacity for change adaptation, internal communication, the presence of effective leaders who can make an organization more agile, and so forth.

5. CONCLUSIONS

This study highlights the critical roles that worker agility and adhocracy culture play in augmenting organizational agility, especially in the fast-paced aviation industry. It confirms that incorporating these components is essential for companies, particularly airport operators, to adapt and thrive in the face of industry-specific problems by offering strong empirical evidence. In the end, this research adds to the body of knowledge by providing useful tactics for preserving adaptability in the face of the swift changes in the global corporate environment.

AUTHORS' CONTRIBUTIONS

VGR and PP were responsible for the research design. PP was responsible for data collection and data analysis. VR was responsible for data investigation and writing the article. PP and VR were responsible for investigating the result and improving the quality of the article.

ACKNOWLEDGMENTS

The authors thank the reviewers for the constructive feedback.

REFERENCES

- [1] Kasali, R. (2014). *Agility: Bukan Singa yang Mengembik*. PT Gramedia Pustaka Utama.
- [2] Sharifi, H. and Zhang, Z. (2001). Agile manufacturing practice: application of a methodology. *International Journal of Operations & Production Management*, 21(5/6), pp. 772-794
- [3] World Health Organization. (2020). *WHO Coronavirus Disease (COVID-19) Dashboard*. <https://covid19.who.int/>. Diakses tanggal 24 Desember 2020.
- [4] Serrano, F. and Antonin K. (2020). The Future of Airport Post COVID-19. *Journal of Air Transport Management*. 89 (2020) 101900.
- [5] International Civil Aviation Organization. (2020). 2020 passenger totals drop 60 percent as COVID-19 assault on international mobility continues. *Newsroom*. <https://www.icao.int/Newsroom/Pages/2020-passenger-totals-drop-60-percent-as-COVID19-assault-on-international-mobility-continues.aspx> Diakses tanggal 24 Desember 2020.
- [6] Field, C. & Richard L. (2019). *Agility within Airport Business Communities: Guidance for Business Communities on How to Improve Resilience*. Thornton Tomasetti.
- [7] York Aviation. (2004). *The Social and Economic Impacts of Airports in Europe*. ACI Europe.

- [8] Reiss, B., (2007). Maximizing non-aviation revenue for airports: developing airport cities to optimize real estate and capitalize on land development opportunities. *Journal of Airport Management*. 1 (3), 284–293.
- [9] Kasali, R. (2018). *Self disruption: Bagaimana Perusahaan Keluar dari Perangkat Masa Lalu dan Mendisrupsi Dirinya Menjadi Perusahaan yang Sehat*. Mizan Pustaka.
- [10] Lootah, S. E., Wathiq M., and Genanew B. W.(2020). A Conceptual Exploration of Factors Affecting Agility in Organizations. *International Journal of Management (IJM)*. Volume 11, Issue 7, July 2020, pp. 165-174.
- [11] Harraf, A., Wanasika, I., Tate, K., & Talbott, K. (2015). Organizational agility. *Journal of Applied Business Research*, 31(2), 675–686.
- [12] Alzoubi, A. (2011). Factors Associated Affecting Organization Agility on Product Development. *International Journal of Research and Reviews in Applied Sciences*, 9 December, 503–516. Retrieved from http://arpapress.com/Volumes/Vol9Issue3/IJRRAS_9_3_20.pdf
- [13] Doz, Y. & Kosonen, M. (2008). *Fast Strategy: How Strategic Agility Will Help You Stay Ahead of the Game*. Pearson/Longman.
- [14] Holsapple, C. W., & Li, X. (2008). Understanding organizational agility: A work- design perspective. *Paper for 13th international command and control research and technology symposia (ICCRTS 2008)*, Seattle.
- [15] Williams, T. W., C. G., & Lawler III, E. E. (2013). *The Agility Factor*. Strategy Business.
- [16] Jones, E., Dixon, A. L., Chonko, L. B., & Cannon, J. P. (2005). Key accounts and team selling: A review, framework, and research agenda? *Journal of Personal Selling and Sales Management*, 25(2), 181.
- [17] Robbins, S. P & Judge, T. A. (2015). *Organizational Behavior Edition 16*. Pearson Education.
- [18] Cameron, K.; Quinn, R. (2011). *Diagnosing and Changing Organizational Culture: Based on the Competing Values Framework, 3rd ed.*. John Wiley & Sons.
- [19] Felipe, C. M., Roldan, J. L., & Leal-Rodriguez, A. L. (2017). Impact of organizational culture values on organizational agility. *Sustainability*, 9.
- [20] Wageeh, N. A. (2016). The Effect of Organizational Agility on Quality of Work Life: A Study on Commercial Banks in Egypt. *International Journal of Business and Management*, 11(6), 271.
- [21] Chonko, L.B. & Jones, E. (2005). The need for speed: agility selling. *Journal of Personal Selling & Sales Management*. 25, 371-382.
- [22] Muduli, A., & Pandya, G. (2018). Psychological Empowerment and Workforce Agility. *Psychological Studies*, 63(3), 276–285.
- [23] Meredith, S., & Francis, D. (2000). Journey towards agility: the agile wheel explored. *TQM Magazine*, 12(2), 137-143.
- [24] Muduli, A. (2016). Exploring the facilitators and mediators of workforce agility: An empirical study. *Management Research Review*, 39(12), 1567–1586.
- [25] Sherehiy, B., & Karwowski, W. (2014). The relationship between work organization and workforce agility in small manufacturing enterprises. *International Journal of Industrial Ergonomics*, 44(3), 466–473.
- [26] Wendler, R. (2016). Dimensions of organizational agility in the software and it service industry: Insights from an empirical investigation. *Communications of the Association for Information Systems*, 39(1), 439–482.
- [27] Dove, R. & Wills, D. (1996). Transforming faculty into an agile workforce. *To Improve The Academy*, 15(1): 195-207.
- [28] Kidd, P.T. (1994). *Agile Manufacturing: Forging New Frontiers*. Addison-Wesley, Reading, MA.
- [29] Sherehiy, B., Karwowski, W., & Layer, J. K. (2007). A review of enterprise agility: Concepts, frameworks, and attributes. *International Journal of Industrial Ergonomics*, 37(5), 445–460.

- [30] Muduli, A. (2017). Workforce agility: Examining the role of organizational practices and psychological empowerment. *Global Business and Organizational Excellence*, 36(5), 46–56.
- [31] Breu, K., Hemingway, C., Strathern, M., & Bridger, D. (2001). Workforce agility: The new employee strategy for the knowledge economy. *Journal of Information Technology*, 17(1), 21–31
- [32] Plonka, F. E., (1997). Developing a Lean and Agile Work Force. *Human Factors and Ergonomics in Manufacturing*, 7 (1) 11-20.
- [33] Dyer, L. & Shafer, R., (2003). Dynamic organizations: achieving market- place and organizational agility with people. In: Peterson, R.S., Mannix, E.A. (Eds.), *Leading and Managing People in the Dynamic Organization*. Laurence Erlbaum Associates.
- [34] Goldman, S. L., & Nagel, R. N. (1993). Management, technology, and agility: The emergence of a new era in manufacturing. *International Journal of Technology Management*, 2(8), 18–38
- [35] Gunasekaran, A. (2001). *Agile Manufacturing: The 21st Century Competitive Strategy*. Elsevier, New York.
- [36] Sherehiy, B. (2008). Relationships Between Agility Strategy, Work Organization and Workforce Agility. *Doctor Dissertation*, University of Louisville.
- [37] Wendler, R. & Stahlke, T. (2014). What Constitutes an Agile Organization? *Descriptive Results of an Empirical Investigation. Dresdner Beiträge zur Wirtschaftsinformatik, Nr. 68/14*. Dresden: Technische Universität Dresden.
- [38] Raharso, S. (2018). Membangun Agilitas Organisasi Melalui Budaya Organisasi Dan Berbagi Pengetahuan. Matrik. *Jurnal Manajemen, Strategi Bisnis Dan Kewirausahaan*, 139.
- [39] Fahami, Z., Pordanjani, H., Mahmoudi, M., & Montazer-Al-Zohour, F. (2017). The Study of the Relationship between Organizational Culture and Organizational Agility in Agricultural Bank. *Bulletin de La Société Royale Des Sciences de Liège*, 86(2), 453–460.
- [40] Ragin-Skorecka, K. (2016). Agile enterprise: a human factors perspective. *Human Factors and Ergonomics in Manufacturing & Service Industries*, 26(1), 5-15.

Open Access This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

