

How to Cite

Nainggolan, B. R. M., Sinulingga, G., Muhammad, N. I., Hayati, D., & Sunarmie, S. (2022). Regional economy management: What technologies evidence tell, prospects and challenge for Indonesia. *International Journal of Business, Economics & Management*, 5(4), 297-304. <https://doi.org/10.21744/ijbem.v5n4.1983>

Regional Economy Management: What Technologies Evidence Tell, Prospects and Challenge for Indonesia

Benny Rojeston Marnaek Nainggolan

Universitas Prima Indonesia, Medan, Sumatera Utara, Indonesia

Corresponding author email: bennyrojestonmarnaeknainggolan@unprimdn.ac.id

Gairah Sinulingga

STIE MBI Depok Jawa Barat, Indonesia

Email: gairah.sinulingga@stiemi.ac.id

Nurdin I. Muhammad

Universitas Khairun, Ternate, Indonesia

nurdin.ekounkhair@gmail.com

Diana Hayati

STIE Nasional Banjarmasin, Indonesia

Email: dianahayati@gmail.com

Sunarmie

STIE Kuala Kapuas, Indonesia

Email: sunarmie@gmail.com

Abstract---*This paper focused on the discussion to answer the problems of regional economic governance and how scientific evidence of the use of Technology can be a prospect and challenge in Indonesia's efforts to develop poor areas into prosperous areas. We study with a phenomenological approach that begins with in-depth data analysis techniques, thorough evaluations, and high interpretations to obtain valid data to answer existing problems. After we develop the data and discuss the results, it can be concluded that the government and other parties can develop the national and local economy by utilizing what Technology works with the prospects and challenges. Technology has brought a life that is now wholly industrialized. Therefore, resources are needed that can manage to see Technology in terms of prospects and challenges so that regional economic governance in Indonesia can be implemented.*

Keywords---*challenges, management, prospects, regional economy, technology*

Introduction

Over the past few years, technological innovation has developed rapidly. Today, things are getting quiet if people were familiar with the postal administration, the telephone, the typewriter, or the message in the previous ten years (Kadarusman & Nadvi, 2013). With rapid progress and increasing technological innovation, people have now switched to using mobile phones, tablets, the internet, and various other sophisticated gadgets. It is hard to imagine how this modern society can live without the tools or associations of the web. Today's data innovation is similar to solid collaborators, who can do many things in every human action, including financial exercises. Many specialized units take advantage of this data innovation to grow their business. Dataframes that were previously only used for correspondence purposes have shown tremendous advantages in the business world. The advantage of data innovation in the business world is that it helps cycle and task, decide, and structure systems to gain an edge. One of

the advantages is to develop the community's economy towards prosperity both in the center of the country and in the regions and provinces (Guston & Sarewitz, 2002; Minh, 2004). So, the presence of Technology certainly gives more value to the acceleration of economic development in an area. So how does Technology help regional economic development? This study will explore several sources of data and scientific evidence on the role of Technology in boosting a region's economy with all its challenges and opportunities (Muryanto et al., 2021).

In today's business world, both small and medium to large scale, direct and large-scale use of technological innovations for correspondence, data dissemination, or business participation arrangement (Luo et al., 2010). The era of globalization has removed the boundaries of existence, giving rise to the emergence of new businesses that exploit the mechanical change of events. This led to the development of finance, which at first was the actual trading of merchandise through the medium of innovation. This implicit economic development affects financial development (Giotopoulos et al., 2017). At a full-scale level, mechanical upgrades empower the turn of monetary events and augment financial developments. Increased data innovation can also fortify the seriousness of a nation in fostering its economy. Established organizations and companies can increase employee salaries, which can later be used to assist government assistance to the community again. In other words, the existence of Technology ready to innovate all human tasks is no longer a problem when Technology is optimally used, especially in developing regional and even international economies. So, businesses are now increasingly advancing and developing (Porter & Kramer, 2019).

It is believed that increased data innovation has adverse consequences; for example, when machine power can provide more actual results at a lower cost than humans, then, at that time, human labor will be replaced by machines. This will encourage innovative unemployment (Brynjolfsson & McAfee, 2012). Furthermore, HR who are not ready to face change will lose their position because they do not have what is needed in the world of work in the new monetary design. However, it is also rash to limit the use of the data innovation framework as long as the innovation is not detrimental, considering that one of the benchmarks for the progress of a nation is the use of innovation (Rayuwati, 2020; Baque et al., 2020). Steps that can be taken in solving these problems are to plan human resources that are ready to face rapid changes in innovation and data frameworks. Financial problems are a science that concentrates on how people overcome their problems whose accessibility or individual capacity to get them is limited (Shafiai & Moi, 2015).

The issue of Provincial Finance or the aspect of territorial finance is a subset of the financial aspect which, in conversation, combines the components of contrasting possibilities starting with one local and then on to the next. Placing local financial problems comparable to different disciplines, especially economic geography, is challenging. To this end, many books on local financial issues do not give meaning to science (Jamil et al., 2015). Geology is a science that concentrates on the presence of action in an area and how the surrounding area responds to these actions. Financial geology concentrates on the side effects of movement associated with a place or area so that, for the most part, recognized standards of use of space can be found. These standards can be used in making attractive arrangements for managing the use of territorial space, taking into account the overall targets to be achieved. The topics discussed in the study of planetary economics include area hypotheses. Therefore, it is essential to know whether territorial finance has areas that can be handled that are not the same as fields that have been explored by various sciences (Zachariadis et al., 2019).

The response is that geoscience manages these exercises exclusively, concentrating on the effects of one or a set of exercises on different areas or how exercises are performed in that area as it is near or far from that area. Different training areas, but these areas are interconnected or collaborate (Rahim et al., 2020). The problem of local finance does not examine individual exercises but examines a district or part of a district as a whole or looks at different areas with different possibilities and how to devise strategies that can accelerate the economic development of the whole region. The province's geological, economic, financial, and financial aspects view and use some of the same terms, for example, node areas, homogeneous areas, urban communities, and back areas, but with various methodologies (Wang et al., 2021). The main problem is that early masterminds in finance and fields. However, all things being equal can be recognized; one sees it as an individual practice, while another sees it as an area. Despite the further subtleties, it is limited to the area (a close range of exercises) and not individual exercises. Provincial auditing units are regional or regional and not individual exercises. Local financial problems are another part of economic and financial problems. Another part of the financial problem that has recently developed is the issue of ecology and finance as part of the local financial aspect (Bhattacharyya, 2013).

In carrying out the development, a theoretical basis is needed to explain the relationship between the observed facts to become an orientation framework for analysis and make predictions about new phenomena that are expected to occur. Many theories have been introduced with the advancement of the study of economic development (Woods, 2018). In regional development many theories can be used to explain regional development's importance. Regional (regional) development is a function of the potential of natural resources, labor, and human resources, investment,

infrastructure, and facilities development, transportation and communication, industrial composition, Technology, economic situation, and inter-regional trade, funding, and financing capabilities for regional development, entrepreneurship, local institutions, and the broader development environment (Loizou et al., 2019; Incera & Fernández, 2015). All the above factors are important but are still considered separate from each other and have not been integrated as components that form the basis for formulating a comprehensive regional development theory (Liñán et al., 2011).

Research Method

Furthermore, the study method section will describe the implementation of the study to get a deep understanding of how regional economic governance prioritizes scientific evidence that says how Technology has been able to innovate in accelerating regional economic governance when viewed from the technological prospects and also the challenges that will be faced if Technology is applied to achieve regional or regional development goals (Tolley et al., 2016). To complete the discussion of this study, we have conducted a series of data searches on several data sources, such as book publications and academic works in economics and technology journals, which we will then examine using a phenomenological approach (Gray, 2021). In examining our selection of data coding terms, the in-depth evaluation identifies and concludes to obtain relevant data to answer the problem with the record that the data is valid from the label to answer the problem and hypothesis (Malterud, 2001; Cooper, 1993).

This study relies on published data which is scientific evidence of how Technology has been able to innovate and provide solutions to regional economic governance and is seen from the prospect of problems and the challenges faced when developing Technology for regional economic development (Foray, 2014). Meanwhile, we searched online for data on scientific publications published between 2010 and 2022, considering that Technology and development have shown remarkable developments since the last year (Bekkers, 2011). We design this study in a descriptive qualitative way where we seek to understand how regional economic governance follows what is done by how powerful Technology is to back up economic data and also the prospects and challenges faced by citizens who want to develop Technology also develop the economy, such as how we organize and also arrive at reporting the results of the study (Horton et al., 2011).

Result and Discussion

The technology builds the regional economy

Several empirical studies prove that technological developments have contributed significantly to industrialization that triggers economic growth in a country and is followed by their respective regions (Jakob et al., 2020). So, there is no doubt that its innovative power can be relied on in driving the economy and overall development. So, the researchers agree that technological developments with their million applications at the macro level encourage economic development and contribute to economic growth in the regions. Technological advances are predicted to contribute more than 65 percent to economic development in the global era. Technological advances play a significant role in changing industry and global competition structure at the micro level. Armanios et al. (2020), to win the global market competition, every business must manage Technology to create a competitive advantage and high sustainability if its management can be maximized by human resources and economic development actors (Wijijayanti et al., 2020).

Business success in winning the competition is primarily determined by creating competitive advantages based on technology development (Baker et al., 2013). The development of Technology is needed in every transformation process, from several inputs to produce outputs that can provide added value at every stage of the transformation process and create a competitive advantage for business entities. Therefore, every country and business is required to continuously develop Technology in a sustainable manner which is an inevitable need in the global era. In technology development, every country and business is faced with two choices. First, develop Technology through the process of invention and innovation. Second, developing Technology through the technology transfer process. There is hardly a single country and business that can afford all the types of Technology required. In dealing with these conditions, a country or business can apply a technology strategy called make-some-and-buy-some (Gallegos-Baeza et al., 2021).

The implementation of the make-some strategy is carried out by developing new Technology through more research and innovation. In contrast, the buy-some strategy is implemented through technology transfer (Van der Duin & den Hartigh, 2013). In addition, a country or business must make pragmatic choices regarding the type and level of Technology that must be developed to meet the criteria for appropriate Technology. The appropriate

technology choice must be based on several supporting factors, including the need for Technology following industrial development, technology infrastructure availability, human resources with technological capabilities, and supporting environmental factors (Landabaso, 2014).

Technology as a challenging lesson

It must be admitted that technology development in Indonesia so far tends to be trial and error. In this case, the government is constantly developing the required Technology, but it is not working optimally (Kurniawan, 2020). As a result, the Technology developed has more errors, so the Technology developed does not meet the appropriate technology criteria. The New Order government's choice to develop high Technology in the aircraft industry by establishing PT Dirgantara before IPTN and in the automotive industry with the Mobnas Project are examples of inappropriate Technology that has been developed in Indonesia (Holliday et al., 2017). Since its establishment, it has been the target of various criticisms, both from within and abroad. The criticism relates to the decision to choose high-tech and capital-intensive types, which do not follow Indonesian conditions, and the management of companies that are considered inefficient and not transparent (Rokhmawati et al., 2017). Some critics even liken all companies to the Lighthouse Project during the New Order era. As a result, this can be said to be an error or a challenge that must be a lesson so that it will not be repeated. Now with the advantages of Technology, everyone has to be more careful in every decision to develop the economic zone and the welfare of the Indonesian people. So that the experience of the New Order era with several large companies on capital can be a valuable lesson, so Technology must be a force for economic acceleration. However, it must be prepared and mature (Lim et al., 2021).

Although continually reaping various criticisms without stopping, PT DI, under the control of BJ Habibie, continues to develop technology development programs in the aerospace sector (Yim et al., 2019). Through cooperation with CASA, PT DI has succeeded in producing the CN-235, which has received a flight-worthy certificate (Boden Jr & Nucci, 2000; Kumbaroglu et al., 2008). Although PT DI has tried to market the CN-235, both in the domestic and foreign markets, the sales results are still below the target of PT DI's massive investment in human resources (HR) and the accumulation of technological capability development (technological). Capability has led PT DI to be able to produce N-250 aircraft, which are fully designed and produced by Indonesian children. Unfortunately, PT DI does not have sufficient funds to finance the airworthiness certification required before the N-250 is commercially produced. As a result, PT DI has not been able to market the N250 product until now (Gireesan, 2004). Although the flagship product N-250 has not yet entered commercial production, PT DI continues to develop new products by investing heavily in R&D to produce N2130. This technologically advanced jet aircraft was targeted to enter commercial production in 2005 (Reis et al., 2019).

By producing the N-2130, which Indonesian children will carry out, PT DI is expected to have completed the aircraft industry's technology transfer process and technology development program Maharani & Matthews (2022), entirely. Due to financial difficulties, PT DI was forced to discontinue Project N-2130 before completing the prototype. Even though the aircraft factory has successfully transferred Technology so that it can produce N250 aircraft independently, PT DI's achievements are still not successful. Along with the decline in the power of BJ Habibie, the development of PT DI has also decreased until now; the condition is very, very sad. During 1998-2002, for example, the aircraft factory suffered a loss of IDR. 7.25 trillion to the point of bankruptcy, the peak of which was marked by the layoff of 9,800 employees. In addition, most HR graduates from abroad with high technological capabilities are forced to work in various aircraft companies abroad (Radhi, 2008). A similar failure occurred when the New Order government intended to develop automotive Technology by building a National Car factory (Mobnas) controlled by Tommy Suharto by establishing PT Timor (Fatkhurahmah, 2015).

Through cooperation with KIA South Korea, PT Timor imports KIA Cars in Completely Build UP (CBU) condition, then provides the Timor brand, which is marketed in the domestic market (Martin & Darr, 1997). The plan is to transfer Technology from KIA to PT Timor will be implemented in stages over five years. Before the transfer of Technology was carried out, the Mobnas Project met resistance from various countries by submitting a complaint to the World Trade Organization (WTO) forum because it was considered that there was an element of discrimination in the imposition of import duties. After the WTO's verdict against the Mobnas project in Indonesia, the construction of the PT Timor factory was abandoned, while the technology transfer process never took place (Juwana, 2013).

Appropriate and potential Technology

Development of Appropriate Technology in Indonesia the Indonesian people inevitably, like it or not, are ready or not, have to face global competition that is unavoidable (Sianipar, 2022). Even though the nation, which has been

independent for more than half a century, does not seem ready at all to face global competition. Unpreparedness in facing global competition can be seen from several indications. Among them, the Indonesian manufacturing industry, such as the automotive and electronics industries, as well as the service industry, seems only to be able to "compete" at home. That is because there is still an element of protection from the government for the industry (McGill et al., 1992; Mahoney, 1995).

Meanwhile, the textile industry, which has been the prima donna for Indonesia's exports, has waned and is not expected to be able to compete against competitors from China, India, and even Vietnam in the global market (Thomas, 2010). Indeed, Indonesia can still export a large number of TKI, but almost all TKI sent abroad are unskilled TKI, such as housemaids and plantation coolies. Indonesia's natural resources, such as forests, are still abundant. However, if the forest is exploited on a large scale, both legally and illegally, and burned almost every year, of course, in time, it will also become extinct. Allows the growth and development of various types of fruit (Harrison et al., 2020). Durian, Banana, Rambutan, Mango, Salak, Duku, Longan, Papaya, Apple, Orange, and others thrive in almost all parts of Indonesia. These fruits should be great potential to create a competitive advantage for Indonesia. Ironically, these various types of fruits cannot move at all in the face of competition for imported fruits in the domestic market, let alone in the global market. Local Durian and Longan are less competitive with Bangkok Longan and Durian. Malang apples are almost extinct because they cannot compete with Australian and American apples. In increasingly fierce global competition, creating a competitive advantage for an industry can only be done by means of technology development or at least providing a technology touch to the industry independently. What industries should be prioritized to develop in Indonesia to create a competitive advantage in the global market? (Loconto & Busch, 2010).

Suppose Indonesia prioritizes developing the manufacturing industry, such as the automotive and electronics industries and the textile industry. In that case, chances are it will not be able to catch up with what other countries have previously achieved, so it is challenging for Indonesia to be able to compete in the global market Widiasih et al. (2015), which is still possible to be developed in creating a competitive advantage in the global market is agro-industry. The first consideration is that not many other countries can develop agro-industry due to natural and climatic constraints that do not allow it. Hence, competition in the global market for agro-industry is not so tight. Meanwhile, for Indonesia, the existing natural and climatic conditions allow more flexibility for developing the agro-industry. Second, the technology touch needed for agro-industry development is not too expensive and less complicated than technology development in the manufacturing industry (Febriansyah & Hartanto, 2019).

Third, agro-industry development tends to be labor-intensive and involves many parties, such as farmers and small businesses. The development of this agro-industry must be linked with the development of the processing industry to increase the added value of the commodities produced (McCarthy & Zen, 2010). For example, it was building a fruit canning industry, palm oil processing industry, and its derivative commodities. In addition, the development of the agro-industry and its processing industries must be export-oriented to the global market, thus demanding the quality assurance required by the global market. Referring to the characteristics of appropriate Technology related to the required Technology and available technological capability, as well as natural, climate, and environmental conditions in Indonesia, perhaps the development of agro-industry and processing industries based on Technology is Appropriate Technology for the Indonesian nation. Success in developing appropriate Technology will encourage independent economic development and will contribute to overcoming unemployment and poverty problems in Indonesia (Supriyadi & Kausar, 2017).

Conclusion

After a series of studies looking for scientific evidence to answer what regional economic governance issues are and how to prove Technology's superiority to support governance as well as the prospects and challenges faced, after reviewing some existing evidence, this study finally concluded that the effort to utilize Technology in developing the regional economy is a strategy that is strongly supported by technology experts and also development experts, among others they say that the development of industrialization technology in a region becomes an economy. Superior and developing both in the context of the country and regional countries. On the other hand, we also find that Technology is a tremendous challenge that must be a lesson to return where. Indonesia has experienced fleeting times in optimizing advanced Technology. Its experience is very challenging because it develops a company controlled by the state, namely the national car project. Moreover, the existence of PT Dirgantara, which was later called IPTN, namely an automotive and aviation company. This is one of the challenges that must be overcome, which must not be repeated when Technology becomes a challenge but cannot be optimized because data management is not so optimal.

Furthermore, we studied to understand that previously, there was no appropriate Technology. However, now we find the suitability of Technology to develop the Indonesian economy; when industrialization was successfully developed, it followed friendly countries such as China, India, Singapore, and Malaysia, and Indonesia has now used itself. To utilize various technologies at least for labor and also to obtain other raw material resources. So we can conclude that the existence of Technology turns out to be what the experts say is innovation and economic development from an undeveloped economy to a developing region. Therefore these challenges and expectations can be digested properly so that the existence of Technology can get productive, innovative benefits. And beneficial for regional development in an area, especially in Indonesia.

Acknowledgments

This project received donor from the government. Therefore we would like to thank also all support and feedback.

References

- Armanios, D. E., Lanahan, L., & Yu, D. (2020). Varieties of local government experimentation: US state-led technology-based economic development policies, 2000–2015. *Academy of Management Discoveries*, 6(2), 266–299.
- Baker, T., Pollock, T. G., & Sapienza, H. J. (2013). Winning an unfair game: How a resource-constrained player uses bricolage to maneuver for advantage in a highly institutionalized field. In *Entrepreneurial resourcefulness: competing with constraints*. Emerald Group Publishing Limited.
- Baque, P. G. C. ., Cevallos, M. A. M. ., Natasha, Z. B. M. ., & Lino, M. M. B. . (2020). The contribution of connectivism in learning by competencies to improve meaningful learning. *International Research Journal of Management, IT and Social Sciences*, 7(6), 1-8. <https://doi.org/10.21744/irjmis.v7n6.1002>
- Bekkers, V. (2011). *Innovation in the Public Sector Linking Capacity and Leadership*. Palgrave Macmillan.
- Bhattacharyya, S. C. (2013). Financing energy access and off-grid electrification: A review of status, options and challenges. *Renewable and Sustainable Energy Reviews*, 20, 462–472.
- Boden Jr, R. J., & Nucci, A. R. (2000). On the survival prospects of men's and women's new business ventures. *Journal of business venturing*, 15(4), 347–362. [https://doi.org/10.1016/S0883-9026\(98\)00004-4](https://doi.org/10.1016/S0883-9026(98)00004-4)
- Brynjolfsson, E., & McAfee, A. (2012). *Race against the machine: How the digital revolution is accelerating innovation, driving productivity, and irreversibly transforming employment and the economy*. Brynjolfsson and McAfee.
- Cooper, A. C. (1993). Challenges in predicting new firm performance. *Journal of business venturing*, 8(3), 241–253. [https://doi.org/10.1016/0883-9026\(93\)90030-9](https://doi.org/10.1016/0883-9026(93)90030-9)
- Fatkurahmah, L. L. (2015). *DILEMA KEBIJAKAN LOW COST GREEN CAR (LCGC) DAN PROYEK MOBIL NASIONAL* (Doctoral dissertation, Universitas Muhammadiyah Yogyakarta).
- Febriansyah, A., & Hartanto, F. (2019). Maximizing Appropriate Technology to Advance Development in Indonesian Economic Through Industrial Revolution 4.0.
- Foray, D. (2014). *Smart specialisation: Opportunities and challenges for regional innovation policy*. Routledge.
- Gallegos-Baeza, D., Caro, A., Rodríguez, A., & Velásquez, I. (2021). Aligning business strategy and information technologies in local governments using enterprise architectures. *Information Development*, 02666669211030619.
- Giotopoulos, I., Kontolaimou, A., Korra, E., & Tsakanikas, A. (2017). What drives ICT adoption by SMEs? Evidence from a large-scale survey in Greece. *Journal of Business Research*, 81, 60–69.
- Gireesan, K. (2004). Formation of Self Help Groups in CE Centres and its prospects—A Case Study.
- Gray, D. E. (2021). *Doing research in the real world*. sage.
- Guston, D. H., & Sarewitz, D. (2002). Real-time technology assessment. *Technology in society*, 24(1-2), 93–109. [https://doi.org/10.1016/S0160-791X\(01\)00047-1](https://doi.org/10.1016/S0160-791X(01)00047-1)
- Harrison, M. E., Wijedasa, L. S., Cole, L. E., Cheyne, S. M., Choiruzzad, S. A. B., Chua, L., ... & Page, S. (2020). Tropical peatlands and their conservation are important in the context of COVID-19 and potential future (zoonotic) disease pandemics. *PeerJ*, 8, e10283.
- Holliday, C. O., Schmidheiny, S., & Watts, P. (2017). *Walking the talk: The business case for sustainable development*. Routledge.
- Horton, J. J., Rand, D. G., & Zeckhauser, R. J. (2011). The online laboratory: Conducting experiments in a real labor market. *Experimental economics*, 14(3), 399–425.
- Incera, A. C., & Fernández, M. F. (2015). Tourism and income distribution: Evidence from a developed regional economy. *Tourism Management*, 48, 11–20. <https://doi.org/10.1016/j.tourman.2014.10.016>

- Jakob, M., Lamb, W. F., Steckel, J. C., Flachslund, C., & Edenhofer, O. (2020). Understanding different perspectives on economic growth and climate policy. *Wiley Interdisciplinary Reviews: Climate Change*, 11(6), e677.
- Jamil, F., Ismail, K., & Mahmood, N. (2015). A review of commercialization tools: University incubators and technology parks. *International Journal of Economics and Financial Issues*, 5(1), 223-228.
- Juwana, H. (2013). Internasional Law As A Political Instrument (A Case Study Of Indonesia). In *Al-Risalah: Forum Kajian Hukum dan Sosial Kemasyarakatan* (Vol. 13, No. 02, pp. 1-26).
- Kadarusman, Y., & Nadvi, K. (2013). Competitiveness and technological upgrading in global value chains: Evidence from the Indonesian electronics and garment sectors. *European Planning Studies*, 21(7), 1007-1028.
- Kumbaroğlu, G., Madlener, R., & Demirel, M. (2008). A real options evaluation model for the diffusion prospects of new renewable power generation technologies. *Energy Economics*, 30(4), 1882-1908. <https://doi.org/10.1016/j.eneco.2006.10.009>
- Kurniawan, M. B. (2020). Implementation of Electronic Trial (E-Litigation) on the Civil Cases in Indonesia Court As a Legal Renewal of Civil Procedural Law. *Jurnal Hukum dan Peradilan*, 9(1), 43-70.
- Landabaso, M. (2014). Guest editorial on research and innovation strategies for smart specialisation in Europe: Theory and practice of new innovation policy approaches. *European Journal of Innovation Management*.
- Lim, G., Li, C., & Syaileandra, E. A. (2021). Why is it so hard to push Chinese railway projects in Southeast Asia? The role of domestic politics in Malaysia and Indonesia. *World Development*, 138, 105272.
- Liñán, F., Urbano, D., & Guerrero, M. (2011). Regional variations in entrepreneurial cognitions: Start-up intentions of university students in Spain. *Entrepreneurship and regional development*, 23(3-4), 187-215.
- Loconto, A., & Busch, L. (2010). Standards, techno-economic networks, and playing fields: Performing the global market economy. *Review of International Political Economy*, 17(3), 507-536.
- Loizou, E., Karelakis, C., Galanopoulos, K., & Mattas, K. (2019). The role of agriculture as a development tool for a regional economy. *Agricultural Systems*, 173, 482-490. <https://doi.org/10.1016/j.agry.2019.04.002>
- Luo, Y., Xue, Q., & Han, B. (2010). How emerging market governments promote outward FDI: Experience from China. *Journal of world business*, 45(1), 68-79.
- Maharani, C., & Matthews, R. (2022). The Role of Offset in the Enduring Gestation of Indonesia's Strategic Industries. *Defence and Peace Economics*, 1-22.
- Mahoney, J. T. (1995). The management of resources and the resource of management. *Journal of business research*, 33(2), 91-101. [https://doi.org/10.1016/0148-2963\(94\)00060-R](https://doi.org/10.1016/0148-2963(94)00060-R)
- Malterud, K. (2001). Qualitative research: standards, challenges, and guidelines. *The lancet*, 358(9280), 483-488. [https://doi.org/10.1016/S0140-6736\(01\)05627-6](https://doi.org/10.1016/S0140-6736(01)05627-6)
- Martin, R. M., & Darr, D. R. (1997). Market responses to the US timber demand-supply situation of the 1990s: Implications for sustainable forest management. *Forest Products Journal*, 47(11/12), 27.
- McCarthy, J., & Zen, Z. (2010). Regulating the oil palm boom: assessing the effectiveness of environmental governance approaches to agro-industrial pollution in Indonesia. *Law & Policy*, 32(1), 153-179.
- McGill, M. E., Slocum Jr, J. W., & Lei, D. (1992). Management practices in learning organizations. *Organizational dynamics*, 21(1), 5-17. [https://doi.org/10.1016/0090-2616\(92\)90082-X](https://doi.org/10.1016/0090-2616(92)90082-X)
- Minh, N. Q. (2004). Solid oxide fuel cell technology—features and applications. *Solid State Ionics*, 174(1-4), 271-277. <https://doi.org/10.1016/j.ssi.2004.07.042>
- Muryanto, Y. T., Kharisma, D. B., & Nugraheni, A. S. C. (2021). Prospects and challenges of Islamic fintech in Indonesia: a legal viewpoint. *International Journal of Law and Management*.
- Porter, M. E., & Kramer, M. R. (2019). Creating shared value. In *Managing sustainable business* (pp. 323-346). Springer, Dordrecht.
- Radhi, H. (2008). A systematic methodology for optimising the energy performance of buildings in Bahrain. *Energy and buildings*, 40(7), 1297-1303.
- Rahim, S., Ahmad, H., Muslim, M., & Nursadirah, A. (2020, October). Disclosure of Local Government Financial Statements in South Sulawesi. In *Brawijaya International Conference on Multidisciplinary Sciences and Technology (BICMST 2020)* (pp. 1-6). Atlantis Press.
- Rayuwati, R. . (2020). How educational technology innovates distance learning during pandemic crisis in remote areas in Indonesia?. *International Research Journal of Management, IT and Social Sciences*, 7(6), 161-166. <https://doi.org/10.21744/irjmis.v7n6.1032>
- Reis, A., Siddiqi, A., & de Weck, O. (2019). Evolution stages of aircraft manufacturing firms. *Systems Engineering*, 22(3), 255-270.
- Rokhmawati, A., Gunardi, A., & Rossi, M. (2017). How powerful is your customers' reaction to carbon performance? Linking carbon and firm financial performance. *International Journal of Energy Economics and Policy*, 7(6), 85.

- Shafiai, M. H. M., & Moi, M. R. (2015). Financial problems among farmers in Malaysia: Islamic agricultural finance as a possible solution. *Asian Social Science*, 11(4), 1.
- Sianipar, C. P. (2022). Environmentally-appropriate technology under lack of resources and knowledge: Solar-powered cocoa dryer in rural Nias, Indonesia. *Cleaner Engineering and Technology*, 8, 100494.
- Supriyadi, E., & Kausar, D. R. K. (2017). The economic impact of international tourism to overcome the unemployment and the poverty in Indonesia. *Journal of Environmental Management & Tourism*, 8(2 (18)), 451.
- Thomas, K. (2010). *Investment incentives and the global competition for capital*. Springer.
- Tolley, E. E., Ulin, P. R., Mack, N., Robinson, E. T., & Succop, S. M. (2016). *Qualitative methods in public health: a field guide for applied research*. John Wiley & Sons.
- Van der Duin, P. A., & den Hartigh, E. (2013). Keeping the balance: exploring the link of futures research with innovation and strategy processes. In *Foresight for Dynamic Organisations in Unstable Environments* (pp. 57-76). Routledge.
- Wang, K., Wang, M., Gan, C., Chen, Q., & Voda, M. (2021). Tourism Economic Network Structural Characteristics of National Parks in the Central Region of China. *Sustainability*, 13(9), 4805.
- Widiasih, W., Karningsih, P. D., & Ciptomulyono, U. (2015). Development of integrated model for managing risk in lean manufacturing implementation: a case study in an Indonesian manufacturing company. *Procedia Manufacturing*, 4, 282-290.
- Wijijayanti, T., Agustina, Y., Winarno, A., Istanti, L. N., & Dharma, B. A. (2020). Rural tourism: A local economic development. *Australasian Accounting, Business and Finance Journal*, 14(1), 5-13.
- Woods, D. D. (2018). Toward a theoretical base for representation design in the computer medium: Ecological perception and aiding human cognition. In *Global perspectives on the ecology of human-machine systems* (pp. 157-188). CRC Press.
- Yim, D. S., Kim, M. J., Kim, S. S., Ko, Y., Aminullah, E., & Maulana, I. (2019). Policy Consultation on STI Policy and R&D Governance. *조사연구*, 1-218.
- Zachariadis, M., Hileman, G., & Scott, S. V. (2019). Governance and control in distributed ledgers: Understanding the challenges facing blockchain technology in financial services. *Information and Organization*, 29(2), 105-117.