DIGITALIZATION IN BORDER AREAS DRIVES REGIONAL ECONOMIC GROWTH

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ABSTRACT

This research explores the role of digitization in border regions in driving regional economic growth. With increased access to information and communication technology, often isolated border regions now have the opportunity to improve connectivity and expand market access. This research uses a qualitative analysis approach, focusing on the impact of digitalization on local economic activities, community participation, and infrastructure development. The findings show that digitalization has contributed to increased productivity, job creation. However, challenges such as lack of adequate infrastructure and digital education still need to be addressed. This research recommends a collaborative strategy between the government, private sector, and communities to maximize the potential of digitalization in accelerating economic growth in border areas, thus supporting inclusive and sustainable development.

Keywords: Digitalization, Border Areas, Regional Economy.

1.   Background

In the current era of globalization, digital technology has become the main pillar in driving economic development in various sectors. Technological advances are able to provide significant changes in human life, including in the economic field (Hamdan, 2018). Digitalization, which includes the application of information and communication technology in everyday life, has had a significant impact on efficiency, productivity, and market access. This digitalization process does not only occur in urban areas, but has also begun to penetrate into border areas, which previously may have been limited in terms of access and infrastructure. Digitalization in border areas has become a key factor driving regional economic growth (Prayuda, 2020). Thanks to the rapid advancement of information and communication technology, border regions, which are often geographically, socially and economically challenged, can feel the huge impact of the application of digital technology.

Border regions, as areas located on the dividing line between countries, often face unique economic challenges. Infrastructure limitations, limited access to technology, and low levels of education and skills are some of the main barriers that slow down economic growth in the region. However, with the rapid development of digital technology, there is a great opportunity to capitalize on the potential of border regions to drive regional economic growth. The influence of border areas on the economy can be seen from various sides, both positive and negative, which include the potential for increased trade between countries, the influence on infrastructure and the existence of social and cultural influences on the economy, so that border areas can function as stable and sustainable economic drivers (Nashirun et al., 2020).

The implementation of digitalization in border areas can open wider access to information, global markets, and accelerate infrastructure development that supports strategic sectors such as trade, education, health, and tourism (Elia et al., 2021). Digital technology enables communities in border areas to connect with international markets, increase human resource capacity through online education access, and support more inclusive technology-based economic development. In Indonesia and in the regions, MSMEs have a very significant role in the economy. Data from the Ministry of Cooperatives and SMEs shows that this sector contributes more than 60% of Gross Domestic Product (GDP) and creates jobs for more than 97% of the workforce in Indonesia (Yolanda, 2024). With such great potential, the digital transformation of MSMEs will not only strengthen the national economic structure, but also open wider access to international markets Digitalization in the economy is connected to business actors, especially in marketing products and services so that the results are maximized, compared to traditional marketing.

The following is an image of the types of businesses in MSMEs taken, especially in border areas in Bengkayang Regency.

Figure 1. Type of MSME Business
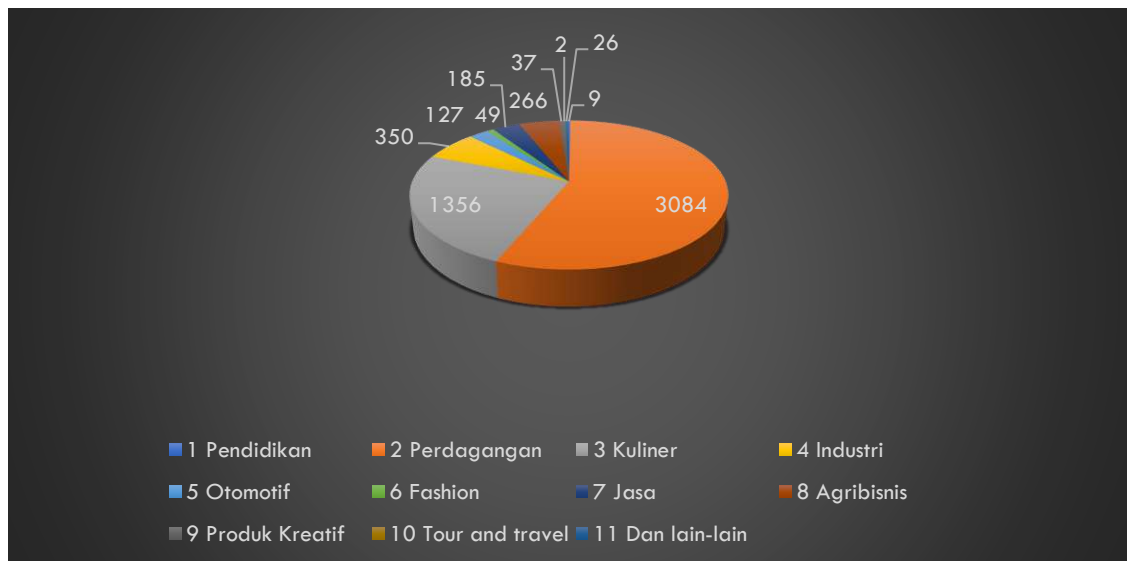
Data Source: Dinas Koperasi, UKM, Transmigration dan Tenaga Kerja Kab. Bengkayang, 2024

In the data, there are business actors with the most business fields in the trade sector, namely 3084 business actors, indicating that the trade sector is a sector that is very attractive and growing rapidly in the region and the least is in the tour and travel business, namely 2 business fields. The tour and travel business has relatively few business actors due to the tendency to require large capital, and has a high risk, given the fluctuations in demand that are influenced by external factors such as travel policies, and the state of the global economy.

These businesses require government participation in their development, with government intervention in creating a healthy business climate and supporting economic growth. Government intervention can take the form of policies that facilitate business, provide access to financing, and help MSME actors to improve product quality and expand markets (Matondang et al., 2024). Thus, MSMEs can be more competitive, increase capacity, and make a greater contribution to the national economy.

Below is a picture showing businesses that are already using digitalization systems in border areas.

Figure 2 Users of Digitalization in Marketing

Apakah Bapak/Ibu sudah menggunakan teknologi digital sebagai sarana pemasaran

jawaban

● Ya
● Tidak

94,4%
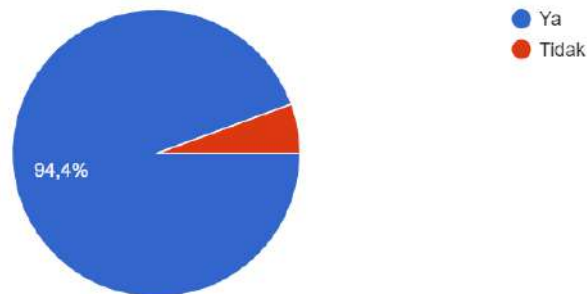
Source

From the data above, there are 94.4% of businesses that have used digitalization in the marketing process, which allows businesses to use various digital platforms and technologies to optimize the way they communicate and sell their products or services to consumers with the aim of increasing revenue. Meanwhile, 5.6% of businesses have not used digitalization, due to several reasons, including a lack of knowledge related to digitalization and a lack of supporting infrastructure in digitalization, namely those related to networks, so that not all businesses can use digital in marketing products and services.

Thus, this study aims to explore how digitalization in border regions can be a significant driving factor in promoting regional economic growth, as well as to understand the challenges and opportunities associated with the implementation of digital technology in these regions. This analysis is expected to provide new insights for economic development policies in border regions as well as a basis for efforts to accelerate digital transformation in the region. This background provides an overview of the relevance of the topic of digitalization in border regions and its impact on the regional economy, and connects the various factors that will be discussed further in the research.

2.   Literature Review

2.1 Definition and Concept of Digitalization

Digitalization is the use of digital technology to replace traditional processes, enabling the storage, processing, and communication of information in digital format. Digitalization refers to the process of converting information or data from an analog format to a digital format, as well as the application of digital technology in everyday life and various economic sectors. According to Westerman et al. (2011), digitization is the use of digital technology to transform traditional

activities in an organization or society. Digitalization is not only limited to data conversion, but also includes the adoption of information and communication technologies (ICT) that enable efficient information exchange. Then according to Brynjolfsson and McAfee (2014), digitalization leads to deeper changes, namely the transformation of business models and operational processes using digital technologies, such as the internet, big data, and artificial intelligence (AI). With digitalization, many aspects of human life can become more efficient, faster, and globally connected.

2.2 Border Areas

Border regions are areas located between two or more countries, which often have special characteristics in terms of geography, social, economic and political aspects. This region not only has an important role in interstate relations but also in aspects of defense, natural resource management, and social and cultural integration. Border areas are areas located along the boundary lines of a country, both those bordering other countries (international borders) and those located in administrative border areas (between provinces, regions, or regencies) (Faoziyah & Salim, 2016).

The Economy of Border Regions Border regions are often the least economically developed regions when compared to central regions. Lack of infrastructure, limited market access, and lack of investment are the main challenges that must be overcome. However, border areas also have great economic potential through cross-border trade and natural resource utilization (Lasabuda, 2013). On the economic aspect, many border regions have significant economic potential, whether in the form of cross-border trade, joint natural resource management, or tourism. However, often border regions also face challenges in economic development, mainly due to a lack of infrastructure and access to key markets.

2.3   Economic Growth

According to Syahputra (2017), economic growth is a long-term economic problem, and economic growth is an important phenomenon experienced by the world in recent years. The process of economic growth is called Modern Economic Growth. Basically, economic growth is defined as a process of growth in per capita output in the long term. This means that in the long run, welfare is reflected in an increase in per capita output which also provides many alternatives in consuming goods and services, and is followed by increased purchasing power. Economic growth can be related to the process of increasing the production of goods and services in the economic activities of society. So it is said, that growth involves developments that are single-dimensional and measured by increasing production

and income (Ramayani, 2015). This means that there is an increase in national income as indicated by the value of the Gross Domestic Product (GDP). In simple terms, economic growth refers to an increase in the amount of goods and services produced in an economy, as measured by GDP or other economic indicators.

3.   Research Methods

In this research, the type of research used is descriptive qualitative research with data validation techniques using triangulation techniques. This research describes in detail the conditions of digitalization in border areas and how the process can encourage regional economic growth. Through this approach, researchers will try to describe various aspects related to digitalization, including infrastructure, government policies, and their impact on society and the economy in border areas. The qualitative approach was chosen because the focus of this research is to explore an in-depth understanding of the phenomenon of digitalization in border areas and its impact on regional economic growth. Qualitative descriptive research is research that describes the situation according to the facts and tries to explain the situation at the time the research was carried out (Syahrizal & Jailani, 2023). This research aims to understand the processes, meanings, and experiences faced by the community, economic actors, and other related parties in implementing digitalization in border areas. This research uses primary data obtained from observations, interviews and documentation obtained from the research site and adjusted with previous research related to the research topic as well as secondary data obtained from reading, understanding and studying other media from various literatures, books, and other documents (Olivia Toguiboto Rambe et al., 2023).

4. Research Results and Discussion
4.1 Research Results

This research identifies various aspects related to digitalization in border areas and its impact on regional economic growth. Based on data collected through in-depth interviews, participatory observations, Focus Group Discussions (FGDs), and documentation, some of the main findings in this research can be summarized as follows:

1. Access to Digital Infrastructure i.e. the majority of border areas studied have improved access to digital infrastructure, such as internet networks and telecommunication services. This improvement is thanks to central government policies that encourage the expansion of digital infrastructure in remote and border areas, however, although basic infrastructure is in place, network quality and internet speeds still vary depending on location.

Some areas still face challenges in accessing stable and fast internet services, especially in more remote areas (Mujiatun et al., 2022).

2. Increased Access to Markets and Information Digitalization opens wider access for local businesses to reach larger markets, both nationally and internationally. Many small and medium entrepreneurs in border areas have begun to utilize digital platforms to market their products, including using social media and e-commerce (Tresnawati & Prasetyo, 2022). It is also easier for people in border areas to access information related to the price of goods, business opportunities, and information about government policies that can affect their economic activities.

3. Changes in Trading Patterns Digitalization has changed traditional trading patterns in border areas (Aysa, 2021). Previously, trade was conducted conventionally through physical markets and face-to-face transactions. However, with digitalization, many businesses now rely on online transactions, including in the agriculture and consumer goods sectors. And in some areas, cross-border trade has also experienced significant changes. Businesses can now conduct transactions with partners in neighboring countries using digital platforms without having to meet face-to-face, thus speeding up the process and reducing transaction costs.

4. Enhanced Human Resource Capacity and Digital Skills in the Borderlands Digital training and education programs organized by the government and non-government agencies have helped to improve human resource capacity in the borderlands (Asbara et al., 2023). Local communities that were previously unfamiliar with technology are now beginning to master the basic skills of using digital devices and applications to support their economic activities. However, there are challenges in improving digital literacy for older communities or those living in very remote areas.

5. Social and Economic Impact, in general, digitalization has a positive impact on economic growth in border areas (Theresia Lorenza Jehalim Deo et al., 2024). Local communities are more easily connected to the outside world, opening up opportunities to work remotely, as well as establishing relationships with employers or consumers outside their area. In addition, some economic sectors that are more dependent on technology, such as digital tourism and technology-based financial services (fintech), have experienced significant growth thanks to the ease of internet access and digital services.

4.2 Discussion

1. The Effect of Digitalization on the Economy of Border Areas Digitalization in border areas plays a major role in accelerating the process of economic integration between border areas and national and global markets. Access to a wider market provides better economic opportunities for the community, which in turn drives economic growth at the local and regional levels (Rohyati et al., 2024). This research shows that digitization not only facilitates trade but also improves access to essential services such as education, health, and other public services. This indirectly improves the quality of life of people in border areas.

2. Challenges in Implementing Digitalization Despite significant progress, this study found some major challenges faced by the community and government in implementing digitalization evenly. One of them is the inequality of digital infrastructure, where some border areas are still not covered by fast and stable internet networks (Purnomo et al., 2017). This limits the potential growth of the digital economy in these areas. Limited digital literacy is also an obstacle. Despite training, many residents, especially older ones or those working in the non-formal sector, still do not have sufficient skills to make the most of technology in their economic activities.

3. The Role of Government and Digitalization Policy, the central government policy that supports the development of digital infrastructure in border areas has proven to have a positive impact on improving access to technology. However, local governments need to be more proactive in providing digital skills training and strengthening collaboration with the private sector to create a more inclusive digital ecosystem (Ciek Julyati Hisyam et al., 2024). The research also shows that the government needs to address administrative barriers that may hinder the digitization process, such as regulations that do not support cross-border digital transactions or relatively high internet costs.

4. Potential and Future Prospects The potential for digitization in border areas to drive regional economic growth is enormous, especially with the increasing interest in online commerce, fintech, and other digital service sectors (Adha, 2020). However, to realize this potential to the fullest, collaborative efforts between the government, the private sector, and the community are needed. Infrastructure development, digital skills enhancement, and policies that support technology adoption should be prioritized in order to accelerate economic growth in border areas.

5.   Conclusion

Digitalization in border regions can drive regional economic growth by expanding market access, improving trade efficiency, and providing new economic opportunities for communities. However, challenges related to digital infrastructure, digital literacy, and policies that are not yet fully supportive need to be addressed to ensure the benefits of digitalization can be felt equally. With the right policies and strong support, digitalization has the potential to become a key driver for economic development in border areas. Thus the research results and discussion of the research on digitalization in border areas. This discussion includes findings that illustrate the positive impacts and challenges faced, as well as providing recommendations for further development in the future.

Reference

Adha, L. A. (2020). Digitalisasi Industri Dan Pengaruhnya Terhadap Ketenagakerjaan Dan Hubungan Kerja Di Indonesia. *Journal Kompilasi Hukum*, *5*(2), 267–298. https://doi.org/10.29303/jkh.v5i2.49

Asbara, N. W., Nurrachma, N., Hidayat, M., Z, N., Izzanurdin, N., Viana, A., & Al Ailmunur, R. (2023). Strategi Pengembangan BUMDesa yang Berdaya Saing di Era Digitalisasi Melalui Pemanfaatan Teknologi Informasi. *Madani : Indonesian Journal of Civil Society*, *5*(2), 121–130. https://doi.org/10.35970/madani.v5i2.1890

Aysa, I. R. (2021). Tantangan Transformasi Digital Bagi Kemajuan Perekonomian Indonesia. *Jurnal At-Tamwil: Kajian Ekonomi Syariah*, *3*(2), 140–153. https://doi.org/10.33367/at.v2i3.1458

Ciek Julyati Hisyam, Kailla Putri Aisyah, Siti Umi Khoiriah, & Syafaa Marwah Augea. (2024). Peran Pemerintah dalam Mengoptimalkan Dinamika Wirausaha: Mendukung Kemajuan Ekonomi Indonesia Khususnya Wilayah Jakarta. *Trending: Jurnal Manajemen Dan Ekonomi*, *2*(3), 178–193. https://doi.org/10.30640/trending.v2i3.2703

Elia, S., Giuffrida, M., Mariani, M. M., & Bresciani, S. (2021). Resources and digital export: An RBV perspective on the role of digital technologies and capabilities in cross-border e-commerce. *Journal of Business Research*, *132*, 158–169. https://doi.org/10.1016/j.jbusres.2021.04.010

Faoziyah, U., & Salim, W. A. (2016). Proliferation Pattern in Underdeveloped Region: Is it the Real Solution to Solve Underdeveloped Region's Problem in Decentralized Indonesia? *Procedia - Social and Behavioral Sciences*, *227*, 824–832. https://doi.org/10.1016/j.sbspro.2016.06.151

Hamdan, H. (2018). INDUSTRI 4.0: PENGARUH REVOLUSI INDUSTRI PADA KEWIRAUSAHAAN DEMI KEMANDIRIAN EKONOMI. *JURNAL NUSANTARA APLIKASI MANAJEMEN BISNIS*, *3*(2), 1.

https://doi.org/10.29407/nusamba.v3i2.12142

Lasabuda, R. (2013). PEMBANGUNAN WILAYAH PESISIR DAN LAUTAN DALAM PERSPEKTIF NEGARA KEPULAUAN REPUBLIK INDONESIA. *JURNAL ILMIAH PLATAX*, *1*(2), 92. https://doi.org/10.35800/jip.1.2.2013.1251

Matondang, E. S., Siregar, M., Nasution, M., & Andriati, S. L. (2024). Analisis Kebijakan Hukum dan Implementasi Pemulihan Ekonomi Nasional: Studi Pada Usaha Mikro Kecil dan Menengah di Wilayah Kota Medan. *Locus Journal of Academic Literature Review*, *3*(1), 45–64. https://doi.org/10.56128/ljoalr.v3i1.276

Mujiatun, S., Jasin, H., Fahmi, M., & Jufrizen, J. (2022). Model Financial Technology (Fintech) Syariah di Sumatera Utara. *Owner*, *6*(3), 1709–1718. https://doi.org/10.33395/owner.v6i3.893

Nashirun, Iva Ashari Ananda, & Iwan Kusnadi. (2020). Peran Pemerintah Pada Era MEA Di Kawasan Perbatasan Di Provinsi Kalimantan Barat. *Sebi : Studi Ekonomi Dan Bisnis Islam*, *1*(2), 13–30. https://doi.org/10.37567/sebi.v1i2.149

Olivia Toguiboto Rambe, Christian Wiradendi Wolor, & Marsofiyati, M. (2023). Analisis Motivasi Ekstrinsik di PT. Digivla Indonesia. *Jurnal Ilmu Manajemen, Ekonomi Dan Kewirausahaan*, *3*(3), 238–248. https://doi.org/10.55606/jimek.v3i3.2480

Prayuda, R. (2020). STRATEGI PENGEMBANGAN KONSEP BLUE ECONOMY DALAM PEMBERDAYAAN MASYARAKAT DI WILAYAH PESISIR. *Indonesian Journal of International Relations*, *3*(2), 46–64. https://doi.org/10.32787/ijir.v3i2.90

Purnomo, R. A., Riawan, & Sugianto, L. O. (2017). Studi Kelayan Bisnis. In *Jurnal Universitas Muhammadiyah Ponorogo*.

Ramayani, C. (2015). PENGARUH INVESTASI PEMERINTAH, INVESTASI SWASTA, INFLASI, EKSPORT, TENAGA KERJA DAN PRODUKTIVITAS TENAGA KERJA TERHADAP PERTUMBUHAN EKONOMI DI INDONESIA. *Economica*, *1*(2), 203–207. https://doi.org/10.22202/economica.2013.v1.i2.120

Rohyati, R., Rokhmah, F. P. N., Syazeedah, H. N. U., Fitriyaningrum, R. I., Ramadhan, G., & Syahwildan, M. (2024). Tantangan dan Peluang Pasar Modal Indonesia dalam Meningkatkan Minat Investasi di Era Digital. *Kompeten: Jurnal Ilmiah Ekonomi Dan Bisnis*, *3*(1), 909–918. https://doi.org/10.57141/kompeten.v3i1.133

Syahrizal, H., & Jailani, M. S. (2023). Jenis-Jenis Penelitian Dalam Penelitian Kuantitatif dan Kualitatif. *Jurnal QOSIM Jurnal Pendidikan Sosial & Humaniora*, *1*(1), 13–23. https://doi.org/10.61104/jq.v1i1.49

Theresia Lorenza Jehalim Deo, Novi Theresia Kiak, & Maria Indriyani H. Tiwu. (2024). Analisis Peran Digitalisasi Koperasi dalam Pengembangan Ekonomi Wilayah Perbatasan. *Journal of Business, Finance, and Economics (JBFE)*, *5*(2), 86–96. https://doi.org/10.32585/jbfe.v5i2.5711

Tresnawati, Y., & Prasetyo, K. (2022). Pemanfaatan Digital Marketing Bagi Usaha Mikro Kecil dan Menengah Bisnis Kuliner. *Journal of New Media and Communication*, *1*(1), 43–57. https://doi.org/10.55985/jnmc.v1i1.5

Yolanda, C. (2024). Peran Usaha Mikro, Kecil Dan Menengah (UMKM) Dalam Pengembangan Ekonomi Indonesia. *JURNAL MANAJEMEN DAN BISNIS*, *2*(3), 170–186. https://doi.org/10.36490/jmdb.v2i3.1147