

DOI: <https://doi.org/10.38035/sijdb.v2i2>Received: September 1st, 2024, Revised: September 16th, 2024, Publish: September 24th, 2024<https://creativecommons.org/licenses/by/4.0/>

Digital Business Ecosystem: Strategy, Technology, E-Commerce and Consumer Analysis

Dian Nur Mastuti¹, Nunung Ayu Sofiati², Agus Suhendra³, Rahmat Prayoga⁴, Kiki Puspito Arianty⁵

¹Universitas Dharma AUB, Surakarta, Indonesia, email: dian.mastuti@stie-aub.ac.id

²Universitas Indonesia Membangun, Bandung, Indonesia, email: ayusofiati62@gmail.com

³Institut transportasi & Logistik Trisakti, Jakarta, Indonesia, email: agussuhendra1961@gmail.com

⁴Institut Bisnis dan Komunikasi Swadaya, Jakarta, Indonesia, email: prayogosemm@gmail.com

⁵Universitas ASAINDO, Jakarta, Indonesia, email: kikipuspo@gmail.com

Corresponding Author: dian.mastuti@stie-aub.ac.id¹

Abstract: The purpose of this article is to explore the relationship between technology, e-commerce, business strategy, and consumer analysis in the context of developing a dynamic digital business ecosystem. Based on this, businesses can see how important it is to combine these four components to increase competitiveness and achieve long-term growth in the digital era. The research method used is descriptive qualitative. The data used in this descriptive qualitative approach comes from previous research that is relevant to this research and is obtained from online academic media such as Taylor & Francis, Scopus Emerald, Web of Science, Sinta Journal, DOAJ, EBSCO, Google Scholar, and digital reference books. The results of this article are: 1) Strategy has a significant effect on the digital business ecosystem; 2) Technology has a significant effect on the digital business ecosystem; 3) E-commerce has a significant effect on the digital business ecosystem; 4) consumer analysis has a significant effect on the digital business ecosystem.

Keyword: Strategy, Technology, E-commerce, Consumer Analysis, Digital Business

INTRODUCTION

In today's digital era, the business ecosystem is undergoing significant transformation, especially with the emergence of e-commerce which has changed the way consumers interact with products and services. According to a report from Statista, the global e-commerce market value is estimated to reach USD 6.54 trillion in 2023 and is predicted to continue growing at a compound annual growth rate (CAGR) of 10.4% until 2024 (Statista 2023). This shows that e-commerce is not just a temporary trend, but has become an integral part of modern business strategies.

The business environment has undergone tremendous change as a result of the development of digital technology, giving rise to a quickly expanding digital business ecosystem. In the current digital age, businesses need to be flexible in order to be relevant and competitive. Digitalization has an impact on corporate strategies, technology deployment,

e-commerce, and consumer analytic methodologies in addition to driving changes in operational procedures. Businesses in this new business environment must be able to leverage a variety of digital technologies and strategies in order to gain a competitive edge, add value for clients, and spur long-term expansion (Mariam and Ramli 2019).

In the digital environment, business strategies are evolving to become more flexible and focused on quickly responding to change. Businesses must now adopt a flexible and adaptable strategy in response to shifting market conditions and technological advancements rather than depending just on antiquated, static tactics. Under these circumstances, creativity and the capacity to overcome digital obstacles become crucial components of corporate strategy. Businesses that can effectively integrate cutting-edge technology, such as big data analytics, cloud computing, and artificial intelligence (AI), to facilitate more effective operational and decision-making processes, are likely to succeed. Technology is a major factor in the digital transformation of many different industry sectors. Technology has expedited automation, improved operational effectiveness, and created new avenues for the development of innovative goods and services. Adoption of technology is not without its difficulties, though, particularly when it comes to major investment, cybersecurity threats, and technological integration that meets business goals. Consequently, businesses must develop a technology strategy that prioritizes sustainability, security, and efficiency in addition to efficiency (Sulaksono 2020).

E-commerce has emerged as one of the key pillars in the digital business ecosystem, alongside technology. The surge in e-commerce can be attributed to shifts in customer behavior, as they increasingly depend on digital platforms for their shopping needs. Nowadays, shoppers demand a more streamlined, expedient, and customized buying experience. This compels businesses to use e-commerce systems capable of offering a range of benefits, like safe payment options, quick shipment, and attentive customer support. But given the fierce competition in the e-commerce space, businesses must also keep coming up with new ideas to keep customers loyal and boost conversions. In the ecosystem of digital businesses, consumer analytics is crucial to comprehending the wants and demands of customers. Businesses can tailor their product and service offerings by conducting in-depth analyses of consumer behavior using data gathered from several digital channels (Ali, Zainal, and Ilhamalimy 2022).

One of the main challenges in the digital business ecosystem is how companies can develop effective strategies to reach consumers in an increasingly competitive market. Many companies invest in technology to improve user experience, but without a clear strategy, these investments can be ineffective. For example, companies like Amazon and Alibaba have successfully integrated advanced technologies, such as artificial intelligence and big data analytics, to understand consumer behavior and tailor their offerings to market preferences (Chaffey 2022). Data shows that consumers are increasingly turning to digital platforms for shopping. According to a report from eMarketer, around 80% of consumers worldwide have made online purchases by 2022. In Indonesia itself, the number of internet users reaches 77% of the total population, with 60% of them shopping online (APJII 2022). This shows that the e-commerce market in Indonesia has enormous potential, but also requires the right strategy to attract and retain consumers.

Within this framework, technology serves as a fundamental element that modifies the conventional approach to business, making it more effective and adaptable. New innovations in business models have emerged as a result of the usage of digital technologies like cloud computing, big data analytics, artificial intelligence, and the Internet of Things (IoT), particularly in the e-commerce industry (Pakpahan 2021).

In this ecosystem, having a strong digital business strategy is crucial to winning the competition. Businesses put equal emphasis on providing value through integrated and

customized client experiences as they do on selling goods and services. One of the biggest areas of digital business is e-commerce, which enables businesses to more effectively reach a larger market. But in this ecosystem, a thorough grasp of customer behavior is just as important as technological proficiency for success (Darmawan, Muttaqin, and Herlinawati 2024).

An essential component of digital company strategy is consumer analysis. Consumer data is one of the most precious resources in a society that is becoming more and more connected. Businesses can better understand the needs, tastes, and behaviors of their customers by using data analysis, which enables them to provide more relevant offerings and boost customer satisfaction (Zahara 2024). It is impossible to overlook the importance of data in strategic decision-making, particularly when it comes to spotting market trends and altering customer behavior.

In addition, it is important to understand the technology underlying e-commerce. Technologies such as blockchain, big data, and cloud computing have enabled businesses to manage their operations more efficiently and transparently. For example, the use of blockchain in payment systems can improve transaction security, while big data can help companies predict market trends and consumer behavior (Khan, M. N. 2021). Thus, companies that are able to utilize this technology will have a significant competitive advantage.

However, although there are many opportunities in the digital business ecosystem, there are also risks that must be faced. Data security and consumer privacy issues are a major concern, especially after the many cases of data breaches that have occurred in various companies. According to a report by Cybersecurity Ventures, cybercrime losses are estimated to reach USD 10.5 trillion by 2025 (Cybersecurity Ventures 2021). Therefore, companies need to develop strategies that focus not only on growth but also on protecting consumer data to build trust among customers.

Based on the background of the problem above, the following problem formulations are determined: 1) Does strategy affect the digital business ecosystem?; 2) Does technology affect the digital business ecosystem?; 3) Does e-commerce affect the digital business ecosystem?; 4) Does consumer analysis affect the digital business ecosystem

METHOD

This literature review was written using the descriptive qualitative method. technique for gathering data via a review of the literature or an analysis of pertinent earlier studies. The descriptive qualitative approach uses data from prior research that is pertinent to the current study as well as from digital reference books, Taylor & Francis, Scopus Emerald, Web of Science, DOAJ, EBSCO, and Sinta Journal, among other online academic media. It can also be acquired through e-library on well-known university campuses, such as the libraries at Harvard, Cambridge, and Oxford. Thanks to the present literature review, researchers can find gaps in the literature, choose the best methodological approach, and discover how the research issue has been studied previously. As a result, the research issue becomes more narrowly focused and pertinent, and new findings will undoubtedly greatly expand the field of study already in existence. The primary rationale for utilizing qualitative analysis is the exploratory character of this research project (Ali, H., & Limakrisna 2013), (Susanto, Yuntina, et al. 2024), (Susanto, Arini, et al. 2024).

RESULTS AND DISCUSSION

Based on the background of the problem and the formulation of the problem above, the results of this study are as follows:

Strategy

A company's business strategy is the plan or technique it uses to accomplish long-term objectives and keep a competitive edge in the market (Ashshidiqy and Ali 2019). Business strategy integrates an examination of the company's internal strengths and weaknesses with a thorough grasp of the external environment, which includes competitors, customers, and industry trends. Important choices about how to allocate resources, which market categories to enter, and how to set the company's goods and services apart from those of rivals are all part of this strategy. A successful business plan must be adaptable to changes in the market and the dynamics of the sector while maintaining focus on the key goals of the organization (Indrayani et al. 2021).

Digital business strategy refers to the systematic approach used by companies to leverage digital technologies to achieve their business goals. In today's context, where digital transformation is becoming increasingly important, this strategy encompasses various aspects, from digital marketing, product development, to supply chain management. According to a report by (Company 2021), companies that implement an integrated digital strategy can increase productivity by up to 30%. This shows that the right strategy can provide a significant competitive advantage.

Indicators or dimensions contained in the strategy variable include: 1) Vision and mission: While the mission outlines the right actions to achieve the vision, the vision provides long-term guidance. This indicator assesses the extent to which the company's vision and goals are understood and implemented consistently; 2) Strategic Decision Making: One important metric is the capacity for data-driven decision making. This covers risk management as well as SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis. It's also critical to react to developments in the market quickly and accurately; 3) Operational Efficiency: Effective tactics frequently result in higher operational efficiency. In addition to resource optimization, this indicator is measured by comparing inputs (costs) and outputs (results); 4) Innovation and Adaptation: A business plan must be flexible enough to react to changes in the market and in technology. Ongoing innovation shows how effectively a plan is working and how fast a business can adapt to changes in the outside world; 5) Competitive Advantage: A distinctive feature that sets a business apart from its rivals is called a competitive advantage. Brand image, pricing, service quality, and product innovation can all be used to gauge this. To preserve their advantage, businesses need to always coming up with new ideas and ways to set themselves apart.

Strategy has been studied by several researchers, including: (Fitri Anggreani 2021), (Wardani and Isbela 2018), (Adiningrum et al. 2022), (Susanto et al. 2023), (Panggabean et al. 2024)

Technology

In the business world, technology refers to any instrument, framework, or technique that enhances productivity, creativity, and efficiency in an organization's activities. Technology include software, internet technology, management systems, and hardware like computers and other equipment. Technology is essential to digital transformation because it facilitates data integration for improved analysis and speeds up corporate procedures. When technology is used properly, it can save costs, enhance product quality, shorten production times, and facilitate quicker and more precise managerial decision-making (Lumban 2022).

Technology is a key element in the digital business ecosystem. It includes various tools and platforms that enable companies to operate effectively in cyberspace. Technologies such as artificial intelligence (AI), big data analytics, and the Internet of Things (IoT) have revolutionized the way companies interact with consumers. A study by (Gartner 2022) shows that 70% of companies that adopt AI in their operations report increased efficiency and

reduced costs.

Indicators or dimensions contained in the technology variable include: 1) Process automation: Process automation is made possible by technology, which boosts productivity and lowers human error. This indicator is demonstrated by higher output, lower operating expenses, and lower error rates; 2) Cyber security: One of the top priorities while using technology is data security. This indication comprises safeguards against cyberattacks, adherence to regulations, and security when keeping internal and customer data; 3) Technology sustainability: The use of energy- and environmentally-friendly technologies is indicated by this indicator. Utilizing eco-friendly or green technology is a significant aspect that is receiving increased focus; 4) Technology investment: A company's dedication to innovation and long-term growth is reflected in the amount of money it invests in technology. The amount of money set aside for technological advancement and the ROI (return on investment) produced serve as indicators for this one; 5) Adoption of new technology: Artificial Intelligence (AI), cloud computing, data management systems, and other emerging technologies are all within the company's reach. The rate of innovation and the competitiveness of the business are frequently linked to the degree of technology adoption.

Technology has been studied by several researchers, including: (Farhatun Nisaul Ahadiyah 2023), (Edwin Kiky Aprianto 2021), (Damayanti 2020), (Anggraeni and Elan Maulani 2023), (Judijanto et al. 2024).

E-Commerce

E-commerce is the process of buying and selling goods or services over the internet. With the rapid growth of internet users, e-commerce has become one of the main pillars of the digital economy. According to (Statista 2023), global revenue from e-commerce is expected to reach more than 6 trillion US dollars in 2023, showing tremendous growth. E-commerce includes not only large platforms such as Amazon and eBay, but also small businesses that utilize platforms such as Shopify to sell their products online. The success of e-commerce lies in its ability to offer convenience and accessibility to consumers worldwide.

With the advancement of information and communication technology, companies may now more easily access customers worldwide through e-commerce platforms, eliminating the need for them to maintain physical premises. Customers may shop whenever and wherever they want thanks to e-commerce, which also expedites and simplifies transaction processing (Istanti 2017).

The indicators or dimensions contained in the e-commerce variable include: Indicators or dimensions contained in e-commerce variables include: 1) User convenience: The success of e-commerce depends on the user interface and user experience. These signs include intuitive layout, easy navigation, and fast and secure payment procedures; 2) Payment methods: In e-commerce, the availability of several payment options is a crucial metric. Customers are more at ease and trusting of the platform when they have access to a variety of safe payment options, such as credit card, e-wallet, and COD; 3) Transaction security: Transaction security is a crucial aspect of e-commerce. The security of consumer information and financial transactions is upheld by indicators such as fraud prevention and encryption technologies; 4) Delivery speed: An important aspect of the online shopping experience is delivery speed. Consumers anticipate timely and dependable deliveries. The average delivery time and customer satisfaction with delivery services are used to measure this indicator; 5) Stock and inventory management: Effective stock management is also essential for e-commerce to succeed. This metric encompasses the effectiveness of the logistics process, resupply speed, and real-time inventory management.

E-Commerce has been studied by several researchers, including: (Sulistiyawati and

Widayani 2020), (Priyo and Sri 2020), (Japariato and Adelia 2020), (Pratama 2020), (Kamisa, Putri, and Novita 2022).

Consumer Analytics

Consumer analytics is the process of collecting and interpreting data to understand consumer behavior and preferences. In the digital business ecosystem, this analysis is becoming increasingly important because the data available is very abundant. Companies can use analytical tools to identify trends, segment markets, and better understand customer needs. According to research by (Nielsen 2022), 85% of companies that implement effective consumer analytics report an increase in customer satisfaction and brand loyalty.

The process of recognizing, comprehending, and analyzing consumer behavior and preferences in order to enhance marketing plans and product development is known as consumer analysis. Through a variety of techniques, including surveys, interviews, and sales data analysis, data on consumer demographics, psychographics, and purchase behavior are gathered for this analysis. The objective is to comprehend customer needs and wants, the factors that influence their decisions to buy, and how businesses can modify their goods and services to better satisfy customers. Businesses may make more focused decisions about product creation, pricing, distribution, and advertising with the help of accurate customer analysis (Masdaini and Dewi 2022).

Indicators or dimensions contained in consumer analysis variables include: 1) Market segmentation: An key signal is to segment your consumer base buying habits, psychographics, and demographics. This enables businesses to create marketing plans that are more successful; 2) Customer satisfaction: Customer retention rates, reviews, and satisfaction surveys are used to measure this statistic. A high level of satisfaction suggests that the good or service lives up to expectations in the market; 3) Purchasing behavior: measuring the quantity, frequency, and timing of purchases made by consumers. Companies can forecast future purchase trends with the use of this data; 4) Consumer loyalty: This metric quantifies the number of customers that come back to make additional purchases. Programs for client retention or loyalty might provide information on the degree of customer loyalty; 5) User data: making use of big data to comprehend consumer behavior. This measure takes into account both the volume of information gathered and the precision with which pertinent insights are generated for business decision-making.

Consumer analytics has been studied by several researchers, including: (Cucu Sumartini and Fajriany Ardining Tias 2019), (Candra Irawan 2020), (Putri, Sari, and Rahmah 2022), (Suprihatin 2020), (Martinus Hia, Hapzi Ali, and Fransiskus Dwikotjo Sri Sumartyo 2022).

Relevant Previous Research

Reviewing related publications as a basis for formulating research hypotheses by presenting the results of previous research, highlighting the similarities and differences with the research proposal, as illustrated in table 1 below:

Table 1. Relevant Previous Research Results

No	Author (Year)	Research result	Similarities with this article	Differences with this article	Hypothesis
1.	(Nasution 2021)	There is a positive influence on the progress of The Night Market Café & Co-working Space, finally the role of the	Equations in business strategy variables	Differences in marketing variables for culinary	H1

		place variable in the marketing mix can make visitors come back to The Night Market Café & Co-working Space.		businesses using influencers via Instagram social media	
2.	(Herfita et al. 2013)	Produce strategic planning of systems and technologies that are useful for increasing the company's competitive value in future business competition.	Equations in business strategy variables	Differences in the variables of PT Gancia Citra Rasa	H1
3	(Adiningrum et al. 2022)	The matrix results show that coffee shops in the Bekasi Regency area are in cell I (Grow and Build)	Equations in business strategy variables	Differences in the coffee shop background variables	H1
4	(Farhatun Nisaul Ahadiyah 2023)	The development of information technology also has an impact on increasing the expansion of a business product.	Equations in technology variables	Differences in online business growth variables	H2
5	(Ashshidiqy and Ali 2019)	Information Technology Strategy must be in accordance with the business strategy and can describe how to formulate an Information Technology strategy that is in accordance with the business strategy.	Equations in technology variables	Differences in business strategy variables	H2
6	(Anggraeni and Elan Maulani 2023)	Information technology will continue to be a key factor in The development of modern business and companies that are able to adopt information technology effectively will lead in an increasingly competitive global market.	Equations in technology variables	Differences in modern business development variables	H2
7	(Japariato and Adelia 2020)	The relationship between web appearance and price on purchase intention with trust as an intervening variable in e-commerce	Equations in e-commerce variables	Differences in web display variables, price, purchase interest and trust	H3
8	(Fajrillah and Sipahutar 2023)	There are various views and understandings regarding Islamic law in the context of e-commerce, most consumers tend to prioritize convenience, speed and ease in online shopping.	Equations in consumer analysis variables	Differences in the variables of buying and selling and Islamic law	H4

Discussion

Based on the formulation of the problem, research results and relevant previous research, the discussion in this study includes:

1. The Influence of Strategy on the Digital Business Ecosystem

Strategy is crucial in the digital business ecosystem since it serves as the cornerstone for accomplishing the long-term objectives of the organization. Companies can respond swiftly to the dynamics of a business environment that is changing quickly by implementing

a well-developed strategy that focuses on changes in the digital market. A thorough understanding of the relationships between technology, e-commerce, and customer behavior is essential for developing a business strategy in the digital age. For instance, a business needs to know how to leverage digital technology to boost its competitive edge through optimization of digital marketing, process automation, and the use of data analytics to help with decision-making. A strong digital strategy should also be able to incorporate other areas of digitalization, like social media involvement, a smooth customer experience across platforms, and big data management for the analysis of customer preferences and market trends (Hartato and Handoyo 2021).

A digital company plan also needs to take privacy and security into account. Cybersecurity risks are one of the most important challenges that can impact a company's sustainability and reputation in the digital age. Protection of consumer data, risk mitigation techniques, and adherence to legal requirements are all essential components of a solid approach. Establishing consumer trust is crucial for the smooth operation of the company's digital offerings. Furthermore, in order for businesses to stay relevant in the face of intense competition, an effective strategy must be focused on innovation, allowing them to update their business models, goods, or services on a regular basis. Businesses can increase their reach and boost operational efficiency by using novel strategies, such as creating technology-based goods or platform business models that facilitate communication between different players in the digital business ecosystem (Anggraini, Astri, and Minovia 2020).

A good digital company plan must also prioritize the client experience. Customers have a lot of options and access to information in the digital age, so businesses need to work hard to deliver an amazing customer experience at every touchpoint. Via social media, unfavorable experiences can spread swiftly and harm a company's reputation. Thus, sustaining client loyalty over time requires a strategy that prioritizes raising customer happiness through quick service, customisation, and ease of engagement across several digital channels (Ibnu Khoirudin et al. 2023).

Strategy has an influence on the digital business ecosystem, this is in line with research conducted by: (Herfita et al. 2013), (Al Hakim, Harto, and Setyabudhi 2021), (Nurrahmi and Rahayu 2020).

2. Achievement The Influence of Technology on the Digital Business Ecosystem

The digital business ecosystem is greatly impacted by technology, which also acts as a catalyst for significant shifts in how companies are managed. Businesses may use a variety of digital technologies to increase their competitiveness, productivity, and efficiency thanks to the quick improvements in technology. The use of cloud computing, which enables businesses to store and handle data more effectively and flexibly, is among the most prominent examples. Real-time data accessibility is made possible by this technology, which is essential for prompt and precise decision-making. However, machine learning and artificial intelligence (AI) have also altered how businesses evaluate data and comprehend client wants. Businesses may automate customer support, forecast consumer trends, and create new goods that cater to market demands by utilizing AI algorithms (Saputra et al. 2023).

Businesses can also increase operational efficiency by using technology to automate company processes. Automation lowers human error in a variety of activities, including inventory management, product delivery, and payment processing, while also lowering operating expenses. Furthermore, Internet of Things (IoT) technology enables businesses to link disparate systems and devices to monitor operations more thoroughly. In this regard, technology additionally enhances supply chain management by permitting more transparency and real-time tracking during the product distribution process.

Technology is a key component in the digital business ecosystem that helps to enhance the consumer experience. The emergence of communication technology, such as virtual assistants and chatbots, has enabled businesses to offer individualized and responsive customer support. Technologies like virtual reality (VR) and augmented reality (AR) are also being used in a number of businesses to improve virtual customer interactions with products, hence increasing customer engagement and loyalty. This technology lowers the possibility of customer dissatisfaction after a transaction by enabling consumers to digitally try things before making a purchase in the retail industry. In general, technology expands the potential for innovation by providing businesses with more advanced instruments to boost their competitiveness and adaptability to shifting market conditions.

Technology has an influence on the digital business ecosystem, this is in line with research conducted by: (Sulaksono 2020), (Edwin Kiky Aprianto 2021).

3. The Influence of E-Commerce on the Digital Business Ecosystem

One of the primary elements of the digital business ecosystem, e-commerce has significantly changed how businesses engage with customers and carry out daily operations. Since more people are using mobile devices and have easy access to the internet, e-commerce presents new chances for businesses to reach a larger market without being restricted by geography. E-commerce functions as a platform in the digital business ecosystem that facilitates direct communication between producers and customers via digital channels, eliminating the need for traditional distribution channels and reducing transaction costs. This enables businesses to raise customer satisfaction levels, sell items at more competitive prices, and boost profit margins all at once.

Additionally, e-commerce gives businesses more freedom in how they distribute their products and manage their inventory. Real-time stock management is made possible by e-commerce systems, which helps businesses react faster to market demands. By analyzing data on consumer shopping activity, it also makes it possible to customize the shopping experiences of customers. Businesses can provide more relevant products to customers with the use of algorithms that can make product recommendations based on their past purchases and interests, which eventually raises conversion rates and sales.

It is also evident how important e-commerce is to the digital business ecosystem that this platform offers a range of secure and convenient payment options. Customers may transact more quickly and conveniently thanks to digital payment options including online transfer systems and e-wallets. Furthermore, e-commerce prioritizes transaction security, as evidenced by the implementation of fraud prevention and encryption technologies. As a result, customers' faith and commitment to the e-commerce platforms they use are bolstered by the creation of a safer and more transparent ecosystem.

In the end, e-commerce spurs innovation in business model development for businesses. In this setting, the way producers and consumers deal has altered as a result of marketplace models like Amazon, Tokopedia, or Shopee. In addition to linking consumers and sellers, this approach establishes an ecosystem in which a variety of businesses, such as shipping and payment service providers, can collaborate advantageously. Along the way, this transformation increases supply chain efficiency and adds value for customers.

E-Commerce has an influence on the digital business ecosystem, this is in line with research conducted by: (Putri and Marlien 2022), (Hamdan et al. 2023).

4. The Impact of Consumer Analytics on the Digital Business Ecosystem

One of the most crucial components of the ecosystem for digital businesses is consumer analytics. Businesses can gather and examine a wealth of data from diverse consumer interactions, including social media, internet searches, and e-commerce platform transactions, to obtain important understandings of customer behavior, preferences, and requirements. Consumer analytics gives businesses in the digital business ecosystem the ability to develop more individualized and successful marketing campaigns. Businesses that possess a thorough understanding of customer behavior patterns will be at a competitive advantage when it comes to offering goods and services that meet the demands of the market.

Big data technology and sophisticated analytics tools enable businesses to monitor the customer journey from search to purchase and even after. Following that, this data is utilized to pinpoint customer trends and enhance a number of sales-related processes, including price, promotions, and exclusive deals. Furthermore, social media sentiment research offers a summary of how customers feel about a product or brand, which is incredibly helpful for proactive reputation management. Customer input, for instance, can be utilized to enhance goods, modify marketing plans, or even develop brand-new products that better meet client demands.

Furthermore, creating client loyalty programs requires careful consideration of consumer statistics. Businesses can design loyalty programs that are specific to the requirements of each market segment by studying the buying habits and preferences of their customers. This improves customer retention and promotes recurring business, all of which are critical to the sustained expansion of an online company. However, consumer analytics also enables businesses to forecast customer behavior in the future. Businesses can build predictive models using rich historical data to assist in better decision-making, including pricing, product creation, and inventory management.

Consumer analysis has an influence on the digital business ecosystem, this is in line with research conducted by: (Zulfa and Hidayati 2018), (Issalillah et al. 2021).

Conceptual Framework

Based on the formulation of the problem, relevant previous research and the results and discussion of the research above, including:

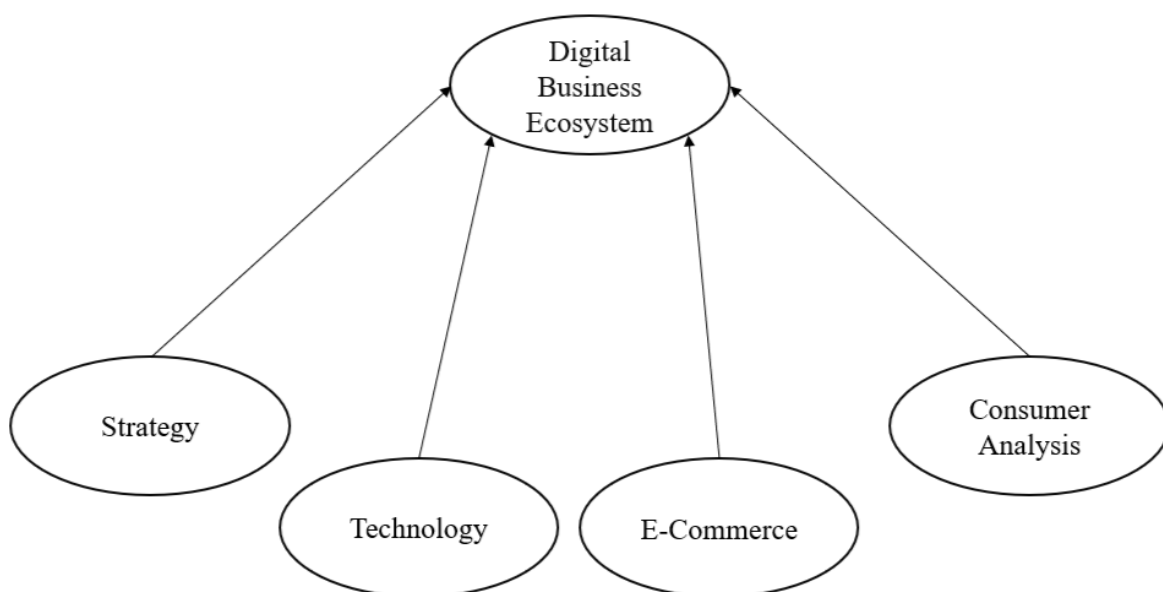


Figure 1. Conceptual Framework

Based on Figure 1 above, strategy, technology, e-commerce and consumer analysis influence and relate to the digital business ecosystem. In addition to the independent variables above that affect the dependent variable, there are other variables that affect the digital business ecosystem, including:

- 1) Cybersecurity: (Saputra 2023), (Soesanto et al. 2023), (Herdiana, Munawar, and Indah Putri 2021).
- 2) Digital infrastructure: (Misnawati and Yusriadi 2018), (Bangsawan 2023), (Bagaskara et al. 2023).
- 3) Competitive environment: (Ellitan 2021), (Agus Fauzi 2022), (Saputra 2022).

CONCLUSION

- 1) Strategy has a significant effect on the digital business ecosystem.
- 2) Technology has a significant effect on the digital business ecosystem.
- 3) E-commerce has a significant effect on the digital business ecosystem.
- 4) Consumer analysis has a significant effect on the digital business ecosystem.

REFERENCES

- Adiningrum, Linda, Ferzadela Yunanda, Trisna Angelita, Sri Mulyaningsih, and Tiara Puspa. 2022. "Analisis Strategi Bisnis Kedai Kopi Coffee Latar." *Jurnal Ekonomi Trisakti* 2(2):391–404. doi: 10.25105/jet.v2i2.14360.
- Agus Fauzi. 2022. "Pengaruh Moderasi Visi Strategik Terhadap Hubungan Keterlibatan Strategik Dengan Persepsi Ketidakpastian Lingkungan, Persepsi Kekuatan Kompetitif, Keterlibatan Kerja, Dan Komitmen Organisasional (Suatu Rencana Studi Pada Smu Dan Smk Sekecamatan Cileungsi." *Jurnal Manajemen* 6(2):1–8. doi: 10.54964/manajemen.v6i2.199.
- Ali, H., & Limakrisna, N. 2013. *Metodologi Penelitian (Petunjuk Praktis Untuk Pemecahan Masalah Bisnis, Penyusunan Skripsi (Doctoral Dissertation, Tesis, Dan Disertasi)*.
- Ali, Hapzi, Veithzal Rivai Zainal, and Ridho Rafqi Ilhamalimy. 2022. "Determination of Purchase Decisions and Customer Satisfaction: Analysis of Brand Image and Service Quality (Review Literature of Marketing Management)." *Dinasti International Journal of Digital Business Management* 3(1):141–53. doi: 10.31933/dijdbm.v3i1.1100.
- Anggraeni, Riska, and Isma Elan Maulani. 2023. "Pengaruh Teknologi Informasi Terhadap Perkembangan Bisnis Modern." *Jurnal Sosial Teknologi* 3(2):94–98. doi: 10.59188/jurnalsostech.v3i2.635.
- Anggraini, Fivi, Nadia Dwi Astri, and Arie Frinola Minovia. 2020. "Pengaruh Strategi Bisnis, Capital Intensity Dan Ultinationality Terhadap Tax Avoidance." *Influence of Business Strategy, Capital Intensity and Ultinationality on Tax Avoidance* XIV(02):36–45.
- APJII. 2022. "Laporan Survei Internet APJII 2022."
- Ashshidiqy, Nurdien, and Hapzi Ali. 2019. "Penyelarasan Teknologi Informasi Dengan Strategi Bisnis." *Jurnal Ekonomi Manajemen Sistem Informasi*. doi: 10.31933/jemsi.v1i1.46.
- Bagaskara et al. 2023. "Pemerataan Infrastruktur Telekomunikasi Untuk Kesejahteraan Digital." *Prosiding SEMNAS INOTEK (Seminar Nasional Inovasi Teknologi)* 9 7:9–17.
- Bangsawan, Gema. 2023. "Kebijakan Akselerasi Transformasi Digital Di Indonesia: Peluang Dan Tantangan Untuk Pengembangan Ekonomi Kreatif." *Jurnal Studi Kebijakan Publik* 2(1):27–40. doi: 10.21787/jskp.2.2023.27-40.
- Candra Irawan, Immanuel. 2020. "Analisis E-Marketing Terhadap Keputusan Pembelian Konsumen Secara Online." *Journal of Business and Banking* 9(2):247. doi:

- 10.14414/jbb.v9i2.1907.
- Chaffey, D. 2022. "Digital Marketing: Strategy, Implementation and Practice." Company, McKinsey &. 2021. "The State of Digital Transformation."
- Cucu Sumartini, Lilis, and Dini Fajriany Ardining Tias. 2019. "Analisis Kepuasan Konsumen Untuk Meningkatkan Volume Penjualan Kedai Kopi Kala Senja." *Jurnal E-Bis (Ekonomi-Bisnis)* 3(2):111–18. doi: 10.37339/e-bis.v3i2.124.
- Cybersecurity Ventures. 2021. "Cybercrime To Cost The World \$10.5 Trillion Annually By 2025."
- Damayanti, Damayanti. 2020. "Rancang Bangun Sistem Pengukuran Keselarasan Teknologi Dan Bisnis Untuk Proses Auditing." *Jurnal Tekno Kompak* 14(2):92. doi: 10.33365/jtk.v14i2.727.
- Darmawan, Gugun, Ridlwan Muttaqin, and Erna Herlinawati. 2024. "Business Development Strategy in the Jiwel Asli Mirasa Traditional Food Business Field Using SWOT Analysis and Business Model Canvas." 5(4):805–13.
- Edwin Kiky Aprianto, Naerul. 2021. "Peran Teknologi Informasi Dan Komunikasi Dalam Bisnis." *International Journal Administration, Business and Organization (IJABO)* / 2(1):1–7.
- Ellitan, Lena. 2021. "Urgensi Lingkungan Bisnis Dan Strategi Dalam Menciptakan Keunggulan Kompetitif." *BIP's JURNAL BISNIS PERSPEKTIF* 13(2):156–74. doi: 10.37477/bip.v13i2.221.
- Fajrillah, Raja Nasrullah, and Alif Alyasin Sipahutar. 2023. "Analisis Konsumen Terhadap Jual Beli Di E-Commerce Dalam Hukum Islam." *Jurnal Akuntansi, Manajemen Dan Ekonomi Digital (JAMED)* 3(2):12–20.
- Farhatun Nisaul Ahadiyah. 2023. "Perkembangan Teknologi Infomasi Terhadap Peningkatan Bisnis Online." *INTERDISIPLIN: Journal of Qualitative and Quantitative Research* 1(1):41–49. doi: 10.61166/interdisiplin.v1i1.5.
- Fitri Anggreani, Tuti. 2021. "Faktor-Faktor Yang Mempengaruhi Swot: Strategi Pengembangan Sdm, Strategi Bisnis, Dan Strategi Msdm (Suatu Kajian Studi Literatur Manajemen Sumberdaya Manusia)." *Jurnal Ekonomi Manajemen Sistem Informasi* 2(5):619–29. doi: 10.31933/jemsi.v2i5.588.
- Gartner. 2022. "AI in Business: 2022 Trends."
- Al Hakim, Rosyid Ridlo, Budi Harto, and Albertus Laurensius Setyabudhi. 2021. "Dashboard Sistem Pendukung Keputusan Untuk Mengukur Penilaian Kinerja Karyawan Pada PT Cakrawala Asia." *Engineering and Technology International Journal (EATIJ)* 3(3):216–29. doi: 10.55642/eatij.v3i03.
- Hamdan, Hamdan, Hapzi Ali, Muhammad Rizky Mahaputra, Eri Marlapa, Amalia Maharani, Muhammad Ridho Mahaputra, Ebit Bimas Saputra, Nofri Satriawan, Reski Nofrialdi, Haikal Akbari Setiawan, Andi Yandi, Gupron Gupron, and Farhan Saputra. 2023. "Indonesian Online Shopping Perspective: Relationship E-Satisfaction, E-Commitment, E-Wom And E-Repurchase Intention." *International Journal of Professional Business Review* 8(7):1–26.
- Hartato, Fidelia, and Sarwo Edy Handoyo. 2021. "Pengaruh Orientasi Kewirausahaan, Orientasi Pasar, Dan Strategi Bisnis Terhadap Kinerja Bisnis Kuliner." *Jurnal Manajerial Dan Kewirausahaan* 3(4):980. doi: 10.24912/jmk.v3i4.13471.
- Herdiana, Yudi, Zen Munawar, and Novianti Indah Putri. 2021. "Mitigasi Ancaman Resiko Keamanan Siber Di Masa Pandemi Covid-19." *Jurnal ICT : Information Communication & Technology* 20(1):42–52. doi: 10.36054/jict-ikmi.v20i1.305.
- Herfita, Devi, Tri Widyastuti, Irvandi Gustari, Universitas Pancasila, and Ea Program. 2013. "Analisis Strategi Bisnis Pada Pt Gancia Citra." *Eksekutif* 14(2):369–83.
- Ibnu Khoirudin, Fathan Ahulul Haq, Ananda Nur Wahit, Elsa Nur Safitri, Nur Sahid Gatot

- Nugroho, and Aris Prio Agus Santoso. 2023. "Peranan Etika Bisnis Dalam Tantangan Strategi Bisnis Di CV. Inti Motor." *Jurnal Publikasi Sistem Informasi Dan Manajemen Bisnis* 3(1):90–95. doi: 10.55606/jupsim.v3i1.2364.
- Indrayani, Lioni, Wisjnumurti Bambang Permadi, Dewi Ulfah Arini, and Pajar Amin. 2021. "Menciptakan Wirausaha Milenial Dalam Pelatihan Strategi Perencanaan Bisnis." *Dedication: Jurnal Pengabdian Masyarakat* 5(1):95–104.
- Issalillah, F., R. K. Khayru, D. Darmawan, and ... 2021. "Analisis Perilaku Konsumen Rokok Mild Berdasarkan Persepsi Dan Sikap." *Journal of Trends ...* 2(2):49–53.
- Istanti, Fredianaika. 2017. "Pengaruh Harga, Kepercayaan, Kemudahan Berbelanja Dan E-Promosi Terhadap Keputusan Belanja Online Di Surabaya." *Jurnal Bisnis & Teknologi Politeknik NSC Surabaya* 4(1):14–22.
- Japarianto, Edwin, and Stephanie Adelia. 2020. "Pengaruh Tampilan Web Dan Harga Terhadap Minat Beli Dengan Kepercayaan Sebagai Intervening Variable Pada E-Commerce Shopee." *Jurnal Manajemen Pemasaran* 14(1):35–43. doi: 10.9744/pemasaran.14.1.35-43.
- Judijanto, Loso, Syamsulbahri Syamsulbahri, Akmal Abdullah, and Iwan Harsono. 2024. "Analisis Bibliometrik Tentang Keterkaitan Inovasi Teknologi Dan Pengembangan Bisnis." *Jurnal Bisnis Dan Manajemen West Science* 3(01):66–74. doi: 10.58812/jbmws.v3i01.981.
- Kamisa, Nur, Almira Devita Putri, and Dian Novita. 2022. "PENGARUH ONLINE CUSTOMER REVIEW DAN ONLINE CUSTOMER RATING TERHADAP KEPERCAYAAN KONSUMEN (Studi Kasus: Pengguna Shopee Di Bandar Lampung)." *Journals of Economics and Business* 2(1):21–29. doi: 10.33365/jeb.v2i1.83.
- Khan, M. N., et al. 2021. "The Role of Big Data in E-Commerce: A Review." *Journal of Business Research*.
- Lumban, Enjelya Peronika. 2022. "Literature Review Faktor-Faktor Yang Mempengaruhi E-Commerce: Bisnis, Internet Dan Teknologi (Literature Review Petilaku Konsumen)." *Jurnal Ekonomi Manajemen Sistem Informasi* 3(6):621–28.
- Mariam, Siti, and Abdul Haeba Ramli. 2019. "Lingkungan Bisnis, Kapabilitas Unik Dan Strategi Bersaing Perusahaan Distributor Ayam Di Provinsi Dki Jakarta." *Prosiding Seminar Nasional Pakar* (2012):1–6. doi: 10.25105/pakar.v0i0.4319.
- Martinus Hia, Agustus, Hapzi Ali, and Fransiskus Dwikotjo Sri Sumartyo. 2022. "Faktor-Faktor Yang Mempengaruhi Penjualan: Analisis Kualitas Pelayanan, Inovasi Produk Dan Kepuasan Konsumen (Literature Review)." *Jurnal Ilmu Multidisplin* 1(2):368–79. doi: 10.38035/jim.v1i2.48.
- Masdaini, Efrina, and Hemayani, Ayu Dewi. 2022. "Analisis Keputusan Pembelian Pada Konsumen Warung Kopi Nilang." *Jurnal Terapan Ilmu Ekonomi* 2(1):20–28.
- Misnawati, Misnawati, and Yusriadi Yusriadi. 2018. "Efektifitas Pengelolaan Kewirausahaan Berbasis Kognitif Personal Melalui Penggunaan Infrastruktur Digital (Media Sosial)." *Jurnal Mitra Manajemen* 2(3):138–45. doi: 10.52160/ejmm.v2i3.83.
- Nasution, Asrindah. 2021. "Strategi Pemasaran Bisnis Kuliner Menggunakan Influencer Melalui Media Sosial Instagram." *Jurnal Bisnis Corporate* 6(1):11–18. doi: 10.46576/jbc.v6i1.1484.
- Nielsen. 2022. "The Importance of Consumer Analytics."
- Nurrahmi, Alya Dinda, and Sri Rahayu. 2020. "Pengaruh Strategi Bisnis, Transfer Pricing, Dan Koneksi Politik Terhadap Tax Avoidance (Studi Pada Perusahaan Di Sektor Pertambangan Yang Terdaftar Di Bursa Efek Indonesia)." *Jae (Jurnal Akuntansi Dan Ekonomi)* 5(2):48–57.
- Pakpahan, Roida. 2021. "Analisa Pengaruh Implementasi Artificial." *Journal of Information System, Informatics and Computing* 5(2):506–13. doi: 10.52362/jisicom.v5i2.616.

- Panggabean, Helena Louise, Mochammad Subagio, Nunung Ayu Sofiati, and Candra Susanto. 2024. "Business Management : Analysis of Entrepreneurship and Marketing Mix." *Siber International Journal of Digital Business* 2(1):33–46.
- Pratama, Gama. 2020. "Analisis Transaksi Jual Beli Online Melalui Website Marketplace Shopee Menurut Konsep Bisnis Di Masa Pandemic Covid 19." *Ecopreneur : Jurnal Program Studi Ekonomi Syariah* 1(2):21. doi: 10.47453/ecopreneur.v1i2.130.
- Priyo, Suswanto, and Setiawati Dewi Sri. 2020. "Strategi Komunikasi Pemasaran Shopee Dalam Membangun Positioning Di Tengah Pandemi Covid-19 Di Indonesia." *Jurnal Ilmu Komunikasi* 3(2):16–29.
- Putri, N. H., N. S. Sari, and N. Rahmah. 2022. "Faktor-Faktor Yang Mempengaruhi Proses Riset Konsumen: Target Pasar, Perilaku Pembelian Dan Permintaan Pasar (Literature Review Perilaku Konsumen)." *Jurnal Ilmu Manajemen Terapan* 3(5):504–14.
- Putri, Prisma Miardi, and R. .. Marlien. 2022. "Pengaruh Digital Marketing Terhadap Keputusan Pembelian Online." *Jesya (Jurnal Ekonomi & Ekonomi Syariah)* 5(1):25–36. doi: 10.36778/jesya.v5i1.510.
- Saputra, Raihan. 2022. "Analysis of the Effect of Attitudes and Good Behavior on Character Building (Literature Review Study)." *International Journal of Advanced Multidisciplinary* 1(2):143–52.
- Saputra, Raihan. 2023. "Determinasi Minat Belajar: Analisis Praktik Kerja Industri Dan Prestasi Belajar." *Jurnal Pendidikan Siber Nusantara* 1(1):1–5. doi: 10.38035/jpsn.v1i1.12.
- Saputra, Raihan, M. Rizky Mahaputra, Farhan Saputra, and M. Ridho Mahaputra. 2023. "Analisis Penerapan Artificial Intelligence Terhadap Produktivitas Perusahaan Media Informasi." *Journal Pendidikan Siber Nusantara (JPSN)* 1(2):91–96.
- Soesanto, Edy, Farhan Saputra, Dita Puspitasari, and Bayu Putra Danaya. 2023. "Determinasi Sistem Manajemen Sekuriti: Analisis Objek Vital , Pengamanan File Dan Pengamanan Cyber Pada Yayasan Siber Publisher." *Jurnal Ilmu Multidisiplin* 2(1):23–29.
- Statista. 2023. "E-Commerce Worldwide - Statistics & Facts." Retrieved from [Statista]."
- Sulaksono, Juli. 2020. "Peranan Digital Marketing Bagi Usaha Mikro, Kecil, Dan Menengah (Umk) Desa Tales Kabupaten Kediri." *Generation Journal* 4(1):41–47. doi: 10.29407/gj.v4i1.13906.
- Sulistiyawati, Eka Septiana, and Anna Widayani. 2020. "Marketplace Shopee Sebagai Media Promosi Penjualan UMKM Di Kota Blitar." *Jurnal Pemasaran Kompetitif* 4(1):133. doi: 10.32493/jpkpk.v4i1.7087.
- Suprihatin, Wiwik. 2020. "Analisis Perilaku Konsumen Wisatawan Era Pandemi Covid-19 (Studi Kasus Pariwisata Di Nusa Tenggara Barat)." *Jurnal Bestari* 19(1):56–66.
- Susanto, Primadi Candra, Hapzi Ali, Ni Nyoman Sawitri, and Tri Widayastuti. 2023. "Strategic Management : Concept , Implementation , and Indicators of Success (Literature Review)." *Siber Journal of Advanced Multidisciplinary* 1(2):1–11.
- Susanto, Primadi Candra, Dewi Ulfah Arini, Lily Yuntina, and Josua Panatap. 2024. "Konsep Penelitian Kuantitatif : Populasi , Sampel , Dan Analisis Data (Sebuah Tinjauan Pustaka)." *Jurnal Ilmu Manajemen* 3(1):1–12. doi: <https://doi.org/10.38035/jim.v3i1>.
- Susanto, Primadi Candra, Lily Yuntina, Euis Saribanon, and Josua Panatap Soehaditama. 2024. "Qualitative Method Concepts : Literature Review , Focus Group Discussion , Ethnography and Grounded Theory." *Siber Journal of Advanced Multidisciplinary* 2(2):262–75. doi: <https://doi.org/10.38035/sjam.v2i2>.
- Wardani, Dewi Kusuma, and Pipit Dayu Isbela. 2018. "Pengaruh Strategi Bisnis Dan Karakteristik Perusahaan Terhadap Manajemen Laba." *Jurnal Riset Akuntansi Dan Keuangan* 13(2):91. doi: 10.21460/jrak.2017.132.283.
- Zahara, Rita. 2024. "The Effect of Marketing and Commitment to Consumer Satisfaction at

the ENT Clinic of Hospital Dustira Cimahi City.” 5(4):565–77.
Zulfa, Latifah, and Retno Hidayati. 2018. “Analisis Pengaruh Persepsi Risiko, Kualitas Situs Web, Dan Kepercayaan Konsumen Terhadap Keputusan Pembelian Konsumen E-Commerce Shopee Di Kota Semarang.” *Diponegoro Journal of Management* 7(3):1–11.