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From Ownership to Experience: Mapping Future Trends in Smart and Data-Driven Entrepreneurship

Hendra Halim^{1*}

¹Fakultas Ekonomi dan Bisnis, Universitas Syiah Kuala

Email: hendra.halim@usk.ac.id

*) Corresponding Author

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ABSTRACT

The rapid advancement of digital technologies has significantly transformed the landscape of entrepreneurship. This study aims to explore key future trends shaping entrepreneurial innovation, including Big Data, Artificial Intelligence, Internet of Things, Marketing Automation, Micro-Personalization, the shift from product ownership to experience-based consumption, and the emergence of new business models. Using a descriptive qualitative approach, the research analyzes how these technological forces and behavioral shifts redefine business strategies and value creation. The findings indicate that entrepreneurs are increasingly leveraging data-driven tools to improve efficiency, personalize customer engagement, and innovate sustainable models that focus on experience over possession. The study concludes that future entrepreneurship will be deeply rooted in adaptive technologies, predictive analytics, and experience-centric offerings. Policy recommendations emphasize the need for supportive digital infrastructure, data literacy programs, and inclusive innovation ecosystems. These insights serve as a strategic reference for entrepreneurs, educators, and policymakers navigating the evolving digital economy.

1. Introduction

Amidst the acceleration of global digital transformation, the world of entrepreneurship is experiencing significant changes influenced by advances in information and communication technology (Halim et al., 2023). Technological advancements, including Big Data, Artificial Intelligence (AI), and the Internet of Things (IoT), have revolutionized the way businesses operate, from production processes to marketing strategies and consumer interactions (Wahyudi et al., 2024).

The Big Data Explosion phenomenon has created a new landscape where data has become a key strategic asset for business actors. Once intuitive, business decisions are now being replaced by precise and adaptive data-based analytics (Toorajipour et al., 2024). The combination of big data and AI not only accelerates business processes but also enables micro-personalization in marketing (Islam et al., 2024).

On the other hand, Marketing Automation is now the new standard in digital campaigns, leveraging AI to automate processes, reduce costs, and increase marketing effectiveness (Potwora et al., 2024). AI also plays a central role in driving new business models that are adaptive to increasingly digital and experience-oriented consumer behaviour (Weber et al., 2022).

Global trends show a shift in consumer preferences from ownership to experience, driving the growth of sharing economy platforms and subscription models. That opens up space for entrepreneurs to create new value propositions that better suit digital-native lifestyles (Giuggioli & Pellegrini, 2023).

In this context, entrepreneurship is no longer focused solely on creating products or services but also on business model innovation driven by the integration of smart technologies (Aagaard & Tucci, 2024). Digitalization is not just a tool; it has become the basis of business strategy itself. Digital ecosystem-based business models, such as platforms, data-as-a-service, and the sharing economy, have opened up new opportunities that were previously unattainable (Selvakumar et al., 2025).

This study aims to identify and map the main trends in future entrepreneurship through a descriptive qualitative approach, focusing on the integration of digital technologies and changes in consumer behaviour. Through an in-depth analysis of strategic issues such as AI, IoT, personalization, and the dynamics of new business models, this research is expected to contribute to the development of sustainable entrepreneurship in the digital era.

This article is structured as follows: The first section provides an introduction, discussing the objectives and relevance of the topic. The second section summarizes the review of important literature related to future entrepreneurship and business trends, with a primary focus on describing the essential characteristics of the concepts of Big Data Explosion, Artificial Intelligence (AI), Internet of Things (IoT), Marketing Automation, Micro-Personalization, Shift from Ownership to Experience, and Rise of a New Business Model in general. Section 3 outlines future trends in entrepreneurship and business based on existing literature. Section 4 concludes and provides some recommendations for future research.

The Big Data Explosion phenomenon marks a new era of information-based entrepreneurship. The volume of data generated by digital activities—whether from social media, online transactions, or Internet of Things (IoT) sensors—has reached an unprecedented scale. Big data is not just about size but also about complexity, speed, and the potential to be analyzed to support strategic decision-making. Toorajipour et al. (2024) emphasize that in the digital business ecosystem, big data serves as the primary foundation for creating value propositions through integration with Artificial Intelligence of Things (AIoT). Modern data-driven entrepreneurship requires analytical capabilities and the effective utilization of vertically and horizontally integrated data technology architectures throughout the entire value chain. Artificial Intelligence has become a catalyst in the automation process and intelligent decision-making. In entrepreneurship, AI is used not only for efficiency but also to open up new market opportunities through trend prediction, consumer behaviour segmentation, and personalization. Potwora et al. (2024) demonstrate that AI plays a central role in marketing strategies that encompass forecasting,

personalization, and content automation. Meanwhile, Giuggioli & Pellegrini (2023) stated that AI expands the reach of start-up entrepreneurs by reducing barriers to access to data and business intelligence.

The Internet of Things (IoT) enables companies to collect real-time data from physical devices. This technology enables predictive service innovation and continuous monitoring. Lee et al. (2019) emphasized that integrating IoT with AI yields responsive business models, such as sensor-based services, smart retail, and predictive maintenance, which further enhances the competitiveness of small and medium-sized businesses.

Marketing automation enables businesses to target customers with relevant messages automatically and efficiently. That includes AI-based email marketing, automated segmentation, and omnichannel campaigns. Islam et al. (2024) describe how AI in marketing automation enables the prediction of customer behaviour and optimization of interaction time. This automation reduces the burden on the workforce and increases the marketing ROI efficiency.

The concept of micro-personalization, which involves delivering user experiences tailored to an individual's unique preferences in as much detail as possible, is a cornerstone of marketing strategies and service innovation. Aagaard & Tucci (2024) explain that integrating AI with customer data enables hyper-personalization capabilities, resulting in increased customer loyalty and customer lifetime value (CLV).

Consumers now prefer experiences over ownership, reflected in the trend of subscriptions, rentals, or platform-based services. This model changes the business logic from selling products to providing holistic solutions and experiences. Giuggioli & Pellegrini (2023) refer to this trend as a direct consequence of digitalization, which facilitates access and use without requiring ownership. That provides an opportunity for entrepreneurs to adopt a service-based model (servitization).

The combination of the above factors has triggered the emergence of new business models that redefine the way businesses create, deliver, and capture value. These include digital platforms, data-driven ecosystems, and DaaS (Data as a Service) models. Selvakumar et al. (2025) note that the integration of AI and IoT yields predictive and value-based business models with contextual relevance. Companies are not only selling products but also selling intelligence, insights, and service experiences that are continuously updated.

3. Methods

This study employs a qualitative design using literature study (library research) as the primary mode of data collection. Following Creswell (2019), literature study refers to the systematic identification, retrieval, evaluation, and synthesis of documented sources—peer-reviewed journal articles, scholarly books, policy papers, online databases, and institutional/industry reports—selected for their relevance to the research aims. The focus is to map how entrepreneurship is shifting “from ownership to experience” in smart and data-driven contexts (e.g., servitization, subscription/usage-based models, outcome-based value, platform orchestration, AI/IoT-enabled personalization).

Authoritative repositories were prioritized: Scopus and Web of Science for academic literature; reputable industry/think-tank reports (e.g., on digital transformation and experience economy); and official publications from technology firms, platforms, and standards bodies. No strict temporal cut-off was imposed; however, materials from approximately 2010–2025 were emphasized to capture contemporary developments in AI/IoT, cloud, analytics, and platform ecosystems.

Findings are presented narratively and thematically, organizing trends into (1) enabling technologies and data practices, (2) business-model shifts from ownership to experience, (3) capability and governance requirements (privacy, interoperability, outcome verification), and (4) implications for entrepreneurs (opportunity spaces, capability gaps, and risk/ethics considerations). The synthesis culminates in a conceptual map of smart, data-driven, experience-centric entrepreneurship and a set of actionable recommendations for future research and practice.

4. Result and Discussion

Big Data Explosion

Big data has become a key aspect of the ongoing digital transformation in various industries, including entrepreneurship. This term refers to an extensive and complex dataset that is difficult to process using traditional methods, such as spreadsheets or relational databases. According to Sagirolu & Sinanc (2013), big data has characteristics such as large volume, high velocity, and complex diversity.

In the context of entrepreneurship, big data has brought significant changes in the way businesses are run. One of the primary advantages of big data is its ability to help businesses gain a deeper understanding of market trends. By analyzing large and diverse consumer data, companies can identify new market patterns and opportunities that may have previously gone undetected. That allows companies to make more precise and strategic decisions in developing their products and services.

In addition, big data also enables companies to enhance their decision-making processes. By analyzing relevant data, companies can gain deeper insights into customer behaviour, market trends, and overall industry conditions. These insights can be leveraged to optimize business strategies, enhance operational efficiency, and identify new growth opportunities.

One real example of the application of big data in entrepreneurship is Gojek, a leading transportation and food delivery service company in Indonesia. Gojek utilizes big data for various purposes, including predicting pickup locations and setting driver preferences when selecting routes for travel. By analysing customer and driver data in real-time, Gojek can optimise its services and enhance the user experience.

Additionally, Gojek utilizes big data to develop personalized products and services. By understanding customer preferences and needs more effectively, Gojek can offer more relevant and attractive solutions to its customers. That helps Gojek maintain its position as one of the leading technology companies in Indonesia.

Gojek's use of big data extends not only to their services but also to decision-making at the management level. By utilizing sophisticated data analysis, executives and managers at Gojek can make more informed and timely decisions. They can identify emerging market trends, measure business performance, and respond to market changes more effectively.

In addition, big data is also a reference for experts and specialists at Gojek in correcting errors in analysis and decision-making. By having accurate and detailed data, experts can provide valuable insights to companies, enabling them to make more informed strategic decisions. Overall, big data has brought significant changes in the world of entrepreneurship. By utilizing it effectively, companies can enhance efficiency, refine business strategies, and deliver added value to their customers. Therefore, every entrepreneur needs to understand the potential and benefits of big data in developing their business in this digital era.

Artificial Intelligence (AI)

Artificial Intelligence (AI) has become one of the most influential technologies in modern business transformation. AI refers to the intelligence demonstrated by machines, as opposed to the natural intelligence possessed by humans or animals (Poole et al., 1998). In the context of entrepreneurship, AI plays a significant role in transforming the way businesses operate and creating new opportunities for innovation (Lubis et al., 2025).

One of the primary roles of AI in business transformation is its ability to automate manual tasks. By using AI, companies can improve their operational efficiency, freeing up time and resources to focus on strategy and innovation. For example, many companies have used AI to automate back-office processes, such as data processing and analysis, which were previously done manually.

Additionally, AI can help companies enhance their operational efficiency. By analyzing data in real-time, AI can help companies optimize their business processes, increase productivity, and identify opportunities to enhance efficiency.

An equally important role of AI is in the development of innovative products and services. By leveraging AI, companies can develop innovative solutions that more effectively meet customer needs. For example, many technology companies are using AI to develop intelligent products, such as virtual assistants and autonomous vehicles, which have changed the way we interact with technology.

Some examples of successful AI applications include ChatGPT, which helps with tasks such as writing, scheduling, and data analysis. Additionally, Google's Gemini AI is used to enhance artificial intelligence in various Google products and services. Additionally, Samsung utilises Galaxy AI on its flagship smartphones to deliver a more innovative and personalised user experience.

However, the use of AI also presents several challenges, especially related to ethics and privacy. One of the main challenges is algorithmic bias, where AI algorithms can be discriminatory or unfair to specific groups of users. Therefore, it is essential to ensure that the development and implementation of AI are carried out ethically, with a focus on the principle of fairness.

Additionally, AI automation can lead to job losses in specific sectors. Therefore, companies must consider the social and economic implications of incorporating AI into their operations. Additionally, data privacy is a crucial issue in the use of AI, where companies must ensure that data is used securely and by applicable data protection regulations.

Overall, AI has brought significant changes in the world of entrepreneurship. By understanding the potential and challenges of AI, companies can take the proper steps to adopt this technology effectively and leverage it to achieve business success.

Internet of Things (IoT)

The Internet of Things (IoT) refers to physical objects (or groups of such objects) that are embedded with sensors, processing capabilities, software, and other technologies, enabling them to connect and exchange data with other devices and systems over the internet or other communication networks (Al Hadwer et al., 2021). Internet of Things (IoT) has emerged as one of the most significant technological innovations in recent years, transforming the way we interact with our surroundings and creating new opportunities in entrepreneurship. The Internet of Things (IoT) describes a network of physical devices connected to the internet that can collect and

exchange data. This concept has had a significant impact on various aspects of life, including entrepreneurship.

In entrepreneurship, IoT enables the development of digitally connected products and services. That allows companies to offer more innovative and more responsive solutions to user needs. An example is a smart home device that can automatically control the temperature, lighting, and security of a home based on the occupants' preferences. Additionally, IoT opens up opportunities to enhance the customer experience by offering more personalized and contextually relevant services. For example, companies can utilize data from the Internet of Things (IoT) to send product offers and recommendations that are more closely aligned with customer preferences.

Additionally, IoT creates new business models by generating opportunities for monetizing IoT data and services. Companies can collect data from their IoT devices and sell it to third parties or use the data to improve their services. For example, insurance companies can use data from IoT devices installed in cars to determine more accurate insurance premiums based on the driver's driving behaviour.

In practice, the Internet of Things (IoT) has a vast scope and can be applied in numerous fields. In the agricultural sector, IoT is utilized to automate various agricultural processes, including land preparation and monitoring optimal conditions for planting. In the energy sector, IoT is utilized to measure and optimize energy consumption, enhance energy efficiency, and reduce operational costs. In the field of security and surveillance, IoT is used to monitor and secure large properties and areas. In the field of building management, IoT is utilized to monitor and control critical systems, including air conditioning, lighting, and security systems.

In addition, IoT encompasses the development of embedded mobile devices, wireless sensor networks, and any device that can be connected to the internet. In the fields of smart homes and smart cities, IoT is used to improve comfort and enhance the efficiency of resource use. In the field of telemedicine and healthcare, IoT is used to monitor patient health conditions in real-time and provide remote healthcare services.

However, the use of IoT also presents several challenges, particularly related to data privacy and security. Companies must ensure that the data collected from their IoT devices is secure and protected from unauthorized access. In addition, companies must also consider the social and economic impacts of IoT use, including potential job losses resulting from automation generated by this technology.

The application of the Internet of Things (IoT) in agriculture is increasing, especially in modern agricultural practices known as smart farming or precision agriculture. One example of the concrete application of IoT in agriculture is the use of the Field Monitoring System (FMS) to manage and monitor rice field conditions in real-time.

The Field Monitoring System (FMS) utilizes sensors installed on agricultural land to measure various important parameters, including soil moisture, temperature, soil pH, and air humidity levels. The data collected by these sensors is sent to an IoT platform that farmers can access via a mobile or web application.

With the help of FMS, farmers can monitor the condition of their rice fields in real time, eliminating the need to be physically present in the field. They can view information about soil moisture and current weather conditions, enabling them to make informed decisions about irrigation, fertilization, or other treatments necessary to enhance agricultural yields. An example of the application of FMS can be seen in rice farmers in Japan who use this system to manage their

rice fields more efficiently. With FMS, farmers can optimize the use of water and fertilizers, reduce production costs, and increase their yields. Additionally, FMS helps reduce environmental impacts by minimizing the excessive use of water and fertilizers.

Marketing Automation

Marketing automation has become a crucial strategy in the modern digital marketing landscape. Marketing automation refers to software and technology platforms designed for marketing departments and organizations to more effectively market across multiple online channels (email, social media, websites, etc.) and automate repetitive tasks (Chaffey & Smith, 2022). By leveraging marketing automation, companies can enhance their operational efficiency, boost ROI (Return on Investment), and deliver valuable data and analytics to refine their marketing strategies.

One of the main aspects of marketing automation is email marketing. By using automation software, companies can send personalized and targeted emails to their customers. For example, they can send promotional emails to customers who have made a previous purchase or send reminder emails to customers who have abandoned their shopping carts. That helps increase conversion rates and maintain strong customer relationships.

Additionally, marketing automation can also be utilized in social media marketing. Companies can use software to manage their social media accounts and set up automated posts. They can also utilize analytics tools to monitor the performance of their posts and refine their marketing strategies on social media platforms.

Lead generation is a crucial component of marketing automation. Companies can use software to identify potential sales leads based on their online behaviour. They can also automate the process of nurturing these leads by sending them relevant content and product information.

One example of a company that has successfully implemented marketing automation is Sephora, a leading cosmetics and beauty products company. Sephora used marketing automation to send personalized emails to customers based on their purchase history. As a result, Sephora managed to increase its email conversion rate and online sales.

Overall, marketing automation has brought about a significant change in the way companies market their products and services. By leveraging this technology, companies can enhance their operational efficiency, increase return on investment (ROI), and deliver a superior customer experience. Therefore, companies need to incorporate marketing automation into their marketing strategy to effectively navigate the increasing competition in the digital market.

Marketing automation has brought about a significant change in the way companies market their products and services, but it also has an impact on the availability of jobs for humans. On the one hand, marketing automation can improve the operational efficiency of companies and reduce costs. However, on the other hand, the use of marketing automation can also reduce the number of jobs available to humans in some fields. Here are some of the impacts of marketing automation on human job availability:

1. **Automation of Routine Tasks:** Marketing automation can automate repetitive marketing tasks, such as sending emails, managing social media, and generating leads. That can reduce the need for human workers to perform these tasks manually.
2. **Changes in Job Qualifications:** The use of marketing automation can change the qualifications required for a job. For example, a job that previously required administrative skills to manage

an email list may now require analytical skills to optimize marketing strategies based on data analysis.

3. **Creation of New Jobs:** While some human jobs can be replaced by automation, the adoption of new technologies can also create new job opportunities. An example is jobs related to managing and analyzing data necessary to optimize data-driven marketing strategies.
4. **Focus on Creative and Strategic Work:** By automating repetitive marketing tasks, human workers can focus more on more creative and strategic work, such as developing new marketing campaign concepts or improving the customer experience.
5. **Increased Productivity:** Overall, the use of marketing automation can enhance a company's productivity, ultimately leading to faster business growth and the creation of new jobs in related fields.

While marketing automation can reduce some routine and administrative work, it can create new opportunities for jobs that require analytical, creative, and strategic skills. It is essential for individuals and companies to continually develop their skills and Knowledge in response to these technological advancements in order to remain relevant in the ever-evolving job market.

Micro-Personalization

Today, many brands still address their customers as generic personas and lack a deep understanding of their customers as individuals. Brands need to anticipate their customers' needs by utilizing machine learning algorithms and leveraging automated marketing technologies to deliver micro-moments that ultimately lead to loyalty and engagement (Rosen & Minsky, 2016).

Micro-personalization has become an increasingly important strategy in modern marketing as brands strive to deliver more personalized and relevant experiences to their customers. This concept refers to the strategy of offering a more personalized customer experience by utilizing customer data to understand individual preferences and needs and presenting relevant content. It offers that align with individual interests and behaviours.

One of the key aspects of micro-personalization is the use of customer data. By collecting and analyzing customer data, companies can gain a deeper understanding of their customers' individual preferences and needs. For example, companies can analyze customers' purchase history and online browsing behaviour to tailor the content and offers they provide.

In practice, micro-personalization can be implemented through various marketing channels. On websites, companies can recommend products based on customers' browsing and purchase history. They can also present personalized content based on customers' interests and behaviours. In email marketing, companies can send personalized emails with content that is relevant to the customer's interests. They can also utilize email segmentation techniques to tailor offers according to customer preferences.

Real-life examples of companies that have successfully implemented micro-personalization are luxury car companies such as Mini Cooper, Porsche, and Mercedes-Benz. They provide potential customers with the freedom to customize the colour, rims, tyres, and various car parts according to their wishes through their website. This provides a highly personal and relevant experience for potential customers, ultimately increasing their likelihood of making a purchase.

By utilizing micro-personalization, companies can foster stronger relationships with their customers, enhance customer loyalty and retention, and create more meaningful and satisfying

experiences for them. Therefore, micro-personalization is a crucial strategy in companies' efforts to provide added value to their customers and win in an increasingly competitive market.

Micro-personalization can have a significant impact on companies that still use mass production methods. By focusing on a more personal and relevant customer experience, companies can start to tailor their products and services to the individual preferences and needs of their customers. This can increase customer satisfaction and differentiate companies from competitors who still use a mass approach. Additionally, micro-personalization can also enhance customer engagement, as customers are more connected to brands that understand and respond to their individual needs. In this case, companies can optimize their supply chains by understanding individual customer preferences and behaviours, enabling them to manage inventory more efficiently and reduce the risk of overstocking or stockouts. Micro-personalization can also help companies optimize their marketing efficiency by using customer data to serve more relevant content and offers, thereby reducing marketing costs and increasing return on investment (ROI). Although companies that still use mass production methods may face challenges in implementing micro-personalization, its positive impact on increasing customer engagement and business efficiency can make this step a valuable investment in the long run.

Shift from Ownership to Experience

The shift from Ownership to Experience describes the consumer paradigm shift from owning physical goods to experiencing the benefits provided by products or services (Moeller & Wittkowski, 2010). In this experience economy, customers prioritize experiences over ownership. They no longer shop for things but instead look for the experience a product can provide - what they can do with it, what it says about them, and what it can say about them. Products are seen as the gateway to experiences, and the role of businesses is to understand the experiences their products or services provide and to promote and enhance those experiences through multiple touches or brand moments.

This shift in the consumer paradigm has significant implications for businesses. Consumers today prefer to use products and services rather than own them. For example, music and video streaming services like Spotify and Netflix have replaced the ownership of CDs and DVDs. They are also more likely to pay for experiences, such as travel and adventure, rather than material goods.

In the face of this shift, businesses must adapt by offering engaging services and experiences rather than merely selling products. They need to focus on improving the customer experience to attract and retain customers. This includes developing innovative products and services that meet the evolving needs and desires of consumers. A prime example of a company that has successfully adopted this trend is Netflix, which not only offers high-quality entertainment content but also provides unique and personalized experiences to its customers. By understanding and leveraging this shift, businesses can enhance their competitiveness, foster greater customer loyalty, and achieve sustainable growth in the experience economy. Therefore, the shift from ownership to experience is not only an effective marketing strategy but also a key to future business success.

Rise of a New Business Model

The Rise of a New Business Model marks a paradigm shift in the business world fueled by the explosion of data and technological advancements (Sestino et al., 2020). Traditional business models that focus on selling products directly have become obsolete as companies shift towards

more innovative, customer-experience-oriented business models. In this era, analytics has become a critical competitive advantage, with seamless, personalized customer experiences becoming the new product offered by brands.

Customers are now seeking brands that offer experiences that extend beyond just a product or service; they want experiences that demonstrate the brand's genuine understanding of them, its ability to anticipate their needs, and its presence at the right time to create meaningful moments. Businesses that effectively utilize analytics to achieve this will gain a competitive advantage, building lifelong loyalty among their customer base and creating significant barriers for their competitors in the process.

Advances in technology have opened the door to new business models that are changing the way traditional businesses operate. One model gaining popularity is the subscription model, where customers pay a monthly or annual fee for access to a specific product or service. This model benefits companies by providing more predictable revenue and allowing them to build deeper relationships with their customers.

In addition, platform models are also gaining popularity, where businesses provide a platform that connects users with service or product providers. A notable example is Airbnb, which connects homeowners with travellers seeking accommodation. The freemium business model has also become a favourite among tech companies, where businesses offer a basic product or service for free and charge for additional premium features or services.

Examples of this new business model include Netflix, which uses a subscription model for its video streaming service. Airbnb has revolutionized the hospitality industry with its platform model; similarly, Spotify employs a premium model for its music streaming service.

With the emergence of these new business models, companies must continue to innovate and adapt to rapidly changing markets. They need to leverage technology and analytics to better understand and respond to customer needs and develop products and services that provide more valuable experiences for their customers. By doing this, they can win the hearts and minds of their customers and stay relevant in this ever-changing business era.

In addition to the examples mentioned above, such as Netflix, Airbnb, and Spotify, telemedicine companies like Halodoc are also interesting examples of the Rise of a New Business Model. Halodoc is a digital health platform that allows users to connect with doctors and healthcare professionals through a mobile application. They offer online medical consultation services, online ordering of medicines, and other health services that can be easily accessed via smartphones.

Halodoc's business model carries an approach that combines technology with real needs in the healthcare industry. They not only provide easier and faster access to healthcare services but also provide a more convenient experience for users who may have difficulty accessing traditional healthcare services. With a subscription-based business model that allows users to access premium services, Halodoc has successfully attracted a large number of users and established a strong customer base.

Halodoc is an excellent example of how companies can utilize technology and innovation to develop new business models that transform the way traditional businesses operate. By leveraging technology to provide more efficient and affordable services, companies like Halodoc have demonstrated that innovative business models can deliver significant added value to customers and create new opportunities in established industries.

5. Conclusion

Entrepreneurship Technology Trends illustrates how technological advancements have impacted the way business is conducted, creating new opportunities in the world of entrepreneurship. This chapter discusses seven key trends that are influencing entrepreneurship today: the Big Data Explosion, Artificial Intelligence (AI), the Internet of Things (IoT), Marketing Automation, Micro-Personalization, the Shift from Ownership to Experience, and the Rise of a New Business Model.

The Big Data Explosion is a phenomenon where the amount of data generated by various sources, such as sensors, mobile devices, and online platforms, continues to increase exponentially. This presents a valuable opportunity to understand market trends, enhance decision-making, and develop personalized products and services tailored to individual needs. An example of a Big Data application is Gojek's use of data to enhance its services, such as predicting pick-up locations and food choices.

Artificial Intelligence (AI) is intelligence demonstrated by machines, which has changed the way businesses operate. AI enables the automation of manual tasks, improves operational efficiency, and facilitates the development of innovative products and services. Examples of AI applications are ChatGPT, Gemini AI from Google, and Galaxy AI from Samsung.

The Internet of Things (IoT) refers to a network of physical devices connected to the internet, enabling the collection and exchange of data. The Internet of Things (IoT) offers opportunities to develop connected products and services, enhance customer experiences, and establish new business models. An example of IoT implementation is smart farming, which optimizes agricultural practices to enhance productivity.

Marketing automation utilizes software platforms to enhance marketing effectiveness across online channels. Marketing Automation helps improve efficiency, increase ROI, and provide data and analytics to optimize marketing strategies. An example of Marketing Automation implementation is Sephora's use of personalized emails to send to customers.

Micro-personalization is a strategy that offers a more personalized and relevant customer experience. This is achieved by utilizing customer data to tailor content and offers to each individual's specific needs. Micro-Personalization helps increase customer engagement and build stronger relationships with them. An example of a company that utilizes micro-personalization is a luxury car manufacturer that allows customers to customize their vehicles.

The shift from Ownership to Experience describes the consumer paradigm shift from owning physical goods to the experience provided by products or services. Companies need to understand and leverage this experience to win the hearts and minds of customers. An example of a company that employs this approach is Netflix, which provides a distinctive video streaming experience.

The rise of a New Business Model marks a paradigm shift in the business world triggered by the explosion of data and technological advancements. Companies are adopting new business models, including subscription models, platform models, and freemium models. Examples of companies that use this new business model are Netflix, Airbnb, and Spotify.

Although this study presents a conceptual and descriptive mapping of future entrepreneurial trends and their supporting technologies, there is still considerable room for further exploration.

Some suggested future research directions are as follows:

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1. Empirical Testing of New AI and Data-Driven Business Models: In-depth studies using quantitative or mixed-methods approaches can be conducted to evaluate the effectiveness of new business models driven by AI, IoT, and big data. This research is important for measuring the actual impact on the performance of small and medium-sized enterprises (SMEs) and technology startups.
 2. Cross-Country Comparative Analysis: Comparative research between developing and developed countries on technology adoption in entrepreneurship can reveal differences in strategies, structural barriers, and public policies that influence entrepreneurs' digital readiness.
 3. Exploration of Platform-Based Entrepreneurship Models: Future research can examine how digital platforms (such as marketplaces, SaaS, and DaaS) facilitate business model innovation in previously traditional sectors (such as agriculture, fisheries, and education).
 4. Ethical and Social Studies on AI and Automation: There is a need for critical research that examines the social and ethical implications of AI adoption in entrepreneurship, including issues of algorithmic bias, the replacement of human labour, and customer privacy in the context of marketing automation and micro-personalization.
 5. Longitudinal Study of Changing Consumer Preferences: The shift from ownership to experience is a trend that remains largely unexplored, particularly in a longitudinal context. Longitudinal research can be conducted to map how consumer values evolve and what implications this has for the design of new products and services.
 6. Integration of Sustainability and Technology in Entrepreneurship: Another important direction is to combine sustainability principles with disruptive technologies. How can AI, IoT, and big data drive business models that are environmentally friendly, socially just, and economically sustainable?
 7. Development of the Entrepreneurial Technological Readiness Index: Further research can develop indicators or indices to measure Entrepreneurial Technological Readiness (ETR), which reflects the extent to which an entrepreneur or startup is prepared to adopt and optimize future technologies.
 8. Experimentation of AI-Based Services in MSMEs: Experimental research can be conducted on MSMEs to see the direct impact of AI adoption on operational efficiency, customer satisfaction, and product innovation in a sustainable manner.

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