

START-UP ECOSYSTEM: THE DRIVING FORCE OF DIGITAL INNOVATION IN ECONOMY 5.0

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Abstract

This article discusses the important role of the start-up ecosystem as the main driver of digital innovation in the Economy 5.0 era. By utilising advanced technologies such as artificial intelligence (AI), the Internet of Things (IoT), and blockchain, start-ups are able to produce innovative solutions that can improve productivity and quality of life. Support from the government and the private sector, such as friendly regulations, tax incentives, and access to funding, plays a crucial role in the development of this ecosystem. Collaboration between start-ups, educational institutions, and large companies is also a key factor in accelerating the adoption of technology and innovation. Through comprehensive support and effective collaboration, the start-up ecosystem can be the main driving force in digital transformation and sustainable economic development, which is inclusive and innovation-based. This article emphasises the importance of all these elements in creating an environment that supports the growth of start-ups and leads us towards a more dynamic future economy. **Keywords:** Start-up Ecosystem, Driving Force, Digital Innovation, Economy 5.0.

Introduction

The development of digital technology has changed the global economic landscape and sparked the birth of a new era known as Economy 5.0. Economy 5.0 is an economic concept that emphasises the use of advanced technology and digital integration to create high added value in all aspects of life, from industry and government to community welfare (Tushman & O'Reilly, 1996). Unlike the previous industrial revolution, Economy 5.0 focuses on human empowerment through technology with the main goal of creating a society centred on welfare, inclusivity, and sustainability. In Economy 5.0, technologies such as artificial intelligence, the Internet of Things (IoT), big data, and blockchain are not only used to increase efficiency and productivity, but also to solve social problems, reduce inequality, and improve the quality of life (Brown & Katz, 2009).

In this era, technology and innovation play an important role in driving economic progress and creating significant added value. Economy 5.0 focuses on the integration of digital technology in all aspects of human life, including improving people's welfare, industrial efficiency, and social justice.

Digital innovation is a key element in the era of Economy 5.0, where advanced technology plays a central role in the transformation of various economic sectors. Digital innovation enables the creation of new forms of interaction between humans and machines that are more intuitive and personal (Eisenhardt & Martin, 2000). Technologies such as artificial intelligence, blockchain, and the Internet of Things (IoT) not only increase operational efficiency, but also enable large-scale data collection and analysis for more accurate decision making. Thus, companies can be more responsive to dynamic market needs and can offer products and services that are more in line with consumer preferences, which ultimately drives sustainable economic growth (Stam & Spigel, 2016).

In addition to the benefits for the business sector, digital innovation also plays an important role in advancing the social and environmental aspects of Economy 5.0. Digital technology can be used to address various social issues, such as increasing access to education and health services, as well as supporting sustainable development initiatives. By adopting digital technology, people can be more inclusive and equitable in enjoying economic benefits and a better quality of life. In addition, the use of technology to monitor and manage natural resources more wisely can help reduce the environmental impact of economic activity, thus contributing to the preservation of the earth for future generations (Pfeffer & Sutton, 2006).

One of the main driving forces in realising Economy 5.0 is the start-up ecosystem. Start-ups are companies that generally focus on developing innovative products or services, often based on digital technology. They are known for their agile, adaptive nature and ability to respond quickly to market changes. The start-up ecosystem includes various components such as incubators, accelerators, venture capital, and a regulatory environment that supports innovation and growth (World Economic Forum, 2020).

However, although the role of start-ups in driving digital innovation is very important, their success is often influenced by various external and internal factors. Support from the government, access to funding, availability of talent, and strong business networks are some of the main factors that influence the success of the start-up ecosystem. On the other hand, challenges such as unsupportive regulations, lack of technological infrastructure, and low market acceptance can also hamper the growth of start-ups (Lundvall et al., 2002).

In line with the focus of Economy 5.0, which emphasises the use of technology to create new solutions to various social and economic problems, it is important to understand how the start-up ecosystem can function as a driving force for digital innovation. Therefore, this study aims to analyse the role of the start-up ecosystem in encouraging digital innovation in the Economy 5.0 era, as well as identifying the key factors that influence their success.

Research Methods

The study in this research uses the literature method. The literature research method is a systematic approach used to collect, assess, and analyse information available from various written sources relevant to the research topic. In this method, researchers identify, review, and synthesise existing literature, such as books, journal articles, research reports, and other academic sources, to establish a theoretical basis and context for the research being conducted (Snyder, 2019); (Kitchenham, 2004). Literature research aims to evaluate what is already known about a topic, identify gaps in knowledge, and direct further research by developing a strong conceptual framework. This method is very important in ensuring that the research conducted is based on existing knowledge, and provides validation and legitimacy to the researcher's findings (Creswell, 2013).

Results and Discussion

The Role of the Start-Up Ecosystem in Digital Innovation

The start-up ecosystem plays a crucial role in driving digital innovation, by being an incubator for new ideas and revolutionary technological solutions. Start-ups are often more agile and adaptive than large companies, enabling them to respond quickly to changing market needs and develop innovative products and services. They create an environment where creativity and the courage to take high risks are valued, thus facilitating the creation of disruptive technologies that can change the face of traditional industries (Schilling, 2020).

Within the start-up ecosystem, collaboration and synergy between various actors, such as entrepreneurs, investors, research institutions, and the government, are key to fostering digital innovation. Strategic partnerships between start-ups and large companies often result in the exchange of knowledge and resources that benefit both parties. Large companies can take advantage of the speed of start-up innovation, while start-ups can take advantage of the infrastructure and wider market networks of large companies. This kind of synergy encourages the acceleration of digital innovation and stimulates a healthier and more competitive economic dynamic (Chesbrough, 2003).

In addition, the start-up ecosystem provides a conducive platform for the development of digital talent. Through incubation, acceleration, and mentoring programs, start-ups help individuals and teams hone their technology and business skills. The work environment in start-ups, which tends to be flexible and collaborative, also attracts many young and creative talents who want to work in an atmosphere that supports innovation. Thus, the start-up ecosystem not only plays a role in producing new digital solutions, but also in producing the human resources needed to develop the digital economy in the future (Startup Genome, 2021).

Funding is also an important aspect of the start-up ecosystem that supports digital innovation. Investors such as venture capitalists, angel investors, and

crowdfunding provide the capital injections needed to turn innovative ideas into commercial realities. In addition to financial support, investors often provide guidance and networks that help start-ups overcome critical initial challenges. Adequate funding enables start-ups to experiment, develop products, and navigate competitive markets with more confidence (Ries, 2011).

Support from the government and regulatory agencies also strengthens the role of the start-up ecosystem in digital innovation. Pro-start-up policies, such as tax incentives, ease of licensing, and grant programmes, encourage the formation of a business environment that supports start-up growth. The government can also play a role as a facilitator by organising training programmes, innovation competitions, and providing access to global market penetration. Appropriate government intervention ensures that the start-up ecosystem develops in a healthy and sustainable manner, so that it is able to deliver widely beneficial digital innovations (Spigel, 2017).

Overall, the start-up ecosystem functions as a key catalyst for digital innovation by combining several important elements such as adaptability, collaboration between stakeholders, talent development, sufficient funding, and government policy support. All these elements work together to create a dynamic and innovative environment, where brilliant ideas can grow and develop into life-changing technologies. Thus, strengthening the start-up ecosystem is a strategic step to ensure that digital innovation continues to advance, bringing great economic and social benefits to society.

Key Factors for the Success of the Start-Up Ecosystem in the Economy

Developing a successful start-up ecosystem requires consideration of various interrelated key factors. One of the main factors is the availability of funding. Abundant sources of funding, such as venture capital, angel investors, and incubation programmes, play an important role in helping start-ups get through the critical early stages. The combination of easy access to capital and strategic support from experienced investors can significantly increase a start-up's chances of success (McKinsey & Company, 2020).

The second factor is a supportive regulatory environment. Governments that are proactive in developing policies that facilitate innovation and entrepreneurship can create ecosystems that are conducive to start-up growth. This can include tax incentives, ease of licensing, and clear legal protections for entrepreneurs. In countries with complex regulations, start-ups often face bureaucratic obstacles that slow growth (Christensen et al., 2015).

Third, the existence of a strong community network is another fundamental aspect. By building solid relationships within the ecosystem, start-up founders can share knowledge, resources, and emotional support. Networking events, conferences, and meet-ups are excellent platforms for creating collaboration and forming sustainable

relationships. An ecosystem with a collaborative culture tends to be more innovative and adaptive to market changes (Brown & Katz, 2009).

Fourth, access to talented people is also a factor that cannot be ignored. Start-ups need teams with technical, managerial, and creative skills to succeed. Therefore, partnerships with universities and educational institutions can help connect start-ups with potential human resources. In addition, good training and internship programmes can ensure that there is a constant flow of talent available to meet market needs (Eisenhardt & Martin, 2000).

The fifth factor is technological and logistical infrastructure. Fast internet access, availability of co-working spaces, and efficient logistics facilities can provide a strong foundation for a start-up's daily operations. This allows start-ups to focus on developing their products and services without having to worry about operational obstacles. Good infrastructure also makes it easier for them to reach the global market (Stam & Spiegel, 2016).

Finally, an entrepreneurial culture and persistence also play an important role. An ecosystem where failure is seen as part of the learning process encourages more innovation and experimentation. Support from experienced mentors who can provide practical advice and encourage a 'never give up' mentality is essential. With a combination of all these factors, a dynamic and sustainable start-up ecosystem can be realised (Pfeffer & Sutton, 2006).

Overall, the success of a start-up ecosystem in an economy depends on a combination of several key factors that support each other. Adequate funding availability, supportive regulations, and a strong community network are fundamental foundations. Access to quality talent and good technological infrastructure also play an important role in driving innovation and operational efficiency. In addition, a positive entrepreneurial culture and persistence in facing challenges help create a dynamic environment that is adaptive to change. By fulfilling all these elements, a start-up ecosystem can develop more effectively and have a significant impact on the economy.

Conclusion

The start-up ecosystem plays a very important role in driving digital innovation in the Economy 5.0 era. Start-ups are the main source of technological updates and creative ideas that can solve various problems in society. By combining advanced technologies such as AI, IoT, and blockchain, start-ups are able to create efficient and innovative solutions, which can then improve productivity and the quality of life for society as a whole.

The government and the private sector have a crucial role in supporting the development of this start-up ecosystem. Support in the form of friendly regulations, tax incentives, and access to funding are key factors that can help start-ups grow and develop. In addition, a strong partnership network between start-ups, educational

institutions, and large companies can also encourage profitable collaboration and accelerate the adoption of technology and innovation in various sectors.

With the right support and collaboration, the start-up ecosystem can be a major driving force in digital transformation and sustainable economic development in the Economy 5.0 era. Start-ups' ability to face challenges and adapt quickly to change makes them a valuable asset in creating a more dynamic, inclusive, and technologically innovative economic future.

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