

# ***The Dual Path to Start-up Success: The Impact of Business Model and Product Innovation in the Digital Economy***

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**Abstract:** In today's era of digital technology, the success of start-ups is closely connected to their capacity to innovate. However, start-ups often focus heavily on product innovation while overlooking the significance of business model innovation. Additionally, many start-ups face challenges in turning these innovations into sustainable revenue streams. This thesis investigates the influence of business model innovation and product innovation on the overall business success of start-ups. By analyzing various case studies and empirical data, this research explores how business model innovation, involving changes in core competitiveness, delivery, and exploration mechanisms, can profoundly impact start-ups. The study mentions the strategic advantages of business model innovation, including its contributions to competitive advantage, scalability, and long-term profitability. Through a comparative analysis, this thesis underscores the importance of business model innovation in driving start-up success and inspires entrepreneurs and business strategists about the ways of suitable innovation insights. The findings contribute to clarify the distinct roles of two types of innovation in the digital economy and offer recommendations for start-ups seeking more dynamic performance.

**Keywords:** business model innovation, product innovation, start-up, digital economy.

## **1. Introduction**

In the contemporary digital economy, innovation has become a cornerstone of success for start-ups striving to establish steady business relationships and demonstrate competitive capability in the market. While product innovation (PI) has been widely recognized as an “engine of renewal” [1] and thus has received significant attention from new entrepreneurs, the importance of business model innovation (BMI) in start-ups' performance and operation is sometimes overlooked.

This study investigates the relative importance of business model innovation compared to product innovation and assesses their impacts on start-up performance. By analyzing case studies and data collected from 2 start-ups, this research first clarifies the definitions of PI and BMI, compares their effects on business performance, and then explores how business model innovation can lead to significant impacts on start-ups. Through comparative analysis, this study provides important guidance for entrepreneurs, helping them recognize the critical role of business model innovation in driving start-up success and offering actionable insights for entrepreneurs and business strategists. The study explains the relationship between two types of innovation and the performance of start-ups

in the background of the digital economy and provides practical recommendations for start-ups seeking to enhance their dynamic capabilities and achieve sustained growth.

## 2. Case study

### 2.1. Literature review

It is widely accepted by many recent studies that to gain competitive advantages, product innovation can contribute to the improvement of business performance and continuous growth[2][3]. However, PI cannot always ensure success for start-ups due to fierce competition, shortened product life cycles, and high costs in the digital age [4][5]. At the same time, the evolution of digital technologies has introduced business model innovation as a way for start-ups to translate business ideas into entrepreneurial practices [6][7]. As more entrepreneurs include business model innovation in their definitions of innovation, it is time to explore the influence of PI and BMI on enterprise performance, given their differing natures.

Product innovation consists of “improvements in technical specifications, components and materials, incorporated software, user-friendliness, or other functional characteristics” [8]. For start-ups who take advantage of PI, this means concentrating on research and development (R&D), such as new product development projects[3][9]. In contrast, the definition of business model innovation (BMI) derives from the business model. According to Clauss [10], a business model focus on three fundamental elements: value proposition, value creation, and value capture. BMI thus refers to the exploration and utilization of novel techniques with the aim of the value increase [4][11][12].

In this context, BMI and PI can be classified according to another innovation framework proposed by Koçak, Levinthal, and Puranam in 2023[13]. BMI is more akin to radical (exploratory) innovations, whereas PI often involves incremental (exploitative) innovations [14][15]. As the digital revolution intensifies market competition, exploratory innovations like BMI demonstrate greater value compared to conservative solutions by avoiding direct competition with mature companies and helping start-ups discover blue oceans [16]. This trend has led more start-ups to adopt BMI for higher performance and competitive advantages [17]. Thus, this study will focus on the roles of the two innovations in the transformation to profit and provide some advice to start-ups about how to improve their innovation performance.

### 2.2. Data

This study is based on two case studies. Data were gathered from a circular start-up in Poland (EcoBean) and an Italian food company (Pizza) through information published on their websites, in-depth interviews with start-up founders and managers, phone calls, and questionnaires. A key commonality between the two start-ups is that they embrace both types of innovation (PI & BMI) and have adopted new sustainable business models, which positively impact their operations and development.

Table 1: the information of 2 start-ups examined

Category	Sector	Form of activity	Main values	Business model	Target group	Stage of development
EcoBean[18]	Renewable energy sources	Production plant	Reuse recycle	Co-product recovery	Individual & business clients	Propotype
Italian Pizza[19]	food	Food service	Zero-impact pizza	Co-product recovery	Individual	Early

According to Table 1, the two start-ups examined in this case study range from the food industry to renewable energy sources, and they adopted similar business model innovation in their start-ups while remain the effort in product innovation [20][21].

### 3. Findings

By analyzing the performance and achievement of two start-ups, we can find that despite their different nature, both PI and BMI are crucial for start-ups to thrive in the digital economy. However, BMI shows a more far-reaching path to business success and the decision-makers can implement it in start-ups through various methods.

#### 3.1. The Impact of PI on Business Achievement

Product innovation can be explained as the whole process of new product development, in the context of competition including resources integration, R&D and other steps to design a practical product for customers [22]. It is therefore not surprising that the products of the two start-ups have showcased innovative products. For example, Italian Pizza invented the “zero-impact pizza,” and EcoBean, with the support from Warsaw University of Technology, developed an innovative measure to produce briquettes from coffee waste. However, the sales and performance of two start-ups didn’t seem to gain an evident increase after their new product had published. Furthermore, our case studies in Poland and Italy reveal that the product innovation can be easily influenced by the local innovation environment and companies’ investment. For example, the lack of innovation awareness in Poland [23] and a lack of investment in research in Italy [24] have affected the true demand for their products among local customers.

#### 3.2. The Impact of BMI on Business Achievement

When conventional PI fails, entrepreneurs need to explore new innovation solutions. In such cases, BMI becomes a more challenging but effective alternative. EcoBean developed an innovative process for manufacturing briquettes from coffee waste, while Italian Pizza has identified nine core elements in its sustainable business innovation model, including client relationships, distribution channels, and key activities [19]. The results of implementing BMI have been evident and positive. BMI offers the potential to set a completely new business model based on an innovative value proposition. For start-ups, integrating BMI into their strategic plans can deliver value and innovative actions at every stage, contributing to long-term development.

#### 3.3. The Factors That Promote BMI

Data from the two start-ups shows that the major difference between BMI and PI is that sustainability is integrated into the entire industry structure and every production process.

Table 2: the relationship between BMI and Revenue in two cases

Category	BMI-partner relationship	Revenue
EcoBean[18]	Circular-oriented innovation: focus on decarbonization of the whole coffee value chain, so collaborate with partners from green logistics, zero emission Bio-refinery to ecological and useful raw materials and products.	Ecobean has raised a total of \$9.7M in funding over 4 rounds [25].

Table 2: (continued).

Italian Pizza[19]	The firm collaborates with Eden Reforestation Projects to devolve part of the revenues in favor of reforestation. For each pizza sold means one tree is planted and delivery service is also in the charge of its partners.	The revenue flows come exclusively from credit card or online payments, making all of them traceable
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Table 2 compares the BMI and revenue of the two promising start-ups. According to the founders, establishing a stable and innovative partnership network drives business innovation. Especially for start-ups, broadening cooperative networks and maintaining sustainable partnerships contribute to innovation and future business model development. With the participation of all stakeholders, Business model innovation shows its potential to create positive impact[26].

Thus, the importance of BMI could inspire start-ups to redefine innovation. While the key of an innovative product or service is to solve existing problems in any start-up's business model, innovation is not limited to products and services. Innovation in organizational processes or the business model is another viable approach.

#### 4. Discussion

Given that the boundary between PI and BMI is sometimes ambiguous, this study aims to emphasize the importance of wisely combining both types of innovation to inspire start-ups facing fierce competition and demands for differentiation. Start-ups focusing solely on PI for market differentiation are not at fault, but integrating BMI into their development blueprint can offer a brighter future in the long term. For circular start-ups, effective strategies include researching and developing new sustainable products, while their operational business models demonstrate sustainability and circularity, helping them stand out in the market. For start-ups in the food industry, BMI is reflected in distribution, delivery, and a strong network with production partners. Other start-ups can adopt this strategy: in addition to PI, consider client relationships, distribution channels, key resources, costs, and especially partner networks in innovation.

#### 5. Conclusion

This thesis explores the impact of business model innovation (BMI) compared to product innovation (PI) on the overall success of start-ups in the digital economy. The research demonstrates that while product innovation plays a crucial role in meeting market and customer demands, business model innovation offers significant strategic advantages in competitive positioning, scalability, and long-term profitability. By integrating business model innovation into their strategies, start-ups can better leverage their innovations to achieve sustainable growth and financial success.

Despite these insights, the study has some limitations. Firstly, the case studies and empirical data analyzed may not encompass all industry sectors or include large mature companies, which could limit the universality of the findings. Additionally, the research primarily focuses on the impacts of BMI and PI on revenue and success, potentially overlooking other critical factors such as market dynamics, regulatory challenges, or organizational culture.

Future research could explore a broader range of industries and regions. Future studies might also explore the interplay between business model innovation and other variables, such as leadership

practices or technological advancements, to provide more useful insights and solution about how start-ups can navigate the complexities of the digital economy.

In conclusion, developments in the digital economy offer new entrepreneurs not only opportunities for product innovation but also for restructuring business models and managerial methods. Achieving a balance between different types of innovation is essential for all start-ups. For long-term operations and expansion, this study reminds leaders and managers to consider business model innovation and provides valuable guidance for entrepreneurs and strategists aiming to enhance their innovation strategies and achieve enduring success.

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