Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 8, No. 6, 3465-3474
2024
Publisher: Learning Gate
DOI: 10.55214/25768484.v8i6.2737

Business model innovation in real estate: Applying the business model navigator to conventional and Tokenised models

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Abstract: This study explores the application of the Business Model Navigator framework to enhance business models within the real estate sector, particularly in response to recent technological advancements and shifting market dynamics. By analyzing two case studies—a traditional luxury property developer and a blockchain-based tokenisation platform—the research demonstrates how selected BMN patterns can drive value creation, improve operational efficiency, and enhance scalability. The traditional luxury real estate model, while excelling in delivering high-end properties and tailored customer experiences, faces significant scalability challenges due to its capital-intensive nature. In contrast, the blockchain-based tokenised model offers improved liquidity and broader market accessibility by enabling fractional ownership, though it encounters obstacles related to regulatory compliance and market acceptance of blockchain technology. This research concludes that both models can significantly benefit from the strategic incorporation of BMN patterns, which enhance adaptability and competitiveness in an evolving real estate landscape. The findings offer strategic recommendations for both traditional and innovative real estate companies seeking to optimise their business models through the use of BMN patterns.

Keywords: *Business model navigator, Innovation, Luxury development, Real Estate, Tokenisation.*

1. Introduction

The real estate industry is currently undergoing significant disruption, driven by advances in digital technology, evolving investment trends, and the rise of decentralised finance (DeFi) (Saari et al., 2022). These transformations are compelling traditional real estate companies to reassess their business models and strategies to remain competitive in a rapidly evolving market (Nosratabadi et al., 2019). While the focus of many traditional companies remains on high-end property development, new approaches such as blockchain-based tokenisation are gaining traction. Tokenisation allows for the fractionalisation of property ownership, lowering entry barriers for smaller investors and improving liquidity in a traditionally illiquid market (Ferreira, 2021). Although tokenisation offers significant opportunities, it also presents challenges, particularly in capital-intensive sectors like real estate, where regulatory compliance and market trust in blockchain technology are key concerns (Ekemode et al., 2019; Joshi and Choudhury, 2022).

The Business Model Navigator (BMN) framework, developed by Gassmann et al. (2013), offers a structured methodology for analysing and innovating business models across industries. This framework consists of 60 business model patterns (BMI.lab, 2024) derived from the strategies of successful companies such as Microsoft, Netflix, Amazon, and Levi's (Gassmann et al., 2014). By systematically combining these patterns, companies can adapt to changing market conditions and enhance value creation and delivery. In real estate, patterns such as "Experience Selling", which focuses on delivering an immersive and personalised buying experience, and "Direct Selling", which enables firms to bypass intermediaries and engage directly with clients, offer valuable tools for innovation.

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Several studies have applied the BMN framework to a wide range of industries, advancing the theoretical and methodological foundations of business model innovation. For instance, Burggräf et al. (2021) developed a framework for business models in manufacturing firms, while Feldmann and Rose (2021) applied BMN patterns to systematise business model innovation in the pharmaceutical sector. Additionally, Karami and Madlener (2021) analysed the application of BMN in the electricity retail market, identifying key patterns that promote value co-creation between retailers and customers. Other research has demonstrated the utility of the BMN framework in industries considering the integration of the Internet of Things (IoT), such as the automotive and wind energy sectors (Weinberger et al., 2016; Nagy et al., 2018). However, despite the growing body of literature, few studies have explored the application of the BMN framework in the real estate sector, particularly in comparing traditional business models with more digitally advanced models such as blockchain-based platforms.

This paper aims to fill this gap by applying the BMN framework to two companies operating in the real estate sector. The first case (C1) involves a traditional luxury real estate developer, while the second case (C2) focuses on a blockchain-based tokenisation platform. Both companies operate in a region known for its dynamic real estate market, comparable to those of major European capital cities (Ramos, 2024). The primary objective of this study is to explore how the BMN framework can be applied to both traditional and tokenised real estate business models to enhance competitiveness. Specifically, this research seeks to identify which BMN patterns are most applicable to traditional luxury real estate development and how blockchain-based models can benefit from BMN patterns, particularly in improving liquidity and scalability. The study also aims to provide strategic recommendations for improving operational efficiency and value creation in both business models.

To achieve these objectives, the study addresses the following research questions (RQ):

RQ1: How can BMN patterns optimise the business model of a traditional luxury property developer (C1)?

RQ2: Which BMN patterns are most applicable to a tokenised real estate platform (C2), and how do they improve scalability and market accessibility?

RQ3: What are the key challenges and opportunities in applying BMN patterns to both traditional and tokenised property models?

This study makes several important contributions to the field of real estate business model innovation. By providing a detailed comparative analysis of traditional and tokenised real estate business models, it addresses key industry challenges such as capital intensity, market volatility, and customer segmentation. Moreover, the study demonstrates the practical application of the BMN framework and evaluates the effectiveness of different patterns in improving value creation and operational efficiency. The findings offer strategic recommendations for real estate companies seeking to innovate their business models, either by adopting tokenisation or by optimising their existing models through BMN patterns.

This paper is organised as follows. After this introduction, section 2 outlines the methodology, detailing how the BMN patterns are applied to each company's business model. Section 3 presents the results, comparing how C1 and C2 apply different BMN patterns to optimise their business models. Section 4 discusses the implications of these results, addressing the research questions and providing strategic recommendations, and section 5 presents the main conclusions of the study.

2. Methodology

2.1. Research Method

This research employs a qualitative case study methodology, which is particularly well-suited for exploring complex business model innovations in real-world contexts (Yin, 1989, 2011). The qualitative approach provides a deep, contextual understanding of how specific business models operate and how they can be optimised through the application of the BMN framework. By focusing on two contrasting real estate companies—one operating a traditional luxury development model and the other employing a blockchain-based tokenisation platform—this study offers a comprehensive comparison of business model optimisation strategies.

Edelweiss Applied Science and Technology
ISSN: 2576-8484
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DOI: 10.55214/25768484.v8i6.2737

2.2. Case Study Methodology

The case study method allows for a detailed examination of each company's business model within its natural setting, offering insights into how these models respond to industry challenges and opportunities. As Villareal and Landeta (2007) suggest, case studies are particularly valuable in

industries where market dynamics are complex and multifaceted, like real state sector. This study examines two companies, referred to as C1 and C2.

Case 1 (C1): A traditional luxury residential property developer targeting affluent international clients seeking premium homes or investment properties. The project comprises more than 700 high-end homes with modern amenities and a focus on sustainability, offering an exclusive lifestyle.

Case 2 (C2): A blockchain-based real estate tokenisation platform aimed at democratising property investment. The platform allows fractional ownership of high-value real estate assets, making property investment accessible to smaller investors while improving liquidity through blockchain technology. The company employs crowdfunding as its main financing method and leverages blockchain for transparency and security in transactions.

2.3. Data Collection and Analysis

Data for this study was collected through a combination of primary and secondary sources. Primary data was gathered through semi-structured interviews with key stakeholders from both C1 and C2. These interviews provided valuable insights into the effectiveness of the BMN patterns in addressing real-world challenges in the real estate sector. Secondary data was obtained from academic literature related to business model innovation and real estate.

The analysis focused on how each BMN pattern was integrated into the business models and its impact on key performance indicators such as customer engagement, operational efficiency, and scalability.

2.4. Application of the BMN Framework

The BMN framework is applied in this study to systematically analyse and optimise the business models of C1 and C2. The BMN consists of 60 patterns, each representing a distinct way to create, deliver, and capture value in business models. This study follows the structured four-step approach of the BMN framework (Gassmann et al., 2020), which includes initiation, ideation, integration, and implementation.

Step 1: Initiation

The initiation phase involves the detailed mapping of each company's current business model, focusing on its value proposition, customer relationships, and key operational processes. This stage helps identify potential threats and opportunities in the market that are not fully addressed by the existing models. For C1, key drivers include high capital requirements, a focus on luxury, and market shifts driven by economic cycles and sustainability trends. C2, on the other hand, faces regulatory challenges and a market still unfamiliar with blockchain technology but has the advantage of offering improved liquidity and scalability through fractional ownership.

Step 2: Ideation

During the ideation phase, several BMN patterns were selected to optimise the business models of C1 and C2. Each pattern was chosen based on its potential to enhance value creation, operational efficiency, and scalability. In the case of C1, patterns such as "Experience Selling" and "Lock-in" were identified as having the potential to strengthen the company's relationships with high-net-worth clients through immersive experiences and post-purchase services. The pattern "Direct Selling" was also explored, allowing C1 to bypass traditional intermediaries and engage directly with its exclusive clientele.

For C2, patterns like "Crowdsourcing" and "Two-sided Market" were identified as critical to expanding the platform's investor base and enhancing liquidity. "Licensing" was another key pattern explored, enabling C2 to license its blockchain platform to other firms in the sector, thereby generating additional revenue streams while encouraging wider adoption of blockchain technology in real estate.

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The "Pay-per-use" pattern was considered to create a revenue model based on transaction volume rather than traditional fees, aligning revenue generation with platform usage.

Step 3: Integration

The integration phase involved validating the ideas generated during ideation through qualitative interviews with key stakeholders. For C1, interviews with clients revealed that personalised experiences and long-term service relationships were highly valued, confirming the relevance of patterns like "Experience Selling" and "Lock-in". Meanwhile, for C2, discussions with blockchain experts and investors highlighted the significant potential of fractional ownership but also emphasised the need for regulatory compliance and market education to build trust in the technology.

Step 4: Implementation

The implementation of the new business models followed an iterative process, allowing each company to test, refine, and adapt its strategies. For C1, the new patterns were gradually introduced across different luxury developments, with customer feedback playing a critical role in refining the offerings. "Experience Selling", for example, was implemented through virtual tours and personalised consultations, which received positive feedback from clients.

C2 adopted a phased approach to implementing its tokenisation platform, starting with smaller, less risky real estate assets to gauge investor interest. The "Crowdsourcing" pattern helped attract a diverse group of smaller investors, and the platform's transaction-based fee structure (Pay-per-use) aligned well with its blockchain-enabled operations. However, the company continues to work closely with regulators to address compliance issues, a key challenge in the broader adoption of blockchain technology in real estate.

The iterative nature of the implementation phase allowed for continuous refinement based on stakeholder feedback and market conditions.

3. Results

This section presents the findings of the study, comparing the impact of applying the BMN patterns to both the traditional luxury real estate development model (C1) and the blockchain-based tokenisation platform (C2). The analysis evaluates how each business model responded to the integration of specific BMN patterns, with a focus on improvements in value creation, operational efficiency, and scalability.

3.1. Application of BMN Patterns to Case 1 (Traditional Luxury Property Developer)

The application of the BMN framework to C1, the traditional luxury property developer, resulted in several notable improvements. Key patterns such as "Experience Selling", "Lock-in", and "Direct Selling" played a crucial role in enhancing customer engagement and operational efficiency.

"Experience Selling": C1 successfully implemented this pattern by creating a more immersive and personalised buying experience for its high-net-worth clients. Virtual reality (VR) tours and augmented reality (AR) tools were integrated into the sales process, allowing potential buyers to explore properties remotely. Personalised visits and bespoke post-purchase services, such as wellness programs and property management, further strengthened the value proposition. Customer feedback indicated a significant increase in satisfaction, with many clients expressing appreciation for the tailored experience that went beyond the traditional real estate transaction.

"Lock-in": The introduction of long-term, post-sale services such as property management and wellness offerings helped C1 create ongoing relationships with its clients. These services not only fostered customer loyalty but also generated additional revenue streams, with many clients opting for premium service packages. By offering these services, C1 was able to secure repeat business and referrals from satisfied clients, thereby strengthening customer retention.

"Direct Selling": C1 reduced its reliance on traditional real estate intermediaries by forming direct relationships with its clients. Exclusive partnerships with selected real estate agents allowed C1 to offer bespoke communication and tailored services that aligned with the expectations of luxury customers. This direct engagement improved customer loyalty and reduced the costs associated with intermediary fees.

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"Customer Loyalty Programs": C1 introduced a loyalty program aimed at encouraging repeat purchases and referrals. Clients who bought multiple properties or referred others were rewarded with exclusive benefits such as early access to new developments, discounted rates on post-sale services, and invitations to private events. This initiative not only boosted client retention but also expanded C1's customer base through word-of-mouth marketing.

Despite these improvements, C1 continues to face challenges related to scalability. The capital-intensive nature of luxury real estate development limits the company's ability to expand rapidly, and while the integration of BMN patterns has enhanced customer engagement and operational efficiency, it has not entirely overcome these scalability barriers.

3.2. Application of BMN Patterns to Case 2 (Blockchain-based Tokenisation Platform)

The application of BMN patterns to C2, the blockchain-based real estate tokenisation platform, revealed significant potential for improving scalability and market accessibility. Key patterns such as "Crowdsourcing", "Two-sided Market" and "Licensing" were instrumental in driving the platform's growth and enhancing its value proposition.

"Crowdsourcing": C2 leveraged the crowdsourcing pattern to attract a wider base of smaller investors who were previously excluded from high-value real estate investments. By enabling fractional ownership through blockchain technology, C2 democratised real estate investment, allowing individuals to purchase small shares of high-value properties. This approach significantly expanded C2's investor base and increased liquidity in the market. The platform's transparency, powered by blockchain, further strengthened investor confidence.

"Two-sided Market": C2's platform operates as a marketplace that connects property developers with investors. This two-sided market model created value for both parties: developers gained access to a broader pool of potential investors, while investors were able to diversify their portfolios by participating in high-quality real estate deals. The pattern enhanced scalability by facilitating the connection between supply (developers) and demand (investors) in an efficient manner, driving growth on both sides of the platform.

"Licensing": C2 explored the possibility of licensing its blockchain platform to other real estate firms, creating a new revenue stream while promoting the wider adoption of blockchain technology in the industry. By licensing its platform, C2 was able to reduce its reliance on direct property investments and instead generate revenue from the use of its technology by other firms. This strategy also positioned C2 as a leader in the real estate blockchain space, encouraging further innovation in the sector.

"Pay-per-use": C2 introduced a transaction-based fee model that allowed users to pay for the platform's services based on the number of transactions or asset transfers they conducted. This flexible fee structure aligned revenue generation with platform usage, creating an incentive for increased activity on the platform. The pay-per-use model also provided scalability by generating revenue in proportion to the platform's growth.

While C2 has made substantial progress in expanding its investor base and enhancing liquidity, regulatory compliance remains a significant hurdle. Blockchain technology in real estate is still in its early stages, and regulatory frameworks are not yet fully developed. C2 is working closely with regulators to ensure that its platform complies with legal requirements, but market acceptance of blockchain in real estate will likely take time. Nonetheless, the application of BMN patterns has positioned C2 to capitalise on future market opportunities as the regulatory environment evolves.

3.3. Comparative Analysis of Results

The comparative analysis of C1 and C2 highlights key differences in how each company has benefited from the application of BMN patterns. C1's focus on enhancing customer experiences and building long-term relationships through patterns like "Experience Selling" and "Lock-in" has significantly improved customer satisfaction and loyalty. However, scalability remains a challenge for C1 due to the high capital requirements inherent in luxury real estate development.

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ISSN: 2576-8484
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In contrast, C2's adoption of patterns like "Crowdsourcing" and "Two-sided Market" has allowed the company to rapidly scale its investor base and improve liquidity in the real estate market. While C2 faces regulatory challenges, the flexibility of its business model and its focus on democratising real estate investment position it for significant future growth.

4. Discussion

The results of this study highlight the effectiveness of the BMN framework in optimising business models within the real estate sector, demonstrating how both traditional and tokenised models can benefit from the strategic integration of specific BMN patterns. By applying these patterns, the traditional luxury property developer (C1) and the blockchain-based tokenisation platform (C2) were able to enhance value creation, operational efficiency, and scalability, although each faced distinct challenges related to their respective business environments.

4.1. Optimising the Traditional Luxury Real Estate Model (C1)

For C1, the application of BMN patterns such as "Experience Selling", "Lock-in", and "Direct Selling" has proven highly effective in enhancing customer engagement and loyalty. The use of immersive technologies, such as virtual reality (VR) and augmented reality (AR), to deliver personalised customer experiences significantly improved client satisfaction, aligning with the luxury market's expectation for exclusivity and high-quality service. This supports previous findings by Burggräf et al. (2021), which demonstrate that experience-focused business models are particularly well-suited for industries that cater to high-end customers.

The "Lock-in" pattern, through the introduction of post-purchase services such as property management and wellness offerings, also proved valuable in creating long-term relationships with clients, fostering loyalty and repeat business. This aligns with the literature on customer retention in high-value sectors, where ongoing engagement and personalised services are critical for maintaining competitive advantage (Morris et al., 2005). The success of these patterns confirms that the traditional luxury real estate sector can benefit from BMN-driven innovations that prioritise customer experience and long-term engagement.

However, while these innovations have enhanced operational efficiency and customer satisfaction, C1 continues to face challenges related to scalability. Luxury real estate development is inherently capital-intensive, and despite the operational improvements, the company remains limited in its ability to scale rapidly. The findings suggest that incorporating additional BMN patterns, such as "Franchising" or "Crowdsourcing", could help mitigate some of these scalability issues by opening new revenue streams or accessing alternative funding models. For instance, by leveraging "Crowdsourcing", C1 could explore crowdfunding initiatives for smaller-scale projects, potentially attracting a wider range of investors without compromising its luxury market positioning.

4.2. Optimising the Tokenised Real Estate Platform (C2)

In contrast, C2's business model has demonstrated a greater capacity for scalability, driven by the application of BMN patterns such as "Crowdsourcing" and "Two-sided Market". The use of blockchain technology to enable fractional ownership has allowed C2 to democratise access to real estate investment, significantly expanding its investor base and improving market liquidity. This approach aligns with the findings of Saari et al. (2022), who argue that tokenisation has the potential to revolutionise capital-intensive sectors by lowering the barriers to entry for smaller investors.

The "Two-sided Market" pattern has also played a pivotal role in C2's growth, facilitating connections between real estate developers and a diverse group of investors. By acting as a marketplace, C2 has created value for both sides of the platform, aligning with Osterwalder's (2004) framework, which emphasises the importance of multi-sided platforms in industries where both supply and demand benefit from improved market access. This model not only increases liquidity but also enhances the scalability of the business, as more developers and investors are attracted to the platform.

Despite these advantages, C2 faces significant challenges related to regulatory compliance and market acceptance of blockchain technology. As noted in the results, while blockchain has the potential

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ISSN: 2576-8484
Vol. 8, No. 6: 3465-3474, 2024
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to transform real estate investment, it is still a nascent technology in this sector, and regulatory frameworks are not yet fully developed. This creates uncertainty for both the company and its investors, limiting the speed at which the platform can expand. The findings suggest that further regulatory dialogue and efforts to build trust in blockchain-based solutions will be crucial for C2's long-term success. This aligns with the work of Van Tonder et al. (2021), who argue that regulatory engagement is critical for the successful adoption of innovative technologies in capital-intensive sectors.

The "Licensing" pattern offers a potential pathway for mitigating some of these challenges. By licensing its blockchain platform to other real estate firms, C2 can generate additional revenue while promoting the broader adoption of blockchain technology across the sector. This approach reduces the company's reliance on direct property investments, allowing it to scale more effectively without being constrained by the regulatory complexities of owning real estate assets. Moreover, the "Pay-per-use" model further aligns the company's revenue streams with platform activity, creating a flexible and scalable financial model that grows in tandem with user engagement.

4.3. Comparative Insights

The comparative analysis of C1 and C2 illustrates that while both companies have benefited from the application of BMN patterns, their respective challenges are shaped by the inherent characteristics of their business models. C1, as a traditional luxury developer, excels in customer experience and long-term engagement but struggles with scalability due to its capital-intensive nature. In contrast, C2, as a tokenised platform, has greater scalability potential but faces challenges related to regulatory compliance and market trust in blockchain technology.

These findings highlight the versatility of the BMN framework, which can be adapted to address different business model challenges across a range of industries. For traditional real estate companies like C1, BMN patterns that enhance customer experience and foster long-term relationships, such as "Experience Selling" and "Lock-in", are highly effective. However, to achieve scalability, C1 may need to explore additional patterns like "Crowdsourcing" or "Franchising", which can open up new growth opportunities. On the other hand, for innovative platforms like C2, BMN patterns that focus on expanding market access and leveraging technology, such as "Two-sided Market" and "Licensing", are more relevant. However, regulatory engagement and efforts to build market trust will be critical to overcoming the challenges that come with implementing disruptive technologies like blockchain.

4.4. Strategic Recommendations

Based on the findings of this study, the following strategic recommendations can be made:

For Traditional Real Estate Developers (C1): C1 should continue to leverage BMN patterns that enhance customer experience and long-term engagement, such as "Experience Selling" and "Lock-in". To address scalability challenges, C1 could explore patterns like "Crowdsourcing" or "Franchising" to access alternative funding models and expand into new markets.

For Tokenised Real Estate Platforms (C2): C2 should continue to leverage its blockchain-enabled business model by applying patterns like "Two-sided Market" and "Licensing" to scale its platform. To overcome regulatory hurdles, C2 should engage more actively with regulators and industry stakeholders, working to establish trust and transparency in its blockchain-based solutions.

5. Conclusions

This study has provided valuable insights into the application of the BMN framework to both traditional and tokenised real estate business models, demonstrating how different BMN patterns can drive innovation, enhance value creation, and improve operational efficiency. By examining the distinct approaches of a traditional luxury property developer (C1) and a blockchain-based tokenisation platform (C2), this research has highlighted the versatility of the BMN framework in addressing industry-specific challenges and opportunities.

For C1, the integration of patterns such as "Experience Selling" and "Lock-in" has proven effective in enhancing customer engagement and fostering long-term relationships with high-net-worth clients. These patterns have allowed the company to differentiate itself in a competitive market by offering

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ISSN: 2576-8484
Vol. 8, No. 6: 3465-3474, 2024
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tailored experiences and post-sale services that drive customer loyalty. However, the capital-intensive nature of luxury real estate development remains a significant barrier to scalability. While operational efficiency and customer retention have improved, C1's ability to expand is constrained by the large financial investments required for each project. Future scalability could be addressed by incorporating additional BMN patterns, such as "Crowdsourcing" or "Franchising", which would open new avenues for growth and diversification.

In contrast, C2 has shown substantial potential for scalability, driven by patterns such as "Crowdsourcing" and "Two-sided Market". The tokenised model, powered by blockchain technology, has enabled C2 to democratise real estate investment, expanding its investor base and improving liquidity in the market. However, regulatory hurdles and market acceptance of blockchain technology remain key challenges that must be addressed before widespread adoption can occur. The "Licensing" pattern offers a promising solution by enabling C2 to license its platform to other firms, thereby generating new revenue streams while promoting the broader use of blockchain technology in real estate. This approach not only reduces the company's dependency on direct property investments but also facilitates the scalability of its platform without being constrained by regulatory complexities.

5.1. Theoretical Contributions

This research contributes to the growing body of literature on business model innovation by demonstrating the practical application of the BMN framework in the real estate sector. While previous studies have focused on industries such as manufacturing, pharmaceuticals, and energy, this study addresses a notable gap by applying the BMN framework to both traditional and tokenised real estate models. The findings show that the BMN framework is an effective tool for systematically identifying and implementing business model innovations that enhance value creation, operational efficiency, and scalability.

Moreover, this study provides a comparative analysis of traditional and tokenised models, offering new insights into how these approaches can coexist and complement each other in a rapidly evolving real estate landscape. For traditional developers, the BMN framework offers pathways to enhance customer engagement and improve operational efficiency, while for tokenised platforms, it provides a roadmap for scaling and expanding market access through innovative revenue models.

5.2. Practical Implications

From a practical perspective, this study provides strategic recommendations for real estate companies seeking to innovate their business models. For traditional luxury developers like C1, the adoption of BMN patterns that focus on customer experience and long-term engagement can significantly improve client satisfaction and retention. However, to achieve sustainable growth, these companies should also explore patterns like "Crowdsourcing" to access alternative funding models or "Franchising" to expand into new markets without incurring the same level of capital expenditure.

For tokenised platforms like C2, the application of BMN patterns such as "Two-sided Market" and "Licensing" can drive growth and scalability by connecting a diverse pool of investors with developers and enabling the wider use of blockchain technology. However, success in this space will depend heavily on regulatory engagement and efforts to build trust in blockchain-based solutions. As the real estate sector continues to evolve, tokenised platforms that proactively address regulatory concerns and promote transparency will be best positioned to capitalise on future market opportunities.

5.3. Limitations and Future Research

While this study offers important insights, it is not without its limitations. First, the findings are based on two case studies in a specific geographical context, which may limit their generalisability to other regions or real estate markets. Additionally, the study focuses primarily on the early stages of business model innovation, and further research is needed to assess the long-term sustainability and profitability of the patterns identified.

Future research should explore the application of BMN patterns in other real estate contexts, including commercial and affordable housing developments, to assess their broader applicability.

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Moreover, as blockchain technology continues to mature, future studies could investigate the regulatory frameworks necessary for its widespread adoption in real estate and examine the long-term impact of tokenisation on property markets.

In conclusion, the BMN framework offers a powerful tool for driving innovation in the real estate sector, helping companies navigate the complexities of a rapidly changing market environment. Whether through enhancing customer experiences in traditional models or facilitating market access through tokenisation, BMN patterns can significantly improve value creation, operational efficiency, and scalability. As real estate companies continue to adapt to technological advancements and changing market dynamics, the strategic application of BMN patterns will be essential for ensuring long-term competitiveness and success.

Funding:
This work is the result of research carried out by the Permanent Educational Innovation Group 22-116 of the University of Malaga. It was funded and supported by the Vice-Rectorate for Academic Organisation and Teaching Staff of the University of Malaga. Training and Innovation Service.

References
[1] Saari A., Vimpari J., and Junnila S., "Blockchain in real estate: recent developments and empirical applications," Land Use Policy, vol. 121, pp. 106334, 2022, 10.1016/j.landusepol.2022.106334
[2] Nosratabadi S., Mosavi A., Shamshirband S., Zavadskas E.K., Rakotonirainy A., and Chau K.W., "Sustainable business models: a review," Sustainability, vol. 11, no. 6, pp. 1663, 2019, 10.3390/su11061663
[3] Ferreira F.S., "Blockchain for real estate: a systematic literature review," in Proceedings of the 29th International Conference on Information Systems Development, Valencia, Spain, 2021.
[4] Ekemode B.G., Olapade D., and Shiyanbola E., "Resolving the land title registration debacle: the blockchain technology option", The proceeding of Environmental Design and Management International Conference, Obafemi Awolowoo University, Ile-Ife, Nigeria, 2019.
[5] Joshi S. and Choudhury A., "Tokenization of real estate assets using blockchain," International Journal of Intelligent Information Technologies, vol. 18, no. 3, pp. 373-384, 2022, 10.4018/IJIIT.20220701.oa21
[6] Gassmann O., Frankenberger K., and Csik M., "The St. Gallen Business Model Navigator," Working paper, University St. Gallen, 2013.
[7] BMI.lab, Business Model Navigator, 2024. Retrieved from: http://businesmodelnavigator.com/explore
[8] Gassmann O., Frankenberger K., and Csik M., "The business model navigator: 55 models that will revolutionise your business", Pearson, UK, 2014.
[9] Burggräf P., Wagner J., Heinbach B., and Wigger M., "Design of a methodological framework for adaptive remanufacturing-based business models", Procedia CIRP, vol. 98, pp. 547-552, 2021.
[10] Feldmann C. and Rose O., "Additive manufacturing in community pharmacies: a framework for business model innovation", BMJ Innovations, vol. 7, no. 3, pp. 548-555, 2021, 10.1136/bmjinnov-2020-000601
[11] Karami M. and Madlener R., "Business model innovation for the energy market: joint value creation for electricity retailers and their customers", Energy Research and Social Science, vol. 73, pp. 101878, 2021, 10.1016/j.erss.2021.101878
[12] Weinberger M., Bilgeri D., and Fleish E., "IoT business models in an industrial context," At-Automatisierungstechnik, 2016, 10.1515/auto-2016-0019
[13] Nagy S., Mansour H., and Presser M., "Case study of IoT as a driver for business model innovation in the wind industry", IEEE World Forum on Internet of Things (WF-IoT) - Proceedings, 2018.
[14] Ramos M., "The dynamism of the property market puts the Costa del Sol on a par with the main European capitals", elEconomista.es, 2024.
[15] Yin R.K., "Case study research. Design and methods," Sage, London, 1989.
[16] Yin R.K., "End-to-end qualitative research," The Guilford Press, New York, 2011.
[17] Villareal O. and Landeta J., "The case study as a scientific research method in business and strategic management," XXI Congreso Anual AEDEM, Universidad Rey Juan Carlos, Madrid, 2007.
[18] Gassman O., Frankenberger K., and Choudury M., "The business model navigator: the strategies behind the most successful companies", FT Pearson, 2020.
[19] Morris M., Shindehutte M., and Allen J., "The entrepreneur's business model: toward a unified perspective," Journal of Business Research, vol. 58, no. 6, pp. 726-735, 2005, 10.1016/j.jbusres.2003.11.001

[20] Osterwalder A., "The business model ontology - a proposition in a design science approach," Universite de Lausanne, 2004.
[21] Van Tonder C., Schachtebeck C., Nieuwenhuizen C., and Bossink B., "Business model innovation success in the fourth industrial revolution", Proceedings of the European Conference on Innovation and Entrepreneurship (ECIE), pp. 1221-1228, 2021.

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 8, No. 6: 3465-3474, 2024
DOI: 10.55214/25768484.v8i6.2737