

Review Article

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Adaptation of Business Models in Innovative Startups: An Empirical Analysis within the LA START UP STATION Incubator

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ABSTRACT

This article examines how innovative startups adapt their business models in an environment marked by high uncertainty. Based on a case study conducted with companies supported by the LA START UP STATION incubator, the analysis highlights an iterative adjustment process relying on approaches such as Lean Startup, Effectuation, and Design Thinking. The results emphasize the importance of experimentation, market feedback, and strategic flexibility to ensure product-market fit.

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Introduction

The rapid evolution of markets and the inherent uncertainty in the entrepreneurial environment require startups to continuously adapt their business models. In this context, innovation goes beyond merely creating a product; it translates into the continuous revision of business hypotheses to meet the market's changing demands. Despite a growing number of theoretical studies on innovation, few empirical works have deeply examined the mechanism of business model adaptation in startups, and even fewer within the specific context of Morocco.

This article aims to fill this gap by analyzing the journey of a group of startups incubated at LA START UP STATION. The central research question is: **How do innovative startups adjust their business models to optimize product-market fit in an uncertain environment?** To address this question, we propose an analytical model based on the study of development phases, the design of a Minimum Viable Product (MVP), and the strategic adjustments made in response to customer feedback.

Theoretical Framework

This study builds on three major theoretical frameworks that underpin the adaptation of business models in innovative startups: Lean Startup, Effectuation, and Design Thinking. In addition, the concept of the business model itself is examined through seminal works that articulate its role in value creation and capture.

Lean Startup

Popularized by the Lean Startup methodology emphasizes rapid experimentation and validated learning as essential mechanisms for reducing uncertainty [1]. Ries argues that startups should develop a Minimum Viable Product (MVP) to test key hypotheses about market demand and value propositions, thereby minimizing the risk of overinvestment in unproven ideas. This approach

builds on earlier principles from agile development and iterative design, as discussed and has significantly influenced modern entrepreneurial practices by advocating for continuous feedback loops and quick adaptations.

Effectuation

Introduced by Effectuation offers a complementary perspective by focusing on how entrepreneurs leverage available means rather than starting with a fixed goal [2]. According to Sarasvathy, entrepreneurs engage in a process of affordable loss, co-creation, and leveraging contingencies to navigate uncertain environments. This framework emphasizes flexibility and resourcefulness, as further supported and explains how startups dynamically adjust their business models by forming strategic partnerships and exploring emerging market opportunities based on their existing capabilities.

Design Thinking

As articulated by Design Thinking centers on a human-centric approach to problem-solving and innovation [3]. It promotes deep empathy with users, rapid prototyping, and iterative testing to uncover latent customer needs. By encouraging cross-disciplinary collaboration and creative re-framing of challenges, Design Thinking enables startups to refine their offerings and adapt their business models in a way that resonates with market demands. Further elaborates on this process, highlighting its applicability not only in product development but also in evolving strategic business practices.

Business Model Literature

The concept of the business model has also been extensively theorized. Introduced the Business Model Canvas, a framework that dissects the core elements of a business model—such as value proposition, customer segments, channels, and revenue streams—into a coherent visual tool. Expanded on this by discussing the dynamics of business models as mechanisms for creating, delivering, and capturing value. Moreover, has argued

that continuous innovation and adaptation of the business model are critical for sustaining competitive advantage, especially in environments marked by rapid technological change and market flux.

Integration of Theoretical Approaches

By integrating Lean Startup, Effectuation, and Design Thinking with insights from business model literature, this study offers a comprehensive lens for understanding how innovative startups adjust their business models. This multifaceted theoretical framework underscores the iterative nature of innovation, the critical role of customer feedback, and the need for strategic flexibility in achieving and sustaining product-market fit. Together, these perspectives provide a robust foundation for analyzing the empirical data derived from startups within the LA START UP STATION incubator.

Methodology

Research Design and Approach

This study adopts a qualitative exploratory design, which is particularly suited for investigating complex phenomena where contextual understanding is paramount. Given the dynamic and uncertain nature of startup environments, the case study method was chosen to allow an in-depth examination of how innovative startups adapt their business models over time. The use of multiple data sources not only enriches the analysis but also enhances the validity and reliability of the findings.

Sample Selection

A purposive sampling technique was employed to select cases that are highly relevant to the research objectives. The sample consists of four startups that are currently incubated at LA START UP STATION. These startups were chosen based on their demonstrated commitment to continuous innovation and business model adaptation. Their diverse profiles and stages of development provide a comprehensive view of the iterative adaptation process in different market conditions.

Data Collection Methods

To capture the multifaceted nature of business model adaptation, a triangulation of data sources was used:

Semi-Structured Interviews

- In-depth interviews were conducted with founders, CEOs, and strategy managers of the selected startups.
- An interview guide was developed based on the research questions and theoretical frameworks (Lean Startup, Effectuation, Design Thinking).
- Interviews were audio-recorded, transcribed verbatim, and later analyzed for recurring themes and insights.

Document Analysis

- Relevant internal documents, including business plans, progress reports, strategic planning documents, and performance dashboards, were collected.
- These documents provided additional context regarding the evolution of each startup's business model and the strategic decisions underlying major adaptations.

Participant Observation

- Observations were made during strategic meetings, prototyping sessions, and other collaborative events within the incubator.
- Field notes were recorded to capture non-verbal cues, decision-making dynamics, and interactions among team members, offering an additional layer of insight into the adaptive processes.

Data Analysis Procedure

Data analysis was conducted using NVivo software to facilitate the systematic coding and categorization of qualitative data. The analysis followed these steps:

Transcription and Initial Coding

- All interviews and observation notes were transcribed and imported into NVivo.
- A preliminary coding framework was developed based on the theoretical constructs and research questions. This framework was refined iteratively as new themes emerged during analysis.

Thematic Analysis

- A thematic analysis approach was applied to identify recurring patterns and key themes across the data. Major themes included stages of adaptation, feedback integration, resource mobilization, and strategic adjustments.
- Cross-case analysis was performed to compare and contrast the adaptation processes across the four startups, allowing for the identification of commonalities and differences in their approaches.

Validation and Triangulation

- The use of multiple data sources (interviews, documents, and observations) ensured methodological triangulation, which enhanced the credibility of the findings.
- Member checking was employed by sharing preliminary findings with a subset of participants to verify the accuracy and resonance of the interpretations.

- **Example From Interviews:** One founder stated, "We noticed a latent need among users for a simplified solution that was not yet exploited by our competitors."

Key Factors Identified

- Creativity and the willingness to challenge the status quo.
- The use of professional networks to access market information.
- The influence of the effectuation approach, which enables the utilization of existing resources to explore opportunities.

Phase of MVP (Minimum Viable Product) Design

Following the identification of an opportunity, startups develop a prototype or MVP to quickly test their hypotheses.

- **Example From Observations:** In several cases, teams organized intensive prototyping sessions followed by tests with a small panel of users.

Notable Results

- Entrepreneurs emphasize the importance of launching a simplified version of the product to obtain immediate feedback.
- The MVP is seen as a validation tool that guides future decisions based on the feedback received.
- Rapid iteration of the MVP, leveraging direct feedback, confirms the relevance of the Lean Startup approach.

Phase of Market Launch and Testing

Once the MVP is developed; startups proceed with a limited-scale launch to test the alignment between their offering and the market.

- **Example From Document Analysis:** Progress reports indicate a systematic collection of data on product usage and customer satisfaction.

Highlighted Elements

- Collection of feedback through surveys, interviews with early users, and performance metrics (KPIs).
- Rapid and regular adjustments are made based on the feedback; for instance, several companies modified features or refined their value propositions in response to constructive criticism.
- The adoption of a continuous experimentation model allows for the recalibration of commercial and marketing strategies.

Phase of Growth and Strategic Adjustment

As the product stabilizes in the market, startups enter a growth phase characterized by continuous strategic adjustments to their business model.

- **Example From Interviews:** A strategy manager explained, “Our business model is continuously evolving, especially in terms of distribution and partnerships, to stay aligned with market developments.”

Key Observations

- Regular reviews of performance indicators and market analysis are conducted to identify areas for improvement.
- Integrating customer feedback into strategic decision-making becomes a common practice.
- Organizational flexibility and a culture of innovation enable rapid adaptation of the business model to emerging opportunities or threats.

Cross-Cutting Synthesis

The data collectively demonstrate that business model adaptation is an iterative, non-linear process. Startups benefit from an integrated approach that combines Lean Startup, Effectuation, and Design Thinking principles, allowing them to transform uncertainty into learning opportunities.

Determinant Factors

- The speed of feedback cycles and the organization’s capacity for learning.
- Efficient mobilization of available resources.
- Emphasis on experimentation and continuous validation of business hypotheses.

These results underscore that the success of business model adaptation primarily depends on an agile and flexible approach that is user-centric and oriented toward continuous improvement, thereby better responding to the fluctuating market demands.

Discussion

The findings of this study highlight the iterative and non-linear nature of business model adaptation in innovative startups. Our data demonstrate that startups do not simply implement a fixed strategy; rather, they engage in continuous cycles of experimentation, learning, and adjustment a process well-aligned with the theoretical perspectives of Lean Startup, Effectuation, and Design Thinking.

Interpreting the Empirical Findings

The four distinct phases ideation, MVP design, market launch, and strategic adjustment underscore how startups move from conceptualizing opportunities to continuously refining their business models. The initial phase of ideation and opportunity identification illustrates that creativity and a proactive approach to detecting weak market signals are critical. This aligns with concept of effectuation, where entrepreneurs leverage available resources and networks to co-create opportunities rather than waiting for

a well-defined market need. Moreover, the rapid development and iteration of an MVP reinforce the principles advocated by emphasizing that early testing is crucial to validate assumptions and minimize risks.

The phase of market launch and testing revealed that systematic feedback mechanisms, such as customer surveys and performance metrics, are essential for recalibrating the business model. The iterative adjustments based on direct user feedback demonstrate that startups convert uncertainty into actionable insights, thereby fostering a culture of continuous improvement. Finally, the growth phase shows that strategic adjustments are not isolated events but part of an ongoing process where startups continuously evolve their value proposition, distribution channels, and partnerships. This dynamic process resonates with the ideas of the importance of evolving business models in response to environmental changes.

Theoretical Implications

Integrating the perspectives of Lean Startup, Effectuation, and Design Thinking offers a robust framework for understanding business model adaptation. While Lean Startup provides a structured approach to rapid prototyping and iteration, Effectuation introduces a flexible mindset that leverages available means and embraces uncertainty. Design Thinking contributes by ensuring that the process remains human-centric and focused on user needs. Together, these frameworks provide empirical support for the notion that business model innovation is not merely about new product development but about continually aligning the value proposition with market demands.

Our findings suggest that the convergence of these approaches enables startups to remain agile, allowing them to adjust quickly in response to both internal dynamics and external market fluctuations. This convergence highlights the need for further theoretical exploration on how these frameworks interact in practice and influence the long-term sustainability of startups.

Practical Implications

From a practical standpoint, the study reinforces the importance of establishing robust feedback loops. Startups should invest in systems that facilitate the rapid collection and analysis of customer data. Moreover, fostering a culture that values experimentation and learning can help organizations adapt more quickly to unforeseen challenges. For instance, regularly scheduled reviews of performance indicators and market trends can serve as early warning systems, enabling strategic pivots before market conditions deteriorate.

Furthermore, our study underscores the value of interdisciplinary collaboration. By integrating diverse perspectives—from engineering to marketing—startups can generate more innovative solutions and better anticipate market shifts. This collaborative approach not only improves the speed of adaptation but also enhances the overall resilience of the organization.

Limitations and Future Research Directions

Despite the rich insights provided by this study, several limitations must be acknowledged. The small sample size and the specific context of the Moroccan startup ecosystem may limit the generalizability of the findings. Additionally, the qualitative nature of the research, while providing depth, may not capture all nuances of the adaptation process. Future research could address these limitations by employing a mixed-methods approach or expanding the sample to include startups from different geographical regions and industries.

Moreover, longitudinal studies would be valuable to observe how business model adaptations evolve over time and to determine the long-term impact of these iterative processes on startup success. Investigating the interplay between internal organizational factors and external market forces in different contexts could also provide further insights into the mechanisms driving business model innovation [4-7].

Conclusion

This article has highlighted the complex process of adapting business models in innovative startups. Through an in-depth empirical analysis conducted with companies from the LA START UP STATION incubator, we have demonstrated that iteration, customer feedback, and the integration of agile methods are essential levers for transforming uncertainty into a competitive advantage.

The implications of these findings are manifold for practitioners: it is crucial to establish an experimentation culture, adopt performance measurement tools, and promote flexible innovation management. For researchers, this study paves the way for further quantitative and comparative investigations in different geographic contexts.

Ultimately, the adaptation of business models appears as an

indispensable approach to ensure the sustainability and growth of startups in an ever-evolving economic environment.

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