

Research Article**Strategic Experimentation Mechanisms of Business Model Innovation in Youth-Led New Ventures under Uncertainty**Huanchao Xia^{1,*}¹Monash Business School, Monash University, Caulfield East 3145, Australia***Correspondence:** Huanchao Xia, huanchaoxia200007@163.com

© The Author(s) 2026.

This article is published by Wisdom Academic Press Ltd. under a Creative Commons Attribution 4.0 International License. The license permits use, sharing, adaptation, distribution, and reproduction in any medium or format, provided that appropriate credit is given to the original author(s) and the source, a link to the license is supplied, and any modifications are indicated. Unless otherwise stated, all images and third-party materials included in this article are also covered by the same license. For any material not covered by this license, if the intended use is neither permitted by applicable law nor allowed under the license terms, direct permission must be obtained from the copyright holder. To view a copy of this license, please visit <http://creativecommons.org/licenses/by/4.0/>.

Abstract

The objective of this study is to investigate how startups founded by young entrepreneurs utilize strategic experimentation to manage uncertainty and drive business model innovation during their formative stages. Existing scholarship addresses experimentation either as an abstract theoretical construct or as discrete pivots, yet the process through which young entrepreneurs constrained by limited resources move from one pivot to the next remains inadequately theorized. This qualitative multiple-case study uses data from six ventures founded by youth and specializing in various spheres, namely, in building digital platforms, developing consumer technologies, and pursuing green entrepreneurship, acquired from sources like Crunchbase, CB Insights, company web pages, interviews with founders and mainstream media and transformed into cases through the application of a three-step approach based on the Gioia's method. It was found out that the six cases are characterized by three types of uncertainty and there is the mechanism which facilitates movement through articulation, minimal-cost probing, and redirection depending on the results of previous rounds, the latter being of great importance for this analysis because it triggers a new cycle of articulation. The three dimensions - value proposition, value creation, and value capture - are identified as the areas where business model is subject to revision in the course of the described process, which is considered to be cyclic. The findings of this study contribute middle-range perspectives to the current body of research concerning business model innovation which should be beneficial for incubators, accelerators, and policymakers.

Keywords

Youth entrepreneurship, Strategic experimentation, Business model innovation, Uncertainty, Qualitative case study

1. Introduction

1.1. Background: Youth Entrepreneurship in a VUCA Environment

In an environment characterized by volatility, uncertainty, complexity, and ambiguity (VUCA), the young entrepreneur operates in a situation where the variables necessary for the development of a sustainable venture become unpredictable. Shifts in demand occur even before the introduction of the product, innovation and obsolescence coexist, and institutional arrangements that could have shielded the venture from danger while in its developmental stages fail to appear on time or emerge altogether. Given this situation, it becomes paradoxical to rely on the conventional recommendation of developing a strategy based on extensive market analysis, leading experts to argue that, under these circumstances, strategy formulation is best understood as a process of constructing and reconstructing a business model rather than positioning the venture strategically within a mature industry (Lanzolla & Markides, 2021).

More than the problem indicated in the conventional literature on uncertainty in relation to emerging firms is the process of decision-making under uncertainty. Conventional literature on decision-making under uncertainty operates on one of two assumptions: either the probability decision-making assumption whereby predictions are made notwithstanding the problems, or the ignorance assumption whereby any predictions cannot be made, but actions can be taken anyway. In contemporary literature on entrepreneurship, uncertainty is not only a state of affairs but also a consequence of entrepreneurship; therefore, inability to predict is not seen as a problem that should be solved, but rather as an inherent problem that needs engagement (Sarasvathy, 2023).

1.2. Literature Review and Research Gap

Conceptualization in terms of business model innovation has made great strides over the past decade and now offers a relatively well-grounded basis for examining the dynamics of organizational efforts to design and adjust their desired value architectures. Research themes in terms of business model innovation and intellectual development can be divided into two categories: cognition-related features that underlie the development of business models and learning-related aspects that facilitate the creation of innovative models in change-oriented environments (Snihur & Eisenhardt, 2022). The study of the evolution of conceptual understanding within the domain reveals a trend towards overcoming the limitations of the static nature of analytical tools traditionally used to depict business models in favor of a more sophisticated lexicon that could better answer questions about the development process itself

rather than merely describe its outcome (Snihur & Markman, 2023). Namely, the notion includes three components, including the design of individual parts of the model, value appropriation through the use of said parts, and contradiction management between innovation and the old paradigm. In this context, the most challenging aspect of engaging in business for newcomers is value appropriation, which demands the creation of a complete ecosystem (Snihur, Zott, & Amit, 2021).

The other research direction has been the study of experimental activities in new ventures. It is based on the assumption that entrepreneurs' decision-making becomes easier if they work like scientists, testing hypotheses, not managers implementing strategies. Thus, developing the theoretical framework in such a direction, one may suggest that to be scientific does not only imply conducting tests but includes a balanced combination of theorization and data gathering, separating scientific experimentation from random experimenting (Felin, Gambardella, Novelli, & Zenger, 2024). Theoretically speaking, the connection between the topic of business models and the theory of lean startup is discussed in terms of both approaches sharing the logic of systematic discovery, although their scopes differ because the business models field advances the discovery principle from product-market fit towards a more holistic understanding of the complete value creation system (Zott & Amit, 2024). Empirically, there are several cases in the literature concerning experiments in the digital industry that describe agile startups employing lean thinking in order to render their business models flexible by using experimentation techniques (Ghezzi & Cavallo, 2020). Overall, the theoretical literature on the subject under discussion presents a fairly clear image both of experimentation practices and of how they should be connected to business models; however, it fails to elaborate on the actual process of changing the assumptions of business models. Adjacent streams of scholarship on entrepreneurial learning, effectuation, and resource bricolage offer complementary lenses that could illuminate the experimentation process, since each tradition foregrounds how entrepreneurs act under uncertainty with limited resources by improvising, leveraging contingencies, and recombining available means rather than optimizing toward predetermined goals (Sarasvathy, 2023; Baker & Nelson, 2005). Despite their relevance, these perspectives have rarely been integrated with the business model innovation literature in the specific context of ventures founded by young entrepreneurs, leaving a theoretical gap that the present study seeks to narrow.

This is not because of any neglect of the subject matter, but it happens due to the challenge that existing stories are told at an extremely high or extremely low level, which does not help understand the functioning of the mechanism. At a high level, one can appreciate the significance of experimentation and articulate the guidelines for conducting the

experiment. At a lower level, one may find the pivots that companies make, but fail to understand the logic behind it. What is required here is an intermediate approach that would illustrate how various facets of experimentation are put together over time in firms headed by younger, more resourceful, and differently cognitively inclined entrepreneurs.

1.3. Research Questions and Significance

The current investigation aims to construct a mechanism at an intermediate level of abstraction that addresses the underexplored role of strategic experimentation in coping with uncertainty during the formative development of business models in new ventures founded by young entrepreneurs. The focus on youth-led ventures is not arbitrary and should be considered as both demographic and substantive in nature. Specifically, the lack of resources, the absence of strong networks, and cognitive openness of young entrepreneurs have a significant impact on the process of experimentation and require specific consideration. In previous studies, dynamic capabilities have been shown to mediate the relationship between organizational influence and business model innovation in digital contexts. This means that the capability for efficient experimentation depends on certain capabilities that, in turn, depend on the identity and involvement of entrepreneurs (Soluk, Miroshnychenko, Kammerlander, & De Massis, 2021). Finally, the current research is motivated by the increasing amount of literature devoted to studying business model innovation at different organizational levels. Namely, in this field, there is evidence that a shift from focusing on business model innovation at the organizational level to innovation at the level of alliances results in a fundamental change in how innovations in business models are analyzed (Spieth, Laudien, & Meissner, 2021).

Two questions will be posed in order to guide the investigation. The first question pertains to how the process of experimentation carried out by the youth-run enterprises is in response to the uncertainty due to the technologies, markets, and resources encountered in the pursuit of their business models. The second question relates to how the experimentation process is linked to the dimensions used to refine the business models. It is unique in addressing the mechanisms linking the theoretical literature on business model innovation with youth entrepreneurship.

2. Data and Methods

2.1. Research Design and Methodological Choice

The central research question of the article relates to the repeated experiments of young entrepreneurs while developing a successful business model amid the state of everlasting

uncertainty. Research questions of this kind are concerned with the process rather than its results, thus requiring an appropriate methodological approach to conduct research. Specifically, the methodology should be capable of recording the sequence of moves and countermoves occurring throughout the process. The multiple case study design was used due to its conformity with the analysis of innovations in business models since it is a quite long procedure (Berends, Smits, Reymen, & Podoynitsyna, 2016). Its strength derives from the proximity of the researcher to the language and time factor of entrepreneurship decisions.

Rather than making an attempt at comprehensively investigating the landscape of youth entrepreneurship venture endeavors, this study aims to examine six cases to establish if there is indeed a trend. In case studies, qualitative data gets its validity from depth and not width; thus, making unsubstantiated claims will add very little value to this paper. The objective is not necessarily proving that all youth entrepreneurs follow this approach while experimenting, but simply explaining how it is done.

It is important to note that the present study is a qualitative inquiry and does not rely on statistical analysis, inferential testing, or quantitative reporting of effect sizes. The sampling strategy is theoretical rather than probabilistic, prioritizing analytical validity over statistical representativeness, which means that the findings are intended to be transferable through analytical generalization rather than statistically generalizable to a broader population. The implications of this design choice for case selection, including the visibility constraints inherent in relying on publicly documented ventures, are discussed in Section 2.2.

2.2. Case Selection and Public Data Sources

Cases selection was done through a process known as theoretical sampling, whereby the focus of the study is on the analytical validity as opposed to statistical validity. Criteria used for case selection entailed three conditions: (a) entrepreneurs being under thirty-five years old upon establishing their enterprises; (b) the enterprise having been established less than five years prior to data collection; and (c) visible evidence of at least one change in their business models within the early stages of operation of their ventures. A total of six organizations were selected in line with these conditions and further analysis done. They are drawn from three different sectors including digital platforms, consumer technology, and environmental entrepreneurship sectors. Uncertainties are experienced in these industries, and data concerning organizations operating in the recent past is easily accessible.

The intentional restriction to using only freely accessible and unfiltered data was one of the design decisions made during the study. There were five sources that I used when conducting my triangulation of the data. They included baseline data on the Global

Entrepreneurship Monitor aggregated at the level of individual ventures within their entrepreneurship ecosystems. Information about the funding, teams, and product information was taken from Crunchbase. The sectoral context and case post-mortem were found in public reports by CB Insights. Information about the company pivots, repurposing, and feature changes was collected in the websites and product blogs of each company. First-person founder interviews available via YouTube videos, podcasts, and TED-style interviews helped me construct the narrative about key events in the cases.

A summary of the six cases, including founding year, founder age range, sector, primary and secondary uncertainties faced, and the principal categories of public sources consulted for each, is presented in Table 1.

Table 1

Profile of the Six Youth-Led New Ventures, Primary Uncertainties, and Public Data Sources

Case ID	Sector	Founding Year	Founder Age at Founding	Primary Uncertainty	Secondary Uncertainty	Public Data Sources Consulted
V1	Digital Platform	2021	27	Market	Resource	Crunchbase; CB Insights; <i>TechCrunch</i>
V2	Digital Platform	2022	24	Market	Technological	Crunchbase; venture blog; <i>Forbes</i>
V3	Consumer Technology	2021	29	Technological	Market	Crunchbase; CB Insights; <i>36Kr</i>
V4	Consumer Technology	2022	29	Technological	Resource	Crunchbase; founder talk; <i>TechCrunch</i>
V5	Green Entrepreneurship	2021	33	Resource	Market	Crunchbase; CB Insights; <i>Forbes</i>
V6	Green Entrepreneurship	2023	26	Resource	Technological	Crunchbase; venture website; <i>36Kr</i>

Note. All cases meet the inclusion criteria specified in Section 2.2: founders under thirty-five at the time of founding, ventures established within the past five years, and observable evidence of at least one substantive business model adjustment during the early life of the venture. Cases are headquartered across three regions (North America, Europe, and East Asia), with two ventures based in each region. Documented business model adjustments per venture ranged from two to six, providing sufficient material for the selection of three experimentation events per case (eighteen events in total) for the in-depth coding analysis described in Section 2.3.

The sampling procedure is oriented at ventures having enough visibility to produce a relevant amount of paper trail and therefore excludes very new and covert ventures.

2.3. Coding Procedure and Identification of Experimentation Events

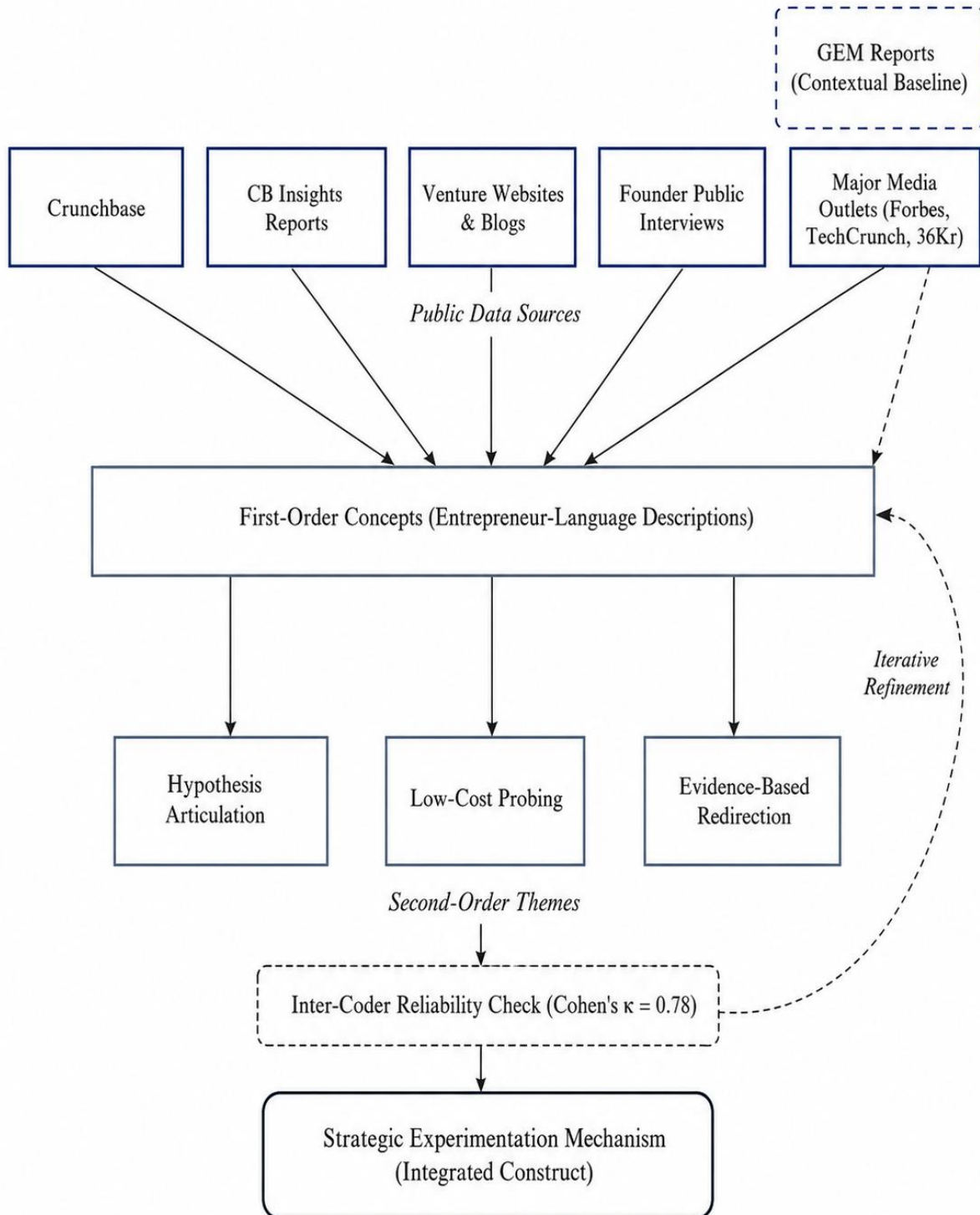
The coding itself was done in three waves of coding, following closely the approach pioneered by Gioia, which has gained traction in the process study of business models due to its capability of minimizing interpretive leaps while keeping all nuances of the data. First-order concepts were generated during the first wave of coding, and these concepts remained tied closely to the language of the entrepreneurs, reflecting what they sought to achieve, what failed and what prompted their shift of direction. Second-order categories included concepts such as “hypothesis formation,” “cheap probing,” and “data-driven redirection.”

The unit of analysis is the experimentation event, which refers to the one-time occurrence where the entrepreneur firm hypothesized a particular idea regarding the business model, tested it through a sample, and acted upon the findings of the experiment in question. Determining such occurrences was done through triangulation of time references among multiple sources as the reconstruction of entrepreneurial stories by interviewees tended to oversimplify the actual, rather repetitive process evident in the product blog posts and the contemporary news reports. Experimentation events included three per each entrepreneur firm, ensuring that these covered distinct moments within the development trajectory of the firm instead of being confined to one point in time, thereby totaling eighteen events. Two separate researchers coded a randomly selected portion of data, resolving any disagreements prior to carrying out the coding of the remaining data set. Inter-rater reliability was determined at 0.78, as evaluated through Cohen’s Kappa for the sample, indicating good consistency as required in qualitative research. NVivo 14 software was employed to develop the codebook and pull quotes from different cases to validate the emerging themes cross-case.

The entire procedure of analysis involving interaction among the data sources, experiment detection, and finally building the mechanism is covered in Figure 1.

Figure 1

Analytical Workflow from Public Data Sources to the Construction of the Strategic Experimentation Mechanism



In other words, the methodology outlined above could not be considered linear since many iterations had to be completed with regards to some second-order categories and first-order themes based on the creation of dimensions. This was necessary in order to avoid simplifying the process of theory development and thereby distorting the process of identifying patterns.

3. Results

3.1. Types of Uncertainty Facing Youth-Led New Ventures

The initial analysis of the eighteen performed experiments identified three kinds of uncertainty that all six businesses experienced consistently while building their models at the beginning stage. First, there was technological uncertainty, and in case of its existence, the entrepreneurs did not have any certainty about what exact technology or basis they would rely on, as these factors were constantly shifting according to platform changes, regulation needs, and conditions of the suppliers. Moreover, market uncertainty was another kind of uncertainty experienced by the business owners, as it was related to the uncertainty regarding what exact target audience would be interested in buying the product, as the anticipated customer segment differed greatly from the real one that was using the product. Finally, resource uncertainty was another uncertainty experienced by each business venture, as it was impossible to predict when the needed fundraising would occur or whether certain individuals would join the venture. The analytical separation of resource uncertainty from technological uncertainty adopted in this study is pragmatic rather than ontological; under a broad view of organizational resources, technological knowledge may constitute a resource in its own right, yet the fundamentally different coping strategies that these two categories elicited across the six ventures justified their treatment as distinct analytical categories for the purpose of mechanism identification.

Types of uncertainties also varied in their relative relevance among industries depending on the kind of uncertainty one could reasonably expect due to the characteristics of individual industries. Digital firms needed to confront market uncertainties because the existence of a platform depends on solving coordination problems whose resolution is possible only after achieving a certain critical mass of users. Entrepreneurial ventures related to consumer technologies were more affected by technological uncertainties in light of uncertainties regarding whether the development period for software-hardware will meet expectations as well as uncertainties regarding the rapidity with which component prices will drop to enable the economics. Firms involved in green entrepreneurship exhibited high degrees of resource uncertainties since they required access to specific suppliers and grants, which were dependent on institutions with cycle periods exceeding those that could be handled by the entrepreneurs.

Table 1 demonstrates a fascinating phenomenon in which the venture did not go through just one uncertainty at a time. The significance of these uncertainties in relation to the analysis is that the experimentation procedures that arose were not associated with one single uncertainty alone, but rather with attempts to cope with all uncertainties at once.

3.2. The Three-Stage Strategic Experimentation Mechanism

The behavior patterns observed across all eighteen ventures analyzed here led to the identification of three stages which, when combined, comprised the experimentation strategy required for the success of each venture. The first stage entailed formulating a verifiable hypothesis about the business model, where the founders translate their abstract knowledge about value creation or customer behavior into a tangible construct with verifiable implications. The second stage entailed carrying out a low-cost experiment that tested the hypothesis, where low-cost means were used such that if the initial findings suggested otherwise, the experiment could be halted early on, with the mode of experimenting dependent on the nature of uncertainty targeted by the hypothesis. Finally, the third stage entailed interpreting the findings obtained from the experiments and determining whether to retain the same configuration, switch to another configuration, or abandon the whole configuration entirely, with switching being far more frequent than retaining or abandoning.

From an analysis of cross cases, it becomes clear that the probing stage is the one which is known to be the most visible of the three stages in all the eighteen events under study. This is because the probing stage has been well documented in almost all the cases under study with respect to the activities carried out during the period. However, articulation tends to be cut short at times in the source materials since the entrepreneur may have moved beyond the point in question and may therefore need to provide explanations in subsequent interviews. Interpretation tends to occur implicitly in the form of product decisions that have been made following the previous interpretation.

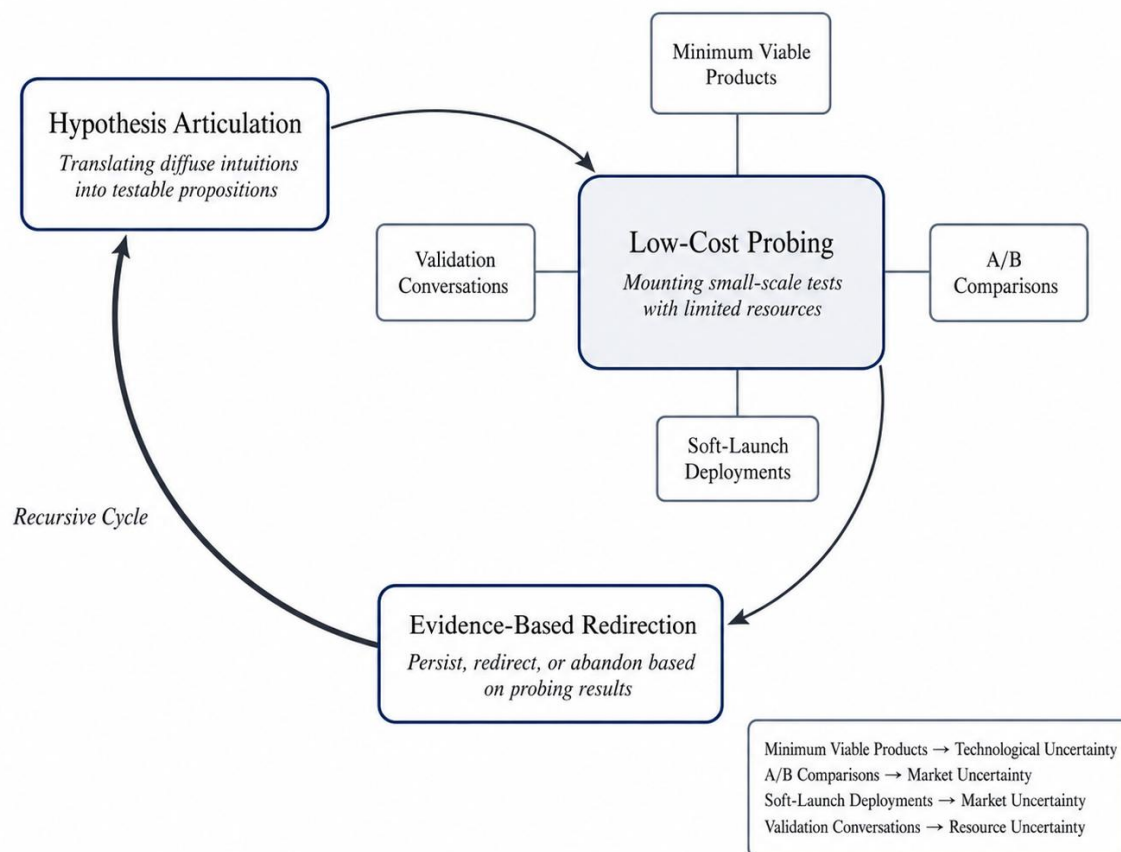
It follows from the data presented that the tools used to implement probing include the provision of minimum viable products to targeted customers, conducting an A/B test of various business model configurations and pricing schemes, performing regional soft launches limited geographically, and conducting validation discussions via communication channels that could be used by entrepreneurs. The selection of the specific tool was determined by the kind of uncertainty entrepreneurs experienced. In case of technology uncertainty, minimum viable products were selected as the main tool, in case of market uncertainty - A/B tests or soft launch, and, finally, in case of resource uncertainty, validation discussions which, at the same time, were a means of relationship management. Although both A/B testing and soft launch served as probing instruments under conditions of market uncertainty, their applicable scenarios differed in that A/B testing proved more suitable for isolating the comparative effect of a single variable such as a pricing tier or feature configuration, whereas soft launch enabled the ventures to assess the integrated performance of a complete product offering within a

geographically restricted real market environment without requiring random group assignment.

As seen from Figure 2 below, there is a relationship between these three stages and the way they were analyzed during the cross-case analysis. The relationship between the three stages shown in Figure 2 can be said to be not linear, but recursive in nature, because the information gathered during the decision-making process becomes part of a hypothesis generation.

Figure 2

The Three-Stage Strategic Experimentation Mechanism Observed across Eighteen Events in Six Youth-Led New Ventures



First, the presence of an arrow showing a redirect to the articulation stage indicates that while a successful experimental session rarely ends the entire research process, it normally means that the research question is modified to create a new form of it. The importance of such redirects is highlighted by their high prevalence throughout the presented cases. Second, the area surrounding the probing phase highlights the number of techniques available for it.

3.3. Dimensions of Business Model Innovation Triggered by Experimentation

However, it should be taken into account that the test was performed in the process of a certain series of events which had implications for other changes regarding business models used in these ventures. In order to assess how the business model has been changed, all of the eighteen experiments were assessed one more time to determine the extent to which the dimensions of the business model have been transformed as a result of the test procedure. The value proposition dimensions underwent adjustments in terms of changing the value promised to consumers with regards to positioning it to a different customer segment, reframing the issue which the solution to the offered by the company, as well as incorporating/excluding functions from the product. Value creation adjustments refer to the process which was modified in these businesses in terms of supplier involvement, internal/external divisions of labor, and partner involvement. Lastly, value capture transformations relate to modifications in the way value is captured by these ventures.

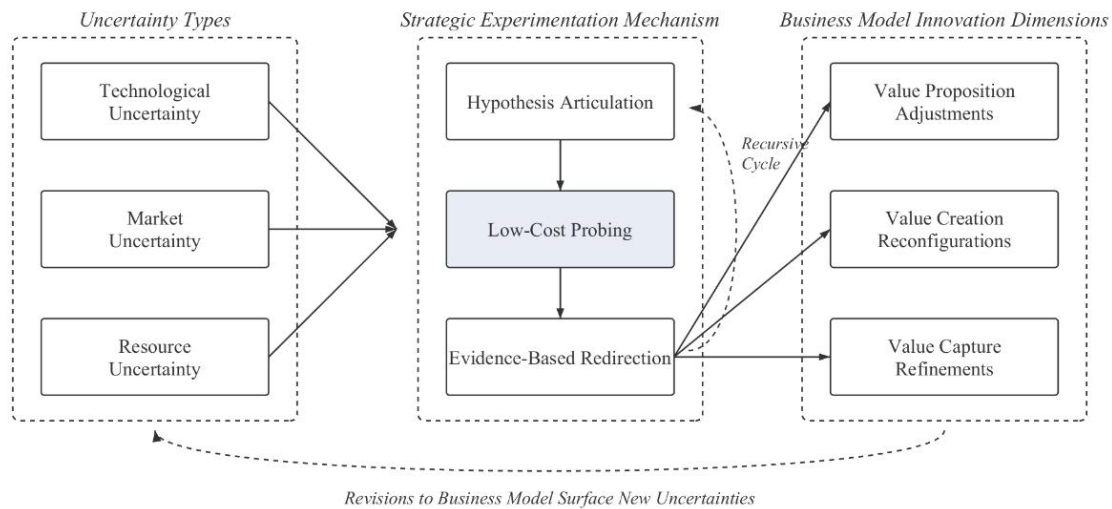
It is evident that there is a pattern in how revisions occur within each of the three dimensions which enables the formation of the integrated model, as stated below. Value propositions have been revised in fourteen out of eighteen cases considered. Likewise, value creation has been revised in eleven cases while value capture has been revised in seven cases. The overlap in these figures indicates that a single event causes revisions in multiple dimensions. The fewer number of revisions of value capture can be attributed to lack of resources, since revising prices and income involves the need for an already established clientele or tolerable disruption of income sources.

3.4. An Integrated Mechanism Linking Uncertainty, Experimentation, and Business Model Innovation

The aforementioned patterns clearly imply the need for using a more holistic approach, where the spirit of uncertainty plays a role in shaping the experimental design, while its outcomes decide on the changes within the business model dimensions, as illustrated in Figure 3.

Figure 3

Integrated Model Linking Uncertainty Types, the Strategic Experimentation Mechanism, and Dimensions of Business Model Innovation



The figure 3 summarizes the fundamental proposition behind the study. Two dashed boxes in the figure delineate the input and output domains of the mechanism respectively, with the three uncertainty types grouped on the left side and the three business model dimensions grouped on the right side, so as to signal that each domain operates as a coherent cluster whose components interact with the experimentation stages collectively rather than in isolation. The relationships between the uncertainty classes and the experimental phases indicate that each uncertainty class influences not only the selection of the experiment method but also the development of the initial assumption. By contrast, the arrows that begin from the phase of redirection and connect to the elements of the business model indicate that the change happens at points determined by the results obtained. The dashed arrow that originates from the business model elements and ends up at the uncertainty classes reflects a key discovery made through the analysis, which indicates that changing any element of the business model would create uncertainties within a different class, requiring further experimentation cycles.

4. Discussion

4.1. Theoretical Dialogue with Existing Scholarship

The three-stage framework presented in Section 3.2 forms the basis against which contemporary efforts to establish if entrepreneurs may benefit from being able to adopt a more scientific perspective on decision-making may be compared. In fact, a series of experiments involving hundreds of firms have proved that entrepreneurs trained to operate in

hypothesis-testing manner arrive at more accurate forecasts and abandon nonproductive avenues faster than entrepreneurs working without having received such a training (Camuffo, Gambardella, Messinese, Novelli, Paolucci, & Spina, 2024). Even if there is no discrepancy between the outcomes attained through experimentation and those achieved in this paper, nevertheless the findings reported here bring more clarity on a subject matter that can hardly be addressed in an experimental way. In other words, while the experimental literature is interested in proving the advantage of a scientific orientation of entrepreneurs in general terms, the empirical examples provided above explain the source of this advantage in ventures where the entrepreneurs have not received any scientific training and had relied on primitive devices to carry out tests. In turn, the suggested mechanism in Section 3.2 implies that the cognitive process induced by scientific training of entrepreneurs in experiments takes place – although in a less sophisticated way – in ventures where the entrepreneurs have not gone through scientific training but found themselves in the conditions where such training was crucial because of the uncertainty involved. The process of articulation serves as a substitute for the necessary hypotheses postulated in experiments but created in ventures run by youth intuitively.

The repeated nature of the procedure, depicted by the feedback arrow in figure 3, aligns with contemporary literature on pivot definition and pivot creation in entrepreneurship firms. An empirical examination of the pivot procedures involved in energy-related firms and clean tech businesses illustrates that the pivot process is not about making a one-time life-changing decision; it involves making a number of minor decisions that cumulatively create a pivot in hindsight (Kirtley & O'Mahony, 2023). The redirect phase discussed in the cases presented in this paper is no exception; rather, it is just a change of emphasis. Although prior field studies have considered increments as being the structure of a pivot, the cases analyzed in this paper illustrate that such increments are actually a consequence of the experimentation process, where each new decision creates its own story that forms the basis for subsequent articulation. Ultimately, pivots are a consequence of the experimentation process.

Apart from that, there is an area of research related to the way entrepreneurship experiments take place within new markets in the emergence phase when neither the dynamics of customers nor the competitive landscape can be fully understood yet. Extensive research of young companies within emergent markets proved the presence of the tendency for a parallel experiment with various business models until the winning model was selected out of all business models tested based on the performance of the company in its first sales experiences (McDonald & Eisenhardt, 2020). The youth-founded ventures studied in the current paper demonstrated a somewhat different trend. Rather than experimenting with

several configurations of a business model at once, these ventures experimented with several probes within a single business model configuration, each probe testing a certain hypothesis. Perhaps this approach was caused by the fact that, compared to other companies with capital reserves, the ventures considered here had limited financial resources, and experimenting with multiple configurations required not only funding but also personnel and other resources, which were scarce in youth-founded ventures. This statement does not imply that one method is superior to the other; in fact, the choice between the two methods seems to depend on venture resources.

The comparison with established ventures and those led by experienced entrepreneurs highlights several distinguishing features of experimentation in ventures founded by young entrepreneurs that warrant separate analytical attention. Ventures headed by older or more experienced founders typically possess stronger network ties and accumulated industry knowledge, enabling them to negotiate longer exploration windows with investors and to deploy multiple simultaneous business model configurations (McDonald & Eisenhardt, 2020). By contrast, the ventures examined in the present study exhibited a pronounced reliance on sequential probing within a single configuration, a pattern attributable not only to constrained financial resources but also to the absence of reputational capital that would permit stakeholders to tolerate parallel, and potentially conflicting, market signals. This resource asymmetry suggests that the mechanism identified in Section 3.2, while potentially applicable across entrepreneurial contexts, acquires its recursive intensity specifically because ventures founded by young entrepreneurs cannot afford the cost of abandoning an entire configuration and must instead redirect incrementally within the existing one.

The significance of relationships between the involved parties in the process of revising business models needs to be considered individually because those relationships are important for the cases under analysis. Studies into the process of forming new companies in their initial phase reveal that making a pivot results in an identity crisis with regard to the relation established by the entrepreneur with investors, partners, and early adopters because the pivot may imply betrayal of the very idea that has formed that relation (Hampel, Tracey, & Weber, 2020). However, the above-mentioned case study provides a more moderate example of the pivoting than what has been reported in other research papers on the subject. The reason for that can be seen not only in the approach adopted for revising the business model – a continuous and gradual process rather than a radical one – but also in the lack of stakeholder commitment in youth-oriented enterprises.

One more issue to mention about is that there are specific factors affecting the relationship between innovation in the business model and the company's performance, and

the meta-analysis found such contingency based on institutional characteristics of the country within which the business operates (Ilyas, Kammerlander, Turturea, & van Essen, 2024). It is not possible for this study to cover this issue because of the unavailability of the data necessary for comparison and meta-analysis of the findings. Nevertheless, it is possible to say that the experimental technique operates in a different manner in three industries studied in this paper: the institutional setting for the green entrepreneur venture hinders the speed of the experiment, whereas the same setting helps to accelerate iterations in the digital platform sector.

4.2. Theoretical Contributions and Practical Implications

The contributions of the study can be found in explaining the process of experimentation, which, despite being clearly explained both theoretically at the high level of its principle and practically at the low level of its instantiation, lacks sufficient explanation in between. The current paper, by locating the practice of experimentation between the principles of scientific methodology on the one side and the stories of pivoting on the other side, has succeeded in providing language that allows scholars to compare the experimental practices in different ventures, sectors, and resource profiles while retaining the richness of detail typical of case studies.

The other important consideration is the analytical character of the crisis as an experimental environment. As shown by the results of the latest study, the adoption of pivoting by Italian firms dealing with the shock induced by the coronavirus epidemic has been viewed as a response to acute crises, indicating that experimentation becomes more frequent amid drastic environmental shifts (Sanasi & Ghezzi, 2024). Instead of assuming that the existence of acute crises will drive the young entrepreneurs studied here to conduct more experiments, the analysis proves that they were working in a state of chronic uncertainty and experimentation was an essential element of their business model. Such evidence suggests that the relationship between environmental shock and entrepreneurial behavior should be analyzed differently, as the search for the reasons for experimentation should give way to the exploration of its sustainability determinants.

The practical implications of the mechanism lie in the way its recursion process works. For young entrepreneurs, the practical implication is that building a business model should not focus as much on determining its optimal initial state as ensuring that its articulation, exploration, and redirection take place continuously over a period spanning many years to come. From the viewpoint of incubators, accelerators, and suchlike organizations, the implication is that the most effective policy should be one that reduces the cost of exploration

rather than enhances the quality of initial business plans, since the effectiveness of the mechanism depends on the low cost of exploration rather than on its initial state. As far as policymakers are concerned, the implication is that a business environment where continuous minor alterations to a business model during its early stages are possible would prove more fruitful in producing successful business models than one where only a fixed plan will suffice for gaining assistance, although this conclusion requires confirmation through particular researches within the field of policymaking. In more concrete terms, incubator programs could allocate a portion of their seed funding specifically to probing activities conducted at minimal cost, such as minimum viable product testing and regional soft launches, rather than requiring cohort participants to present fully developed business plans at entry. Accelerators, for their part, could structure mentorship around the articulation and redirection stages by pairing young entrepreneurs with advisors who possess experience specific to the relevant uncertainty type. Policymakers designing youth entrepreneurship support schemes could consider replacing rigid disbursement criteria tied to predetermined milestones with adaptive evaluation frameworks that reward documented learning from experimentation, thereby aligning institutional incentives with the recursive logic of the mechanism described in this study. Beyond the direct implications for entrepreneurial practice and policy, the findings carry broader societal significance insofar as they illuminate a pathway through which young individuals operating under conditions of elevated uncertainty can generate economic value and create employment opportunities without requiring the extensive institutional backing that is typically available only to more established ventures. Enabling experimentation by young entrepreneurs at scale has the potential to reshape public perceptions of young entrepreneurship from an endeavor associated with elevated risk to a legitimate developmental process, which in turn may encourage greater institutional investment in youth ventures at their earliest stages and contribute to more inclusive innovation ecosystems.

4.3. Limitations and Future Research

It must be stressed that visibility bias is generated by the fact that the current research is dependent on open access information. Enterprises that have little documentation because they have not left many traces or simply went into hiding after being founded are not considered in the research. Therefore, it is worth stressing that this mechanism works only for enterprises that have high visibility, leaving traces for further research. Since there is a relatively small sample in this particular piece of work, namely, six enterprises from three different industries, the confirmation of results is limited due to the fact that it is impossible to define the framework of the mechanism through the analysis of six cases only. There is room

for improvement regarding further studies, as they may utilize longitudinal research design for studying the evolution of enterprises throughout experiments they undertake; cross-cultural analysis for investigating the effect of this mechanism in another culture; and quantitative confirmation of mechanism's predictions. Such quantitative follow-up studies could employ survey instruments administered to a larger and more representative sample of ventures founded by young entrepreneurs in order to test whether the mechanism comprising three stages and its recursive properties hold beyond the exploratory boundaries of the present qualitative design.

5. Conclusion

The current research explores how strategically experimenting serves as a tool employed by startup enterprises established by young entrepreneurs when trying to tackle uncertainties that emerge during their development of business models. Based on the research design of multiple case studies, this study revisits eighteen strategic experiments conducted by six enterprises operating within areas of digital platforms, consumer technologies, and green entrepreneurship. Three different forms of uncertainties typical of these firms have been distinguished. Furthermore, a three-stage approach to creating assumptions concerning the business model, testing them at a relatively low cost level, and updating them according to the findings has been described. Specifically, the probing stage has received the most attention, whereas inputs from the redirection stage help articulate the business model further. Business models resulting from these changes develop unevenly depending on value propositions, value creation, and value capture perspectives. However, changes to the latter remain insignificant due to resource constraints.

One of the important contributions of this paper is the description of one middle-range mechanism that was underestimated during previous explorations into business model innovation and entrepreneurial experimentation. As the current analysis reveals, even though cognitive scaffolding, which is the common outcome of science education in general, emerges in the form of informal practice, it arises quite spontaneously, yet incompletely, in youth-led ventures due to their inherent position to perform probing, rather than planned, experimentation. The recursive nature of the revealed mechanism makes the commonly known understanding of pivot as an isolated strategy move irrelevant in favor of the definition of pivot as the manifestation of a recursive process of experimentation, which leads to numerous minor pivots. From a practical point of view, the implications are that young entrepreneurs should be guided and encouraged to continue experimenting through small and continuous moves until they come up with better business models.

Acknowledgments

The author declares that no specific acknowledgments are required.

Author contributions

Not applicable.

Funding

This research received no external funding.

Data availability

No data availability statement is required.

Declarations

Conflict of interest

The author declares that there is no conflict of interest.

Ethics approval

Not applicable.

Consent to participate

Not applicable.

Consent for publication

All authors have given their consent.

Additional information

Received: 11 May 2026

Accepted: 1 June 2026

Published online: 24 August 2026

Publisher's Note

Wisdom Academic Press Ltd. remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

References

- [1] Baker, T., & Nelson, R. E. (2005). Creating something from nothing: Resource construction through entrepreneurial bricolage. *Administrative Science Quarterly*, 50(3), 329–366. <https://doi.org/10.2189/asqu.2005.50.3.329>
- [2] Berends, H., Smits, A., Reymen, I., & Podoyntsina, K. (2016). Learning while (re)configuring: Business model innovation processes in established firms. *Strategic Organization*, 14(3), 181–219. <https://doi.org/10.1177/1476127016632758>
- [3] Camuffo, A., Gambardella, A., Messinese, D., Novelli, E., Paolucci, E., & Spina, C. (2024). A scientific approach to entrepreneurial decision-making: Large-scale replication and extension. *Strategic Management Journal*, 45(6), 1209–1237. <https://doi.org/10.1002/smj.3580>
- [4] Felin, T., Gambardella, A., Novelli, E., & Zenger, T. (2024). A scientific method for startups. *Journal of Management*, 50(8), 3080–3104. <https://doi.org/10.1177/01492063231226136>
- [5] Ghezzi, A., & Cavallo, A. (2020). Agile business model innovation in digital entrepreneurship: Lean startup approaches. *Journal of Business Research*, 110, 519–537. <https://doi.org/10.1016/j.jbusres.2018.06.013>
- [6] Hampel, C. E., Tracey, P., & Weber, K. (2020). The art of the pivot: How new ventures manage identification relationships with stakeholders as they change direction. *Academy of Management Journal*, 63(2), 440–471. <https://doi.org/10.5465/amj.2017.0460>
- [7] Ilyas, I. M., Kammerlander, N., Turturea, R., & van Essen, M. (2024). When business model innovation creates value for companies: A meta-analysis on institutional contingencies. *Journal of Management Studies*, 61(5), 1825–1883. <https://doi.org/10.1111/joms.12966>
- [8] Kirtley, J., & O'Mahony, S. (2023). What is a pivot? Explaining when and how entrepreneurial firms decide to make strategic change and pivot. *Strategic Management Journal*, 44(1), 197–230. <https://doi.org/10.1002/smj.3131>
- [9] Lanzolla, G., & Markides, C. (2021). A business model view of strategy. *Journal of Management Studies*, 58(2), 540–553. <https://doi.org/10.1111/joms.12580>
- [10] McDonald, R. M., & Eisenhardt, K. M. (2020). Parallel play: Startups, nascent markets, and effective business-model design. *Administrative Science Quarterly*, 65(2), 483–523. <https://doi.org/10.1177/0001839219852349>

- [11] Sanasi, S., & Ghezzi, A. (2024). Pivots as strategic responses to crises: Evidence from Italian companies navigating Covid-19. *Strategic Organization*, 22(3), 495–529. <https://doi.org/10.1177/14761270221122933>
- [12] Sarasvathy, S. (2023). Questions worth asking for futures worth making: An effectual approach. *Small Business Economics*, 61(1), 11–21. <https://doi.org/10.1007/s11187-023-00747-5>
- [13] Snihur, Y., & Eisenhardt, K. M. (2022). Looking forward, looking back: Strategic organization and the business model concept. *Strategic Organization*, 20(4), 757–770. <https://doi.org/10.1177/14761270221122442>
- [14] Snihur, Y., & Markman, G. (2023). Business model research: Past, present, and future. *Journal of Management Studies*, 60(8), e1–e14. <https://doi.org/10.1111/joms.12928>
- [15] Snihur, Y., Zott, C., & Amit, R. (2021). Managing the value appropriation dilemma in business model innovation. *Strategy Science*, 6(1), 22–38. <https://doi.org/10.1287/stsc.2020.0113>
- [16] Soluk, J., Miroshnychenko, I., Kammerlander, N., & De Massis, A. (2021). Family influence and digital business model innovation: The enabling role of dynamic capabilities. *Entrepreneurship Theory and Practice*, 45(4), 867–905. <https://doi.org/10.1177/1042258721998946>
- [17] Spieth, P., Laudien, S. M., & Meissner, S. (2021). Business model innovation in strategic alliances: A multi-layer perspective. *R&D Management*, 51(1), 24–39. <https://doi.org/10.1111/radm.12410>
- [18] Zott, C., & Amit, R. (2024). Business models and lean startup. *Journal of Management*, 50(8), 3183–3201. <https://doi.org/10.1177/01492063241228245>