



The Myth of Intuitive Entrepreneurship: Why Financial Mathematics Matters in Startup Decision-Making

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ABSTRACT

This study examines the widely held belief that successful entrepreneurship is primarily driven by intuition rather than analytical reasoning, particularly in the context of startup decision-making. Using a qualitative library research approach, this study draws upon a wide range of primary and secondary sources in entrepreneurship, financial management, and behavioral economics to explore the relationship between intuitive judgment and financial analysis. The findings indicate that intuition does play a significant role, especially in the early stages of startup development where information is limited and rapid decisions are required. However, as the business grows and faces increasing complexity, uncertainty, and scalability challenges, reliance solely on intuition becomes increasingly insufficient. The study further reveals that financial mathematics such as cash flow analysis, business valuation, and risk assessment provides a structured and systematic framework for improving the accuracy and reliability of decision-making. In addition, overreliance on intuition may expose entrepreneurs to cognitive biases that can lead to flawed judgments and suboptimal outcomes. Therefore, this research argues that the notion of purely intuitive entrepreneurship is largely a myth. Integrating financial mathematical reasoning with intuitive insights is essential for achieving sustainable and informed startup success.

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1. INTRODUCTION

Entrepreneurship, in various literature and popular narratives, is often perceived as an activity that relies heavily on individual intuition and instinct. Entrepreneurs are often portrayed as visionaries who are able to see opportunities amidst uncertainty and make quick decisions without going through complex analytical processes ¹. This perception then shapes the general understanding that success in the business world, especially startups, is determined more by "gut feeling" than a rational, data-driven approach. This view is reinforced by numerous success stories widely circulated in the media and business literature. Many entrepreneurial figures are positioned as figures who rely on intuition to create innovation and make strategic decisions ². Such narratives not only create a heroic image of entrepreneurship but also influence the mindset of the younger generation, who view the process of building a business as something spontaneous and intuitive.

One frequently cited example is Steve Jobs, the founder of Apple, known for his intuitive leadership and innovation ³. His major decisions, such as developing revolutionary products, are often attributed to personal instinct rather than in-depth market analysis. This reinforces the notion that intuition is a key factor in creating extraordinary business success. However, narratives that overemphasize intuition tend to oversimplify the complexity of the business decision-making process. In practice, a company's success is not determined by a single factor but rather the result of a combination of various aspects, including strategy, analysis, resource management, and an understanding of market dynamics ⁴. Therefore, relying solely on intuition can potentially bias the understanding of entrepreneurial reality.

In the modern business context, particularly in the rapidly evolving and highly competitive startup ecosystem, effective decision-making demands a more systematic approach. Startups often operate under conditions of uncertainty, with limited resources and pressure to achieve rapid growth ⁵. This environment necessitates careful planning and the use of data as a basis for determining the

¹ Akhmad Supriyanto et al., *Dasar-Dasar Kewirausahaan* (PT. Sonpedia Publishing Indonesia, 2025); Ari Prabowo et al., *Modern Entrepreneurship (Entrepreneurial Mindset: Cara Berpikir Yang Mengubah Ide Menjadi Realitas)* (Serasi Media Teknologi, 2025).

² Norris Krueger, Sönke Mestwerdt, and Jill Kickul, "Entrepreneurial Thinking: Rational Vs Intuitive," *Journal of Intellectual Capital* 25, no. 5–6 (2024): 942–62, <https://doi.org/https://doi.org/10.1108/JIC-11-2023-0265>; Rosa Lombardi et al., "Strategic Entrepreneurship: Personal Values And Characteristics Influencing Smes' Decision-Making And Outcomes. The Gemar Balloons Case," *Management Decision* 59, no. 5 (2021): 1069–84, <https://doi.org/https://doi.org/10.1108/MD-10-2019-1416>.

³ Byron G Stier, "Applying Steve Jobs's Insights on Innovation, Leadership, and Technology toward an Apple-Inspired Law School," *Notre Dame JL Ethics & Pub. Pol'y* 38 (2024): 217; Jeffrey L Cruikshank, *The Apple Way* (Esensi, 2008); Barrack Njom, "Critical Evaluation of Steve Jobs Leadership Success," *African Journal of Emerging Issues* 7, no. 9 (2025): 106–12, <https://ajoejournal.org/sys/index.php/ajoei/article/view/847/984>.

⁴ David A Aaker and Christine Moorman, *Strategic Market Management* (John Wiley & Sons, 2023); S E Muhammad Azizi et al., *Strategi Efektif Dalam Manajemen: Mengelola Organisasi Menuju Sukses Berkelanjutan* (PT. Nawala Gama Education, 2025); Kresnawidiansyah Agustian et al., "Human Resource Management Strategies in Achieving Competitive Advantage in Business Administration," *Journal of Contemporary Administration and Management (ADMAN)* 1, no. 2 (2023): 108–17, <https://doi.org/https://doi.org/10.61100/adman.v1i2.53>.

⁵ Nur Rachma, "Penerapan Manajemen Risiko Keuangan Pada Perusahaan Startup: Sebuah Tinjauan Kualitatif," *Paradoks: Jurnal Ilmu Ekonomi* 7, no. 4 (2024): 436–50, <https://doi.org/https://doi.org/10.57178/paradoks.v7i4.988>; Indah Respati Kusumasari, Narulika Ris Latifah, and Viola Natalia Girsang, "Pengambilan Keputusan Strategis Di Perusahaan Startup," *Socius:*

company's strategic direction. Furthermore, the challenges startups face extend beyond product innovation to complex financial aspects. Many startups fail not because of a bad idea, but because of an inability to manage finances effectively ⁶. This demonstrates that financial decision-making is a crucial factor in determining business sustainability.

In this context, financial mathematics serves as a tool that provides an analytical framework to support decision-making. Concepts such as cash flow analysis, company valuation, break-even point calculations, and risk management enable entrepreneurs to objectively evaluate various alternatives ⁷. This approach helps reduce uncertainty and increase the accuracy of predicting decision outcomes. Furthermore, a behavioral economics perspective provides insight into the fact that humans are not always rational in making decisions. Daniel Kahneman explains that individuals often use heuristics, or cognitive shortcuts, that can lead to systematic biases ⁸. In the entrepreneurial context, these biases can influence the assessment of risks, opportunities, and profit estimates.

Cognitive biases such as overconfidence, anchoring, and the availability heuristic can lead entrepreneurs to make suboptimal decisions, particularly in financial management ⁹. For example, overconfidence in market potential can lead to overestimation of revenue, while insufficient risk analysis can lead to failure in the face of changing market conditions. Therefore, a balance between intuition and analysis is necessary in the decision-making process. Based on this description, a fundamental question arises regarding the role of intuition in modern entrepreneurship: is intuition sufficient to support startup success, or is a more structured mathematical approach necessary? This question becomes increasingly relevant given the high rate of startup failure, often caused by errors in financial management. Therefore, this study aims to critically examine the myth of intuitive entrepreneurship and emphasize the importance of financial mathematics as a basis for more rational and sustainable decision-making.

2. METHODS

This research uses a qualitative approach oriented towards an in-depth understanding of the phenomenon, rather than quantitative measurement ¹⁰. A qualitative approach was chosen because it

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⁶ Melki Setiawan Zebua, "Analisis Pengelolaan Keuangan Startup Dalam Mencapai Keberlanjutan Bisnis," *Jurnal Ilmu Ekonomi Dan Bisnis* 3, no. 1 (2026): 258–63, <https://doi.org/https://doi.org/10.70134/jukoni.v3i1.1244>.

⁷ Ahmad Syamil et al., *Matematika Ekonomi Dan Bisnis* (PT. Sonpedia Publishing Indonesia, 2026); Shantikesh Singh, Pooja Singh, and Deexa Singh, "The Role of Business Mathematics in Decision-Making and Finance," *IJSAT-International Journal on Science and Technology* 16, no. 1 (2025): 1–4, <https://doi.org/https://doi.org/10.71097/IJSAT.v16.i1.1866>; Nisha Nisha and Mahmoud Abouagwa, "Mathematics: The Backbone of Smart Business Decisions," in *Marketing Strategies for Total Quality Management in Hospitality Excellence* (IGI Global Scientific Publishing, 2026), 187–210, <https://doi.org/10.4018/979-8-3693-8608-8.ch009>.

⁸ Gerd Gigerenzer, "The Legacy of Daniel Kahneman: A Personal View," *Erasmus Journal for Philosophy and Economics* 18, no. 1 (2025): 28–61, <https://doi.org/https://doi.org/10.23941/ejpe.v18i1.1075>.

⁹ Agasta Amaliya Khusna, "Pengaruh Confirmation Bias, Self-Attribution Bias, Overconfidence Bias, Cognitive Dissonance Bias, Dan Herding Bias Terhadap Pengambilan Keputusan Investor Pemula Dalam Investasi Saham Di Masa Pandemi Covid-19" (Universitas Islam Indonesia, 2023).

¹⁰ M Fathun Niam et al., "Metode Penelitian Kualitatif," 2024; Tri Wulandari, Dewi Purnama Sari, and Aida Rahmi Nasution, "Deskripsi Mendalam Untuk Memastikan Keteralihan Temuan Penelitian

can uncover the meaning, concepts, and constructs of thought underlying the phenomenon of intuitive entrepreneurship and the use of financial mathematics in startup decision-making. With this approach, researchers can explore various theoretical perspectives comprehensively and interpretively. The type of research used is library research, which uses literature as the primary source of data. This research does not involve field data collection, but instead focuses on an in-depth review of various relevant written sources¹¹. This approach allows researchers to trace the development of concepts, compare various theories, and identify gaps in the literature related to entrepreneurship and finance.

The selection of library research was based on the consideration that the topic being studied is conceptual and theoretical in nature. Issues regarding intuition in entrepreneurship and the role of financial mathematics require not only empirical data but also in-depth philosophical and theoretical analysis. Therefore, this approach is considered most appropriate for producing a comprehensive knowledge synthesis. Data sources in this study are divided into two categories: primary sources and secondary sources. Primary sources include key works that serve as references in the fields of entrepreneurship, economics, and finance. This primary literature includes both classic and contemporary books that directly address the concepts of intuition, decision-making, and financial analysis in a business context.

Meanwhile, secondary sources consist of various supporting publications such as scientific journal articles, conference proceedings, research reports, and textbooks relevant to the research topic. Secondary sources serve to enrich perspectives, provide supporting data, and strengthen the arguments developed in the research. The use of these two types of sources allows for theoretical data triangulation, thereby increasing the validity of the study. Data collection techniques are carried out through documentation studies, namely by identifying, collecting, and reviewing relevant documents. This process begins with a literature search through academic databases, digital libraries, and other reliable sources. Next, the obtained literature is classified by theme, such as intuitive entrepreneurship, behavioral economics, and financial mathematics.

After data collection, the next step is data analysis using content analysis. This method is used to systematically interpret the meaning contained in the text. The analysis stages include data reduction, which involves selecting and focusing relevant information; presenting data in a structured narrative; and drawing conclusions based on patterns, relationships, and trends found in the literature. Through this analysis process, this study seeks to generate a comprehensive understanding of the relationship between intuition and mathematical approaches in startup decision-making. By integrating various literature sources and conducting critical analysis, it is hoped that this study will provide significant theoretical contributions and serve as a foundation for further research in the fields of entrepreneurship and finance.

3. FINDINGS AND DISCUSSION

FINDINGS

The results of this study provide a clearer picture of the dynamics of decision-making in the world of entrepreneurship, particularly in the uncertain startup ecosystem. Intuition has often been positioned as an entrepreneur's primary strength, as if success relies solely on "business instinct."

Kualitatif," *Jurnal Literasiologi* 11, no. 2 (2024): 124–31, <https://doi.org/https://doi.org/10.47783/literasiologi.v11i2.674>.

¹¹ Nur Intifada Zahroh et al., "Strategi Pengumpulan Data Dalam Penelitian Kualitatif: Teknik, Tantangan Dan Solusinya," *Tarbiyatul Ilmu: Jurnal Kajian Pendidikan* 3, no. 6 (2025): 107–18, <http://languar.net/index.php/TARBIYATULILMU/article/view/256>; Nurhayati Nurhayati et al., *Metodologi Penelitian Kualitatif: Teori Dan Praktik* (PT. Sonpedia Publishing Indonesia, 2024).

However, through an in-depth literature review, this study demonstrates that the reality is far more complex. Intuition does play a role, but it cannot stand alone without the support of structured analysis. Therefore, the findings of this study not only confirm some prevailing assumptions but also correct oversimplified understandings of the decision-making process in startups.

The Role of Intuition in the Early Stages of Entrepreneurship

Intuition is a crucial element in the entrepreneurial process, especially in the early stages of startup development. During this phase, entrepreneurs often face uncertainties and a lack of structured information. These conditions prevent decision-making from always relying on comprehensive, rational analysis, and intuition becomes a cognitive mechanism that plays a role in filling this information gap. In the early stages of entrepreneurship, limited resources are a major challenge for startups. Limited time, limited capital, and a lack of valid market data demand a quick and adaptive response¹². In situations like these, intuition serves as a tool that allows entrepreneurs to move forward without having to wait for perfect data.

Furthermore, intuition is often formed from accumulated experience, implicit knowledge, and patterns stored in an individual's memory. While not always explicitly realized, this process allows an individual to quickly recognize business opportunities. This ability is crucial in the dynamic startup world, where opportunities are often fleeting and require immediate response. Furthermore, intuition also plays a role in helping entrepreneurs read market trends more responsively. In many cases, changes in consumer preferences or technological developments cannot always be predicted through historical data alone. Therefore, intuition allows individuals to capture early signals that have not yet been fully quantified, thus providing a basis for determining the direction of product or service innovation.

The role of intuition is also evident in early strategic decision-making processes, such as selecting a business model, determining market segments, and developing an initial product. These decisions are often made under conditions of high uncertainty, requiring courage and strong conviction. Intuition provides a psychological boost that helps entrepreneurs maintain confidence in their choices, even when they lack sufficient empirical evidence¹³. Furthermore, intuition is closely linked to the courage to take risks, a key characteristic of an entrepreneur. Without the courage to take action amidst uncertainty, many business ideas will never be realized. Intuition acts as a trigger, encouraging individuals to step out of their comfort zones and explore new, untested opportunities.

However, it's important to understand that intuition doesn't emerge randomly, but rather results from a continuous process of learning and experience. Entrepreneurs with extensive experience tend to have sharper intuition than those with less. This suggests that intuition can be developed and sharpened as one progresses through the business world. Therefore, intuition can be understood as an initial catalyst in the process of creating and developing business ideas. It enables entrepreneurs to act quickly, recognize opportunities, and make decisions under uncertain conditions. However, intuition still needs to be complemented by an analytical approach so that decisions are not only quick, but also accurate and sustainable.

¹² Marium Saleem and Muhammad Atiq, "Challenges Faced By Startups In Accessing External Financing," *International Journal of Business and Management Sciences* 4, no. 2 (2023): 193–202, <https://ijbmsjournal.com/index.php/jbmis/article/view/416>; Lukman Hakim, "Tantangan Dan Strategi Investasi Pada Perusahaan Startup Teknologi Di Indonesia," *Productivity: Journal of Integrated Business, Management, and Accounting Research* *Yupedumexu: Lembaga Intelktual Muda Maluku* 1, no. 2 (2024): 75–84, <https://doi.org/https://doi.org/10.54373/product.v1i2.36>.

¹³ Eugene Sadler-Smith, *Intuition in Business* (Oxford University Press, 2023); Teuku Noerman, *Entrepreneurial Leadership: Strategi Membangun Tim, Inovasi, Dan Kepercayaan* (Deepublish, 2026).

The Risks of Over-Reliance on Intuition

Overreliance on intuition in entrepreneurial decision-making is a common phenomenon, especially among startups moving quickly amidst uncertainty. While intuition has practical value under certain circumstances, this research shows that its dominance without adequate analysis can potentially lead to various strategic errors. This is due to the subjective nature of intuition, which cannot always be objectively verified. Psychologically, intuition is heavily influenced by personal experiences, perceptions, and individual mindsets. Every entrepreneur has a unique background, so intuition does not always accurately reflect reality. In many cases, decisions based on intuition reflect personal beliefs more than actual market conditions. As a result, these decisions risk being irrelevant to the needs and dynamics of the business environment.

One common bias is overconfidence. Entrepreneurs who rely too heavily on their intuition tend to believe that their own judgment is sufficient to determine the direction of their business. This makes them less open to external input, including data, analysis, and criticism from others. As a result, the decision-making process becomes unbalanced and tends to ignore objective factors. In addition to overconfidence, other biases, such as confirmation bias, also increase the risk of error. Entrepreneurs tend to seek out and believe information that supports their beliefs, while ignoring conflicting data. This narrows their perspective on a problem and hinders their ability to critically evaluate it. In the long run, this bias can lead to decisions that are not adaptive to market changes ¹⁴.

The concrete impact of relying on intuition can be seen in various aspects of business, one of which is errors in estimating market potential. Many startups fail because they are overly optimistic in estimating the number of users or the level of demand ¹⁵. This overestimation is often not based on valid data, but rather on the subjective belief that the product being offered will be well-received by the market. Furthermore, pricing errors are also a consequence of uncontrolled, intuition-based decisions. Without adequate analysis of costs and consumer behavior, prices can be set too high and uncompetitive, or too low and detrimental to the company. In both cases, business sustainability is threatened due to the imbalance between revenue and operating costs.

Another risk is unmeasured investment and expansion decisions. Entrepreneurs who rely too much on intuition tend to take aggressive steps without comprehensively considering the risks. For example, premature market expansion or allocating funds to projects whose feasibility has not been tested. Such decisions can lead to significant financial losses and even threaten the startup's survival. Thus, intuition unchecked by an analytical approach can be a source of strategic errors in business. Therefore, it is important for entrepreneurs to use intuition as a complement, not the sole basis for decision-making. Integrating intuition and systematic analysis will result in more balanced, rational, and long-term sustainability-oriented decisions.

The Role of Financial Mathematics as an Analytical Framework

Financial mathematics plays a central role as an analytical framework in business decision-making, particularly in the context of startups facing high levels of uncertainty. Unlike subjective intuition, financial mathematics offers a systematic, measurable, and data-driven approach. Thus, decisions are

¹⁴ Shilla Khairani Putri, "Mitigasi Bias Kognitif Dalam Pengambilan Keputusan Finansial: Peran Keterampilan Berpikir Kritis Dan Literasi Keuangan (Tinjauan Literatur Sistematis)," *Jurnal Ilmiah Ekonomi, Manajemen, Bisnis Dan Akuntansi* 3, no. 1 (2026): 191–201.

¹⁵ Tom Eisenmann, *Why Startups Fail: A New Roadmap For Entrepreneurial Success* (Crown Currency, 2021); George Joseph, Nimitha Aboobaker, and Zakkariya KA, "Entrepreneurial Cognition and Premature Scaling of Startups: A Qualitative Analysis of Determinants Of Start-Up Failures," *Journal of Entrepreneurship in Emerging Economies* 15, no. 1 (2023): 96–112, <https://doi.org/https://doi.org/10.1108/JEEE-11-2020-0412>.

based not only on personal beliefs but also on rationally accountable calculations. In practice, financial mathematics provides various analytical tools that help entrepreneurs understand their business's financial condition more comprehensively¹⁶. One key concept is cash flow analysis, which allows companies to monitor cash inflows and outflows. Through this analysis, startups can identify whether business operations are running smoothly or whether they are potentially experiencing deficits that could jeopardize business sustainability.

Furthermore, company valuation is another crucial aspect within the financial mathematics framework. Valuation allows entrepreneurs to objectively determine the economic value of a business, both in the context of seeking investors and making strategic decisions. By using the right valuation method, startups can avoid the mistake of overvaluing or undervaluing their company, both of which can be potentially detrimental. Financial mathematics also plays a role in helping entrepreneurs understand and manage risk. Every business decision carries uncertainty, but through a quantitative approach, these risks can be measured and analyzed. This allows entrepreneurs to compare various decision alternatives based on their level of risk and potential returns, resulting in more informed decisions¹⁷.

Furthermore, a mathematical approach allows for simulations and financial projections for the future. Entrepreneurs can estimate various scenarios, such as sales growth, cost changes, and market fluctuations. With these projections, companies can prepare more adaptive and responsive strategies to various future possibilities. Another important role of financial mathematics is as a tool for testing the feasibility of a business idea before implementation. Through analyses such as the break-even point, net present value (NPV), or internal rate of return (IRR), entrepreneurs can assess whether a project is feasible¹⁸. This is crucial to avoid investing in financially unprofitable ideas.

Besides being an evaluation tool, financial mathematics also serves as a foundation for strategic business planning. By understanding financial conditions in depth, entrepreneurs can design more realistic strategies, whether in terms of expansion, cost management, or resource allocation. This data-driven planning will increase efficiency and reduce the potential for error in decision-making. Therefore, financial mathematics can no longer be viewed as merely an adjunct to entrepreneurship, but rather as a fundamental element determining the quality of business decisions. The integration of systematic financial analysis and sharp intuition will result in decisions that are not only fast, but also accurate and sustainable. Therefore, mastery of financial mathematics is a crucial competency that every modern entrepreneur must possess.

The Impact of Financial Analysis on Startup Sustainability

The consistent use of financial analysis has been shown to significantly impact startup sustainability, particularly in a dynamic and uncertain business environment. Financial analysis enables entrepreneurs to more accurately understand the company's internal conditions, ensuring that

¹⁶ I Wayan Susrama, *Memahami Dasar-Dasar Manajemen Keuangan Untuk Mengelola Keuangan Dengan Lebih Efektif* (Mega Press Nusantara, 2024); Muhammad Yusuf et al., *Optimalisasi Manajemen Keuangan Untuk Pertumbuhan Bisnis* (PT. Star Digital Publishing, Yogyakarta-Indonesia, 2025).

¹⁷ Anita Sulistyowati, "Peran Matematika Akuntansi Dalam Analisis Keuangan: Konsep, Aplikasi, Dan Implikasinya Terhadap Pengambilan Keputusan Bisnis," *Jurnal Ilmiah Infokam* 20, no. 2 (2025): 97–103, <https://doi.org/https://doi.org/10.53845/infokam.v20i2.372>.

¹⁸ Muhammad Muzhirul Alam and Abdur Rohman, "Analisis Aspek Keuangan Dalam Studi Kelayakan Bisnis Pada Usaha Petis Udang Di Bungah Gresik," *Iqtisodina* 7, no. 2 (2024): 58–66, <https://doi.org/https://doi.org/10.35127/iqtisodina.v7i2.7764>; Rafli Ahmad et al., "Analisis Kelayakan Investasi Usaha Laga Lagi Thrift Menggunakan Pendekatan Capital Budgeting: Studi Kasus Metode Payback Period, NPV, Dan IRR," *Jurnal Akuntansi, Manajemen Dan Ekonomi* 4, no. 1 (2025): 25–35, <https://doi.org/https://doi.org/10.56248/jamane.v4i1.123>.

every decision is based on a clear and measurable basis. Thus, business sustainability depends not only on innovative ideas but also on the ability to manage financial aspects effectively. One of the primary impacts of implementing financial analysis is the ability to better control cash flow. Cash flow is a vital element in startup operations, as it directly relates to the company's ability to meet short-term obligations. Startups that can systematically monitor and manage cash flow will be better prepared to deal with fluctuations in income and expenses, thereby minimizing the risk of a liquidity crisis ¹⁹.

Furthermore, financial analysis plays a crucial role in managing operational costs. With a data-driven approach, companies can identify inefficient expenditure items and make necessary adjustments. This cost efficiency not only helps increase profitability but also extends the lifespan of a startup, especially in the early stages when resources are still limited. In the context of business planning, financial analysis provides a solid foundation for designing more measurable expansion strategies. Startups that use financial projections tend to be more cautious in making growth-related decisions, such as opening new branches, adding employees, or increasing production capacity. Decisions based on this analysis are more realistic and aligned with the company's financial capabilities.

Another positive impact is increased business stability in the face of market dynamics. By having accurate and structured financial data, startups can respond to changes in economic conditions, competition, and consumer behavior more quickly and precisely. This provides a competitive advantage and increases the company's long-term resilience. Conversely, startups that neglect financial analysis tend to face a higher risk of failure. Without an adequate understanding of their financial condition, companies can experience errors in fund management, such as inefficient use of capital or uncontrolled spending. In many cases, startup failure is not caused by a lack of innovation, but rather by weak financial management.

Mistakes in growth planning also result from a lack of financial analysis. Startups that expand too quickly without adequate financial capacity risk *overexpansion*. This can lead to severe financial stress and even bankruptcy. Therefore, striking a balance between growth ambition and financial capability is crucial. Therefore, integrating intuition and financial analysis is key to creating a sustainable startup. Intuition remains essential for seizing opportunities and driving innovation, while financial analysis ensures that every step taken is within a rational and measurable framework. The combination of the two will produce decisions that are not only visionary but also capable of maintaining long-term business stability and sustainability.

DISCUSSION

The findings of this study demonstrate that intuition plays an indispensable role in the entrepreneurial process, particularly in the early stages of startup formation. In times of limited data and time, intuition serves as a cognitive mechanism that enables entrepreneurs to remain proactive and make decisions quickly. This aligns with the reality that not all business decisions can wait until complete and accurate information is available. In these early stages, intuition often serves as the primary foundation for identifying opportunities and determining the initial direction of a business. Entrepreneurs are required to be able to quickly assess situations and take strategic action without undergoing a lengthy analysis process. In this context, intuition provides much-needed flexibility and speed in the dynamic startup environment ²⁰.

¹⁹ Alfatus Sholeha, Afia Nurafifah, and Isra Misra, "Peran Manajemen Keuangan Dalam Pengelolaan UMKM Untuk Meningkatkan Keberlanjutan Bisnis," *Opportunity Jurnal Penelitian Dan Pengabdian Masyarakat* 3, no. 1 (2025): 18–41, <https://doi.org/https://doi.org/10.55352/9r0g1k79>.

²⁰ Prabowo et al., *Modern Entrepreneurship (Entrepreneurial Mindset: Cara Berpikir Yang Mengubah Ide Menjadi Realitas)*.

However, research also confirms that using intuition does not always result in optimal decisions. When intuition is overused without adequate analysis, the potential for error increases. This is due to intuition's subjective nature and susceptibility to various cognitive distortions. This phenomenon can be explained through the behavioral economics perspective proposed by Daniel Kahneman, who states that humans tend to use heuristics, or mental shortcuts, in decision-making. While these heuristics help speed up the thought process, they do not always result in rational and accurate decisions. In many cases, heuristics actually become a source of systematic bias. Cognitive biases such as overconfidence, confirmation bias, and the availability heuristic can influence how entrepreneurs assess opportunities and risks ²¹. For example, overconfidence can lead someone to ignore potential failures, while the tendency to seek information that supports initial beliefs can narrow the perspective in decision-making. As a result, decisions are less objective.

In the startup context, the impact of these biases becomes even more significant when it comes to financial aspects. Decisions regarding investment, cash flow management, and pricing are crucial aspects that directly impact business sustainability. Mistakes in any of these aspects can have serious financial consequences. For example, overestimating market potential can lead entrepreneurs to expand too rapidly without adequate financial support. Similarly, errors in cash flow management can lead to liquidity problems for a company, even if the business concept has good prospects. This demonstrates that intuition alone is not enough to guarantee success in financial decision-making. Therefore, financial mathematics presents an approach that can reduce uncertainty in the decision-making process. By using quantitative analysis tools, entrepreneurs can evaluate various alternatives more systematically and objectively. This approach allows for a clear comparison of the risks and potential rewards of each decision ²².

Furthermore, financial mathematics provides a framework that helps understand a company's overall financial condition. Through cash flow analysis, valuation, and risk calculations, entrepreneurs can obtain a more accurate picture of their business's position. This is crucial to ensuring that every decision is based on valid data. The use of financial models also allows for more mature and structured business planning. Entrepreneurs can create growth projections, estimate capital requirements, and identify potential risks. This ensures that the strategies they design are not merely reactive but also proactive in anticipating change. In the face of increasingly fierce competition, the ability to plan and manage finances effectively is a crucial competitive advantage. Startups that integrate financial analysis into their decision-making tend to be more resilient than those that rely solely on intuition. This demonstrates that a data-driven approach significantly contributes to business sustainability.

However, it's important to understand that financial mathematics is not a substitute for intuition, but rather a complement. Intuition still plays a crucial role in generating innovative ideas and identifying opportunities unidentified by data. Without intuition, the entrepreneurial process can become overly rigid and lack creativity. Conversely, without the support of mathematical analysis, intuition can potentially lead to unfocused and high-risk decisions. Therefore, a balance between

²¹ Philipp Korherr et al., "The Role of Management in Fostering Analytics: The Shift from Intuition to Analytics-Based Decision-Making," *Journal of Decision Systems* 32, no. 3 (2023): 600–616, <https://doi.org/https://doi.org/10.1080/12460125.2022.2062848>; Khusna, "Pengaruh Confirmation Bias, Self-Attribution Bias, Overconfidence Bias, Cognitive Dissonance Bias, Dan Herding Bias Terhadap Pengambilan Keputusan Investor Pemula Dalam Investasi Saham Di Masa Pandemi Covid-19"; Gigerenzer, "The Legacy of Daniel Kahneman: A Personal View."

²² Aura Naiwasha et al., "Pengaruh Analisis Arus Kas Untuk Meningkatkan Efisiensi Keuangan Perusahaan Perseroan PT Telekomunikasi Indonesia.," *Jurnal Ilmu Manajemen Terapan (JIMT)*. 5, no. 2 (2023): 49–63, <https://doi.org/https://doi.org/10.31933/jimt.v5i2>.

intuition and analysis is key to effective decision-making. Both must be used synergistically to produce quick and accurate decisions. Therefore, the results of this study confirm that intuition and mathematics are not contradictory approaches, but rather complementary. Intuition acts as the initial trigger in the entrepreneurial process, while financial mathematics serves as a tool to validate, evaluate, and optimize decisions. Integrating the two is a crucial foundation for building a startup that is not only innovative but also sustainable.

4. CONCLUSION

This research confirms that the view that entrepreneurship is entirely based on intuition is an inaccurate simplification, and could even be considered a myth. While intuition plays a crucial role, particularly in the early stages when information is limited, startup success cannot rely solely on instinct. While intuition helps identify opportunities and drive quick decision-making, without adequate analysis, these decisions can potentially carry significant risks. Therefore, modern entrepreneurship demands a balance between intuitive and rational aspects. Furthermore, this research demonstrates that financial mathematics plays a crucial role in improving the quality of decision-making. Through a systematic, data-driven approach, financial mathematics enables entrepreneurs to objectively evaluate alternatives, manage risks more measurably, and plan business strategies more thoroughly. This has a direct impact on improving decision accuracy and business sustainability, particularly in the face of complex and competitive market dynamics.

Therefore, the integration of intuition and mathematical analysis is key to achieving startup success. Intuition can serve as a catalyst for innovation and creativity, while financial mathematics serves as a tool to validate and optimize decisions. The combination of the two will produce an approach that is not only adaptive and responsive, but also rational and long-term oriented. In other words, entrepreneurial success does not lie in the dominance of one approach, but rather in the ability to integrate both in a balanced manner. Future research is expected to examine the relationship between the use of financial mathematics and startup success empirically, using field data. Quantitative and mixed methods studies can be used to measure the extent to which financial analysis influences business performance. Furthermore, interdisciplinary approaches integrating entrepreneurship, finance, and psychology, particularly those related to cognitive biases and decision-making, need to be developed to generate a more comprehensive understanding. Further research can also explore the role of technology, such as financial technology (fintech) and data analytics, in supporting more accurate decision-making in the modern startup ecosystem.

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