Decision-Making under Scarcity: A Bounded Rationalit Approach to the Financial Behavior of Small Business Proprietors

Ms. Hetal Tanna[1], Dr. Kairvi Rathod
[1]*Research Scholar and Assistant Professor, Department of Management, Faculty of Business and Commerce, Atmiya University, Rajkot*
[2]*Research Supervisor and Assistant Professor, Department of Management, Faculty of Business & Commerce, Atmiya University, Rajkot*

***Abstract*—Small business owners usually have to make important financial decisions like borrowing, investing, or allocating resources while working under realistic constraints like time, information, and capital. It is necessary to comprehend how these elements affect decision-making in order to develop useful and motivating financial frameworks.**
In order to explain how financial decisions arise under such constraints, this paper takes a Bounded Rationality (BR) stance. Small business owners frequently use experience-based shortcuts and practical judgment to make decisions that are practical and effective in their situation rather than striving for fully optimized solutions. This search for a "good enough" or satisfying solution is an example of adaptive and context-sensitive reasoning.
The study suggests a conceptual model that incorporates Perceived Behavioural Control (PBC) in order to give empirical significance to this viewpoint. According to the model, people's sense of control affects how they process information and make decisions when they perceive more external constraints, such as time constraints, uncertainty, or resource scarcity. When they feel less in control, they are more likely to use effective, experience-based decision- making techniques that allow for prompt and useful results.
This framework gives researchers a methodical approach to studying financial decision-making in limited settings and offers useful information for support and policy systems. Interventions can be created to offer concise, understandable, and practical advice that is in line with the actual decision- making situations that small business owners encounter by acknowledging how context shapes decisions.

***Index Terms*—Bounded Rationality, Decision-Making under Constraint, Perceived Behavioural Control (PBC), Scarcity, Small Business Finance**

I. INTRODUCTION

The vitality of the global economy is largely dependent upon the success of Small and Medium Enterprises (SMEs), which act as the driving force for employment and innovation in the economy. Within these small-scale enterprises, the success and failure of the business often lie not in the strategic business plans, but in the tactical financial decisions made by the individual proprietor of the business, which act as the determining factors for the success of the business. But the financial decisions made by these proprietors often act as a puzzle to researchers and policy makers.
These actions, for example, like the observed reliance on expensive informal credit, the failure to adopt strict accounting principles, or the reluctance to invest in diversification, are often considered sub-optimal or irrational. These observations are usually based on the principles of classical finance, which are grounded in the Expected Utility Theory (EUT). EUT, as a theory, assumes that individuals are fully informed, cognitively unlimited, and tend to choose the option that maximizes their utility. We argue that these basic principles of the theory are seriously violated in the real world of the small business owner. Indeed, the small business owner faces an adverse environment, where resources are scarce, including time, information, and financial slack. As such, EUT fails as a poor descriptive theory.
In order to fill this major theoretical void, this paper

advances the concept of Bounded Rationality (BR), as described by Herbert Simon. Bounded Rationality recognizes that decision-making is constrained by cognitive, information, and environmental limitations. It is proposed that the apparent irrational decision- making of the proprietor is, in fact, micro-rational decision-making that is highly adaptive and uses simple decision-making heuristics to arrive at a "good- enough" or satisficing solution, rather than striving for the elusive mathematical optimum.

The current paper contributes to the behavioral finance literature in three major ways. Firstly, it offers a critical analysis of EUT's inability to reflect reality in the realm of small business finance. Secondly, it introduces and develops Bounded Rationality as a superior theoretical framework of micro-rationality in the face of scarce resources. Thirdly, it offers a conceptual model that combines BR theory with the Perceived Behavioral Control construct of the Theory of Planned Behaviour, thereby elucidating how environmental constraints lead to a shift in decision-making strategies from a complex analysis towards a simple and adaptive rationality. The rest of this paper will follow this order: an analysis of the constrained environment, a critique of EUT, a discussion of the proposed BR-PBC model, and finally its implications.

II. THE FINANCIAL LANDSCAPE OF THE SMALL BUSINESS PROPRIETOR

"The financial environment in which the small business proprietor operates is one defined not by opportunities but by scarcity." Unlike large firms that have access to capital markets due to their specialized departments, the small business firm is an entity that is marked by high levels of scarcity.

As such, there is a need to use simple decision rules that form the essential context in which micro-rationality can be fully understood.

Firstly, Time Poverty is at the top of these constraints. The entrepreneur is typically the single manager, accountant, and marketer of the organization, and at times, even the main employee.4 The pressing demands of managing operations, e.g., inventory control and customers, do not allow for any time to be allocated to detailed financial analyses, e.g., calculating net present values of potential investments or poring over the details of multiple loan contracts. Such is the environment of pressing demands that necessitates decision-making speed over decision-making optimality.

Secondly, Information Asymmetry and Uncertainty are of primary importance. Small businesses do not typically maintain formal accounting records or financial reports, which makes available information internally incomplete or unclear. On the other hand, proprietors do not typically have access to transparent information regarding external financial products, especially those that are non-traditional or governmental financing programs.3 such is the environment of uncertainty that makes it impossible to achieve perfect information, which is a EUT prerequisite. Decisions are made based on available information or social networks, as opposed to conducting an extensive market search.

Lastly, the proprietor is faced with Severe Capital and Liquidity Constraints. The line between personal and business finance is frequently blurred or non-existent, suggesting that business cash flow problems can instantly spill over into personal consumption, and vice versa. The high personal risk makes the proprietor more susceptible to perceived losses and further increases his or her preference for informal and easily accessible credit facilities, such as family or distributors, as opposed to the information-intensive formal banking system. The three factors are closely interconnected and represent the boundaries that make the shift from ideal maximization behaviour necessary.

III. THE RATIONAL IDEAL: CRITIQUING EXPECTED UTILITY THEORY (EUT)

Expected Utility Theory (EUT) stands as the bedrock of normative financial economics, serving as the standard model for how rational agents *ought* to make decisions under conditions of risk and uncertainty. EUT dictates that the proprietor, when faced with a choice (e.g., investing profit, taking a loan), should assign a numerical utility to each possible outcome, weigh it by its probability, and select the option that maximizes the resulting expected utility.[1] This rigorous framework, however, rests upon a set of axioms that, when held against the realities detailed in Section 2.0, render the theory practically unusable as a *descriptive* model of small business financial behavior.

3.1. The Violation of Informational Perfection

The first and most significant critique rests on the violation of EUT's requirement for informational perfection. EUT assumes that the decision-maker can access, process, and understand all relevant information required to assign accurate probabilities and utilities. As established, the small business proprietor operates in an environment of severe information asymmetry and opaqueness. Calculating the true expected return on a potential investment, or the real comparative cost of a complex bank loan versus a distributor's trade credit, is a computational task that exceeds the capacity of an individual with limited formal training and time constraints. The proprietor often lacks access to industry benchmarks, competitive market data, and even clear, formalized internal financial statements. Therefore, decisions are necessarily made on incomplete and highly subjective data, immediately nullifying the foundational axiom of informational completeness upon which EUT relies.

3.2. The Failure of Computational Unboundedness

EUT implicitly demands unbounded cognitive capacity—the ability to compute all possible outcomes and compare them without error or fatigue. For the small business proprietor, whose computational resources are already taxed by operational management and daily crises, undertaking this level of complex, probabilistic mathematics is simply infeasible. The cognitive burden of continually calculating expected utilities for every choice, from inventory levels to staffing needs, would paralyze the firm. This critique is not a condemnation of the proprietor's intelligence, but an acknowledgement of the cognitive limits inherent to human decision-making, especially when compounded by the time constraints outlined in the previous section. The proprietor must resort to faster, less rigorous methods to simply keep the business operational.

3.3. The Rigidity of the Maximization Principle

Central to EUT is the principle of maximization: the rational agent must always strive for the absolute best outcome.[2] this normative ideal clashes directly with the proprietor's primary objective: survival. For a small business, a decision that ensures the continued existence of the firm, even if it sacrifices potential long- term gains (e.g., choosing a low-risk, low-return investment), is often prioritized. EUT's singular focus on maximum utility fails to account for the owner's loss aversion and the high emotional utility placed on financial security and continuity—factors that drive conservative behavior and a preference for predictable, if lower, returns.

3.4. The Descriptive Weakness of EUT

In sum, EUT is a powerful **normative** model—it describes how an agent *should* behave in an ideal world.[3] However, due to the severe constraints on information, cognition, and time that define the small business environment, EUT is descriptionally weak. Attributing sub-optimal choices to "irrationality" based on EUT's standard simply represents a failure of the model to account for real-world limitations. This theoretical inadequacy necessitates a shift to a framework that is built upon, rather than challenged by, the reality of constraint. This move is essential to develop actionable insights and effective policy interventions, paving the way for the adoption of Bounded Rationality as the superior theoretical lens.

IV. BOUNDED RATIONALITY AND DECISION-MAKING UNDER SCARCITY

The theoretical void left by the descriptive failure of Expected Utility Theory (EUT) in the small business context is compellingly filled by the framework of Bounded Rationality (BR). Originally proposed by Herbert Simon (1955), BR accepts human cognitive limits as fundamental to decision-making.[1]
It does not view deviation from EUT as irrationality, but rather as an adaptive response to the computational and environmental constraints that define reality.[2] For the small business proprietor operating under chronic scarcity, BR is not merely a psychological theory; it is a theory of survival.

4.1. The Mechanism of Satisficing

The defining principle of Bounded Rationality is **satisficing**—a portmanteau of *satisfy* and *suffice*.[3] Instead of expending vast resources to find the globally optimal solution (maximization), the proprietor seeks the first alternative that meets their minimum aspiration level, or "good enough" standard.[4] This strategy is highly functional under scarcity. For instance, when seeking working capital, the satisficing proprietor will accept the first accessible loan that covers immediate payroll needs, rather than investing the time to compare fifty different loan products to shave off a few basis points of interest. This choice, while sub-optimal in EUT terms, is micro-rational in the context of urgency and time poverty.

4.2. Bounded Rationality as Micro-Rationality

We introduce the concept of **Micro-Rationality** to formally define the adaptive financial behavior of the small business proprietor. Micro-Rationality is the assertion that a decision is rational relative to the specific cognitive, informational, and temporal boundaries within which it is made. The small firm environment, characterized by scarcity (Section 2.0), forces the proprietor to adopt two primary decision shortcuts:

1. Simplification of Problems: Complex multi-variable issues (e.g., long- term investment analysis) are reduced to single, manageable factors (e.g., focusing only on initial cash outlay).
2. Use of Heuristics: Simple, learned rules-of-thumb are substituted for complex calculations.

4.3.The Role of Heuristics and Rules-of-Thumb

Heuristics are indispensable tools for the BR proprietor navigating scarcity. They are mental shortcuts that allow for quick, effective judgments, though they introduce systematic biases.[5] These rules are not errors; they are efficient adaptations:

- Availability Heuristic: A proprietor may choose a saving or investment vehicle based solely on personal experience or recent social discussion (e.g., following a cousin's advice on a scheme) rather than objective market research. The information is available and requires minimal effort, satisfying the criteria for satisficing.
- Anchoring Heuristic: When setting credit terms for customers or pricing new products, the proprietor may disproportionately rely on a familiar starting reference point (e.g., the historical pricing structure from a decade ago or a competitor's initial quote) rather than re-calculating true costs and market rates. The familiar value acts as a cognitive anchor, minimizing search costs.
- Affect Heuristic: Emotional responses and trust often override mathematical calculation. Decisions to extend trade credit, for instance, are frequently based on years of personal relationship and affective trust with a customer, even if that customer's recent payment history suggests a high credit risk. In a small socialized economy, maintaining this relationship has a high emotional utility that EUT fails to capture.

V.MODELLING CONSTRAINT: INTEGRATING BOUNDED RATIONALITY AND PERCEIVED BEHAVIORAL CONTROL

The adoption of Bounded Rationality (BR) as a descriptive model successfully explains *that* small business proprietors use heuristics; however, it requires a mechanism to explain *when* and *why* they choose to abandon complex, EUT- like analysis and resort to satisficing. This paper addresses this need by developing a conceptual model that integrates BR with the Perceived Behavioral Control (PBC) construct derived from the Theory of Planned Behaviour (TPB) (Ajzen, 1991).

5.1. The Role of Perceived Behavioral Control (PBC)

TPB is typically used to predict behavioral intention based on attitude, subjective norms, and PBC. We adapt the PBC construct as the critical link between the external environment (scarcity) and the internal decision-making process (Bounded Rationality).

PBC reflects an individual’s perception of the ease or difficulty of performing a specific behavior, reflecting past experience, anticipated obstacles, and perceived resources.

In the context of small business finance, PBC represents the proprietor’s subjective belief regarding their ability to execute a complex financial action, such such as securing a low-interest bank loan or implementing a sophisticated inventory management system. PBC is directly and negatively impacted by the environmental **scarcity** detailed in Section 2.0:

- Low Information Scarcity → Low PBC: The proprietor believes they lack the necessary knowledge (e.g., understanding complex loan contracts).
- High Time Scarcity → Low PBC: The proprietor feels they lack the time and resources

to complete the bureaucratic requirements (e.g., filling out extensive loan applications).

- High Capital Scarcity → Low PBC: The proprietor believes they lack the required collateral or historical financial records to gain formal approval.

5.2. Application to Financial Behavior

This integrated model explains common 'irrational' financial actions:

- Choice of Informal Credit: A proprietor needing cash sees a complex bank application and high collateral requirements (leading to Low PBC). Instead of maximizing utility by pursuing the cheaper bank loan, they quickly approach a distributor or local lender, whose terms are immediately understandable, accessible, and require less documentation. This choice is satisficing and minimizes the perceived *effort* and *risk of failure* associated with the high PBC task.
- Inventory Management: Implementing an optimal, EUT-based inventory policy requires continuous demand forecasting and calculation (High PBC task). The proprietor, constrained by time, resorts to a simple heuristic (e.g., "order when the shelf looks half-empty"). This is a BR decision driven by the Low PBC associated with complex System 2 tasks.

5.3. Superiority of the Integrated Model

The integration of PBC provides several advantages over a standalone BR approach. First, it offers a pathway for *measuring* the perceived impact of external constraints, transforming the abstract concept of scarcity into a quantifiable psychological construct (PBC). Second, it explains the heterogeneity in financial behavior: two proprietors facing the same objective scarcity (e.g., same amount of cash) may exhibit different behaviors based on their **perceived** level of control. The proprietor with higher financial literacy (higher PBC) may persist with the EUT analysis longer than one with lower literacy (lower PBC).

In conclusion, the proposed conceptual model using PBC provides the necessary theoretical bridge to explain *why* proprietors abandon the maximizing behavior dictated by EUT. It formalizes Bounded Rationality not just as a condition, but as an active, adaptive decision-making strategy triggered by the perception of limited control under scarcity.

VI. DISCUSSION, IMPLICATIONS, AND FUTURE RESEARCH

The preceding sections have established the theoretical inadequacy of Expected Utility Theory (EUT) as a descriptive model for the constrained decision- making of small business proprietors. By synthesizing Bounded Rationality (BR) and Perceived Behavioral Control (PBC), we have advanced a model of **micro-rationality** that explains financial choices as adaptive responses to environmental scarcity. This theoretical shift yields significant contributions to both academic discourse and practical policy design.

6.1. Theoretical Discussion and Contribution

This paper’s primary theoretical contribution lies in providing a coherent framework that bridges the gap between the macro-level constraints and the micro-level decision-making process. The integration of PBC serves as the critical explanatory variable, formalizing how external limitations (scarcity) translate into the internal adoption of cognitive shortcuts (heuristics and satisficing). Unlike previous behavioral studies that often diagnose non-rationalities in isolation, this model offers a dynamic, systematic mechanism: Low PBC acts as the signal that terminates the costly EUT search, prompting a return to the BR default.

This re-framing transforms seemingly illogical behavior into a functional, survival-oriented strategy. The concept of Micro-Rationality itself encourages future research to abandon the normative ideal of maximization and focus on understanding the content and effectiveness of the heuristics proprietors actually use.

6.2. Policy and Practical Implications

The implications of adopting a Bounded Rationality perspective are profound for institutions seeking to foster small business growth:

1. Redesigning Financial Education: Current financial literacy programs often rely on teaching complex EUT-based calculations (e.g., compounding interest, risk matrices). The BR

model suggests these programs are ineffective because proprietors, facing Low PBC and time scarcity, will immediately ignore System 2 calculations. Instead, training should focus on developing simple, reliable rules-of-thumb—such as heuristic guidelines for setting inventory re-order points or fixed cash buffers—that can be applied quickly and consistently.

2. Simplifying Access to Formal Finance: Financial institutions must recognize that the proprietor's aversion to formal credit is often not price-based, but is a function of Low PBC related to complexity and documentation. Banks should focus on drastic process simplification (reducing paperwork, shortening turnaround times) to lower the perceived effort and increase the PBC associated with formal borrowing, thereby making the rational choice (lower interest rate) also the easiest, or satisficing, choice.
3. Targeting Constraints: Policymakers should focus on alleviating specific scarcity constraints, such as providing accessible, low-cost digital record-keeping tools to reduce information asymmetry, thereby increasing the proprietor's confidence (PBC) and empowering them to engage in more deliberate financial planning.

6.3. Limitations and Future Research Directions

As a conceptual paper, the model developed herein requires rigorous empirical validation. The primary limitation is the lack of objective data testing the relationship between PBC and the actual adoption of heuristics.

Future research should focus on two key areas:

1. Empirical Testing of the Model: Quantitative studies should be conducted using structural equation modelling to test the causal links:

Scarcity → Reduced Perceived Behavioural Control (PBC) → Reliance on Bounded Rationality Heuristics

This involves developing scales to measure the subjective PBC related to specific financial tasks (e.g., loan application confidence).

2. Qualitative Heuristic Mapping: Ethnographic or in-depth qualitative research is needed to document and categorize the specific, localized rules-of-thumb used by proprietors. Understanding the content of these heuristics (e.g., "never pay cash for inventory," "buy gold with year-end profits") is essential for designing effective, behaviourally informed policy interventions.

The shift to Bounded Rationality moves the conversation from how proprietors *fail* to how they *succeed* against steep odds, promising a more accurate and applicable understanding of small business finance.

VII. CONCLUSION

This paper aims to bridge the gap between the idealized conditions of traditional financial decision models and the reality of small business proprietors who are constantly faced with resource-constrained environments. It also aims to emphasize the role of financial decision-making in these environments, considering the limitations of time, information, and cognitive ability.

To do this, the paper proposes Bounded Rationality (BR) as an appropriate approach for analysing financial decision-making. Under this approach, the decision process of the small business proprietor is considered as micro- rationality—an approach that is considered as an adaptation to the environment, ensuring its functionality. This adaptation is considered in the form of a conceptual model, where Bounded Rationality is combined with Perceived Behavioral Control (PBC). This model proposes that, in environments where individuals are constrained by their surroundings, they tend to move away from extended analytical processing towards more efficient decision-making.

This framework, therefore, offers an opportunity for both researchers and practitioners to consider financial decisions as adaptations, rather than idealized decisions. It also offers an opportunity for further research, where the heuristics of financial decision-making are empirically established. Financial decisions, as adaptations, provide an opportunity for developing supportive financial environments that are more grounded in reality.

REFERENCES

[1] Ahmad, M., Shah, S. Z. A., and Abbass, Y., "The role of heuristic-driven biases in entrepreneurial strategic decision-making:

Evidence from an emerging economy," Management Decision, vol. 59, no. 3, pp. 669–691, 2021.

[2] Barek, T. A. P., Djuuna, M., and Danang, S., "The effect of mental accounting and heuristics on financial behavior with self-efficacy as moderator," Journal of Management and Administration Provision, vol. 5, no. 3, pp. 479–491, 2025.

[3] Chen, W., Ali, M., and Leong, C. M., "Dynamics of personal financial management: A bibliometric and systematic review on financial literacy, financial capability and financial behavior," International Journal of Bank Marketing, vol. 43, no. 1, pp. 125–165, 2025, doi: 10.1108/IJBM-06-2023-0359.

[4] Ghafoor, A., and Ahmad, M., "Behavioral biases in investment decision-making: A conceptual framework and research agenda," IIMB Management Review, vol. 36, no. 2, pp. 213–229, 2024, doi: 10.1016/j.iimb.2024.06.004.

[5] Morales Burgos, J. A., Kittler, M., and Walsh, M., "Bounded rationality, capital budgeting decisions and small business," Qualitative Research in Accounting & Management, vol. 17, no. 2, pp. 293–318, 2020.

[6] Patel, P., and Nayak, K., "A study of financial behavior based on theory of planned behavior," ShodhKosh: Journal of Visual and Performing Arts, vol. 4, no. 2, pp. 1760–1768, 2023.

[7] Praditha, R., Bahtiar, B., and Razak, L. A., "The effect of financial knowledge, financial planning, internal locus of control, and financial self-efficacy on financial management behaviour: A case study of SMEs grocery stores," Jurnal Samudra Ekonomika, vol. 6, no. 1, pp. 19–30, 2024, doi: 10.33059/jse. v6i1.5068.

[8] Prasetya, D., and Haryati, S., "Factors affecting financial behavior of Micro, Small and Medium Enterprises (MSMEs): The role of financial inclusion, financial literacy and financial technology," Jurnal Ilmu Manajemen Advantage, vol. 8, no. 2, pp. 113–128, 2025.

[9] Rachmawati, S., "The conceptual framework for bounded rationality in bank officers' credit decision for SME lending in Malaysia," Asia-Pacific Management Accounting Journal, vol. 16, no. 3, pp. 159–189, 2021.

[10] Schnellenbach, J., and Schubert, C., "Behavioral political economy: A survey," European Journal of Political Economy, vol. 40, Part B, pp. 395–417, 2015.

[11] Shi, W., Ali, M., and Leong, C. M., "Dynamics of personal financial management: A bibliometric and systematic review on financial literacy, financial capability and financial behavior," International Journal of Bank Marketing, vol. 43, no. 1, pp. 125–165, 2025, doi: 10.1108/IJBM-06-2023-0359.

[12] Smaoui, F., and Alkhoder, S., "The role of heuristics in financial decision-making: The selection of SME financing by advisers in an increasingly diverse market," Journal of Behavioral Finance, vol. 26, no. 1, pp. 1–15, 2025.

[13] Subaidi, M., and Al-Tais, M., "A study of risk perception, financial strategies, and entrepreneurial success in emerging economies," Migration Letters, vol. 22, no. 1, pp. 21–35, 2025.

[14] Tang, W., and Li, X., "Bounded rationality in study time allocation: Evidence based on risky choice framing effects," Behavioral Sciences, vol. 14, no. 11, p. 1091, 2024.

[15] Varma, A., "Heuristics and financial management: The moderating effect of financial self-efficacy in small firms," Finance Research Letters, vol. 67, p. 105854, 2022, doi: 10.1016/j.frl.2024.105854.