

## **A Research on Integrating the Vrio Model with Design Thinking: Enhancing Competitive Advantage and Innovation in Start-Ups**

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### **Abstract**

The increasing application of Design Thinking across various fields has highlighted its significant impact on entrepreneurship, particularly in the context of new business start-ups. This research examines how integrating Design Thinking with the VRIO model can enhance problem-solving and foster innovation in startups. By combining these two approaches, the study explores how they can strengthen business structures, boost market attractiveness, and secure competitive advantages for new start-ups. Despite growing interest, research on the combined use of Design Thinking and the VRIO model in entrepreneurship remains scarce. This study explores their unique contributions, focusing on how they enhance creativity, strategic resource management, and sustainable growth in startups. Through an analytical and qualitative approach, utilizing interviews with new entrepreneurs and secondary academic sources, the study demonstrates how these models can address business challenges and build lasting competitive advantages, ultimately strengthening startups in competitive markets.

**Keywords:** Competitive Advantage, Imitability, User Centric, Innovation.

### **1. Introduction**

#### **1.1 Design Thinking**

The term "design thinking" refers to the set of tactical, proactive, and analytical techniques that designers employ during the design process as well as the quantity of research that has been done on how individuals think about design problems.

Design thinking is a technique used for problem solving in start-up and entrepreneurship that includes creating, testing, and comprehending factors. It's a continuous, systematic approach that is built on the entrepreneurs for creating new perspective to start up and entrepreneurship.

#### **1.2 Aspects of Design Thinking**

- **User-centric:** Solution-based, design thinking looks at the needs, objectives, difficulties, and ambitions of the final user.
- **Highly iterative:** The process of design thinking may necessitate going back to earlier phases in order to take into account new findings.
- **Identifies complicated issues:** complicated issues, like global climate change or business challenges like change management, can be identified and addressed with the use of design thinking.
- **Empathy:** for the people you're designing for is the cornerstone of design thinking.
- **Problem-solving creativity:** Design thinking can foster the development of problem-solving creativity.

#### **1.3 Design Thinking and Entrepreneurship**

Entrepreneurship and design thinking are related. Through the integration of risk-taking, teamwork, creativity, and problem-solving abilities, the former enhances the latter. When entrepreneurs require an innovative solution to a problem in order to create new chances and overcome obstacles, they should apply design thinking approaches.

By encouraging entrepreneurs to explore new ideas, take calculated chances, and learn from their mistakes, the design thinking approach helps them think more broadly. It modifies the way that issues are viewed and how they are resolved.

By posing wicked challenges that demand precise definition, are distinct, and call for creative solutions, the design thinking process in entrepreneurship is an excellent way to instil a business perspective. Additionally, practicing the design thinking process's steps encourages the divergent thinking mentality.

#### **1.4 V.R.I.O Model**

A strategic tool that aids firms in evaluate their resources and capabilities to pinpoint their competitive advantages is the

VRIO model, also known as the VRIO framework. The abbreviation for the four questions the approach asks to assess resources is VRIO While studying VRIO model following questions should be asked.

**Value:** Does the resource benefit users by assisting them in achieving goals or resolving issues?

**Rarity:** How challenging is it to find or make another copy of the resource? **Imitability:** How much would it cost for a different organization to copy this resource? **Organization:** Does the business make the best use of the resource and does its structure, culture, and procedures support it?

### 1.5 V.R.I.O model and Entrepreneurship

The VRIO model, which stands for Value, Rarity, Imitability, and Organization, is a strategic framework used to evaluate a company's resources and capabilities to determine their potential for sustained competitive advantage. In entrepreneurship, this model is particularly useful as it helps entrepreneurs assess whether their business idea, product, or service possesses unique qualities that create value for customers, are rare in the marketplace, cannot be easily imitated by competitors, and can be effectively organized to capitalize on these strengths. By applying the VRIO model, entrepreneurs can identify which resources and capabilities are worth investing in and how to strategically position their venture to gain and maintain a competitive edge, ultimately driving growth and profitability.

### 1.6 Integration of Design thinking and V.R.I.O Model

The integration of design thinking and VRIO model empower organisation to innovate and strength to the start-ups Design thinking focuses on Techniques of problem solving, Creativity and Customer oriented approach. The VRIO model enable to start up to evaluate framework with the sustainable competitive advantage.

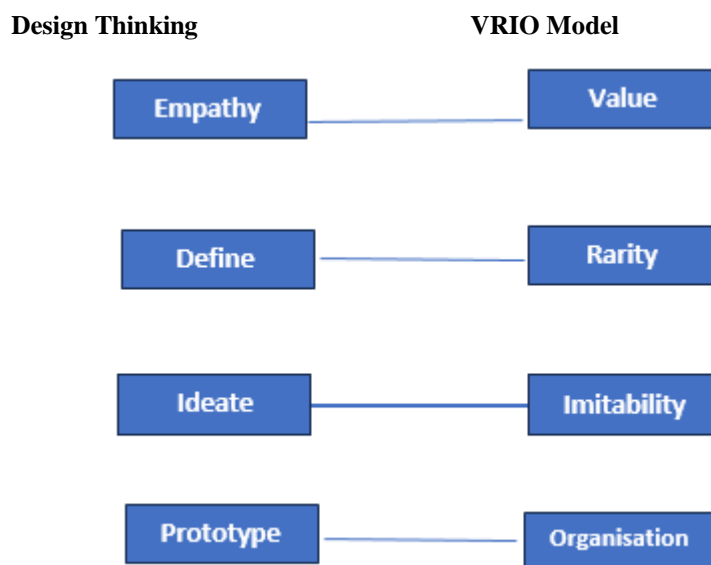
The combination of this approach ensure that innovations are not only valuable and unique but also strategically ensure rare and imitable and well organises in the business activities.

This combined approach ensures that resources are allocated to innovations that have the greatest potential impact, ultimately driving both growth and resilience in competitive markets and provide sustainable competitive advantage.

#### Model of the Design thinking and VRIO (Conceptual framework)

This combined framework of VRIO model and Design thinking can be used by organizations to ensure that their initiatives are not just innovative but also strategically aligned with their long-term goals. Evaluation of each stage of the design thinking process through the lens of the VRIO framework, start-up team can maximize the impact of their innovations, ensuring they are valuable, rare, difficult to imitate, and supported by the organization's capabilities.

The above conceptual framework can be show in relation to each other.



## 2. Review of Literature

(Tiberius, 2022) the authors conducted a systematic review of 164 scholarly articles, resulting in a comprehensive framework that outlines the stages of the design thinking process, its principles, tools, and the individual and organizational

factors that influence outcomes. This framework offers a holistic overview of the current research landscape and identifies gaps for future exploration, contributing significantly to the understanding of design thinking.

(Bender-Salazar, 2023) Researcher stated this approach, which emphasizes creative and collaborative problem-solving, has expanded beyond product design into areas like social science, food creation, and organizational development. The study refines design thinking using Tim Brown's framework of inspiration, ideation, and implementation, integrating it with systems thinking, organizational learning, and action research. By embedding reflective practices, this hybrid model enhances the effectiveness of design thinking in addressing complex challenges within teams, making it a versatile tool for innovation across diverse disciplines.

(kurek, 2023) Integrating sustainability into business practices is a growing trend across companies of all sizes, with Design Thinking increasingly being employed to support this transition. This article explores how Design Thinking tools and methods contribute to the creation and innovation of sustainable business models (SBMs). Key methodologies linking Design Thinking with SBMs include workshops, brainstorming, co-creation, and prototyping. Emerging approaches like Circular Economy and Product-Service Systems are also playing a role in fostering sustainable practices. study identifies a gap in the use of prototyping and experimentation within these frameworks, suggesting areas for further development.

(carngren, 2014) Design Thinking (DT) is increasingly recognized for enhancing firm innovativeness, yet research on its value in design and innovation is limited. This paper investigates how companies in Germany and the US perceive the value of DT. While some firms noted immediate benefits, such as new ideas and better products, many emphasized longer-term impacts on employee mindset, innovation processes, and overall competencies.

(Sudjatnika, 2023) This research analysed Bank BTN's internal resources using the Valuable, Rareness, Inimitable, and Organized (VRIO) framework, grounded theory, and the Gioia method. The analysis identified four key dimensions contributing to Bank BTN's competitive advantage: strategic financial capital, strategic human resources capability, strategic business innovation, and business sustainability.

(Tyagi, 2023) SMEs worldwide face significant challenges, highlighting the need for strong entrepreneurial competencies. Past research has shown that entrepreneurship drives economic growth, leading educational institutions to focus on building entrepreneurial ecosystems and providing relevant skills through workshops and training programs. However, the key question is which skills are essential for creating, managing, and growing SMEs. Through an exploratory study involving an unstructured interview with the entrepreneur, the research identifies the critical importance of entrepreneurial and leadership skills in managing and expanding SMEs. The study's findings underline the value of these skills for individuals pursuing entrepreneurship and provide a theoretical foundation for future qualitative research.

### **3. Objectives of Study**

- I. To explore design thinking aspects on problem solving and competitive advantage.
- II. To understand combining design thinking with the VRIO model affect the innovation and competitive advantage of startup.

### **4. Research Methodology**

This paper aims to give suggestions to the new entrepreneurs to maintain their USP and follow good structure to your new business set up. For this research papers current finding are based on literature review and primary data collection.

#### **Method of Research**

For this study analytical and qualitative research method applied

#### **Sampling Method**

The study is goes under infinite data collection for that purpose Non – Probality sampling method is applied. And convenience sampling technique has been used.

**Universe for this study** - All startups and new entrepreneurs

**Population** – Those startups who have applied some techniques of design thinking

**Sampling Frame** – The Respondents who have filled the questionnaire.

**Area of Study** – A study area is primary location of data collection in the Mumbai community. The research area helped to analyse entrepreneurship new aspects and purpose with the integration of two new tools.

#### **Data Collection**

This research utilizes both primary and secondary data to provide a comprehensive analysis.

### **Primary Data**

The primary data for this study were collected through 53 interviews with new entrepreneurs. These interviews were designed to gain in-depth insights into the challenges they face and the strategies they employ to overcome them. The qualitative data obtained from these interviews were crucial in understanding the real-world application of entrepreneurial competencies, as well as the practical obstacles and solutions encountered in the process of business development.

### **Secondary Data**

Secondary data were gathered from a range of academic sources, including books, research papers, and articles. These sources were reviewed to contextualize the findings within the existing body of knowledge, to identify prior studies on the topic, and to pinpoint gaps in the research. The secondary data provided a theoretical foundation that supported the analysis of the primary data, allowing for a more nuanced interpretation of the findings and a better understanding of the broader research landscape.

## **5. Significance of Study**

The significance of this study lies in its exploration of the integration of the VRIO model and Design Thinking tools can fundamentally shape the development and success of new businesses. By combining these two powerful frameworks, the study provides a comprehensive approach for entrepreneurs to enhance their product attractiveness and secure a competitive advantage in the market. The VRIO model helps entrepreneurs assess their resources and capabilities to ensure they are valuable, rare, difficult to imitate, and effectively organized, thus enabling them to build a strong foundation for their startups.

On the other hand, Design Thinking tools offer a user-centred approach to problem-solving, fostering creativity and innovation in product development and business strategy.

This research highlights these tools collectively empower entrepreneurs to navigate the challenges of starting a new business. By identifying and leveraging unique opportunities while mitigating potential threats, entrepreneurs can design business structures and methods that stand out in the marketplace. The study underscores the critical role these frameworks play in not only solving immediate business problems but also in fostering long-term sustainability and growth. By applying the insights from this study, new ventures can better position themselves to capture maximum market share and differentiate themselves through innovative practices, ultimately contributing to their resilience and success in a competitive environment. This research, therefore, provides valuable guidance for new entrepreneurs and contributes to the broader understanding of strategic tools in business development

## **6. Data Interpretation**

The data reveals that the majority of respondents are young entrepreneurs (18-25 years old) with nearly equal gender representation. Most of these individuals hold leadership roles, with many startups being relatively new, operating for 1-3 years. While there is a varied level of familiarity with Design Thinking and the VRIO model, a significant portion of respondents recognize the potential competitive advantage of combining these frameworks. Additionally, there is a strong interest among respondents in learning and implementing these models, highlighting the need for educational initiatives to support their strategic application in startups.

For Primary data collection researcher has collected 53 responses following are the detailed interpretation of the data collection.

### **I. Demographic Data**

Age group of the respondents

18 – 25	26
26-35	17
35 and above	10

Gender of the respondents

Male	28
Female	25
Others	00

Your role in start up

Founder	19
Partnership	12
Technical Head	12
Public Relation Head	10

How long has your start up been in operation?

Less than 1 year	15
1 – 3 years	24
4 – 6 years	08
6 years and above	06

How familiar are you with design thinking techniques

Very Familiar	20
Somewhat Familiar	11
Neutral	15
No Familiar	07

How familiar are you with V.R.I.O model

Very Familiar	16
Somewhat Familiar	21
Neutral	12
No Familiar	04

What do you feel if you used VRIO model and Design thinking combinedly on start up for enhance competitive advantage ?

Great Enhancement	23
Moderate Enhancement	11
No Enhancement	05
Can't say anything	14

If you don't know much about VRIO model and design thinking would you like to learn and implement in your start up for good competitive analysis?

Definitely	31
May be	17
Not required	05

## **7. Conclusion**

This study has demonstrated the significant potential of integrating the VRIO model with Design Thinking tools to enhance the development and success of new businesses. By combining these strategic frameworks, entrepreneurs can better assess their resources, foster innovation, and create sustainable competitive advantages. The research findings emphasize the importance of a user-centered approach to problem-solving, coupled with a strategic assessment of resources, to ensure that new ventures are both innovative and strategically positioned for long-term success.

## **8. Suggestions and Recommendations**

To maximize the impact of these tools, it is recommended that entrepreneurs consistently apply the VRIO model throughout the development process to evaluate the strategic potential of their innovations. Additionally, incorporating iterative Design Thinking practices can help entrepreneurs remain adaptable and responsive to market needs. By continually revisiting and refining their strategies through the lens of these frameworks, startups can better navigate challenges, capitalize on opportunities, and build resilient business models that stand out in a competitive marketplace.

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