# Exploring Challenges and Opportunities for Entrepreneurs in India: Integrating Design Thinking and the PESTLE Framework

Rewa Agarwal

Student, Neerja modi School, Jaipur, India

*Abstract*— *India's entrepreneurship is at a crossroads, with a mix of problems and opportunities necessitating innovative approaches to tasks in order to achieve long-term success. This research dives into the terrain in depth, with an emphasis on combining Design Thinking with the PESTLE (Political, Economic, Sociocultural, Technological, Legal, and Environmental) framework. The study used a qualitative technique to investigate common themes through content analysis of secondary sources. Based on the findings, three key challenges are highlighted, including financial, social, and technological difficulties, and solutions are presented utilising the PESTLE framework. Therefore, this research provides Indian entrepreneurs the benefit to overcome difficulties and create the road for long-term success and societal impact by incorporating Design Thinking and the PESTLE framework as fundamental components of their entrepreneurial journey.*

*Keywords*— *Design thinking, India, PESTLE, Content analysis, Qualitative*

## I. INTRODUCTION

In the advent of the digital era, when innovation plays an important role for business and organisations, design thinking seems to be the ideal solution for entrepreneurs. (HBS Online, 2022). Design thinking is an extension of innovation, mindset of consumers, approach to problem solving and a nonlinear iterative process that allows one to provide solutions to the customer's end. For example, Oral B used design thinking in innovating their electric toothbrush by making it easier to charge while traveling and connecting with their phones and including pop-up reminders to users for head replacement (HBS Online, 2022). Further, to design thinking involves five phases as a process for implementation which involves, 1. Empathise says gathering of high quality customer's understanding 2. Define says creating an impressive design brief for stakeholders 3. Ideate and collaborate says unleashing creativity on intelligence 4. The prototype says hold inspirational rapid sketch sessions or design sprints 5. Test says get started and have productivity from customers end

(AMA, 2023). The application of design thinking is more suited for business problems that demand creative solutions. Entrepreneurs use design thinking to rethink their values offered to the customers, product or services uniqueness and innovate new ways to sustain in the market (MIT Sloan, 2017).

Design thinking allows entrepreneurs to explore and manifest towards achieving the business objective with an open mindset. In countries like India, entrepreneurs benefit by incorporating design thinking by reducing the time, money and resources and innovating a new product or services creating a value for the customers. (Simplilearn, 2023). For example, Starbucks understood customer's end, interviewed some of them and recognised the conflict, took the insights and came up with the idea to position round tables strategically to make solo customers easier and less self-conscious.

However, though design thinking comes as an enabler for the entrepreneurs to efficiently be used to suffice with the

changing needs and preferences of the consumers, still many entrepreneurs are unable to use design thinking in their business especially in developing nations like India. The major reason for this is lack of time and resources. Due to less resources in India, there is lack of understanding towards design thinking methods and lack of cost which set a drawback for Indian entrepreneurs as it involves a lot of user research and prototyping.

There is extended literature that has studied design thinking which included studies of experts, comparisons of the process of design thinking and methodological (Razzouk & Shute, 2012). Moreover, research on design thinking has emphasized entrepreneurship education (Sarooghi, Sunny, Hornsby, & Fernhaber, 2019), learning and teaching through entrepreneurship and social entrepreneurship (Kummitha, 2018). Consequently, this results in the gap in the literature for understanding design thinking in the content of entrepreneurs in other domains such as technology and how to effectively use design thinking for achieving a competitive advantage in the marketing phenomena. However, our papers address the existing gap in the literature and aims to understand the challenges, opportunities and develop strategic business solutions using the PESTLE framework to help benefit the managers and researchers.

## II. LITERATURE REVIEW

### 2.1 Understanding Design thinking:

With the new marketing strategies, design thinking is gaining attention due to its increased popularity in the business. One of the major reasons for this is to achieve competitive advantage over their products and services in the dynamic market (Dunne & Martin, 2006). However, Design thinking refers to "how an individual visualizes and uses cognition to think" (Liu, 1996). The process is dynamic and iterative which involves visualizing ideas for problem solving, establishing connection between the idea and problem through thinking and informing the ideas as design strategies (Razzouk & Shute, 2012). To comprehend design thinking in depth, it is imperative to understand the processes that involve design thinking used by entrepreneurs. As displayed in Diagram 1, the Design Thinking procedure as stated in Stanford, constitutes five stages of an innovation process. First, "Empathize" refers to the major intent is to put oneself in the shoes of the consumer and to ask open-ended questions in order to familiarize with the business problem. Second, "Define", as the problem stated is formulated, based on the insights gathered, the objective is to verbalize certain needs which can be converted in an action-oriented manner. Third, "Ideate" where new ideas are born and shared among the

colleagues openly allowing them to generate as many novel solutions as possible. Fourth, "Prototype", in here, a demo physical shape is given as a solution to the business problem based on the creative and innovative ideas and engaged. Finally, in the last stage, "Tested", a satisfactory solution is found and finalized that aims to resolve the business problem (Reinecke, 2016). However, if the prototype is unable to resolve the business problem, then again, the process begins with Empathize and continues until it is the final and best fitted solution to the problem.
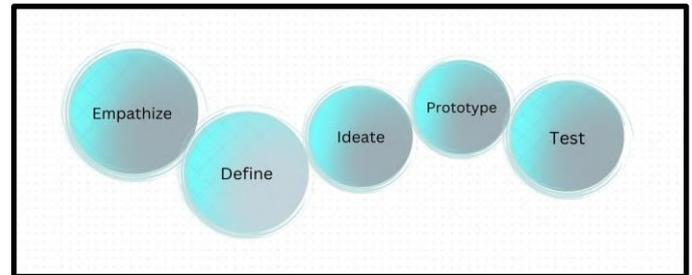


*Diagram-1: Design thinking process*

### 2.2 Design Thinking: A Catalyst for Entrepreneurs:

Entrepreneurial efforts exhibit distinct characteristics compared to established organizations, since they are characterized by simultaneous growth and development of both the business itself and its sales objectives. The significance of including a thorough procedure with meticulously designed actions prior to the initiation of new enterprises, such as establishing a space for potential, formulating a company concept, performing testing, and undertaking a feasibility analysis. These tasks require a flexible, adaptable, and imaginative approach. The utilization of design thinking is necessary in order to effectively bridge and integrate business concepts into practical implementation (Carella, Cautela, Melazzini, Pei, & Schmittinger, 2022). Design thinking involves understanding people and creating products or services, developing empathy, and questioning problems. It helps entrepreneurs tackle ill-defined and unknown problems through human-centric reframing, brainstorming sessions, and hands-on prototyping and testing. It also aids entrepreneurs in questioning assumptions and implications (CEOInsights Team, 2021). A rising number of contributions discussing the connection between design thinking and entrepreneurship have been there that aim towards investigating how the design process, methods and the tools can be useful for entrepreneurship. Moreover, several papers have illustrated in recent years that the principles of design thinking in entrepreneurial studies and practices should undoubtedly be included and adopted for various reasons to satisfy very specific needs (Carella, Cautela, Melazzini, Pei, & Schmittinger, 2022). One of the

notable examples of design thinking can be Airbnb. Airbnb was earning a sum of $200 a week, but still was unable to live up to the expectations of the consumers. After some observation, it was found that the advertised pictures posted online weren't of enough quality, which resulted in consumers feeling unsatisfied about the rooms before booking it. To overcome the issue, the founders themselves traveled to places to explore the rooms. They came up with the solution of using high quality pictures of the rooms by detailing them with special features and descriptions and highlighting areas close to residence such as shops, malls, bus stands and so on. Consequently, the revenue of Airbnb increases in a week (HBS Online, 2022). However, this example shows that design thinking is the strategy that the entrepreneurs use to overcome the problem that led to achieve the business objective.

### 2.3 Challenges of design thinking in India:

Design thinking has generated a considerable interest among the practitioners and scholars as it has a positive influence on the organizations especially medium and small internally through motivating employees and externally by innovation (Daniel, 2016). Extant literature has laid the theoretical understanding and inter-connectivity with entrepreneurship and design thinking in the business scenario (Freeman, 1987). Despite the theoretical analysis and potential that entrepreneurs draw from design thinking, there are several significant hurdles that entrepreneurs in India experience in executing and implementing design thinking in their firm. First, design thinking takes more time and money, especially for Indians, because it involves a lot of prototypes and user research, yet design thinking provides a structured approach for innovation. While trial and error is a fantastic approach to see what works and what doesn't, it can be a time-consuming and expensive process (HBS Online, 2022). Second, biases, like any human-led process, are prone to design thinking in India, which can impede the empathy and ideation stages of the process (Osann, Mayer, & Wiele, 2020). Third, certain stakeholders may be averse to change, even if the design thinking solution is advantageous, or individuals and organizations that are resistant to altering their view on conventional ways to issue resolution.

### 2.4 PESTLE Framework:

PESTLE is a typical problem-solving approach employed by businesses that stands for political, economic, social and technical, legal, and environmental. PESTLE analysis is commonly used to forecast future events based on current conditions (Abdoh, A Saany, H Jebur, & El-Ebiary, 2020). However, this analytical approach is employed in strategic planning to analyze macro-environmental elements surrounding business (Abdoh, A Saany, H Jebur, & El-

Ebiary, 2020) and alter the micro factors appropriately. PESTLE, for example, has been used for strategic analysis in areas such as traffic safety, airlines, tourism, and business (Katko, 2006; Mhlanga and Steyn, 2018). However, our paper aims to extend the existing usage of PESTLE framework to understand the implementation of design thinking in the Indian context.

### III.    RESEARCH QUESTIONS

What strategies entrepreneurs in India employ to effectively use the opportunities of implementing design thinking in their business, while addressing the challenges using the PESTLE framework?

    a. What are the potential opportunities of entrepreneurs in India in implementing design thinking in their business?

    b. What are the challenges entrepreneurs encounter in India in implementing design thinking in their business?

    c. How entrepreneurs in India can leverage their business design thinking to overcome the challenges using the PESTLE framework?

### IV.    METHODOLOGY

Our purpose for this article is to conceptually strengthen the understanding of the challenges and opportunities of entrepreneurship in India integrating design thinking and PESTLE framework. The phenomena are explored by us using qualitative research since the approach extensively discusses the inclusion of interpretations and evaluation of consumer 's experiences, in which more rigor is required. (Crick, 2021).

### 4.1 Sample:

Researchers opt to utilize secondary data due to its cost-effectiveness, time efficiency, and wide availability of diverse datasets. From the existing data, we want to categorize and structure the raw secondary data based on challenges and opportunities of entrepreneurship in using design thinking in their business organizations. The objective of this paper is to develop a PESTLE framework that will provide insights about how to overcome the challenges of implementing design thinking in countries like India. Through the PESTLE framework, a comprehensive understanding of the political, economic, social, technological, environmental and legal aspects of design thinking application in businesses thereby facilitating managerial decision-making and contributing to the existing body of literature.

We selected social networking to highlight the use of design thinking as a section to understand the difficulties and

potential of entrepreneurship in India. Social networking sites provide the greatest notion of content and interests that attract users or target audiences, therefore initiating effective solutions for consumers based on their needs. According to a Forbes report in 2023, globally 4.9 billion people use social networks, which is not predicted to remain constant, with a compound rise to 5.85 billion by 2027. According to Indian statistics, 67.5 percent of all internet users in India utilize at least one social networking site, as of January 2023. According to the report, 77 percent of firms utilize social media to reach out to customers (Wong, 2023).

In this study, we will study Hike messenger as a context to understand design thinking and its application in India. Hike messenger was founded by Kavin Bharti Mittal in 2012 (Kundu, 2023). It was known to be one of the fastest growing Unicorn in India since it introduced the first messaging and social technology company in India enabling social messaging with unique platform and app features. Some of the features such as a two-way message system which enables users to add or accept contacts before messaging with security measures, offline message system, and free messaging. Further, there was also a theme-based interface which embarks conversations with some interesting graphic mediums. However, despite having these features, Hike messenger saw a downfall and ceased in January 2021. The reason behind it was lack of unique selling propositions and fast evolution in the market which made them unable to serve the users with new or more evolving features or creativity to the users like current apps (Shrivastava, 2022).

Hike Messenger was chosen for our paper because it is one of the social networking sites that offered the social messaging aspects of communicating with one another, and it employed design thinking to entice customers to its platform. Hike Messenger's experiences allow us to dig into the most dynamic sphere of the market, namely technology and communication, which is dynamic and changing and completely combines with design thinking. Our study will give insights into the larger implications of user-centered design in the Indian IT sector, as well as its prospective implications for innovation and market success, by utilizing hike messenger and combining it with the PESTLE framework.

### 4.2 Analysis:

We conducted content analysis to analyze the challenges, possibilities, and construct a PESTLE framework for adopting design thinking in India while analyzing our secondary data. Because of its capacity to extract meanings from textual, visual, and conceptual data, content analysis is one of the most extensively used data analysis techniques

in qualitative research (Schreier, 2012). Secondary sources such as newspapers, articles, academic papers, conferences, blogs, and industry reports were utilized in the context of our study, allowing us to delve deeper into the research subject. In our work, the first stage of content analysis was data collection, which was subsequently categorized into common themes based on words and concepts, and finally interpretations. Primary theme categories were improved iteratively, and patterns were established. Finally, an analysis of these categories fit with the study purpose within the context and PESTLE framework was developed in the last phase of interpretation.

As a result, content analysis was chosen as the study approach since it provides in-depth insights into the narratives and discourses around design thinking and entrepreneurship in India.

## V.          RESULTS

The findings that we obtained through the secondary data led us to identify the challenges and opportunities that are outlined in the style of a table below in Figure 1 and Figure 2.1. Further, the study also outlines the solutions to overcome the challenges using the PESTLE framework, as seen in Figure 2.2 below.

### 5.1 Challenges:

Our research found that design thinking provides significant advantages to business, yet our results in detail highlighted several challenges encountered by entrepreneurs in India, as shown in *Figure 1*, which are grouped in seven categories (Financial, Mindset and Social, Human Resources, Cultural, Technological Inefficiency, Individual Subjectivity). Out of these, three of them are major issues in India. First, because design thinking is a costly technique, it is a financial barrier for Indian businesses. Second, as design thinking states, adopting to newness and being non-flexible towards newness or resistive to established ways provide a problem to Indian businesses. Third, technological inefficiency, because design thinking is time consuming, expensive, and a creative process, technology is much needed to help the process, but due to lower investments, there is less technological upgradation, and also due to being unaware of new advancements and with less technological support, the process becomes more time consuming and can lack creativity, which new upgrades can provide.

| Sl. No. | Category | Problem |
|---|---|---|
| 1 | Financial | Expensive, budget constraints |

| 2 | Mindset and social | Strict Traditional approach, Non flexibility towards newness, Resistance to change |
|---|---|---|
| 3 | Human resources | Issues in execution, limited focus towards implementation, narrow focus |
| 4 | Cultural | Biasness |
| 5 | Technological inefficiency | Slightly expensive, less aware. |
| 6 | Individual subjectivity | Relies heavily on intuition and personal experience, not suitable for all processes |

*Figure 1: Challenges of Design thinking in India*

### 5.2 Opportunities:

According to our study, Design Thinking provides significant opportunities to the business in India listed below in *Figure 2.1,* as organized in six categories that are displayed in the form of a PESTLE framework (Political, Economic, Social, Technological, Legal and Environmental). Three of them represent big opportunities. First, it is economically beneficial for brands and enterprises to incorporate design thinking into their products or services since it increases employment, income, and profitability. Second, on a social level, if companies such as handloom, FMCG, or small-scale industry include design thinking into their goods, it may boost literacy rates, give regional and local upliftment, and empower women. Finally, including design considerations such as biodegradable materials and decomposition facilities into goods or services can have a positive impact on the environment.

| Sl. No. | Category | Details | Industry |
|---|---|---|---|
| 1 | Political | Political stability, foreign trades, taxation policies | Export-import industry. |
| 2 | Economic | Increases employment, | Service sector, textile, |
| | | increased net income/ revenue/ profits | transport industries |
| 3 | Social | Women empowerment, Literacy rate, regional and local upliftment | Handloom industry, FMCG, small scale industries. |
| 4 | Technological | Reduces costs, increase efficiency, cheaper labor | IT industries, automobile industry, electronics |
| 5 | Legal | Maintain industrial harmony, protects rights of workers, | Infrastructure and heavy iron industries. |
| 6 | Environmental | Biodegradable materials, Decomposition facilities | Agro - industries, Cosmetic industries, Beverages and food industry. |

*Figure 2.1: Opportunities of Design thinking*

### 5.3 Solutions integrating PESTLE Framework:

According to data based on gathered information, design thinking presents some challenges to those who use it, but it also provides a few solutions. As shown in Figure 2.2, these are classified into six broad categories (political, economic, social, technological, legal and environmental). Three factors give key solutions in India. First, economic as Indian firms experience issues throughout the investment and budget phase, increasing budget allocation to companies and developing stronger investment plans may be employed to combat the challenges. More economic positives may be supplied to the firm if design thinking is implemented, not just via investments, but also through the adaptation of other concepts such as favorable mergers, acquisitions, amalgamations, and many more. Second, social as it is a critical obstacle to our Indian business due to the resistive attitude to old ways or inflexibility towards newness and improved ideas that stand in the way of better solutions. For example, by being more open to new chances

and innovative ideas and having a flexible attitude and mentality towards change, better solutions may be created for the benefit of the organization through design thinking. Third, technological advancements are a major challenge in India due to low investment and a lack of awareness about new advancements, which makes the design thinking process more time consuming and less creative. This can be solved by being aware of what's new, conducting workshops and sharing about new technologies or applications, and being more open about conducting and experimenting with new technologies.

*Diagram-2: Design thinking process*

| Sl. No. | Category | Solutions |
|---------|----------|-----------|
| 1 | Political | Cross-border collaborations, Stakeholder centric development policies, Youth collaborations with international parties. |
| 2 | Economic | More budget allocation to business, especially startups that focus on economic upliftment for the nation, increased investment plans. |
| 3 | Social | Open towards new opportunities, innovations and ideas. Flexibility in attitudes and mindset towards change. |
| 4 | Technological | Being aware about new upgrades, conducting workshops related to new technologies and its applications, implementing and experimenting with new advancements. |
| 5 | Legal | Ethical laws for promoting startups, Empathetic solutions, Transparency in legal procedures, simple communication system |
| 6 | Environmental | Usage of more solar power, implement 3R strategies in business models, proper disposition of products and services, uses new trends of sustainability like green innovations. |

## VI. CONCLUSION

The primary objective of our study is to establish all possible insights through the design thinking process involved in the business. The study used a qualitative approach for exploring the underlying factors and developing conceptual understanding of the design thinking and how entrepreneurs implement it in their business strategies. The qualitative approach involved secondary data (i.e., newspapers articles, research articles, blogs and conferences) and analyzing them into common themes based on words and concepts using content analysis. The content analysis not only helped us with identifying the common themes and derive our findings based on the research objectives but also, provided us with insights that helped to frame solutions to overcome the challenges faced by Indian entrepreneurs to implement design thinking.

According to our findings based on accumulated data, design thinking processes in business have both routes of possibilities and obstacles, with necessary answers to the challenges. We discovered three major issues that organizations face: financial, social or mindset, and technological inefficiencies. Economic, social, and environmental prospects are three of the most important to the business and its worth. The disadvantages are related with the process as problems, yet according to the findings, solutions were supplied.

Our study insists on a great help to the managers by having several benefits of design thinking. To begin with, the research presents a complete framework outlining the potential, difficulties, and essential solutions. Second, this study will benefit all present firms in terms of expansion, growth, development, and new product and service innovation. As a result, overseas partnerships, economic upliftment, and social upliftment may be stimulated. Third, it will assist to stimulate new entrepreneurs with new product and service ideas, which will benefit companies with more purchases, resulting in higher profits, and may function as a help in delivering more value to consumers. Furthermore, the findings will assist the academic community in three ways. First, the study adds by expanding the knowledge on Indian entrepreneurship and design thinking. The study will provide future students a better understanding of the problems and potential of merging design thinking with the PESTLE framework. Second, the study lays the groundwork for future research by determining how this framework will adapt to various cultural and socioeconomic aspects. Finally, the article

allows researchers to contribute to the larger subject of entrepreneurship studies.

## ACKNOWLEDGMENT

## REFERENCES

[1] Abdoh, H. M. B., A Saany, S. I., H Jebur, H., & El-Ebiary, Y. A. (2020). The Effect of PESTLE Factors on E-Government Adoption in Jordan: A Conceptual Model. International Journal of Engineering Trends and Technology, 19–23. https://doi.org/10.14445/22315381/cati3p203

[2] AMA. (2023, March 8). The 5 Phases of Design Thinking. Retrieved from https://www.ama.org/marketing-news/the-5-phases-of-design-thinking

[3] Carella, G., Cautela, C., Melazzini, M., Pei, X., & Schmittinger, F. (2022). Design thinking for entrepreneurship: An explorative inquiry into its practical contributions. *The Design Journal*, *26*(1), 7–31. https://doi.org/10.1080/14606925.2022.2144565

[4] CEOInsights Team. (2021). How Design Thinking can Help Entrepreneurs Grow. Retrieved from https://www.ceoinsightsindia.com/news/how-design-thinking-can-help-entrepreneurs-grow-nwid-4919.html

[5] Crick, J. M. (2021). Qualitative research in marketing: what can academics do better? Journal of Strategic Marketing, 29(5), 390-429.

[6] Daniel, A. D. (2016). Fostering an entrepreneurial mindset by using a design thinking approach in entrepreneurship education. *Industry and Higher Education*, *30*(3), 215–223. https://doi.org/10.1177/0950422216653195

[7] Dunne, D., & Martin, R. (2006). Design Thinking and How It Will Change Management Education: An Interview and Discussion. *Academy of Management Learning & Education*, *5*(4), 512–523. https://doi.org/10.5465/amle.2006.23473212

[8] Freeman, R. (1987). Where Are We, and Where Do We Go from Here? *Design for Arts in Education*, *88*(6), 29–32. https://doi.org/10.1080/07320973.1987.9935502

[9] HBS Online. (2022, January 18). What Is Design Thinking & Why Is It Important? Retrieved from https://online.hbs.edu/blog/post/what-is-design-thinking

[10] HBS Online. (2022, February 22). 5 Examples of Design Thinking in Business. Retrieved from https://online.hbs.edu/blog/post/design-thinking-examples

[11] Katko, T. S. (2006). Road Safety Fatalities, Management, and Policy in Finland, 1970-2003. Public Works Management & Policy, 11(2), 126–138. https://doi.org/10.1177/1087724x06294066

[12] Kundu, S. (2023). Exploring the Rise and Fall of Hike Messenger in India. Retrieved from https://www.linkedin.com/pulse/exploring-rise-fall-hike-messenger-india-suvimal-kundu

[13] Kummitha, R. K. R. (2018). Institutionalising design thinking in social entrepreneurship. *Social Enterprise Journal*, *14*(1), 92–107. https://doi.org/10.1108/sej-12-2016-0059

[14] Liu, Y. T. (1996). Is designing one search or two? A model of design thinking involving symbolism and connectionism. *Design Studies*, *17*(4), 435–449. https://doi.org/10.1016/s0142-694x(96)00018-x

[15] MIT Sloan. (2017, September 14). Design thinking, explained. Retrieved from https://mitsloan.mit.edu/ideas-made-to-matter/design-thinking-explained

[16] Mhlanga, O. (2018). Impacts of the macro environment on airline performances in southern Africa: Management perspectives. Tourism and Hospitality Research, 19(4), 439–451. https://doi.org/10.1177/1467358418771442

[17] Osann, I., Mayer, L., & Wiele, I. (2020). *The Design Thinking Quick Start Guide*. John Wiley & Sons.

[18] Razzouk, R., & Shute, V. (2012). What Is Design Thinking and Why Is It Important? *Review of Educational Research*, *82*(3), 330–348. https://doi.org/10.3102/0034654312457429

[19] Reinecke, S. (2016). What Is It That Design Thinking and Marketing Management Can Learn from Each Other? *Design Thinking for Innovation*, 151–162. https://doi.org/10.1007/978-3-319-26100-3_11

[20] Sarooghi, H., Sunny, S., Hornsby, J., & Fernhaber, S. (2019). Design Thinking and Entrepreneurship Education: Where Are We, and What Are the Possibilities? *Journal of Small Business Management*, *57*(sup1), 78–93. https://doi.org/10.1111/jsbm.12541

[21] Schreier, M. (2012). *Qualitative Content Analysis in Practice*. SAGE.

[22] Simplilearn. (2023, August 10). Understanding Design Thinking and Entrepreneurship. Retrieved from https://www.simplilearn.com/design-thinking-and-entrepreneurship-article

[23] Shrivastava, S. (2022, January 6). Why Hike Messenger Failed? A Mammoth Case Study of India's Messaging App | Medium. Retrieved from https://writershubhamshrivastava.medium.com/hike-messenger-failed-mammoth-case-study-e09b51445d91

[24] Wong, B. (2023, August 4). Top Social Media Statistics and Trends Of 2023. Retrieved from https://www.forbes.com/advisor/in/business/social-media-statistics/