INTERNATIONAL JOURNAL OF PROGRESSIVE RESEARCH IN ENGINEERING MANAGEMENT AND SCIENCE (IJPREMS)
(Int Peer Reviewed Journal)
Vol. 05, Issue 03, March 2025, pp : 859-865
www.ijprems.com
editor@ijprems.com
e-ISSN : 2583-1062
Impact Factor : 7.001

DESIGN THINKING ON PRODUCT DEVELOPMENT BASED ON ANTHROPOLOGY

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ABSTRACT

Design thinking has gained prominence as an innovative approach to product development, integrating user-centric methodologies with entrepreneurial and anthropological insights. This study explores the role of design thinking in shaping product development while emphasizing the importance of anthropological research and entrepreneurial strategies**.** By analyzing key factors such as empathy, cultural competence, prototyping, and adaptability**,** the study highlights the interconnected nature of these disciplines. The findings suggest that ethnographic research, contextual inquiry, and human-centered design significantly enhance the effectiveness of design thinking, leading to more innovative and user-friendly products. Additionally, entrepreneurial factors such as innovation, risk tolerance, and visionary leadership are crucial in translating design insights into market-ready solutions. The study concludes with a proposed framework for integrating design thinking, anthropology, and entrepreneurship to optimize product development.

Keywords: Design Thinking, Anthropology, Product Development, Innovation, Entrepreneurship

1. INTRODUCTION

The intersection of design thinking, anthropology, and entrepreneurship is an evolving area of research that shapes product development and innovation. Design thinking, a problem-solving approach rooted in human-centered design, fosters creativity and iterative improvements in product design (Brown, 2009). It emphasizes empathy, user needs, and continuous feedback**,** ensuring that products align with real-world requirements (Liedtka, 2015).

Anthropology, particularly ethnographic research and cultural analysis, enhances the effectiveness of design thinking by providing deep insights into user behaviour, preferences, and cultural contexts (Jordan, 2010). Understanding these factors ensures that products are not only functional but also culturally relevant and socially inclusive (Suchman, 2007).

Entrepreneurial thinking and innovation drive product success by incorporating market adaptability, risk tolerance, and strategic decision-making (Schumpeter, 1934). Entrepreneurs leverage design thinking methodologies to enhance business strategies, improve product value, and create customer-driven solutions (Ries, 2011).

2. OBJECTIVE

- To investigate the impact of design thinking on products development.
- To explore the role of anthropology in informing design and product decision.
- To examine the relationship between entrepreneurship and innovation.
- To develop a framework for integrating design thinking, anthropology and entrepreneurship.

3. REVIEW OF LITERATURE

Design Thinking in Product Development

Design thinking is a structured approach to innovation that prioritizes user needs, creativity, and iterative problem-solving. Brown (2009) describes it as a human-centered, iterative process that fosters innovation by emphasizing empathy, problem definition, ideation, prototyping, and testing. Several scholars have explored its effectiveness in product development.

Plattner, Meinel, and Leifer (2015) suggest that design thinking enhances problem-solving capabilities by promoting interdisciplinary collaboration and rapid prototyping. A study by Carlgren, Rauth, and Elmquist (2016) identifies five key principles of design thinking in organizational settings user focus, problem framing, visualization, experimentation, and diversity**.** Their research indicates that companies adopting these principles enhance their ability to develop innovative solutions**.**

Liedtka (2015) argues that design thinking improves business performance by integrating customer insights into product development. Her study demonstrates that companies utilizing design thinking experience higher success rates in new product launches. However, Johansson-Sköldberg, Woodilla, and Çetinkaya (2013) caution against treating design thinking as a universal solution, emphasizing that its effectiveness depends on organizational culture and adaptability**.**

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Anthropology and Product Development

Anthropology plays a pivotal role in product development by providing cultural and social insights that inform user-centric design. Ethnographic research, cultural competence, and contextual inquiry are essential tools in understanding user behaviour.

According to Jordan (2010), ethnographic research enables designers to capture user needs, behaviours, and social dynamics in real-world settings. This approach helps organizations develop products that align with cultural contexts. Suchman (2007) highlights the significance of contextual inquiry, stating that observing users in their natural environments leads to more intuitive product design.

Malefyt and Morais (2012) discuss how cultural anthropology informs marketing and product development, demonstrating that brands leveraging anthropological insights create stronger emotional connections with consumers. Similarly, Wasson (2000) notes that companies incorporating anthropological methods gain deeper insights into consumer preferences, leading to higher product adoption rates.

Despite its benefits, Blomberg and Darrah (2015) argue that many organizations underutilize ethnographic research due to time constraints and budget limitations. They recommend integrating rapid ethnography techniques to balance time efficiency with deep cultural insights.

Entrepreneurship, Innovation, and Risk-Taking

Entrepreneurship and innovation are closely linked, with risk tolerance and adaptability playing crucial roles in successful product development. Schumpeter (1934) defines innovation as the creative destruction of existing market structures, emphasizing that entrepreneurs drive economic growth by introducing novel products and services.

Drucker (1985) argues that entrepreneurship requires a systematic approach to innovation, involving market analysis, risk assessment, and iterative development. His research highlights that companies with higher risk tolerance and adaptability tend to outperform competitors. Similarly, Blank (2013) advocates for lean startup methodologies, where rapid experimentation and user feedback drive product iterations.

Recent studies, such as those by Ries (2011), reinforce the value of prototyping and iterative development in entrepreneurship. Ries' lean startup framework emphasizes minimizing waste through continuous experimentation and learning, a principle that aligns with design thinking methodologies.

However, Chesbrough (2003) critiques traditional innovation models, arguing that open innovation—where firms leverage external knowledge sources—enhances product development outcomes. This view suggests that collaborative innovation ecosystems lead to higher success rates in entrepreneurship.

Integrating Design Thinking, Anthropology, and Entrepreneurship

A growing body of research highlights the need to integrate design thinking, anthropology, and entrepreneurship to drive innovation and business success. Brown (2009) and Liedtka (2015) argue that empathy-driven design thinking aligns well with anthropological research, providing deep consumer insights that inform product decisions. Similarly, Blank (2013) and Ries (2011) advocate for rapid experimentation, which aligns with both ethnographic research and design thinking principles.

Wasson (2000) suggests that entrepreneurs who incorporate ethnographic research gain a competitive advantage, as their products are better aligned with consumer needs. Moreover, Buchanan (1992) emphasizes that human-centered design and cultural awareness must be at the core of product innovation strategies.

Despite these synergies, scholars such as Johansson-Sköldberg et al. (2013) caution that organizational resistance and traditional business mindsets can hinder the integration of these disciplines. Overcoming these barriers requires a shift toward cross-disciplinary collaboration and leadership support.

4. FINDINGS

Table 1: Demographic information

Particular	Number of responses	Percentage
Age		
18 to 24 years	66	66
25 to 34 years	12	12
35 to 44 years	9	9
45 to 54 years	7	7
Above 55 years	6	6

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Total	**100**	**100**
Gender		
Male	57	57
Female	37	37
Non-binary	-	-
Prefer not to say	6	6
Total	**100**	**100**
Location		
Urban	45	45
Suburban	16	16
Rural	35	35
International	4	4
Total	**100**	**100**
Educational Level		
High school	5	5
Associate degree	7	7
Bachelor's degree	40	40
Master's degree	38	38
Doctor or higher	10	10
Total	**100**	**100**
Occupation		
Employed full-time	18	18
Employed part-time	5	5
Self-employed	15	15
Student	56	56
Unemployed	6	6
Total	**100**	**100**
Tech Savviness How comfortable are you with using Technology?		
Very comfortable	36	36
Comfortable	50	50
Not very comfortable	10	10
Not comfortable at all	4	4
Total	**100**	**100**

Age Distribution-

Majority of respondents (66%) are between 18-24 years**,** followed by 12% in the 25-34 range. This suggests that younger individuals (possibly students and early-career professionals) are more engaged with design thinking and product development. The low percentage of older participants (6-9%) indicates a lesser involvement of senior professionals, which may imply a need for targeted awareness and upskilling programs in design thinking.

Gender Distribution

57% of respondents were male, 37% female, and 6% preferred not to say. This suggests higher male engagement in product design, which may reflect gender trends in innovation and entrepreneurship. Ensuring diverse participation in product development processes can enhance inclusivity.

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Location

45% of respondents were from urban areas, followed by 35% from rural areas**,** 16% from suburban areas**,** and 4% international. Urban respondents are more engaged in design thinking, possibly due to better access to technology and resources. The 35% rural representation highlights the growing interest in innovation beyond urban settings**,** signaling the need for inclusive product development approaches.

Educational Level

Most respondents (40%) held a bachelor's degree**,** followed by 38% with a master's degree. This indicates that individuals with higher education are more familiar with design thinking principles**.** A small portion (5%) had only high school education, suggesting a gap in exposure to design thinking and anthropology in early education**.**

Occupation

56% of respondents were students**,** followed by 18% full-time employees and 15% self-employed individuals. This shows that students are the primary participants**,** possibly because design thinking is actively taught in academic settings**.** The presence of self-employed individuals (15%) suggests that entrepreneurs recognize the value of design thinking in business growth.

Tech Savviness

86% of respondents reported being comfortable or very comfortable with technology**.** This suggests that technology plays a crucial role in design thinking and product development. However, 14% expressed discomfort with technology**,** indicating a need for user-friendly design tools to cater to less tech-savvy individuals.

Table 2- Design Thinking Factor

Particular	SD	D	N	A	SA	Total
I contact research to understand user's needs and challenges.	9	9	37	28	17	100
I gather emotional and behavioural insights from uses during design process.	7	14	33	34	12	100
I clearly define the problem before starting the design phase.	5	11	29	41	14	100
The problem definition includes both user needs and cultural context.	4	12	30	37	17	100
I use prototypes to test and refine product ideas.	5	11	30	37	17	100
I gather feedback on prototypes from real user.	6	5	31	41	17	100

Source: Primary Date Interpretation

Design Thinking Factors

Empathy

Empathy is a crucial component of design thinking, as it ensures that product development is user-centric.

Understanding User Needs & Challenges

45% of respondents actively conduct research to understand user needs (28% Agree, 17% Strongly Agree). However, 37% remain neutral, which indicates a lack of proactive research. A combined 18% disagree or strongly disagree, highlighting a gap in research integration.

Gathering Emotional & Behavioral Insights

46% of respondents agree that they gather emotional and behavioral insights during product design.However, 33% remain neutral, and 21% disagree, suggesting that emotional intelligence is underutilized in product development.

Define

Defining the problem correctly ensures that solutions are aligned with user needs and cultural contexts.

Problem Definition

55% of respondents (41% Agree, 14% Strongly Agree) ensure clear problem definition before designing a product. However, 29% are neutral, indicating that not all teams prioritize defining problems before moving to solutions.

Cultural Context in Problem Definition

54% of respondents integrate cultural context into problem definition. However, 30% remain neutral, meaning that not all consider cultural nuances in product development.

Prototype

Prototyping is essential for iterative design, allowing for testing and improvement.

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Use of Prototypes

54% actively use prototypes to test ideas, whereas 30% remain neutral. This highlights a need for a more structured prototyping process.

Gathering User Feedback on Prototypes

58% gather user feedback before finalizing products, indicating strong user involvement in design refinement. However, 31% remain neutral, meaning that some teams might not be maximizing user feedback.

Table 3- Anthropology Factor

Particular	SD	D	N	A	SA	Total
I use ethnographic research to understand cultural and social context.	9	10	33	37	11	100
I involve real uses in research to understand their daily experiences.	4	7	29	38	22	100
I consider cultural differences when designing products.	8	6	28	40	18	100
My team is trained to work with diverse cultural perspectives.	6	9	24	35	26	100
I prioritize user's needs and experiences in the design process.	6	6	27	37	24	100
I involve users at every stage of a design process to ensure the product is relevant to them.	4	9	22	38	27	100
I observe users in their natural environments to understand their context.	4	10	27	34	25	100
I use real-world insights to influence design decisions.	4	9	27	37	23	100

Source: Primary Date Interpretation

Anthropology Factors

Anthropology provides a deep understanding of cultural and social dynamics, influencing product design.

Ethnographic Research

48% use ethnographic research, while 33% are neutral, and 19% do not use it at all. This suggests that ethnographic research is underutilized, despite its value in understanding user experiences.

Cultural Competence

58% consider cultural differences in design, but 28% remain neutral**.** 61% report that their teams are trained in cultural diversity**,** showing a growing focus on inclusivity.

Human-Centered Design

61% prioritize user needs in the design process, ensuring relevance. However, 27% remain neutral**,** indicating a need for more structured user involvement.

Contextual Inquiry

59% observe users in their natural environment, ensuring that designs align with real-world applications. However, 27% remain neutral**,** highlighting a need for more active observation methods.

Table 4- Entrepreneurship Factor

Particular	SD	D	N	A	SA	Total
I encourage creative thinking and innovation solutions in my product development process.	5	10	30	32	23	100
I explore new technologies and ideas to improve product value.	4	9	28	33	26	100
I am open to taking calculated risks in product development.	5	7	29	44	15	100
My team is comfortable with experimentation and learning from failures.	4	7	25	40	24	100
I adapt my approach based on new insights or changing user needs.	4	8	26	42	20	100
I encourage flexibility in the product development process.	7	7	27	36	23	100
I provide a clear vision for product's future.	4	10	23	40	23	100
I motivate my team to think long-term and push boundaries in product design.	7	9	27	37	20	100

Source: Primary Date Interpretation

Entrepreneurship Factors

Entrepreneurship plays a key role in driving innovation and risk-taking in product development

Innovation

55% encourage creative thinking**,** and 59% explore new technologies to enhance product value. However**,** 30% remain neutral**,** suggesting room for greater innovation adoption.

Risk Tolerance

59% of respondents are comfortable taking risks in product development. However, 29% remain neutral**,** meaning that some teams still hesitate to embrace risk-taking.

Adaptability

62% adapt their approach based on user needs. This high percentage indicates a strong culture of flexibility in product design**.**

Visionary Leadership

63% provide a clear vision for product development**.** However, 23% remain neutral, suggesting that leadership clarity could be further improved.

Key Takeaways

Design thinking is widely recognized but not consistently applied. Many participants understand the importance of empathy, problem definition, and prototyping, but neutrality in responses suggests that practical application needs improvement.

Anthropology is underutilized in product development**.** While cultural competence is recognized, ethnographic research and contextual inquiry require greater integration.

Entrepreneurship factors drive product development, but innovation and risk tolerance need reinforcement**.** While adaptability is strong, risk aversion remains an issue for some teams.

5. RECOMMENDATIONS

Encourage hands-on design thinking workshops to reinforce empathy and problem definition strategies.

Increase the use of ethnographic research in product development to ensure cultural relevance.

Foster a stronger innovation culture by encouraging calculated risk-taking and experimentation.

Enhance leadership training to strengthen long-term vision and strategic decision-making.

By integrating design thinking, anthropology, and entrepreneurship, organizations can create more user-centric, innovative, and adaptable products that cater to diverse markets.

6. CONCLUSION

The study underscores the vital role of design thinking, anthropology, and entrepreneurship in shaping user-centric product development**.**

Design thinking provides a structured framework for innovation, ensuring that products address real user needs through empathy, prototyping, and iterative testing**.** Anthropology enriches this process by embedding cultural competence, ethnographic research, and contextual inquiry into product design**,** bridging the gap between technology and human behaviour.

Finally, **e**ntrepreneurship ensures that design innovations translate into market-ready solutions, emphasizing adaptability, risk-taking, and visionary leadership.

To achieve optimal product development, organizations should:

- Integrate ethnographic research into design processes to better understand user needs.
- Encourage prototyping and iterative testing to refine product functionality.
- Promote risk tolerance and adaptability in entrepreneurial decision-making.
- Incorporate cultural awareness into product strategies for market relevance.
- Develop cross-disciplinary collaborations to bridge design, anthropology, and business innovation.

  Future research should explore how emerging technologies, such as AI and big data, can further enhance the integration of these disciplines in product development**.** By leveraging these insights, businesses can create more sustainable, user-friendly, and innovative solutions in an ever-evolving global market.

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