



Employing Stanford's Design Thinking Method for Tackling Social Issues in Kelurahan Gayungan, Surabaya

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Abstract. In order to address social concerns in Kelurahan Gayungan, Surabaya, this study paper looks at how Stanford's Design Thinking methodology is applied. The study used a qualitative research methodology to investigate the impact of Design Thinking on social innovation and community participation. The research requires carrying out on-site observations and conducting comprehensive interviews with local community leaders and citizens, with the objective of identifying their requirements and difficulties. The study adheres to the five stages of Design Thinking: Empathize, Define, Ideate, Prototype, and Test. The documentation of each stage is done with great attention to detail, highlighting the integration of community participation in the development of novel solutions. In the Empathize stage, the viewpoints of the community are collected, while in the Define stage, the important issues are clarified and transformed into problem statements that can be acted upon. During the Ideate stage, innovative solutions are collaboratively generated with members of the community. In the Prototype stage, low-fidelity prototypes are created and improved, while validators evaluate their practicality. Ultimately, the Test stage puts these prototypes into action, collecting feedback in order to further improve the solutions. The findings emphasize both the achievements and difficulties of implementing Design Thinking in this particular setting, providing valuable observations on cultural adjustments and practical execution. The study provides recommendations for policymakers and practitioners in the fields of design and social innovation, emphasizing the capacity of Design Thinking to effectively tackle intricate societal issues.

Keywords: Design Thinking, Social Innovation, Gayungan Village, Qualitative Research, Visual Communication Design, Social Design

1 Introduction

Design for social innovation applies the principles of Design Thinking to address complex societal challenges, emphasizing empathy, collaboration, and iterative problem-solving [1], [2], [3]. Emerging approaches in this field often integrate Design Thinking methodologies, focusing on human-centered solutions that foster community engagement and sustainable impact. The core stages of Design Thinking, such as ideation, prototyping, and testing, align

with innovative practices in Design for Social Innovation, enabling designers to co-create meaningful change with diverse stakeholders. Design Thinking has become a revolutionary approach for tackling intricate issues in diverse domains such as business, technology, and social innovation. Design Thinking, which originated from the design practices at Stanford University, focuses on human-centered methods and creative problem-solving to produce novel solutions. This study investigates the utilization of Design Thinking for social innovation in Kelurahan Gayungan, Surabaya, Indonesia. The goal is to comprehend how this methodology can be customized to suit the local circumstances and applied to tackle certain social problems inside this community.

Design Thinking is a method that consists of five steps: Empathize, Define, Ideate, Prototype, and Test [1], [4], [5]. These stages are structured but yet allow for flexibility. The Empathize stage entails fully immersing oneself in the user's environment to acquire profound insights into their needs and experiences. This step is crucial for comprehending the distinctive socio-cultural dynamics of Kelurahan Gayungan, which will shape the following phases of the process. The Define stage consolidates the discoveries from the Empathize stage into explicit and [1]implementable problem statements [6]. This guarantees that the design endeavors are concentrated on resolving the fundamental problems recognized within the community.

The Ideate stage cultivates a cooperative atmosphere in which a wide range of ideas are developed to address the specified difficulties. It promotes creativity and unconventional thinking, which are crucial for creating original solutions that align with the requirements of the community [7]. After the process of generating ideas, the Prototype stage entails producing physical or concrete manifestations of those concepts. Prototypes can encompass a wide range of forms, from basic drawings to fully operational models. They serve the purpose of facilitating iterative testing and improvement [8]. The ultimate round of testing assesses the prototypes in authentic situations, collecting input from users to enhance and refine the solutions.

This study utilizes a qualitative research methodology, specifically emphasizing field observations and in-depth interviews with important individuals in Kelurahan Gayungan. These individuals include local leaders (Lurah Kelurahan Gayungan) and community members. This methodology enables a comprehensive and nuanced comprehension of the community's requirements and the efficacy of the Design Thinking process in meeting those requirements [9], [10].

Although Design Thinking is widely used in industrialized countries, its applicability in Indonesia, especially in rural and semi-urban areas, is limited. This study seeks to narrow the divide by investigating how the methodology might be modified to suit the specific circumstances of Kelurahan Gayungan [11]. An expected obstacle is the lack of familiarity among both the community and local designers with the Design Thinking methodology [1]. In order to tackle this issue, the research will integrate adaptable methodologies and culturally appropriate modifications, specifically during the Prototype and Test phases [12].

The desired result is to provide enduring and influential solutions that enhance community involvement [13]. This study seeks to offer significant insights and

recommendations to policymakers, design practitioners, and academics who are interested in social innovation and community development by showcasing the practical application of Design Thinking in a real-world context [14].

This study explores how Stanford's Design Thinking process might be used to social innovation in Kelurahan Gayungan, Surabaya, using a qualitative methodology. The qualitative technique is selected because it is well-suited for obtaining detailed and contextualized insights from the community, enabling a thorough comprehension of their requirements, difficulties, and experiences [8].

2 Methods

The study adheres to the five stages of Design Thinking: Empathize, Define, Ideate, Prototype, and Test. The documentation of each stage is done meticulously, with a focus on participant interaction and iterative improvement. The research design includes field observations, in-depth interviews, and interactive design sessions to guarantee thorough data gathering and analysis.

2.1 Emphatize

The Empathize stage entails deeply engaging with the community in a way that fosters understanding and empathy. The researchers engaged in field observations and actively participated in local activities, such as the Kampung Madani program, in order to acquire a comprehensive grasp of the socio-cultural background [15]. Key stakeholders, such as community leaders, local people, and participants of the Kampung Madani initiative, were interviewed using semi-structured interviews. The purpose of these interviews was to obtain a wide range of viewpoints on the needs and difficulties faced by the community [6].

2.2 Define

In the Define stage, the data gathered during the Empathize stage was examined to pinpoint significant patterns and understandings. The researchers consolidated the data and formulated explicit problem statements, which were subsequently verified through further discussions with members of the community. This step aimed to prioritize the research efforts towards resolving the most urgent challenges reported by the community [7].

2.3 Ideate

The Ideate stage encompassed interactive brainstorming sessions with community members and local designers. Diverse ideation techniques, such as mind mapping and scenario planning, were employed to produce a broad spectrum of potential solutions. The primary focus was to promote ingenuity and unconventional thinking in order to generate inventive solutions that are in line with the community's requirements and ambitions [9].

2.4 Prototype

During the Prototype stage, a few chosen ideas from the Ideate stage were transformed into prototypes with a low level of detail. The prototypes encompassed preliminary drawings,

prototypes, and basic models that embodied the suggested solutions. Subsequently, prototypes were distributed to community members in order to obtain feedback. This iterative process facilitated the ongoing improvement of the solutions by incorporating user feedback [1].

2.5 Test

The Test stage entailed deploying the enhanced prototypes in practical situations throughout the community. Scientists observed and recorded the results, collecting comments from users to evaluate the practicality and influence of the remedies. This phase guaranteed that the ultimate solutions were pragmatic, efficient, and in line with the requirements of the community [12].

2.5 Data analysis

The data analysis was performed using an inductive technique, specifically following a thematic analysis methodology. The data obtained from interview transcripts, observation notes, and comments from the brainstorming and testing sessions were systematically analyzed and organized into distinct themes. The utilization of this approach facilitated the recognition of recurring trends and valuable understandings that influenced the creation of the ultimate resolutions [8]. The methodology offers a strong framework for implementing Design Thinking in a community setting, guaranteeing that the solutions created are both inventive and firmly based on the actual experiences of the Kelurahan Gayungan residents.

3 Results and Discussion

3.1 Emphasize

During the Empathize stage, thorough field observations and semi-structured interviews were conducted to gain a detailed insight of the community's needs and concerns (Fig. 1). The key difficulties discovered encompassed a lack of understanding of the advantages of the Kampung Madani program, restricted availability of nourishing local food, and inadequate participation in community health efforts. The interviews uncovered a widespread absence of confidence in external interventions and an inclination for solutions that are straightforward, cost-effective, and culturally appropriate.



Fig. 1. To conduct an in-depth interview with the person in charge at Kelurahan Gayungan for problem identification and needs analysis.

This step validated the importance of actively involving the community in order to establish trust and effectively identify issues [6]. The data gathered emphasized the significance of empathy in formulating solutions that align with the community's values and everyday circumstances [7].

3.2 Define

The Define stage consolidated the material into precise problem statements. The main concerns were presented as:

- How can we enhance the level of knowledge and engagement in the Kampung Madani program?
- What strategies may be implemented to enhance the availability and utilization of healthy locally sourced food?
- How can we cultivate trust and cooperation between the community and external stakeholders?

The problem statements were verified through further talks to ensure they appropriately represented the objectives of the community. The need of clarity and precision in describing challenges to enable effective solution creation was emphasized by this method [1].

3.3 Ideate

During the Ideate stage, collaborative brainstorming sessions yielded a wide range of potential solutions. Methods such as mind mapping, role-playing, and scenario planning were utilized to enhance creativity. The main concepts encompassed:

- Creating educational programs focused on the advantages of locally sourced food and the Kampung Madani initiative.
- Establishing a communal garden to cultivate nourishing locally sourced crops, promoting active involvement and availability.
- Implementing a local health ambassador program to foster trust and connection between the community and health programs.

The ideation process highlighted the importance of inclusive and interactive methods in producing a wide range of creative and original ideas [1].

3.4 Prototype

Chosen concepts were transformed into low-fidelity prototypes, which encompassed:

- Workshop outlines and materials for educational purposes.
- Proposed plans for establishing a community garden, including recommended crops to be grown and a schedule for maintenance.
- Training modules and job descriptions for community health ambassadors.

The prototypes were distributed to community members for input, and the response was overwhelmingly positive. The community valued the tangible and practical aspect of the suggested solutions, which highlights the significance of prototyping in transforming abstract concepts into actual and feasible actions [14].

3.5 Test

The Test step entailed executing the prototypes and assessing their influence. The main results comprised:

- Educational Workshops: Conducted at community centers, these workshops substantially enhanced awareness regarding the Kampung Madani program and the significance of local nutrition. The attendance rate was substantial, and the feedback received indicated an improved comprehension and admiration for regional cuisine.
- Community Garden: The garden was created with active involvement from the community. The initial crops consisted of very nutritious plants such as moringa, as well as the establishment of catfish ponds. The garden not only enhanced the availability of nourishing sustenance but also functioned as a central gathering place, promoting communal solidarity.
- Program for Local Health Ambassadors: Competent health ambassadors effectively closed the divide between the community and health efforts. Their contribution was important in spreading knowledge and fostering trust, resulting in increased participation in health initiatives.

The outcomes showcased the pragmatic usability and efficacy of Design Thinking in tackling social issues in Kelurahan Gayungan. The iterative nature of the process facilitated ongoing improvement and adjustment of solutions in response to feedback from the real world [12]. The effective implementation of Design Thinking in Gayungan Village reveals some crucial observations:

Empathy as a fundamental principle: A profound involvement with the community was essential in comprehending their requirements and establishing confidence. Empathy-driven techniques guarantee that solutions are not only pertinent but also culturally sensitive and embraced by the community [6]. The iterative nature of Design Thinking facilitated adaptability and ongoing enhancement. The incorporation of feedback loops at each level of the process ensured that solutions were continuously improved and adjusted to better align with the specific demands of the community [9].

Community Engagement: The active involvement of the community during the stages of generating ideas, creating prototypes, and conducting tests played a crucial role in establishing practical and sustainable solutions. The participatory approach utilized in this

context enabled the community to gain authority and cultivate a strong sense of ownership and dedication towards the solutions [14].

Challenges and Adaptations: Despite the effectiveness of the Design Thinking approach, obstacles such as early skepticism and lack of experience with the method necessitated modifications. For example, employing a regional validator at the Prototype phase facilitated the acquisition of community approval and ensured the practicality of the project [1].

The solutions provided had a substantial and enduring influence on sustainability. The community garden and health ambassador program exhibited promise for enduring advantages by enhancing nutrition and health consciousness, as well as promoting social unity and confidence [1], [12]. The effectiveness of this strategy in Kelurahan Gayungan indicates its potential for being expanded and applied to other communities dealing with comparable social issues. Nevertheless, it is crucial to modify the procedure to suit the particular cultural and contextual intricacies of each group.

Overall, the implementation of Stanford's Design Thinking methodology in Kelurahan Gayungan yielded significant insights into the efficacy of empathy, iterative development, and community engagement in tackling intricate societal problems. The research highlights the importance of using adaptable and contextually appropriate methods in social innovation. It provides a model that can be customized and implemented in many environments to promote long-lasting community development.

4 Conclusion

The utilisation of Stanford's Design Thinking methodology to address social issues in Kelurahan Gayungan, Surabaya, has provided valuable insights into the potential of designed interventions to address intricate community challenges. The primary objective of this study was to utilise the principles of Design Thinking, including empathy, ideation, prototyping, and testing, to create a customised and effective solution for promoting local food as a means to address stunting.

The preliminary phases of empathy and problem definition entailed thorough involvement with the community, which encompassed conducting interviews with key stakeholders and making field observations. The exercises revealed significant obstacles to nutritional health and provided valuable insights for the creation of inventive, culturally suitable remedies. The ideation process, which actively engaged community people and health experts, ensured that the proposed interventions were firmly based on the local context and effectively addressed the genuine needs of the population.

The effectiveness of utilising visual communication techniques, specifically motion graphics distributed through major social media platforms, in promoting awareness about the advantages of local foods such as tempeh and catfish was proved throughout the prototyping and testing stages. The favourable response and heightened recognition noticed among the intended recipients emphasised the need of iterative design methods and user-centric approaches. In addition to the achievements, the research also identified other obstacles, such as the necessity for continuous community involvement and the constraints

of digital outreach. These findings indicate the need to include additional offline techniques in order to achieve wider and more inclusive involvement.

In summary, this study highlights the significant impact that Design Thinking may have on resolving social problems. Design Thinking may generate inventive and enduring solutions that deeply connect with local communities by promoting collaboration, empathy, and iterative problem-solving. The project's success in Kelurahan Gayungan exemplifies its potential as a blueprint for other endeavours, showcasing the efficacy of human-centered design methodologies in tackling public health issues and fostering societal innovation.

The findings obtained from this research offer a strong basis for upcoming projects, highlighting the significance of ongoing improvement, involvement of stakeholders, and the incorporation of local expertise. Design Thinking provides a robust framework for addressing intricate societal problems that communities worldwide are encountering, enabling the creation of significant and enduring transformations.

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