Towards local design intentions: A reflection on participatory design with Indigenous Dayak people in East Kalimantan

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ABSTRACT

Every design initiative begins with intention, and participatory design is no exception. Regrettably, prevailing discourse surrounding design intentions predominantly privileges the perspective of the researcher or designer, thus marginalising the design intentions articulated by local communities. Drawing from a participatory design research workshop focused on local health conducted within an Indigenous Dayak community in East Kalimantan, Indonesia, this paper critically examines the concept of *niat* (intention). It explores the participatory research process and the underlying intentions that guide it. Additionally, this paper presents argumentative reflections advocating for the recognition of local voices in participatory design as manifestations of localised design intentions. By prioritising the articulations of the community or participants, this approach facilitates a shift away from the exclusive consideration of intentions held by designers or researchers.

CCS CONCEPTS

• **General and reference** → Document types; Reference works; Document types; General conference proceedings; Cross-computing tools and techniques; Design; • **Social and professional topics** → User characteristics; Race and ethnicity; User characteristics; Cultural characteristics.

KEYWORDS

Dayak, Design Intention, East Kalimantan, Indigenous, Participatory Design

1 INTRODUCTION

As a native of the interior region of East Kalimantan (East Borneo), I was raised within a knowledge framework that acknowledges the spiritual realm. For instance, the forest adjacent to our village is revered as a sacred environment, intertwined with mystical narratives and spiritual beliefs. Prior to venturing into the forest, elders typically impart the fundamental inquiry: 'What is your intention

for entering the forest?' It is understood that the outcomes of such excursions hinge upon one's intentions. This concept is deeply rooted in the spiritual conviction that the forest has the ability to unveil an individual's true motives, which may lead to either positive or negative outcomes.

Upon returning to the interior of East Kalimantan, I embarked on field research within Indigenous Dayak communities. Dayak is one of the native Indigenous groups of Borneo [24]. During my initial meeting with the *kepala kampung* (village head). I was posed with inquiries familiar to me as a local resident, articulated in colloquial vernacular. The question about my research intentions reflects a common practice within local communities, serving as a basis to discern the potential ramifications of an activity on the community's well-being. 'Intention,' or 'niat' in the local lexicon, signifies a commitment to undertake a particular action. Within Indonesian culture, intentionality holds significant weight in socio-humanitarian discourse, particularly in spiritual contexts, as extensively deliberated upon by Islamic scholars concerning 'niyyat' (intention) and its interpretations.

This article provides a reflective analysis of the motivations behind my research endeavors in East Kalimantan on the island of Borneo, where communities have experienced rapid and significant changes in health, inequality, and the environment. These changes have particularly affected Indigenous Dayak population, placing them in a precarious health situation [15]. The deforestation and overall degradation of the natural environment have impacted the health of Dayaks living in and around the core of Borneo's forests [21, 28]. The article begins with an overview of intentionality, both generally and within the context of participatory design. It then explores my personal ethical considerations regarding intentionality before conducting fieldwork. Finally, it details my reflections on intentionality following a participatory workshop with local people, advocating for a greater focus on local design intentions over those of designers or researchers.

2 DESIGN INTENTION

Discussions surrounding intention in design have persisted within design studies for an extensive duration. Schön [26] introduced the concept of design as reflective practice, positing that design encompasses not only problem-solving but also learning from experience and adapting to evolving circumstances [33]. He underscores the significance of designers' intentions in shaping their actions and outcomes, emphasising the iterative and adaptive nature of the design process. Building upon Schön's groundwork, Richard Buchanan explores the rhetorical aspect of design intentions [6]. He contends that designers partake in a form of persuasive communication through their creations, aiming to convey specific messages

and evoke particular responses. Buchanan's perspective underscores the pivotal role of intentionality in design, elucidating how designers strategically mould their creations to achieve desired outcomes.

In a complementary vein, Kelley and Littman [16] delve into the influence of design intent on fostering innovation. They assert that successful design outcomes often stem from designers' intentions to push boundaries, challenge assumptions, and explore novel possibilities. Their scholarship underscores the significance of creative vision and risk-taking in shaping design intent. Expanding upon this discourse, Margolin and Margolin [19] scrutinise the ethical dimensions of design intentions, contending that designers bear a moral responsibility to contemplate the broader societal impact of their work and align their intentions with ethical principles. Their scholarship underscores the imperative for designers to engage in critical self-reflection regarding their intentions and to prioritize social and environmental sustainability in their practice.

Nelson and Stolterman [22] introduced a comprehensive framework aimed at elucidating design intent. Their assertion posits that design extends beyond mere problem-solving to encompass deliberate alterations within a complex and unpredictable environment. The perspective presented by Nelson and Stolterman underscores the transformative capacity inherent in design intent, accentuating the significance of empathy, creativity, and systemic thinking in engendering favorable outcomes.

The above emphasis on design intention also constitutes a central theme within discussions surrounding participatory design. Participatory design, while striving to engage end users in the design process, frequently grapples with issues of intentionality within design studies. Scholars in participatory design have delved into the complexities and debates surrounding intentionality in this context, exploring its implications for design theory and practice. Schuler and Namioka [27] offer foundational insights into participatory design, underscoring its democratic and user-centered principles. They shed light on the intentional nature of participatory design, which seeks to empower end users and integrate their perspectives into the design process. However, the authors also acknowledge the challenges inherent in balancing designer intentions with user needs, particularly in situations where power dynamics may exert influence over decision-making processes.

Expanding on this perspective, Bødker [5] explores issues of intentionality and argues that although participatory design aims to democratize the design process, the intentions of designers and users may not always be aligned. Bødker emphasizes the importance of reflexivity and critical self-awareness in navigating the complex power dynamics inherent in participatory design, ensuring that the design remains truly inclusive and equitable. In line with Bødker, Simonsen and Robertson [23, 30] provide a contemporary overview of participatory design theory and practice. They emphasize the intentionality behind participatory design, which is rooted in principles of social justice and empowerment. However, the authors also acknowledge the challenges of ensuring that participatory design processes are truly inclusive and representative of diverse perspectives. They highlight the importance of transparency, accountability, and reflexivity in addressing the problem of intentionality in participatory design.

Based on this perspective, Binder et al. [4] argue that participatory design can give rise to power imbalances, conflicts of interest, and ethical dilemmas. The authors call for a new discourse that recognizes and addresses these problems of intentionality, emphasizing the need for reflexivity, dialogue, and negotiation in participatory design processes. For this reason, Clemensen et al. [7] emphasize the importance of building trust and good relationships with end users and facilitating open and transparent communication during the design process. The authors highlight the need for designers to critically reflect on their intentions and assumptions, ensuring that participatory design processes are guided by ethical considerations and genuine collaboration.

Additionally, intentionality becomes particularly crucial when considered with regard to vulnerable communities; these groups often face systemic marginalisation that can be inadvertently perpetuated through insensitive design practices. For example, Gautam and Tatar's work with survivors of sex trafficking in Nepal provides a profound case study regarding the importance of adopting an assets-based approach for participatory design with the aim of empowering these communities [12]. The emphasis in Gautam and Tatar's approach is on leveraging the existing strengths and resources of the survivors—referred to as 'sister-survivors'—rather than focusing on their deficits. This shift in perspective not only challenges the prevailing deficit-oriented views but also facilitates a more empowering integration of the trafficking survivors into the design process as well as into the society at large. For instance, the use of collaborative and assets-based methodologies in participatory design helps in reconfiguring the relationship dynamics within shelters, turning them into environments where survivors actively contribute to and have a say in the organisational processes that affect their lives. Moreover, the authors aver that such intentionality in design acknowledges and respects the cultural and social complexities of the survivors' lives. It avoids the imposition of external solutions that do not resonate with their lived experiences and needs, thereby supporting a more sustainable and dignified reintegration into society.

The issue of intentionality in participatory design is multifaceted and complex, encompassing power dynamics, conflicts of interest, and ethical dilemmas. As highlighted by Grönvall et al. [13], the negotiation of values plays a significant role in driving community-based participatory design projects forward, especially in settings with large social divides and unequal power relations. Participatory design scholars have studied practices that are more inclusive and fair but are still lacking in reflective studies related to the intentions behind participatory design practices, especially in ethics and design studies related to Indigenous communities. The complexities and debates surrounding intentionality in participatory design are often amplified by the negotiation of conflicting values among diverse stakeholders. This dynamic is particularly evident in community-based participatory design projects where power imbalances and ethical considerations are crucial.

3   ON ETHICS, CONSENT, AND INTENTION

My research involving the Dayak indigenous community in East Kalimantan underwent a comprehensive research ethics process. Ethical considerations in research with indigenous communities

within design studies are intricately linked to complex issues surrounding intentionality, power dynamics, and cultural sensitivity. Renowned Indigenous scholar Linda Tuhiwai Smith [31] offers fundamental insights into the ethics of research with Indigenous communities. She contends that Western research methodologies frequently perpetuate colonial power dynamics and marginalize the voices of indigenous peoples. Smith underscores the significance of decolonising research practices and prioritising Indigenous perspectives and knowledge systems.

Adding to Smith's perspective, Kovach [17] explored the issue of intentionality in research ethics concerning Indigenous communities. He argues that research involving Indigenous communities must adhere to the principles of respect, reciprocity, and relationality. Kovach emphasised the significance of establishing trust and cultivating genuine partnerships with Indigenous communities, thereby ensuring that the research process is culturally sensitive and ethically responsible. Additionally, McGregor et al. [20] delve into the discussion of intentional research ethics with Natives. They argue that research must be conducted in a manner that respects Indigenous peoples' ways of knowing and living, while recognising the connections between storytelling, identity, and cultural revitalisation. Furthermore, McGregor et al. stress the importance of co-creating research methodologies with Indigenous peoples, ensuring that their voices and experiences are central to the research process.

Moreover, Smith [31, 32] addresses the ethical intentionality of research with Indigenous peoples by arguing that such research must be conducted in a manner that respects their rights, autonomy, and self-determination. Smith emphasises the importance of acknowledging past colonial injustices and undertaking efforts to decolonise research practices to promote the sovereignty and well-being of Indigenous peoples.

Previous Indigenous scholars constantly delve deeper into the issue of intentionality in research ethics concerning Indigenous communities. They argue that research should be anchored in Indigenous ways of knowing and being human, emphasizing the significance of relationality, reciprocity, and responsibility. Kovach highlights the transformative potential of Indigenous storytelling work as a research methodology that honors Indigenous epistemologies and fosters meaningful engagement with Indigenous communities [2, 17, 29, 31].

The discourse surrounding the ethics of research with Indigenous communities in design studies underscores the importance of intentionality, cultural sensitivity, and ethical responsibility. From Tuhiwai Smith's emphasis on decolonising research methodology to Kovach's exploration of Indigenous methodology, the literature on the ethics of research with Indigenous communities offers valuable insights into the complexities and challenges of conducting ethical research with Indigenous communities. By critically engaging with these diverse perspectives, researchers can address issues of intentionality and foster more respectful, equitable, and collaborative research practices through approaches that integrate local knowledge and perspectives [29].

4 ON PARTICIPATORY DESIGN WORKSHOP

In the sixth month of my stay in Long Lanuk Dayak Village, I conducted a series of participant observation and interviews with the local Dayak community. Upon commencing with participatory design workshops together with the Dayak Indigenous community in East Kalimantan, I found myself grappling with a profound dilemma regarding intentionality. This dilemma stemmed from the intricate interplay between my intentions as a facilitator, the design aspirations of the Dayak community, and the potential ramifications of our collaborative endeavours.

The design workshop I organised was meant to serve as a platform where local communities could share their narratives; these narratives would be translated into the design of a health journey map that would remain culturally relevant and in alignment with the lived experiences of individuals in remote areas. These workshops would acknowledge that local community members possessed an intricate understanding of their unique socio-political context encompassing geographic challenges, cultural norms, and community dynamics. I assumed that engaging them in a collaborative design storytelling process would make them reveal hidden layers of information overlooked by more conventional mapping endeavours. In remote areas, where traditional top-down approaches might fail to grasp the nuances of local health experiences, design workshops could empower individuals living in a particular community to articulate their unique stories, insights, and challenges pertaining to health services. Through such a participatory approach, one could attain a deeper comprehension of the complexities surrounding the access to health services in remote areas, paving the way for the development of more effective and sustainable health interventions aligned with the needs and aspirations of local communities. In this context, my design workshop would aim to serve as a conduit bridging the technicalities of health journey mapping with the diverse experiences shaping healthcare-seeking behaviour in remote communities.

When I was queried about my niat (intentions) by the village head, I conveyed my primary intention in the local language as a desire 'to learn from local people'. The village head responded to my statement by affirming, 'You are from this region, acquainted with its inhabitants and their backgrounds. Despite your potential formal education, there remains much to glean from their life experiences'. In light of my dilemmas and intentions, I subsequently approached this workshop with humility, openness, and a keenness to listen to and learn from the Dayak community. Rather than imposing my own solutions or biases, it was imperative for me to create a space where Indigenous voices could steer the process and shape the outcomes.

Ultimately, my dilemma concerning the intentions behind facilitating a participatory design workshop with Indigenous Dayak communities in East Kalimantan served as a poignant reminder of the ethical responsibilities inherent in any engagement with Indigenous communities. It underscored the significance of approaching such endeavours with humility, reflexivity, and a dedication to decolonising practices. In fact, I realised that this commitment to decolonisation practices cannot be separated from the imperative of affording a platform where Indigenous people can voice opinions regarding their design intentions—an aspect of design studies

that largely remains overlooked. Consequently, drawing from my research reflections, I underscored the importance of framing the voices of Indigenous peoples regarding their participatory designs as locality design intentions, thereby providing a space for their perspectives and redirecting the focus of concomitant design intentions (which have traditionally been delineated through the lens of researchers or designers).

As an example, one can take the insights of Puyuuk, a resident of the Long Lanuk Dayak community. Puyuuk shared his views of enhancing the health and welfare of his community through education and proactive health promotion in his area. He proposed initiatives specifically designed to address the unique health challenges and cultural nuances of the Dayak community by integrating traditional knowledge with modern health practices. Puyuuk, born and residing in Long Lanuk, was acutely aware of the limited access to formal health facilities in rural areas. He suggested that grassroots education campaigns could be considered a viable strategy for overcoming this limitation. He envisioned, for example, designing regular community meetings where one could disseminate practical health information, from hygiene practices to the ways of recognising the symptoms of common illnesses. These sessions, which do not currently exist, could be tailored to the specific needs of Dayak culture, perhaps utilising storytelling, which is a traditional method of knowledge transmission within this culture.

Moreover, local Dayak people also highlighted the significance of preventive healthcare involving the use of natural and traditional medicine revered within their community. As per Dayak elders, promoting this understanding was crucial to reviving interest and trust in these ancient practices in addition to corroborating their benefits with reference to modern health science. They recommended that discussions about preventive health care using traditional medicine could be conducted in village community meeting rooms, facilitated by local residents and health workers. In fact, this approach was aimed at blending old and new methods, ensuring that traditional practices would be preserved and incorporated into daily health routines.

The abovementioned convergence of traditional and modern healthcare practices provides a practical basis for the structured dialogue proposed by Dayak elders, aimed at fostering a local health system approach. As we transition from local ideas to academic discussions in the next section, it becomes evident that integrating these traditional methods with contemporary health strategies is not merely a matter of cultural preservation but also entails improving healthcare outcomes through inclusivity and adaptability.

From this reflection, understanding design intention from a local perspective is essential for setting clear objectives in collaboration with the community. This includes establishing realistic goals, such as enhancing services, facilities, and local health education, in alignment with the community's long-term vision. Such design intentions were expressed by the local Dayak community in a workshop where members voiced their desire to be involved in the design process. Unfortunately, they claimed that the existing healthcare system still overlooked their intention input. In the future, ideas from these local voices could be utilized to formulate design intentions tailored to the community's needs and desires, such as mapping a health journey that meets their specific needs.

These objectives could be achieved through collaboration and active participation of the local community.

5 LOCALISED DESIGN INTENTION

In the field of design, particularly within participatory design methodology, an essential yet frequently overlooked aspect is the voice and intent of the community and participants. Traditionally, the design process is propelled by the vision and intent of the designer or researcher. However, I posit that to authentically embody the ethos of participatory design and generate meaningful and impactful solutions, it is imperative to delineate or interpret participant and community voices as *localised design intention.* Through this lens, we can redirect the focus from the perspective of the designer or researcher to that of the engaged community members, thereby mitigating the tendency for the designer's intentions to overshadow those of the community.

Participatory design operates on the premise that individuals who will be affected by a design should contribute to its development. This acknowledgement stems from the understanding that society possesses invaluable insights, experiences, and needs that can profoundly shape the design process and its outcomes. Consequently, when discussing localised design intentions, we underscore the context-specific character of such voices and intentions. Every community is distinct, molded by its cultural heritage, historical backdrop, environmental setting, and social dynamics. By framing participant and community voices as local design intentions, we recognize and honor this distinctiveness, ensuring that design solutions are tailored to meet the particular needs and aspirations of the communities they serve.

Sanders and Stappers [25] argue that participatory design should prioritise the empowerment of communities and individuals engaged in the design process. By framing participant and community voices as local design intentions, designers and researchers acknowledge the agency and expertise of those directly affected by design outcomes. This approach nurtures a sense of ownership and pride among participants, leading to the development of more sustainable and contextually relevant solutions.

Shifting the focus from the intentions of the designer or researcher to the intentions of local designs carries several significant implications. Firstly, it encourages inclusivity and democratisation within the design process. Integrating participant and community voices as local design objectives fosters inclusivity and equity in the design process. Previous researchers have underscored the importance of amplifying the voices of marginalised or underrepresented communities in participatory design [9, 10, 14, 35]. By valuing and incorporating diverse perspectives and voices, participatory design becomes more inclusive and responsive to the needs of all stakeholders. This enhances the legitimacy and acceptability of the designed solution and nurtures a sense of social justice and equality.

Secondly, framing participant and community voices as local design objectives will enhance the relevance and responsiveness of design solutions, as emphasized by previous researchers highlighting the importance of developing solutions rooted in community realities and priorities [1, 3, 34]. Designers and researchers may

harbor preconceptions or biases that could influence their problem-solving approach. By centering on the intentions of the community, designers are prompted to listen, learn, and adjust their designs accordingly. This ensures that solutions are grounded in the lived experiences and realities of the communities they aim to benefit, ultimately yielding more effective and sustainable outcomes.

Additionally, embracing local design intention encourages collaboration and co-creation between designers and community members. Design becomes a collective effort, where diverse perspectives and expertise are valued and integrated into the process. This collaborative approach not only drives innovation but also strengthens social cohesion and trust between stakeholders, laying the foundation for long-term partnerships and positive social change.

However, it is important to acknowledge the complexities and challenges involved in framing participant and community voices as a goal of locality design. Ehn [11] criticises participatory design, pointing out that power dynamics and unequal access to resources can influence the extent to which participants' voices are actually heard and valued in the design process. Designers and researchers must be vigilant in addressing these challenges and creating space for genuine dialogue, collaboration, and co-creation. As highlighted by Light and Akama [18], facilitation plays a crucial role in participatory design practices, especially in nurturing the active involvement of communities. These scholars' work underlines the importance of the 'human touch' in design processes that seek to engage deeply with community contexts and needs. This human-centric facilitation involves more than just mediating discussions; it entails actively recognising and dismantling power dynamics that might skew genuine collaboration. In this light, the facilitator must ensure that all voices, particularly those from underrepresented groups, are heard and integrated into the design outcomes. This necessitates the creation of an environment where community members feel valued and empowered to contribute openly, enhancing the richness and applicability of the design solutions developed.

Moreover, Dantec and DiSalvo [8] explore the concept of 'infrastructuring', which significantly enriches our understanding of how publics form and engage within participatory design frameworks. These scholars argue that participatory design not only requires project-specific engagements but also involves the ongoing development of infrastructures that support sustained participation and dialogue. This approach is particularly effective in addressing the challenges identified by Ehn [11] concerning power dynamics and resource access. By building infrastructures that facilitate ongoing engagement, designers can help balance power disparities and provide continuous local access to necessary resources, therefore, fostering a more equitable design environment. To be precise, infrastructuring establishes a durable foundation for participatory design, enabling the cultivation of a responsive and dynamic dialogue with the local community. This dialogue is essential for addressing complex and evolving community issues and accommodating discussions of localised design intentions.

Thus, establishing participant and community voice as localised design intentions is essential to realising the full potential of participatory design. By prioritising the perspectives and needs of those directly impacted by design decisions, we can create solutions that are contextually relevant, socially just, and environmentally friendly. This shift in focus not only enriches the design process but also empowers communities to own the future and shape environments that truly reflect their values and aspirations.

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