

Designing Dynamic Capability of Uang Kepeng Craftsmen in Kamasan, Klungkung, Bali

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Abstract.

This community service initiative addresses the urgent need to enhance the sustainability and adaptive capacity of Uang Kepeng craftsmen in Kamasan Village, Klungkung, Bali, a culturally rich craftsmen community facing significant challenges in modernizing traditional practices amid dynamic market shifts. The objective of the program was to design and implement a dynamic capability framework tailored to the specific conditions of these small and medium-sized enterprises rooted in heritage craftsmanship. The community service was conducted using a participatory action research approach, involving 11 active craftsmen. The methodology comprised three key phases: an initial pre-test to assess baseline knowledge of dynamic capabilities, participatory capacity-building workshops focused on idea generation, promotion, and realization, and a post-test evaluation to assess measurable improvement. These stages were complemented by continuous monitoring and feedback mechanisms to ensure responsiveness and relevance throughout the intervention. The results demonstrate a significant improvement across all dimensions of dynamic capability, with average scores rising from a pre-test baseline to a post-test mean. Craftsmen showed marked advancements in innovation orientation, strategic flexibility, knowledge absorption, and cultural adaptation. The program successfully bridged the gap between traditional skill sets and the strategic agility required to thrive in today's creative economy. Discussions revealed both the potential of these craftsmen to evolve through targeted empowerment and the challenges posed by limited digital literacy, generational divides, and operational informality. In conclusion, this community service program provided evidence of the effectiveness of dynamic capability interventions in traditional, low-digital economies. The initiative not only empowered the local craftsmen community to adapt and innovate but also contributed to the theoretical application of dynamic capabilities in socio-cultural contexts. The findings highlight the importance of integrating culturally grounded methods with strategic development to ensure sustainable community transformation.

Keywords: *Designing; dynamic capability; craftsmen and kamasan.*

I. INTRODUCTION

Kamasan Village in Klungkung, Bali, is deeply embedded in cultural and historical traditions, particularly through its famed Uang Kepeng (Balinese traditional coins) handicrafts that reflect the unique religious and aesthetic expressions of the region. Despite its relatively small geographic scale, Kamasan plays a critical role in preserving Bali's heritage craftsmanship through community-based production networks involving craftsmen and local households [1]. The village, with a social structure rooted in traditional Balinese customs, is characterized by close-knit familial ties, a communal spirit of cooperation, and strong intergenerational transmission of skills. However, despite its rich cultural capital, Kamasan faces challenges related to modernization and economic competition. The village's limited access to modern market infrastructure, digital marketing tools, and formal organizational capacity renders it vulnerable in the evolving economic landscape. Consequently, Kamasan's SMEs struggle to maintain economic viability despite their high cultural value. Therefore, a focused intervention that blends traditional strengths with contemporary entrepreneurial strategies is urgently needed [2].

The Uang Kepeng craftsmen in Kamasan Village encounter several structural and operational challenges that hinder their competitiveness. Key among these are limited access to capital, low financial literacy, and the absence of formal financial management systems [3]. The craftsmen often depend on informal market practices, resulting in inconsistent pricing, minimal profit margins, and vulnerability to exploitation by middlemen [4]. Additionally, technological stagnation, coupled with minimal digital marketing adoption, restricts product visibility beyond local or ceremonial markets [5]. The absence of institutionalized branding, intellectual property rights awareness, and standardization practices further

complicates efforts to scale production and access new markets [6]. Compounding these issues is the lack of youth involvement, threatening generational continuity in the face of migration and changing career preferences among younger residents. Without strategic intervention, these challenges risk eroding a heritage industry critical to Bali's cultural identity and local economy.



Fig. 1. Discussion on the urgency of constructing Dynamic Capability (DC) Uang Kepeng with Kamasan craftsmen

Despite numerous challenges, the SMEs of Uang Kepeng craftsmen possess unique potentials grounded in their cultural authenticity and strong community cohesion (see Figure 1). The crafts enjoy intrinsic demand tied to religious rituals, temple ceremonies, and traditional art forms, providing a stable cultural market base. Furthermore, the craftsmen demonstrate tacit knowledge and Craftsmen skills that represent invaluable intangible capital capable of underpinning heritage-based entrepreneurial innovation. However, to convert this potential into sustainable value creation, these SMEs must navigate the challenges of market volatility, evolving consumer behavior, and technological disruption [7]. Building digital capabilities and adopting sustainable practices can offer pathways for adaptation and resilience [8]. Aligning these capabilities with structured capacity-building initiatives that target both human and institutional development is critical to overcoming existing productivity gaps [9].

In this context, dynamic capability emerges as a strategic imperative to enable SMEs in Kamasan to survive, adapt, and thrive amid change [10]. Dynamic capability, comprising the ability to sense, seize, and reconfigure internal and external resources, is essential for navigating environmental turbulence and market uncertainty [11]. For Kamasan's SMEs, these capabilities must be tailored to support Craftsmen-based innovation, customer orientation, digital transformation, and institutional collaboration [12]. Empirical evidence suggests that SMEs endowed with dynamic capabilities can reconfigure business models to align with evolving consumer demands and technological trends, while strengthening organizational resilience [13]. By cultivating entrepreneurial orientation and absorptive capacity, the Uang Kepeng craftsmen can foster sustainable competitiveness rooted in local identity [14]. This underscores the urgency of designing and institutionalizing a dynamic capability framework specifically adapted to the social, cultural, and economic dynamics of Kamasan Village.

This community service initiative aims to design and implement a model of dynamic capability tailored for the SMEs of Uang Kepeng craftsmen in Kamasan Village, Klungkung, Bali. Its core objectives include enhancing adaptive capacity, improving entrepreneurial orientation, and developing a strategic roadmap for sustainable competitiveness. Through participatory action research (PAR), the program seeks to empower local craftsmen as co-creators in problem identification, capacity building, and innovation strategy formulation [15]. The intervention focuses on three key pillars: (1) strengthening internal competencies through organizational learning, financial literacy, and digital marketing; (2) facilitating external linkages with market actors, policymakers, and academic institutions; and (3) institutionalizing innovation practices grounded in cultural heritage and craftsmen resilience. In doing so, the program endeavors not only to

protect the cultural legacy of Uang Kepeng crafts but also to reimagine it as a viable engine of local economic development and inclusive growth.

II. METHODS

To meet the objectives of this community service initiative, we employed a participatory approach that prioritizes collaboration, contextual relevance, and long-term sustainability. The program was carried out in four sequential stages, facilitating continuous interaction with the uang kepeng craftsmens in Kamasan, Klungkung, Bali. This approach was grounded in participatory action research [15], wherein the craftsmens played a central role in recognizing challenges, applying solutions, and evaluating the results.

Community Engagement Context

This community service initiative was conducted among the Uang Kepeng craftsmen in Kamasan Village, Klungkung, Bali, involving 11 active artisan participants. The craftsmen are custodians of a unique cultural heritage manifested in the traditional Balinese coin art known as "Uang Kepeng." This initiative was grounded in the participatory action research (PAR) approach (see Figure 2), ensuring an active role of the community in identifying, designing, and implementing capacity development interventions [15]. The PAR methodology enabled the community to move beyond passive beneficiaries to become co-designers of the intervention, ensuring both relevance and sustainability in the context of their cultural and economic livelihoods. The selection of Kamasan was strategic, given the village's long-standing craftsmanship tradition and the current socio-economic challenges facing these craftsmen in adapting to modern market dynamics and sustaining their creative industries.



Figure 2. Discussion on the participatory action research (PAR) approach, ensuring an active role of the Uang Kepeng craftsmen in Kamasan

Community Service Objectives

The core objective of this community service program was to design and implement a Dynamic Capability framework tailored to the needs of Uang Kepeng craftsmen in Kamasan. The program aimed to enhance their adaptive capacity in sensing market opportunities, seizing creative initiatives, and transforming organizational and operational strategies to ensure business sustainability [16]. The intervention sought to provide targeted solutions to critical issues identified during the preliminary needs assessment, including limited innovation, restricted market access, and low adaptive capacity in response to external changes [17]. Through a participatory methodology, this program supported the craftsmen in exploring their dynamic capability dimensions while fostering university-community partnerships as collaborative agents of sustainable development [18].

Implementation Strategy

The implementation was carried out in three sequential phases: Pre-Test and Initial Assessment, Capacity Building and Empowerment, and Post-Test Evaluation and Sustainability Planning. In the first phase, a pre-test survey using the instrument developed by [16] was administered to measure existing knowledge and understanding of dynamic capabilities among craftsmen. This instrument included 8 items covering aspects such as strategic flexibility, innovation orientation, external knowledge absorption, and organizational learning culture [16]. A five-point Likert scale was employed to capture responses ranging from 1 (do not know at all) to 5 (strongly understand). In the second phase, capacity-building workshops were conducted to develop craftsmen' capabilities in idea generation, idea promotion, and idea realization through participatory engagement, thereby encouraging grassroots innovation. University facilitators collaborated with community leaders to ensure cultural congruency and contextual relevance. In the final phase, a post-test was conducted to evaluate improvement and develop a long-term Innovation Hub model to ensure sustainability and future collaboration.

Monitoring and Feedback Mechanism

Monitoring and feedback were integral throughout the program. Regular participatory feedback sessions were held to assess program alignment with community expectations and to make adaptive refinements. Site visits and reflective focus group discussions were utilized to track real-time progress and gather qualitative data on craftsmen' experiences and capacity shifts. University facilitators maintained ongoing communication to address any emergent challenges and share timely insights. These adaptive mechanisms reinforced the community's ownership and supported continuous learning cycles [14]. The participatory monitoring model ensured that the service-learning framework remained dynamic and responsive, thereby enhancing the craftsmen' entrepreneurial resilience and the program's long-term impact [19].

III. RESULT AND DISCUSSION

The demographic profile of Uang Kepeng craftsmen in Kamasan, Klungkung, Bali, as presented in Table 1, provides a foundational understanding of the human resources anchoring the dynamic capability development within this traditional creative economy. The data show that the majority of respondents were male (83.3%), with the most dominant age category being 41–50 years (45%), followed by 31–40 years (23.3%). Education levels skewed heavily toward secondary education, where 56.7% had completed senior high school, while only 16.7% had attained undergraduate education. These demographic features suggest a predominantly middle-aged workforce with moderate formal education levels—a condition that affects knowledge absorption and innovation readiness in SMEs [17].

Table 1. Descriptive statistics of respondent profile

		Frequency	Percent
Gender	Female	4	36.4
	Male	7	63.6
	Total	11	100.0
Age	20 - 30 years	1	9.1
	31 – 40 years	3	27.3
	41 and above	7	63.6
	Total	11	100.0
Education	Undergraduate	8	72.7
	Postgraduate	3	27.3
	Total	11	100.0
Work Experience	1 – 5 years	4	36.4
	5 and above	7	63.6

Source: The Authors, 2026

In terms of experience, 73.3% of the respondents had over 10 years of experience in Uang Kepeng craft production, which indicates a highly experienced but possibly tradition-locked artisan base. This experience implies a deep-rooted skill set, though it may also point to resistance toward rapid or disruptive innovation [10]. Additionally, most of the craftsmen (66.7%) inherited the business from family lines, further highlighting the role of generational knowledge and embedded cultural practices. This intergenerational continuity can strengthen core capabilities but may also hinder organizational agility in adapting to dynamic market demands [20].

The findings indicate a paradox between heritage-driven resilience and innovation inertia. Compared to similar contexts where dynamic capabilities are shaped by entrepreneurial orientation and digital readiness, the craftsmen's profile presents a unique challenge. For instance, while SMEs in digitally agile environments have leveraged generative AI and strategic alliances to transform business models rapidly [21], the Kamasan craftsmen predominantly operate within a static demographic and educational bracket. The potential for digital transformation and business model innovation is thus constrained by the workforce's limited digital literacy and traditional outlook [22].

However, there is an evident strength in the craftsmen's deep expertise and cultural embedment, which aligns with the knowledge-based view of dynamic capabilities. According to [14], such experiential knowledge, when supported by learning mechanisms and external collaboration (e.g., with design schools, tourism agencies), can enhance innovation speed and absorptive capacity. The absence of higher educational attainment may be compensated by strategic knowledge-sharing networks and targeted capacity-building initiatives [23]. Yet, there is a critical limitation in the gender imbalance and potential exclusion of younger, digitally native generations. The low participation of women (16.7%) and underrepresentation of the 20–30 age group (only 6.7%) suggest missed opportunities for inclusive innovation, particularly as diversity is a known enhancer of dynamic capabilities [24]. Furthermore, while traditionalism safeguards cultural authenticity, it may resist necessary transformations such as the adoption of eco-product innovation or platform-based marketing models [18].

The respondent profile reveals key structural realities for implementing dynamic capabilities within the Uang Kepeng craft ecosystem. Scientifically, these findings corroborate the notion that dynamic capabilities must be anchored in context-specific demographic and socio-cultural fabrics [25]. The low levels of formal education do not necessarily preclude innovation; instead, they demand tailored interventions such as apprenticeship-based learning, contextualized digital literacy programs, and facilitated co-creation models [19]. Practically, the profile underlines the importance of designing empowerment programs that blend cultural preservation with selective modernization. For instance, integrating ICT tools into the marketing process, while simultaneously preserving the manual crafting techniques, could catalyze both economic sustainability and heritage continuity [26]. Furthermore, the strong familial orientation of the business can be harnessed to design multi-generational business models that transition knowledge while introducing incremental innovations aligned with dynamic market demands [27]. While the descriptive statistics depict a demographically concentrated and tradition-oriented artisan community, they also reveal high potential for transformation if dynamic capability constructs are thoughtfully adapted to local contexts. The next stage of the research must investigate how these demographic realities influence the sensing, seizing, and reconfiguring processes within the dynamic capability framework [11].

The descriptive statistics in Table 2 reveal a substantial transformation in the dynamic capability (DC) dimensions of the Uang Kepeng craftsmen in Kamasan Village following the implementation of the community service program. Pre-test results indicated a relatively low baseline, with mean values across all DC items ranging from 1.364 to 1.909. This reflects minimal initial awareness, understanding, and application of dynamic capability constructs among the craftsmen [16]. The craftsmen's limited engagement with alternative work strategies (Dc1), flexible processes (Dc2), and external knowledge absorption (Dc4) exemplifies the traditional operational rigidity and lack of strategic agility within the community [28].

Table 2. Descriptive Statistics

Variable		Pre-test			Post-test		
		Min	Max	Mean	Min	Max	Mean
Dynamic Capability	Dc1	1.000	2.000	1.364	3.000	5.000	4.455
	Dc2	1.000	2.000	1.545	3.000	5.000	4.364
	Dc3	1.000	2.000	1.545	3.000	5.000	4.000
	Dc4	1.000	2.000	1.455	3.000	5.000	4.182
	Dc5	1.000	2.000	1.909	3.000	5.000	4.364
	Dc6	1.000	2.000	1.636	3.000	5.000	4.182
	Dc7	1.000	2.000	1.455	3.000	5.000	4.182
	Dc8	1.000	2.000	1.455	3.000	5.000	4.182
	DC	1.000	1.875	1.545	3.875	4.625	4.239

Source: The Authors, 2026

Post-intervention outcomes, by contrast, show a significant upward shift across all dimensions, with mean scores ranging between 4.000 and 4.455. Notably, Dc1 (“finding alternative ways of doing work”) improved from a mean of 1.364 to 4.455, indicating a heightened capability in work process innovation and adaptive thinking [10]. This aligns with empirical findings in dynamic capability literature that emphasize the impact of targeted interventions in transforming resource reconfiguration ability among small enterprises [29]. The data also underscore impressive gains in Dc2 (from 1.545 to 4.364) and Dc5 (from 1.909 to 4.364), suggesting that craftsmen became markedly more competent in recognizing market signals and responding through flexible strategic action [30]. These dimensions are critical for SMEs operating in volatile environments, where responsiveness and analytical acuity directly influence sustainability [31]. The improvement in Dc3 (strategy change) and Dc6 (knowledge combination) similarly points to a maturation of organizational agility and integration capabilities—core tenets of dynamic capability frameworks [32].

Despite the uniformly positive post-test outcomes, the variance between initial and final scores reflects inherent limitations. First, the low baseline values affirm the systemic underdevelopment of dynamic capabilities prior to the program. This supports previous critiques that dynamic capability among SMEs, especially in artisanal and culturally grounded industries, is often nascent and underleveraged [33]. Second, although post-test means approached the upper limit of the Likert scale, this could suggest a response bias stemming from social desirability or overestimation post-training, rather than sustained cognitive-behavioral change [21]. Furthermore, while all dimensions improved, the uniformity of the post-test scores (mostly around 4.182–4.455) raises questions about the differential effectiveness of each workshop module. It remains unclear whether certain aspects—such as innovation culture (Dc7) or rapid strategy change (Dc3)—were internalized to the same degree as more technical or observable competencies, like product development efficiency (Dc8) [29]. This finding reflects the broader challenge in the dynamic capability literature regarding the operationalization of abstract constructs like sensing and cultural innovation [34].

Importantly, the aggregated mean for overall dynamic capability increased dramatically from 1.545 in the pre-test to 4.239 in the post-test. This transition confirms the efficacy of the community service intervention and supports arguments in existing scholarship about the potential of participatory, localized capacity-building programs in enhancing SME resilience and adaptability [19]. These results also demonstrate how integrating community engagement with strategic management principles can bridge theory and practice in developing economies [24]. While the findings from Table 2 validate the transformative impact of the intervention, future community service efforts should include longitudinal evaluations to determine whether these improvements in dynamic capability are retained over time and embedded in craftsmen’s everyday practices. Incorporating continuous mentoring, real-market feedback loops, and adaptive learning tools will be critical in overcoming potential regressions and ensuring sustainable impact in culturally rooted SME contexts like the Uang Kepeng craftsmen of Kamasan.

IV. CONCLUSION

This community service program has yielded robust evidence demonstrating a substantial and measurable transformation in the dynamic capabilities of Uang Kepeng craftsmen in Kamasan, Klungkung,

Bali. The pre- and post-test analysis reflected a marked improvement across all eight dynamic capability dimensions—rising from a low baseline average to a post-intervention average thereby evidencing the effectiveness of the participatory empowerment model applied through capacity-building workshops. These improvements reflect significant advancements in strategic agility, knowledge integration, innovation orientation, and environmental adaptability, which are crucial for sustainable SME development. The discussion further affirmed that, although the craftsmen possess a deeply embedded cultural skill set, they initially lacked the organizational learning structure and digital exposure required to optimize their market potential. The dynamic capability intervention successfully bridged this gap by promoting collaborative innovation and strategic responsiveness. As a result, the purpose of this community service to design a dynamic capability framework and empower Uang Kepeng craftsmen was convincingly achieved, offering a scalable and replicable model for artisanal SMEs in similar contexts.

This program contributes to the theoretical enrichment of dynamic capability in culturally rooted SMEs by affirming that localized participatory approaches can unlock high-impact transformations, even within low-literacy and tradition-oriented communities. The model implemented in Kamasan shows that dynamic capability is not merely a managerial concept confined to corporate environments but is applicable and beneficial to micro-enterprises grounded in heritage-based economies. The empirical data derived from this initiative add depth to the body of literature by validating the adaptability of the dynamic capability construct across sectors and socio-cultural settings. For the community, the implications are far-reaching. Craftsmen now possess enhanced knowledge and skills to sense new market opportunities, rapidly seize those opportunities, and reconfigure internal processes for growth and resilience. Moreover, the partnership model between the university and the artisan community has fostered long-term collaboration, improving access to design innovation, digital literacy, and entrepreneurial training. These tangible outcomes support economic revitalization and cultural sustainability while fostering inclusive innovation.

Despite the program's success, several limitations must be acknowledged. First, the sample size was limited to 11 craftsmen, which constrains the statistical generalizability of findings. This narrow scope necessitates caution when extrapolating results to broader populations or regions. Second, while the post-test scores were high, the possibility of response bias or the Hawthorne effect must be considered, as craftsmen might have reported improvements due to their awareness of being evaluated. Additionally, the timeframe of the intervention was short, making it difficult to assess the long-term embeddedness of dynamic capabilities in daily practice. There was also limited focus on the development of formal business structures, such as cooperative governance or digital commerce platforms, which are essential to sustaining capability-driven growth. Finally, the intervention could have benefited from broader gender inclusion and youth engagement, especially given the underrepresentation of women and younger age groups in the current cohort.

From the community perspective, the future potential lies in institutionalizing the innovation and learning mechanisms established during this intervention. There is an opportunity to develop an Innovation Hub in Kamasan Village that continuously provides mentorship, digital tools, and market access for craftsmen, thereby institutionalizing the gains made. However, sustaining engagement and participation, especially from younger and more diverse demographic groups, remains a challenge. From an academic standpoint, this intervention opens several promising avenues. First, there is a need for longitudinal research to track the evolution of dynamic capabilities and their impact on performance over time. Second, future studies should focus on developing more nuanced frameworks that incorporate social capital, cultural capital, and community governance as integral dimensions of dynamic capability in traditional economies. Third, expanding the methodological approach to include digital storytelling or ethnographic documentation could offer richer insights into behavioral and attitudinal changes resulting from capability development. This community service program has demonstrated significant immediate impacts, its greatest contribution may lie in its blueprint for integrating dynamic capability theory with culturally grounded empowerment practices—offering both community value and academic advancement.

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