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Developing a Digi-Preneur Business Incubator Model for MSMEs and Start-Ups in Kupang City, NTT

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Abstract

The development of information and communication technology has given rise to a digital economic ecosystem that opens up vast opportunities for new digital-based entrepreneurs, or digital-preneurs. This study aims to develop a relevant digital entrepreneurship–based business incubator model concept using the Research and Development (R&D) method. Through a series of stages and process, the study successfully produced a systematic and ideal design of the Digital Preneurship Business Incubator (IBDP) model as a platform for incubating MSMEs and prospective start-ups (tenants) to grow. The model, which has undergone validation and functional testing by competent experts in the field, is an advancement of the conventional business incubator model, with several crucial modifications that emphasize integrated digital aspects across all stages of the incubation process.

Keywords Business Incubator; Digipreneur; MSME; Startup

INTRODUCTION

The development of information and communication technology has given rise to a digital economic ecosystem that opens up vast opportunities for new digital-based entrepreneurs, or digital-preneurs. Within the national economic context, digital entrepreneurship plays a crucial role in creating new business and job opportunities, increasing the competitiveness of local products, and expanding market access through digital platforms. However, these opportunities have not been fully enjoyed equally, particularly in regions outside Java, such as East Nusa Tenggara (NTT), including Kupang City, the provincial capital. While quantitatively, there are a significant number of Micro, Small, and Medium Enterprises (MSMEs), they have not shown significant qualitative progress.

Referring to the data in Figure 1.1, it can be concluded that the percentage of micro, small, and medium enterprises (MSMEs) in Kupang City is 99%, with more than half (53%) being micro-enterprises, which generally tend to be conventional and traditional.

Although digital infrastructure is now available, challenges in digital literacy, limited access to training, a weak business ecosystem, and minimal entrepreneurial mentoring, particularly for MSMEs, remain significant obstacles. Meanwhile, many aspiring digital entrepreneurs in Kupang City possess significant potential, particularly among young people and students, but lack a systematic platform to develop their digital business ideas. Although few and seemingly inactive, business incubators do exist in Kupang City, but they are still generic and not specifically designed to support digital entrepreneur development. One effective approach to addressing this challenge is the establishment of a digital entrepreneur-based business incubator, a platform for fostering and accelerating start-ups through mentoring, training, networking, and access to technology (Saputra et al., 2019).

The transformation of business incubators toward a digital approach is a logical consequence of the shift in entrepreneurial models in the digital economy era. Nambisan (2017) emphasized that digital entrepreneurship involves more than simply utilizing technology as a tool, but rather making digital technology the core of value creation, business model design, and business growth strategies. Therefore, conventionally oriented business incubators tend to be unable to meet the needs of digital entrepreneurs, who demand rapid iteration, scalability, and integration with digital platforms. Furthermore, research by Bruneel et al. (2012) shows that the effectiveness of a business incubator is greatly influenced by the alignment of incubation services with the development stage and characteristics of the tenants. In the context of digital entrepreneurship, incubation services cannot simply focus on general managerial assistance; they must also encompass aspects of digital product development, data-driven market validation, cloud technology utilization, and digital network strengthening.

The urgency of this research lies in the need to develop a locally relevant business incubator model, based on the real needs of prospective digital entrepreneurs, such as start-ups and MSMEs, in Kupang City. This model is expected to address existing limitations while simultaneously leveraging local potential, including the growing interest of the younger generation in digital entrepreneurship, increasing internet penetration, and government support for the creative economy and the digitalization of MSMEs.

METHODS

This is a research and development (R&D) project aimed at producing a product in the form of a digital entrepreneurship-based business incubator model concept. The R&D approach allows researchers not only to explore phenomena but also to create concrete solutions or products that can be applied in the field. Borg stated that research and development is a process for developing and validating educational or training products through systematic steps ranging from preliminary studies to product trials and revisions (Borg, 1989). In this context, the product in question is a digital entrepreneurship-based business incubator conceptual model that can support the systemic development of digital entrepreneurship, especially for start-up MSMEs or students.

FINDINGS AND DISCUSSION

The research and design of the Digital Business Incubator (IBDP) model was conducted systematically and in stages, with the goal of producing an incubator model that is applicable and relevant to the needs of digital entrepreneurs. The development process began with a preliminary study to identify the problems and needs of business incubation in the digital era. This study included a literature review, analysis of conventional incubation practices, and identification of gaps between the needs of digital entrepreneurs and existing incubator services.

The initial study results indicated that most incubators still focused on conventional managerial and production aspects, resulting in digital transformation not being systematically integrated into all stages of incubation.

These findings then served as the basis for designing the initial digital business incubator model by replicating the basic structure of conventional incubators (pre-incubation, incubation, and post-incubation). Substantial modifications were then made to each stage, including the types of activities, the roles of coaches and mentors, tenants, and market orientation, all of which rely on digital tools and ecosystems. The initial model was then validated by academics, incubator practitioners, and MSME practitioners. Validation focused on the conceptual, operational, and relevance aspects of the model. Input from experts was then used to refine the model, particularly in ensuring the central role of digital technology in each stage, the type of activity, the clarity of outputs, and the integration between processes. This stage then produced the final model of the Digital Business Incubator for Entrepreneurship (IBDP)

During the model assessment process by the team, the model's feasibility standard was determined using a scoring interval with the formula: the highest score

minus the lowest score, divided by the number of categories. With a highest score of 5, a lowest score of 1, and five categories, the resulting score interval was 0.8. Based on this calculation, the feasibility categories were divided into five levels, from the lowest "Not Feasible" to the highest "Very Feasible." Therefore, the level with the highest score range, 4.21-5.00, was categorized as "Very Feasible."

Furthermore, based on assessments by academics and incubator practitioners, this model was categorized as "Very Feasible," while assessments by MSME practitioners placed it in the "Feasible" category. Overall, the IBDP Model achieved an average total score of 4.31 (four point three one) on a scale of 5 (five), meaning it falls into the "Very Feasible" category. This indicates that the model is not only conceptually sound, but also realistic and implementable in the context of digital-based MSME development.

This aligns with a study by Hausberg and Korreck (2020), which emphasized the strategic role of digital incubators and accelerators in building an entrepreneurial ecosystem by facilitating access to digital mentors, technology-based investors, and global networks. This aligns precisely with the IBDP Model's orientation, which places the role of digital mentors and coaches as central actors in assisting tenants, not only as business mentors but also as catalysts for the adoption of digital technology and innovation.

In the context of MSMEs in developing regions such as Kupang, digital incubation has a significant impact. According to Audretsch and Belitski (2017), a strong entrepreneurial ecosystem can increase the competitiveness of small businesses through collaboration between universities, the government, and the private sector. The IBDP model, developed within the local context of Kupang City, demonstrates relevance to the evolving ecosystem approach, as it is designed to address local constraints such as low digital literacy, minimal ongoing mentoring, and limited access to digital markets.

Furthermore, research conducted by Cohen et al. (2019) emphasizes that modern incubators need to transform from mere providers of physical facilities to digital-based learning and experimentation platforms. According to them, effective incubators are those capable of creating a practice-based learning environment (learning-by-doing), where tenants can test digital business models quickly and adaptively. These characteristics are reflected in the IBDP Model, which emphasizes digital market validation and the development of a minimum viable product (MVP).

CONCLUSION

Based on the previous discussion, it can be concluded that the Digital Business Incubator-Preneurship (IBDP) model is highly suitable for use as a business incubation development model oriented towards digital entrepreneurship, and has the potential to serve as a reference for incubator institutions, universities, and stakeholders in supporting the sustainable growth of digital entrepreneurs in Kupang City. For universities, this model can be integrated into campus entrepreneurship programs, business incubation centers, and the Independent Learning-Independent Campus (MBKM) scheme, and can be strengthened through collaboration with industry, investors, and the digital ecosystem. For MSME practitioners, the IBDP model can be used as a systematic business development framework oriented towards the integrative use of digital technology, in addition to marketing aspects, also management, production, finance, and human resource (HR) development processes. It is recommended for future researchers to test the model's effectiveness through field implementation, quantitatively measure its impact on tenant business performance, and develop more specific derivative models tailored to specific industrial or technological sectors. With this further development, the IBDP model is expected to make a significant contribution to strengthening the digital entrepreneurship ecosystem in Kupang City, East Nusa Tenggara Province.

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