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Building Agile Business Model through Harnessing Business Networks and Ecosystem: Exploratory Studies in SMEs

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ABSTRACT- The study aims to investigate how SME firms use business networks to support their business model to become more agile. Existing studies mainly highlighted large-sized firms, and the analysis focuses on the organization rather than the business model. As a matter of fact, the business model can transcend beyond organizational boundaries. The exploratory nature of this study has driven the authors to utilize multiple case study designs. Three SMEs were selected based on a theoretical sampling technique to enable researchers to conduct cross-case analysis and replication logic, which is the foundation of theory development. Triangulated data was analyzed with a grounded theory approach. Empirical findings demonstrated that firms should balance relying on networks to support business model agility and focusing on internal resources for creating, delivering, and capturing value. Furthermore, this study elaborates on the findings in further detail and presents four propositions that can later be investigated in further research. This study is one of the early studies investigating the agile business model and considering the ecosystem as the context. Due to the exploratory nature of this study, it analyzes three case study firms and investigates granulated data from various sources in detail. This type of study offers data richness, but the findings need generalization from more comprehensive samples. This drawback opens an opportunity for future research investigation by testing the proposition resulting from this study. Due to limited resources available in the SMEs, the managers must carefully allocate resources and find partners from the networks.

KEYWORDS- Agile Business Model, Ecosystem, Dynamic Capabilities, Business Model Innovation, Innovation Networks

I. INTRODUCTION

Business model innovation is considered risky, but it is a mandate for most organizations in a dynamic business environment; otherwise, the risk of failure cannot be avoided. A dynamic environment can only be matched with rapid changes in business models, and an agile business model has been viewed as one of the solutions [1]. We have witnessed how business model innovation drives firms to grow in competitive market conditions. As a matter of fact, innovative business models can be the impetus for the industrial revolution. For example, around eleven years ago, Grab disrupted the transportation and logistics industry [2]. Meanwhile, around four years earlier, AirBnB had changed the competitive landscape of the hospitality industry [3]. The impacts have widespread in nearly all countries, and we can still see these disruptions these days.

Entrepreneurs pursuing business model innovation do not just search for a new position in firms' business models but also exploit opportunities through intuitions combined with vigilant learning. During vigilant learning, entrepreneurs identify changes in the business environment from the periphery, where weak signals of changes typically originate. Intuition helps entrepreneurs identify the signals before others do [4]. In many cases, entrepreneurs pursuing business model innovation are supported with information; to some extent, they must compromise with uncertainties.

Business model innovation and the agile business model are two different concepts, but they overlap. Firms adopting business model innovation require some degree of agility, particularly for reconfiguring resources [5]. The scope of business model innovation change is more comprehensive than product and process innovation. Business model innovation must be able to create new opportunities and be disruptive. Business model innovation does not require micro-innovations like new product designs or production techniques. Companies can still carry out business model innovation without being accompanied by product and process innovation because these two types of innovation are more about what the company offers. Meanwhile, business model innovation is more about offering value to the market [6].

Research on the topic of business model innovation shows that companies with higher performance have business model innovation twice as high as companies in general [7]. The concept of the agile organization itself is defined as the ability of an organization to make persistent and systematic variations on products, structures, or processes that are seen as a deliberate strategy to achieve competitive advantage [8]. Therefore, in an organizational context, agility can be defined as the ability to respond flexibly to the environment, adjust quickly to the resulting product or service offerings and also mobilize resources efficiently and effectively to create, capture, and protect value [9].

This study adopts an activity system approach to observe activities as a constructor of business models from focal firms and other parties who are members of the corporate network [10], [11]. Activity systems cover networks and business ecosystems [12]; accordingly, analyzing using this perspective enabled researchers to observe how firms create

value with various stakeholders [13].
In addition, observations at the system level allow researchers to explain how value is created and, most importantly, how the process of designing a system architecture consisting of three elements is performed - i.e., content, structure, and governance [10]. Looking at the business model from the perspective of the activity system approach is deemed necessary because of its linkage with the external environment [10], [11]. Viewing the business model from the firms' perspective as a stand-alone entity negates the assumption that companies constantly interact with parties in the business ecosystem. As a result, an understanding of business models covering beyond organizational boundaries cannot be fulfilled; accordingly, the existence of business networks should be considered [14].
Business models should continuously adapt to changing environments. During the pandemic, there was an imbalance in the economic system in which firms could take advantage of innovation to develop resilience. In addition, firms can no longer rely on strategies during the normal economic condition. Instead, the firms must "take advantage of the situation" as a response to the current situation to exploit emerging opportunities. The pace of environmental change determines how firms adapt to their business environment. The agile business model provides an alternative for firms to implement for making changes in their business and the stakeholders involved in their business model [15]. From this description, the relevant research question is: *How do SMEs design their agile business model to adapt to environmental changes?*

II. LITERATURE REVIEW

A. Business Model Innovation

There has been some confusion regarding business model innovation with dynamic capabilities. Despite their strong ties, business model innovation is not identical to dynamic capabilities [14]. Dynamic capabilities are 'strategic' and different from other capabilities. Companies can maintain and expand competitive advantage by placing dynamic capabilities at the top layer of ordinary capabilities [16]. The latter concept derives from accumulating skills and knowledge [8]. If business model innovation is identical to the accumulation of skills and knowledge, mastery of skills and knowledge leads to a direct higher success rate of business model innovation. However, the evidence demonstrated that a firm success in implementing business model innovation does not always result in the firm's success in pursuing business model innovation in the future [1].
Success in business model innovation, among others, is determined by a novel approach to creating value (value creation) and implementing dramatic changes in organizational processes, resources, and systems. To pursue business model innovation, managers need encouragement to speculate in uncertain circumstances and keep moving forward to manage projects that have been started. Bock and George [1] describe "business model innovation is like jumping off a mountain; agility is the hang glider that helps the firm to choose where to fly and land." BMI requires the development of unique resource configurations as well as transaction configurations that can create and serve new customers [1].
Existing literature states that there are three factors driving business model innovation. First, business model innovators seek to broaden perspectives in thinking. They are not confined to a specific industry or a particular geographic area. These innovators do not focus on how to win the market and beat competitors but also on what opportunities can be synergized with competitors or what companies from different industries might be potential competitors in the future [1]. For this reason, analysis of business ecosystems is more relevant than analysis at the industry level [17].
Second, the business model innovator seeks to find discontinuity and disruptive innovation. They try to avoid routines and procedures as well as challenge the concept of efficiency [1]. Low-risk investments through incremental innovation also tend to be avoided. To be able to apply this concept, companies must be able to think quickly [18] and possess strategic sensitivity to detect changes in signals before other parties can detect them [5], [19].
Third, the business model innovator relies on strong leadership [1] because leadership unity has been documented in the literature as a driver of strategic agility [19]. Meanwhile, strategic agility is needed for companies to carry out business model renewal. In addition, strategic agility support firms in updating their business model. This movement that involves all the resources of this business model requires strong leadership. Participatory decision-making is not always entirely appropriate in business model innovation, although this management practice provides resource flexibility and quicker decision-making [1].

B. An Agile Organization and Agile Business Model

In the context of developing agile business models, firms are required not only to be internally adaptive but also to leverage external relationships—such as business networks and open collaboration—to respond to market dynamics. Prior studies have shown that business model innovation serves as a bridge connecting organizational agility, open innovation, and improved export performance [20]. Furthermore, an organization's ability to swiftly respond to market changes and engage in cross-sector collaboration has been proven to enhance the resilience and relevance of its business model in the context of international expansion [21] [20]
Agile companies are ambidextrous; they can seek new opportunities by exploring and exploiting new opportunities that arise quickly and efficiently [22]. Agility can be realized by designing a more informal organizational structure and increasing employee empowerment in decision-making. This strategy has been considered effective for innovating products and processes. Unfortunately, modular structures and employee empowerment are not necessarily effective in business model innovation [1]. Creating agility with business model innovation requires managers to change their mindset, particularly regarding the traditional view of flexibility and innovation [23]. The concepts described in the agile business model are in conflict with those of organizations' growth strategy and efficiency [5].
Networks offer many opportunities, but they also raise challenges regarding how firms can align their resources with those of partners participating in the networks [13]. One agility dimension is managers' ability to assess whether firms should participate in the networks to pursue

innovation [16]. Participating in the networks requires firms to possess a certain degree of flexibility because they must adjust with their partners [13]. Because of this reason, there are many ambiguities between agile capabilities and dynamic capabilities. Therefore, it is important to note that agile capabilities are not dynamic capabilities; they are two different concepts, although they are related [1]. Crafting, implementing, and designing business models are the outputs of high-order dynamic capability [14].

C. Network-based Agile Business Model

Agile business models require "how a business model should be" with the use of networks to support innovation. Agile business models must be dynamic and able to obtain information, particularly from outside the boundaries of the organization [14]. With such capabilities, collaborative networks can be used as the foundation for developing an agile business model to adopt open innovation easily [24]. The differences between a conventional business model, which uses an organizational structure with clear boundaries, and an agile business model based on collaborative networks are presented in Table 1.

Table 1: Networked agile business model

Organization structure-based business model	**Networked-based agile business model**
Static	Dynamic
Financial aspects	Financial and social aspects
Profit	Profit/sustainability/effect of commoditization
Linear and value chain	Value networks/digital ecosystem
Value analysis and creation	Value creation and capture
Product	Increased development of services/services on top of products
Customer interfaces	Customer empowerment
One-to-many/one to one	Many to one
Internal innovation process	Open innovation
Recipient of resources	Recipient and contributor of resources
Source: Adapted from Loss and Crave [25]	

Firms should orchestrate resources from within the firms and acquire resources from partners for developing business models. A well-synchronized business model can operate efficiently and flexibly [14]. It is difficult for companies to change their routines beyond the shared principles among network participants where companies are involved in the ecosystems [16]. Accordingly, who are the firms' partners in the ecosystem, and which business ecosystem the firm participated in determines the degree of the firms' agility [16].

Collaborations with network partners have been viewed as an alternative to respond to rapid environmental changes, particularly disruptive changes due to digital technology adoption [26]. Meanwhile, SMEs tend to adopt a temporary approach utilizing ad hoc teams for building collaborative alliances [27]. Although this strategy is not necessarily wrong and still offers benefits, the advantages derived from the long-term collaboration have not received much attention.

In a disruptive environment, changes occur not only to customer behavior but also to the business ecosystem. As a result, changes in the disruptive business environment will impact the survival of one company and also other members of the networks [28]. In certain circumstances, a slight shift in the market will significantly impact the firms' survival and provide multiplier effects.

Agile methodology originated from Agile Schrum have been applied widely in software development. Meanwhile, research in agile business models is still limited and focuses on a single firm as an independent business entity [29], [30] without incorporating networking as part of its business model. In fact, business models can transcend organizational boundaries [17], [31], and even with networks, the boundaries of two different business models become blurred [14]. In a business ecosystem, collaboration networks are not always economically oriented but can also be socially oriented, although sometimes the boundaries between these two objectives cannot be clearly separated [28].

III. METHODOLOGY

A. Case Study Method

This study observes the business model by adopting an activity system approach. This research was conducted using SMEs which are all located in Yogyakarta. By being located in the same geographic area, the barriers to forming networks can be reduced [26], thereby increasing strategic agility to respond to discontinuous environmental changes [30].

Case study method for observing a phenomenon in a natural setting in detail and depth. This method is appropriate for understanding how a phenomenon develops in an organizational context [32]. SMEs, the research subjects, were selected using the polar sampling method, not by considering the statistical sampling method as in management research using quantitative methods in general [33], [34]. The case study method combined with qualitative analysis is also seen as the most relevant for theory development by observing the constructs that develop in the field [35], especially for new topics [36]. This research uses multiple case studies to ensure rigor and analytical generalization through replication logic [37]. Logic replication in case study research can be analogous to experiment [34]. Cross-case analysis among subjects with various characteristics guarantees the achievement of generalization, which requires rigorous theory building using the case study method [33].

B. Data Collections

This work is part of a multi-year research in which the researcher attempted to forge a long-term relationship with the SMEs participating in this study. The research team gains the trust of key people within the SMEs, and from here, the researcher applies the snowballing technique to reach out to other SMEs involved in networking with partner firms. Utilizing the recommendations from a key person of the focal firm, the sub-focal firm becomes more open and easier to work with. However, we only selected

suitable informants to be interviewed – i.e., those who understood the cooperation networks and their relationship to the business model.

We collected data using an interview protocol guide where the question items were prepared based on a priori constructs. Although data was collected using an interview protocol, new questions might emerge during our time in the field. Before the interview was conducted, the informant was notified that during the interview, it would be recorded, and all identities would be made anonymous. Extensive field notes were made during interviews to make it easier for researchers to analyze data. Interviews last anywhere from 30 minutes to a little over 2 hours, depending on how the interview goes. We stated that the interviews were sufficient when we reached a point where the iterative process between data collection and data analysis did not generate new code but only created a repetition of existing dimensions [39].

Table 2: Case study subjects and data collection details

Case Study firms	Leather Fashion Co.	Wood Handicraft Co.	Leather Handicrafts Co.
Products			
Number of employees	Shoes, bags, and other apparel made from leather	Wooden handicraft	Leather handicraft
Sales	143	97	167
Market	900,000 USD	350,000 USD	675,000 USD
Establish-ment year	Local and international	Local and international	Local
Digital techno-logies adopted	1977	1982	2006
Details of data collection	Website, social media, online marketplace, website, email, WhatsApp, YouTube	WhatsApp, social media, online marketplace	WhatsApp, social media
Informants			
Number of informants	Owner, supervisor, marketing staff.	Owner, manager, shop floor staff	Owner, shop floor supervisor, shop floor staff
Number of interviews	4	12	4
Number of field visits	6	24	4

C. The Characteristics of the SMEs Business Model Networks

A business ecosystem consists of interconnected firms. In such a context, using SMEs as a stand-alone entity becomes less relevant because the research cannot display interplays between elements in the business ecosystem. Therefore, networks consisting of several interconnected firms are more appropriate to serve as units of analysis [38]. This study observes three SMEs as focal firms and several other SMEs that function as sub-focal firms whose operations are mostly related to the focal firm. However, there is a possibility that one sub-focal firm establishes a network with other sub-focal firms or establishes a network with more than one focal firm. The pattern of interactions between focal and sub-focal firms and interactions among focal firms are presented in Figure 1 and the profile of the case study firms is presented in Table 2.

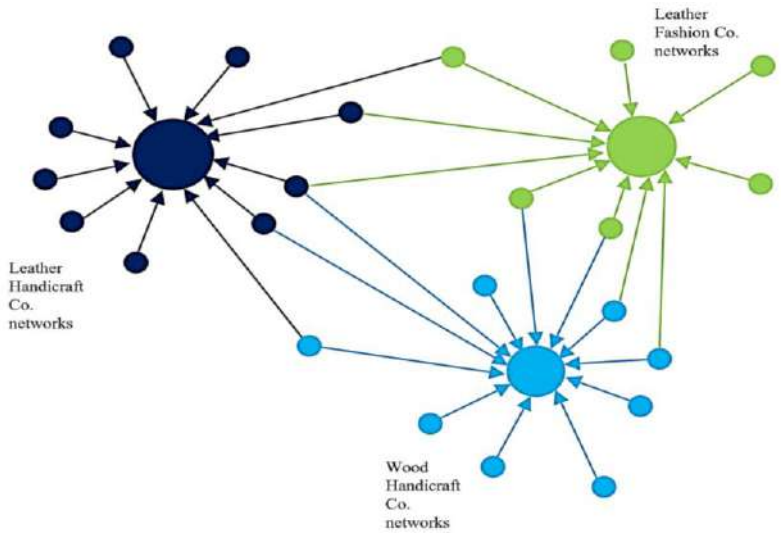

Figure 1: Case study firms and their networks

In practice, interactions between SMEs are far more complex than presented in the figure. The picture only presents the most dominant pattern that appears on the field. We develop these images manually based on qualitative analysis in the field and not using software usually used to analyze social networks, such as AllegroGraph, Gephi, GraphStream, or Graphviz. One of the weaknesses of the software is that it is based on a quantitative method, so the qualitative characteristics cannot be included in network mapping.

D. Data Analysis

Data collection, data presentation, and data analysis are iterative, and these are important elements in the case study method [32]. Although a clean slate is an ideal condition, we use some previous empirical findings as priori constructs [33]. This approach is based on an "abduction" strategy in which an iterative process occurs between the existing theory and the new one being developed [40]. Apart from conducting interviews with key informants from the company, we also had the opportunity to contact several customers, suppliers, and distributors during field visits. With these techniques, we can better understand the research context. Through interviews and field visits, we identified activities underpinning the collaboration of firms for pursuing innovation in the context of the business ecosystem.

Data analysis in this study adopts an inducto-deductive approach by carrying out constant iterations between data collection and analysis, focusing on theory development [33]. The qualitative data obtained from the interviews were transcribed verbatim and subsequently triangulated between informants, field observations, and data collected using other techniques such as company documents, observation, and documentation.

Data analysis was carried out using grounded theory, which consisted of three stages [41]. First, we do open coding, where all relevant codes to this research topic are documented. This process is repeated until it reaches saturation so that there is no new code appears. Second, we did axial coding, where the emerging themes were related to context, consequences, and interactions between codes. In this stage, we outline the issues SMEs face and strategies for developing agile business model designs carried out by the subjects. Third, we conducted selective coding by focusing on key themes or main categories and the interplays between the core themes uses ecosystem consists of interconnected firms.

IV. EMPIRICAL FFINDINGS AND ANALYSIS

A. The nature of the Case Study Business Networks

The creative industry business ecosystem where SMEs operate forms a nested system with unclear boundaries between organizations. The existing boundaries are only contract-based because most work is done on a short-term project basis. As a result, the bonds between network members are transactional. SME managers involved in the networks know each other; it is not uncommon for them to have social relations for a long time. For example, Bucini managers have many relationships with leather craftsmen in the Manding area, including Seaga, who is also the subject of this research.

However, building a network of partners to form an agile business model is still very dependent on the social model of key persons from SMEs. For example, in Fiki Handicraft, the ability to build relationships lies only with the founder. Meanwhile, other business managers from Fiki Handicraft do not have this ability even though they come from the same family. Most social media is only used as a marketing tool and has not been directed to build networks' strengths. Meanwhile, when it comes to building networks, social media makes it easier to identify potential partners. However, once again, it only depends on the key people in the company to determine whether the partnership will take place or not.

B. The link between agile business models, key people, and networks

Digital technology plays a significant role in the exploration of network partners. Meanwhile, the social capital of key people of the firms involved in the partnership determines the success of exploitation. These key people act as the interface connecting the organization's internal resources with the resources of potential network partners [42]. In addition to being the hub, the key person is the leader who initiates the innovation process by internalizing external knowledge and resources.

Empirical findings demonstrated that the network-based agile business model focuses on leveraging and exploiting resources and knowledge developed internally and combined with external resources to generate innovation [30]. Therefore, an agile business model must support adopting a management system that can support the rapid diffusion, sharing, and transfer of knowledge within the company and with external parties in the networks. For this reason, digital technology platforms play a role in developing agile business models to make them more efficient.

However, digital technology platforms are only utilized by focal firms. Meanwhile, the partners do not use digital technology because of low digital literacy. In addition, their low production volume causes them to achieve economies of scale if they intend to market products to customers directly. In other words, the sub-focal firms in this network only focus on production-based companies without considering integrating marketing as their activities.

The use of digital technology has enabled focal firms to build broader networks, particularly those intended for capturing value from the market. Consequently, the volume and value of orders increased, which encouraged the firms to expand their networks to support business models. The firms do not consider increasing the number of employees and other production facilities as this decision will increase operations costs. Meanwhile, expanding business networking provides flexibility in many ways.

C. Organizational Design of SMEs in Knowledge Networks

The empirical findings demonstrated that the case study SMEs have different roles in business networks. In the networks, value creation involves various organizations with different characters and contributions that complement one another; this is the central collaboration in the network. The simple organizational structure of the case study firms enables them to open up and interact with other parties in the business ecosystem to facilitate innovation. An open up

minded has been found to be effective for creating agility during product and process innovation. However, in the case of business model innovation, firms require broader changes across the organization than product and process innovation.

External knowledge acquisition requires a supportive knowledge system within the company; firms must possess behaviors and routines devoted to accessing and integrating external knowledge with the internal innovation process. Sometimes firms need to reorganize internal resources in order to fit with innovation paths developed by the partners. Our empirical evidence indicates that the organic organizational structure of the case study firms makes it easier to reconfigure with network partners. The organic structure has created fluidity of resources in the firms. Despite this fluidity, it can be challenging to integrate these resources with those from outside of the organization. The diversity of knowledge often makes it challenging to develop synergies.

The most striking result from the empirical evidence is the conflict between organizational learning and decision making. Agile requires fast decision-making; meanwhile, organizational learning must provide rooms for individuals to learn. Consequently, SME managers must attempt to balance learning and decision-making. However, the downside of decentralized decision-making is that the many different parts of the organization are not necessarily well connected, hindering the learning process among different parts of the organization. This circumstance occurs when SMEs start growing and get bigger, or SMEs build networks with partners to develop business models.

D. Integration of Quality in Employee Behavior, not in Management Systems

The case study SMEs operate in traditional industries with low technology adoption. In this industry, quality is embedded in employees working in shop floor manufacturing facilities, and it is not easy to organize it into a quality management system. For example, in the second case study firm, which operates in the handicraft industry, quality control is deeply embedded in individual behavior because nearly all work is done manually. Most products in this firm are manufactured on a made-to-order basis so that products are customized. This high product variation leads to difficulties to set up a quality management system.

The majority of handicraft products are small in size, with simple designs, produced in batches, and due to these product characteristics, each person works on one product from start to finish. This circumstance has made employees manufacture as many products as possible because the incentives are based on the number of outputs produced. On certain occasions, firms receive product orders to manufacture large-size products with complex designs. In this case, the products are designed into several modules, each assigned to different employees. The problem arises in this method because the quality of modules an employee makes is not on par with those of others.

E. Resource Configuration and Knowledge Accumulation

Due to their small size, the case study firms experience difficulties accumulating and developing knowledge stocks. Most knowledge is embedded in individuals working in firms participating in networks with highly varied characteristics. In addition, employees tend to develop specific skills when involved in many different projects when fulfilling made-to-order products. As a result, there is a broad spectrum of skills within a company. Each individual has unique skills, and as a result, these skills are difficult to integrate, and it is not easy for individuals in the company to build synergies. However, the positive side of this circumstance is that the skills complement one another. Due to a large number of customized orders received, sometimes it is difficult for firms to allocate a limited number of employees and simultaneously meet the due date. In some cases, employees are overconfident in their skills because they have a long history of doing various jobs. This view does not only occur to himself but also how they view other employees; employees often overestimate their colleagues by viewing them as capable of performing various jobs. Such conditions have caused managers to design the most efficient resource configuration.

F. Networks in an Agile Business Model

Agile business models for SMEs develop intensive inter-organizational relationships to ensure firms obtain necessary resources using various market channels. This strategy requires firms to maintain relationships with various network partners, particularly suppliers, industrial customers, competitors, industry associations, trade show event organizers, distributors, and intermediaries. In short, firms must utilize various channels to broaden their networks. While developing the networks, firms cannot identify clear boundaries between network development that aims to innovate business models or merely to innovate products and processes.

V. DISCUSSIONS

In some ways, there are overlapping elements between the concepts of agility and innovation [9]. Although agility is seen as an inefficient strategy, on the other hand, agility is a driver not only for product and process innovation [43] but also for business model innovation [5]. However, it should be noted that these two concepts are complex, multidimensional, overlapping, mutually contractive, and complementary [44]. This complexity increases when implementing a business model innovation because the business model can reach assets and resources beyond the boundaries of the firms [14].

A. Simple Network Design to support Agile Business Models

The main reason SMEs participate in business networking is to obtain complementary resources. Organizations, including SMEs without exception, continue to experience dynamic changes because they become part of business networks within a business ecosystem. Building large networks allow firms to have access to various external resources. However, the limited availability of internal resources will limit available configuration options. Conversely, building a long-term relationship with a few partners and forming lean networks allow the case study firms to carry out co-learning, knowledge exchange, and knowledge accumulation [45]. These long-term relationships enable firms to accumulate knowledge not only for each organization but how they accumulate from the synergy of assets originating from the company and

partners [26], [46] Having too many partners makes it difficult for firms to identify who has what expertise, and simple networking can overcome this problem.

Proposition 1: Networks support firms to accumulate knowledge in networks necessary for creating agility.

B. Outsourcing the Activities but Maintaining Knowledge Development

This research found that the case study firms do not realize they get involved in cooperation or competition when participating in a business ecosystem. As long as the firms benefit from the networks, they will continue participating in the ecosystem. Cooperation has been documented as having the potential to lead to knowledge leakage, which turns partners into competitors after knowledge leakage occurs [47]. This condition will endanger the firms which experience a shift from delegating non-core functions to partners by changing to being dependent on partners for innovation results [1].

When case study firms pursue business model innovation, sometimes they outsource some activities to partners, particularly activities in which firms do not have sufficient expertise. This strategy has been viewed as efficient but at the expense of hindering firms from developing knowledge. On the contrary, the vendors can improve their knowledge mastery resulting in a knowledge gap with the case study firms. The knowledge gap escalates over time, particularly when outsourcing is related to products with short life cycles or containing intellectual property rights. The consequence of this knowledge gap is not only turning partners into competitors but also reducing company agility C.

The danger of outsourcing escalated when firms participated in the ecosystem. Within an ecosystem, the knowledge of a partner can be transferred to others and the rest of the business ecosystem members. The knowledge gap happens not only between firms and vendors but also between the firms and other network members. If this happens, the company will become alienated from the business ecosystem due to a knowledge gap. Also, firms will be highly dependent on partners.

Firms can easily find partners and develop partnerships if they have unique knowledge; partners expect reciprocal knowledge exchange from the partnerships. In short, if SMEs outsource all activities, they will lose agility. Accordingly, firms must retain unique knowledge when they divest activities or products to partners.

Proposition 2. Divestment of activities and products to network partners without mastery of knowledge will reduce business model agility.

C. Identify Change Signals from Areas Remote from the Organization

Business model innovation forces entrepreneurs to accept risks and explore anti-mainstream opportunities [1]. Entrepreneurs are expected to create outside-the-box creativity that is important for process and capability development. Despite the fact that the case study firms are engaged in traditional creative industries, the lean startup method has been adopted. The method has made market experiments quick and efficient.

Social media is also seen as an efficient tool for open innovation [48]. Social media can be used as an interface between customers and SMEs that generate ideas and provide insights about what will be the trend in the future [49]. The case study firms use Facebook and Instagram for testing the market when firms introduce innovation. Digital word-of-mouth communication originating from online customer responses can signal whether the experiments being undertaken are in the right direction. Obtaining information from phery-phery combined with risk takers attitude are important factors for business model innovation. From this description, the proposition is formulated as follows:

Proposition 3. The combination of detecting signals of changes in market trends with creativity and willingness to take risks is a driver of business model innovation.

D. Encouraging the Creation of a Culture of Innovation

In the case study of SMEs involved in the partnership networks, we found that there is no clear difference between cooperation and competition. Knowledge leakage due to partnerships has been widely documented in the literature, and this knowledge leakage will cause companies to become dependent on partners [47]. This outsourcing can cause a shift in the firms' competitive position, which previously outsourced activities to vendors to become dependent on vendors. The chance of this phenomenon will be greater when there is a change in the market. The vendors can adapt to market change more quickly due to accumulated lessons learned from providing services to the firms, but not the case study firms.

Besides being able to absorb knowledge from firms during the outsourcing process, the vendors also carry out knowledge development. When the vendors have successfully developed their knowledge and outperformed the firms, the firms become dependent on the vendors. In other words, the firms become subordinate to the partners. From the experiences of the case study firms, it can be said that establishing partnerships in the context of a business model is like a double-edged sword: maintaining non-core activities but having to sacrifice efficiency or improving core competencies with the risk of turning partners into competitors.

One of the alternatives to avoid losing their innovation capabilities is maintaining overall product architecture using product templates. From this template, partners will develop product elements. To a certain extent, there is indeed an asymmetry between product elements, but this is precisely where case study SMEs learn from partners and at the same time maintain primary knowledge [50]. Another way to be developed is to look for networks that are “distant partners," as the BBC did with bloggers when the BBC did not yet have the knowledge to develop websites. This distant partner is engaged in a completely different line of business, challenging to work with, but when successful, it will provide a unique configuration. In addition, these partners will not turn into competitors because they are engaged in different industries [26]. From this lesson, companies that innovate business models must be able to stand alone even though they delegate to external parties; firms should not depend on other parties.

Proposition 4. The entire delegation of activities to partners will cause the company to lose control of its innovation capabilities.

This study presents a unifying framework (Figure 1) that consolidates the insights from each proposition into a cohesive conceptual model. The conceptual framework

illustrates the interconnected propositions derived from the empirical case study on agile business models in SME networks. The logical flow of the framework begins with Proposition 1 (P1), which establishes that business networks serve as a foundation for accumulating knowledge essential to building organizational agility in SMEs. This accumulated knowledge supports two strategic pathways. Proposition 2 (P2) argues that divesting business activities to partners without mastering the underlying knowledge weakens business model agility, exposing firms to dependency risks. Simultaneously, Proposition 3 (P3) posits that the combination of detecting market change signals, creativity, and a willingness to take risks drives business model innovation. Both P2 and P3 converge in Proposition 4 (P4), which highlights that full delegation of activities to external partners—without safeguarding core capabilities—leads to the erosion of innovation control. Overall, the framework illustrates a cascading relationship where networks enhance knowledge (P1), which must be strategically protected (P2) and applied creatively (P3) to avoid loss of innovation capacity (P4).

The arrows connecting these propositions demonstrate their logical progression and mutual influence. P1 directly supports both P2 and P3, reflecting the foundational role of networks in shaping both agility and strategic foresight. P2 and P3 both feed into P4, indicating that erosion of innovation and control can result from both knowledge loss through divestment and insufficient internal responsiveness to external change. Overall, the framework reflects an integrated understanding of how SMEs must strategically balance network participation, knowledge retention, and market responsiveness to cultivate a sustainable and agile business model.

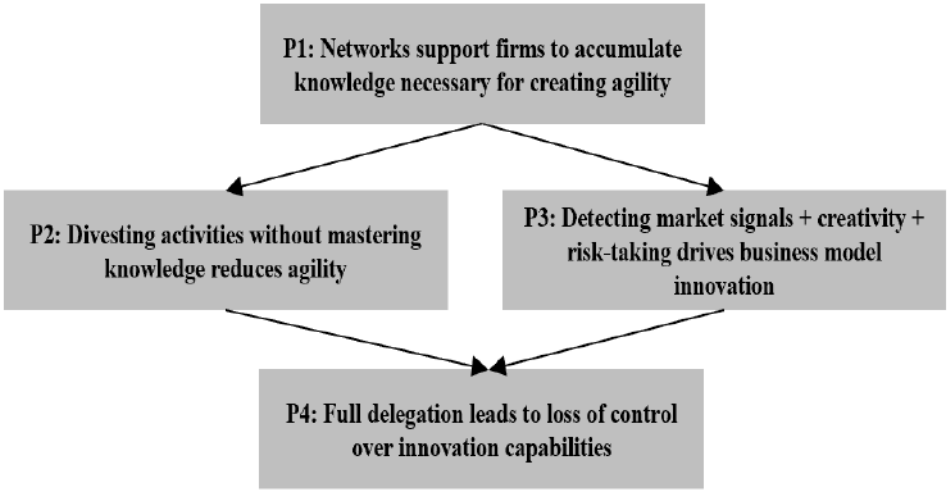

Figure 2: Framework for agile business models in SME networks

VI. CONCLUSION

This study demonstrated that business models can experience obsolescence if there is a change in the environment caused by shifts in customer tastes, modifications to business models by competitors, or shifts in strategy by partners operating within the business model ecosystem. This study found that the system architecture of the business model is sometimes outside the firm's control; stakeholders beyond the organization's boundaries cannot be controlled as they are different business entities.

In order to be successful in adapting to a changing environment, business models must be dynamic enough to adapt to the business ecosystem in which they operate. The implemented business model must be able to keep up with the evolving business ecosystem. Developing a dynamic business model is more important than managing flexible organizational design considering that business models can transcend organizational boundaries. Accordingly, organizational design and employee empowerment are not necessarily effective in creating an agile business model. Coordination and collaboration supported with documentation will help companies to integrate knowledge. The casual work situation makes it difficult for SMEs to carry out this documentation formally.

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