

Harnessing technology and innovation for social good: The case of engageSPARK in the Philippines

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Our paper explores how technology innovations (Barbieri & Alvares, 2016; Galanakis, 2006; Jha, 2016; Meissner & Kotsemir, 2016; Rothwell, 1994) and innovations in management thinking (Drucker, 2002; 2006; Kim & Mauborgne, 1999; 2009; 2015; Orsato, 2009; Osterwalder & Pigneur, 2010; Osterwalder et al., 2014; Ries, 2011) can help solve social problems. We feature the case of engageSPARK, a technology-oriented social enterprise headquartered in Cebu, Philippines, which works closely with humanitarian organizations, foundations, and even corporations. By harnessing SMS and voice call technology, engageSPARK provides solutions to societal and business issues ranging from beneficiary engagement (nonprofit organizations) and human resource management (corporate clients).

For this paper, we adopted the qualitative case study method proposed by Yin (2003), which is fit for examining contemporary phenomenon over which researchers do not have much control.

Through the insights gained from this case, we aim to provide scholars, practitioners, and policy-makers insights on how technology can be harnessed by organizations not just to pursue innovation, but also to solve humanitarian problems that can lead to the realization of inclusive growth.

1. Introduction

ASEAN countries are witnessing fast-paced developments in different fields. In terms of technology, continuous advancement has enabled society to appreciate machineries that give rise to unprecedented efficiencies and personal gadgets that make communications seamless. In terms of entrepreneurship and management, new paradigms ushered by technology have led to products, services, and business models that solve emerging consumer needs in terms of transportation, digital shopping, communications, and social networking – unlocking new forms of value among society’s stakeholders.

However, these advancements in technology and management coincide with the reality that there are still social problems that must be solved. The United Nations, through the Sustainable Development Goals (<http://www.un.org/sustainabledevelopment/sustainable-development-goals/>), pose the challenge for us to address issues such as poverty, employment, hunger, health, education, and sustainability. Various organizations have attempted to heed the call – corporations are doing more social initiatives while nonprofits and the government continue to attempt improving their programs for their intended beneficiaries. In the Philippines, we have witnessed a rise in entrepreneurs and managers forming social enterprises – recognizing that business and management solutions can become instruments that can achieve societal and even environmental goals.

Given the close links between technology and management innovations, it is interesting to uncover how organizations operating at the very nexus of these fields can find solutions to society’s most pressing problems. Guided by this rationale, this paper aims to achieve the following research objectives. First, we revisited literature highlighting essential concepts in technology and management innovation. Second, we described and explored the case of a technology-oriented social enterprise based in Cebu, Philippines called engageSPARK. Finally, we generated insights how social enterprises and other organizations can harness technology and management innovations to arrive at meaningful solutions for commercial and societal objectives.

2. Brief Literature Review

To contextualize the case study research, we highlight two general areas in the literature. The first area talks about the generations of innovation (Barbieri & Alvares, 2016; Galanakis, 2006; Jha, 2016; Meissner & Kotsemir, 2016; Rothwell, 1994), which aims to crystallize how innovation works inside an organization and the latter's interrelationship with the market or target stakeholder to be served. The second area talks about innovation through the lens of management thinking (Drucker, 2002; 2006; Kim & Mauborgne, 1999; 2009; 2015; Orsato, 2009; Osterwalder & Pigneur, 2010; Osterwalder et al., 2014; Ries, 2011), which allowed us to make sense of rich details about management and strategy arising from our case study. These two areas of literature review paint broad and specific pictures of how firms innovate across time and generations while drawing from actionable tools and frameworks as proposed by management and strategy thinkers.

2.1 Generations of innovation

Rothwell (1994) wrote what is now considered an influential work on detailing generations of innovation and how they are manifested in business organizations. Rothwell described how technology innovation from corporations and even startups changed over time – starting from sticking with linear processes (e.g. pushing existing technology to the market or creating new technology based on market demands) to more feedback-oriented and iterative processes (e.g. coupling, cross-sectional collaboration within corporate departments, and embedding innovation into the business organization's DNA).

Various authors (Barbieri & Alvares, 2016; Galanakis, 2006; Jha, 2016; Meissner & Kotsemir, 2016) have built on Rothwell's work, proposing the so-called 'sixth generation' of innovation. The sixth generation model places innovation not just within the parameters of an organization's business model, but rather, it requires innovation processes being embedded with the company's key partners and networks.

Table 1 summarizes the different models of innovation according to generation, period, authors, and the respective models' essence.

Table 1. Generations of innovation adapted from literature

Generation	Innovation model	Period	Authors of fundamental ideas (as cited in Barbieri & Alvares, 2016 and Meissner & Kotsemir, 2016)	Essence
1	Technology push	1950s to late 1960s	Usher (1995); Marinova and Phillimore (2003); Tidd (2006), Berkhout, Duin, and Ortt (2006); Bochm and Frederick (2010)	Linear process originating from pushing new inventions
2	Market pull	Late 1960s first half of 1970s	Myers and Marquis (1969); Marinova and Phillimore (2003); Tidd (2006), Berkhout, Duin, and Ortt (2006); Bochm and Frederick (2010)	R&D on customer wishes
3	Coupling model	Second half of 1970s to end of 1980s	Mowery and Rosenberg (1979); Marinova and Phillimore (2003); Tidd (2006), Berkhout, Duin, and Ortt (2006); Bochm and Frederick (2010)	Interaction of different functions
	Interactive model		Rothwell and Zegveld (1985); Marinova and Phillimore (2003); Tidd (2006), Berkhout, Duin, and Ortt (2006); Bochm and Frederick (2010)	Interaction with research institutions and markets
4	Integrated model	End of 1980s to early 1990s	Kline and Rosenberg (1986); Marinova and Phillimore (2003); Tidd (2006), Berkhout, Duin, and Ortt (2006); Bochm and Frederick (2010)	Simultaneous process with feedback loops
5	Networking model	1990s	Rothwell (1992); Marinova and Phillimore (2003); Tidd (2006), Berkhout, Duin, and Ortt (2006); Bochm and Frederick (2010)	System integration and networks
6	Open innovation	2000s	Chesbrough (2003); Marinova and Phillimore (2003); Tidd (2006), Berkhout, Duin, and Ortt (2006); Bochm and Frederick (2010)	Innovation collaboration and multiple exploitation paths

Source: adapted from Barbieri & Alvares, 2016 and Meissner & Kotsemir, 2016

The generations of innovation models provide a framework contextualizing how firms could better manage their products and services. In the past where industry dynamics and the macro-environment are more predictable, the first two generations' linear process (pushing technology or relying on market demand-pull for developing innovations) may have been adequate. However, given the tremendous pace by which our society advances, linear processes prove to be too time-consuming. Ries (2011) contends that the ever-shifting demands of customers happen too fast, such that initial plans may become obsolete at the point of execution. Hence, practitioners realize the need for more iterative processes instead of relying on linear models.

The third generation of innovation, known as coupling, recognizes that there should be interactions between the company's research and development department and the needs of the market. Although this model recognizes the necessity of dialogue between customers and the R&D department, there is a limitation. Authors (Barbieri & Alvares, 2016; Galanakis, 2006; Jha, 2016; Meissner & Kotsemir, 2016; Rothwell, 1994) contend that for innovation to be more efficient and effective, it must be ingrained in the organizations operations and processes (fourth generation), or be integrated in the company's business model, systems and DNA (fifth generation). More recently, we witnessed the merits of open innovation, or of creating innovation systems of collaboration within an industry or a specific ecosystem's players. We contend that for any kind of organization to keep up with today's turbulent times, the innovation model to be followed must at least be the fourth generation. Innovation is too critical an undertaking to only be delegated to a select few inside an organization – it is imperative that everyone in the organization provides feedback and time to inculcate innovation in the different functional areas of management.

After revisiting the generations of innovation models, it is desirable to juxtapose it with recent management thinking concerning business models, strategy, and entrepreneurship. By providing actionable frameworks, various authors (Drucker, 2002; 2006; Kim & Mauborgne, 1999; 2009; 2015; Orsato, 2009; Osterwalder & Pigneur, 2010; Osterwalder et al., 2014; Ries, 2011) also allow scholars to make sense of, and practitioners to decide on, activities that allow for the proper planning and execution of innovation.

2.2 Innovation through the lens of new management thinking

Embedding innovation in an organization's business model, strategy, and DNA is not an easy feat. If the generations of innovation models are any indication, it took management scholars and practitioners half a century to articulate how this can be done. As such, we analyzed and compiled modern key literature that provides visual tools and frameworks about integrating innovation in the business model, strategy, and entrepreneurship activities of businesses and social enterprises. Table 2 summarizes the literature into key management concepts, frameworks, authors and proponents, and their respective essence.

Table 2. Selected modern management concepts related to innovation

Management concepts	Frameworks	Key authors	Essence
Business model and systems thinking	Business model canvas; Innovation process as systems thinking	Osterwalder (2004); Osterwalder and Pigneur (2010)	Instead of viewing innovation in silos, innovation can be holistically designed integrally to the business model. Osterwalder provides the business model canvas as a tool to visualize elements of value creation, delivery, and capture under the context of innovation.
	Sources of innovation	Drucker (2006);	Firms can generate strategic ideas based on sources proposed by Drucker, such as the unexpected, incongruities, process needs, changes in industry or market structure, changes in demographics, changes in perceptions, moods, & meaning, and new knowledge.
Sources of innovation leading to new strategies	Blue ocean strategy	Kim and Mauborgne (2015); Orsato (2009)	Shifts away the focus of strategy from mere competition to creating new market spaces, where the firm can be the pioneer. Some tools offered by Kim and Mauborgne are the Four Actions Framework (which elements in the industry can be Eliminated, Reduced, Raised, or Created) and the Six Paths Framework (getting hints from alternative industries, strategic groups within an industry, redefinition of buyer groups within an industry, complementing products, functional-emotional orientation, and shaping trends over time.

Management concepts	Frameworks	Key authors	Essence
Entrepreneurship and product development	Value innovation and value proposition design	Kim and Mauborgne (1999) Osterwalder et al. (2014)	Anchor innovations and new products based on the needs and wants of target segments. Instead of viewing products as either mass-distributed and accessible due to low-cost or highly differentiated and niche, value can be unlocked by pursuing both low-cost and differentiation. The Four Actions Framework can be applied to value proposition design (which elements in the value offering can be Eliminated, Reduced, Raised, or Created to unlock value for underserved or unserved target segments).
	Lean startup principle of minimum viable product iterations for customer feedback loops	Ries (2011)	Instead of viewing product development, innovation, and entrepreneurship as a linear process that can be planned without fail, prototypes or minimum viable products can be launched as fast as possible to get customer input as fast as possible, providing a 'build-measure-learn' feedback loop that accelerates learning from the organization and the target segments.

The practitioner-oriented articles mentioned in Table 2 support the authors of the generations of innovation models. In terms of management thinking, innovation is recognized as an essential activity that should be present in top-level strategic decision-making (e.g. Kim and Mauborgne's Blue Ocean Strategy) or the entrepreneurial activities of startups and other organizations (Osterwalder & Pigneur, 2010; Ries, 2011). Practitioners also recognize that linear planning is inadequate; iterations of products, establishing feedback mechanisms with various stakeholders especially the target customers, and participating in shaping and even creating new industries is vital for this age's organizations.

Orsato (2009) and Ries (2011) contend that strategic thinking and innovation principles can be adapted to help social enterprises and other organizations achieve their missions revolving sustainability and addressing society's problems. We cannot help but

agree with this perspective – these new developments in the fields of innovation, strategy, management, and entrepreneurship are too powerful to be restricted to purely commercial activities. As such, we now attempt to apply the learnings from literature in an empirical context by conducting a case study research.

3. Case study research method

We utilized a single case study research design as proposed by Yin (2003), by gathering primary data through interviews and observations of key informants in engageSPARK – CEO Mr. Ravi Agarwal and Director for Business Development Mr. Nick Brown. We also examined publicly available data, including those taken from web sites, published articles, and other studies about engageSPARK.

The data we gathered formed part of our case study database, which already includes the following: interview transcriptions, detailed interview summaries, field notes, audio files, printed materials, and online materials.

We chose the case study research method because we examined a contemporary phenomenon with some real life context, over which we had little control. We acknowledge that the analytic conclusions arising from this case study are only “generalizable to theoretical propositions and not to populations of universes.” Therefore, we cannot establish correlational or causal relationships, but simply explain why or how these relationships exist (Yin, 2003).

For this study, we came up with a detailed case description, which includes the following information: background of the company, its economic and social activities, and description of its business model and strategies. We largely depended on qualitative data coming from our interviews, which were either paraphrased or expressed in actual quotations. We then analyzed our data using the two aforementioned lenses in the literature review: (1) generation of innovation models and (2) selected management principles related to innovation.

4. Case of engageSPARK

4.1 About engageSPARK

As complicated communications technology may seem, engageSPARK's value proposition promises the "world's easiest automated calls & 2-way SMS" (www.engageSPARK.com). A Philippine social enterprise based in the burgeoning technology hub of Cebu City in the Visayas region, engageSPARK is the first company created under the budding social enterprise conglomerate Opportunity Labs, which is currently headquartered in the United States. engageSPARK offers a self-service platform accessible online that allows nonprofit organizations, companies, and other institutions to communicate via mobile phones to their intended beneficiaries. Via short message services (SMS) and voice messages through automated calls, engageSPARK's platform is as flexible as it gets – allowing not just one-way communication shouts from organizations, but rather, real two-way engagements that lets the target stakeholders respond to messages.

After management stints during the Jack Welch-led General Electric and as a Silicon Valley entrepreneur who built previous technology-oriented startups, current CEO Ravi Agarwal founded engageSPARK in 2012 driven by a critical problem. In his travels to different countries, Ravi uncovered that humanitarian organizations often suffer a communications-related issue related to their target beneficiaries. Nick Brown, Director of Business Development, laments that nonprofit organizations may have the capacity to broadcast e-mails and SMS blasts to their stakeholders, but quite often the stakeholders they try to talk to lack the capacity to respond or voice out their immediate problems. Armed with this insight, engageSPARK built a cloud-based platform and collaborated globally with various telecommunication countries to offer a mobile phone-based engagement solution. Agarwal and Brown contends the idea that the penetration of mobile phones (e.g. basic cellular phones with pure call and text capabilities and today's smartphone boom) potentially allow organizations to establish a true dialogue with their target stakeholders.

As a platform, Brown described how engageSPARK can be packaged into different types of services. engageSPARK features solutions such as surveys, market research, communication campaigns, emergency alerts, and any initiative that can tap SMS and voice via mobile phones. As a social enterprise, engageSPARK primarily targeted humanitarian organizations, but opened its doors to corporations as Agarwal and his team realized that their platform can help alleviate not just communications with traditional nonprofit beneficiaries,

but also companies needing to manage human resource issues such as employee attendance and recruitment. Brown narrates that one of their corporate clients based in the Philippines used their platform to manage absenteeism and tardiness by automating texts and calls for employees who have not yet logged in at their respective times. In addition, the platform allowed the company to efficiently administer screening processes via initial automated interviews and communicating with job applicants that do not have stable internet connection.

As a social enterprise, engageSPARK manages its finances by reinvesting profits back into the business. Some of their services offered in the Philippines revolved around helping humanitarian organizations prepare for typhoons. As stated in one of the articles written about them:

While they do offer their services internationally, they have also focused some of their efforts to help organizations involved locally in the Philippines during the last typhoons Haiyan (Yolanda) and Hagupit (Rubi). For Typhoon Haiyan, the platform was used for a program by Mercy Corps to offer financial literacy by SMS and voice messages to 20,000 recipients of relief funds following the disaster. For Typhoon Hagupit, they also collaborated with Mercy Corps to reach out to residents of the regions at risk to alert them and help them prepare before the arrival of the Typhoon. (<https://www.choosesocial.ph/organization/engagespark>)

Mercy Corps wrote in its impact evaluation report (2015, June 22) how engageSPARK's platform brought about desirable change in behavior among the beneficiaries of its TabangKO ('my help') program. The engageSPARK platform facilitated TabangKO's financial literacy campaign through voice message 'episodes' (e.g. automated calling of household decision-makers). The campaign, through short storytelling patterned similarly to locally popular Filipino telenovelas, encouraged financial savings through periodic calls or episodes that the beneficiaries can look forward to. After the conclusion of the campaign, Mercy Corps found out that the household decision-makers increased their savings compared to their previous transactions.

Although the innovations of engageSPARK allowed it to build a flexible self-service platform that enables its potential clients to unleash creative ways of harnessing mobile technology, Brown shares the challenge of selling the platform. He shares that as one of the lead salesperson for the social enterprise, he had to "productize" (Brown, personal

communication, July 28, 2016) their various services. This meant that based on client meetings and prospecting initiatives, he had to design solutions that are easily communicable and transferrable to potential customers. Brown emphasizes that prospect customers may not immediately appreciate the capabilities of the engageSPARK platform. As such, it is important for business development to establish feedback mechanisms across the entire business model of engageSPARK – the continuous refinement of the platform activating in parallel, if not overlapping, with the changing demands of their clients. An intimate understanding of the platform, the market, and how they interrelate is essential for engageSPARK's innovation and business activities.

4.2 The innovation model of engageSPARK

Based on the generation of innovations model, we surmise that engageSPARK's circumstances can be contextualized under the lens of the fifth innovation model (systems integration and networking model). engageSPARK's platform development innovation is simultaneously managed with business development initiatives, integrating innovation in these activities. As shown in the case, the innovation agenda is not merely limited to a particular department within the startup; rather, it is part of the very job descriptions of each employee – from refining website codes, improving the platform's usability and user experience, and interfacing with prospective clients. There is also a feedback mechanism established between engageSPARK and its partners as led by their Business Development Directors, signifying the importance of iterations instead of linear processes. The executives of engageSPARK also leverages on building global contacts while navigating political and legal concerns arising from collaborating with telecommunications and humanitarian organizations across different countries.

Although engageSPARK drives innovation within its organization and has established key partnerships with telecommunications companies globally, engageSPARK can still improve its open innovation potentials and reach the status of the sixth generation innovation model. At its current state, engageSPARK is the primary proponent of innovation activities with its key partners and key customers, while the partners and customers need to better learn and appreciate the potential of the engageSPARK platform. There is great potential for engageSPARK to unlock both commercial and social value if it can embolden its clients to pursue innovation together with them. Since engageSPARK is inherently a flexible platform, once clients are able to also tinker with the possible solutions, innovative collaborations can

truly take place – allowing engageSPARK to implement open innovations and usher in the sixth generation of innovation model in the social enterprise space. We contend that once engageSPARK is able to embed open innovation collaborations with its key networks, the potential for more social impact can be attained. We can imagine the endless possibilities of different kinds of organizations harnessing engageSPARK’s platform to initiate campaigns or projects that engageSPARK may currently overlook as it is focusing on fortifying its initial innovation initiatives.

4.3 Analyzing engageSPARK’s business models and strategies

To better make sense of engageSPARK’s case and how it achieved the fifth generation model of innovation, or integrating innovation in its systems and network processes, it is useful to apply different management concepts. As discussed in the literature review, the paradigm of innovation and technology have ushered modern management thinking about business models, strategic thinking, and entrepreneurship.

Various authors (Kim & Mauborgne, 2015; Orsato, 2009; Osterwalder 2004; Osterwalder & Pigneur, 2010; Osterwalder et al., 2014) argue that visualizing a firm’s business model and strategy is essential for meaningful innovation. At the very least, visualization can provide answers to the essential strategic question of “where are we now?” – a critical undertaking for analyzing the organization’s true internal reality. In line with this, we provided a simple depiction of engageSPARK’s business model as shown in

Figure 1. We utilized Osterwalder and Pigneur’s Business Model Canvas, which is useful for visually describing how an organization creates, communicates, delivers, and captures value. Osterwalder and Pigneur (2010) propose nine building blocks for business models. These are (1) value proposition, or the main core promise to be fulfilled for customers; (2) target segments, or the intended stakeholders the firm wishes to serve; (3) channels, or means on how to deliver the value proposition to the target segment; (4) customer relationships, or engagements and touchpoints to build authentic connections with the target segment; (5) revenue streams, or means of capturing value; (6) key activities, or activities essential to the operations of the business (methods); (7) key resources, which encompass the remaining M’s of man, machines, and materials; (8) key partners, or the critical collaborators for the execution of the business model; and (9) cost structures, or the financial equivalent of executing the organization’s business model.

<i>Key Partners</i>	<i>Key Activities</i>	<i>Value Proposition</i>	<i>Channel</i>	<i>Target Segments</i>
Telecommunication companies around the world Cloud and server service providers	Platform development (backend coding and front end user experience); Networking with key partners globally; Legal management across different countries	“World’s easiest automated calls & 2-way SMS platform” Social value proposition: A platform for 2-way communication with intended beneficiaries	Self-service online platform via official website	Humanitarian organizations Corporations
	<i>Key Resources</i>		<i>Customer Relationships</i>	
	Servers, fast and stable internet connection, co-working spaces, reliable telecommunications		Personalized client relationships with business development directors and officers Assistance for doing campaigns, preparing text/call scripts, and programming information flow from responses of the organization’s target beneficiaries/customers	
<i>Costs</i>		<i>Revenue streams</i>		
Server maintenance Telecommunication expenses		Pay-per-use in US dollars (pay per text or pay per calls made)		

Figure 1. Simple business model canvas of engageSPARK

(as interpreted by the authors)

The business model of engageSPARK is anchored on a user-friendly, self-service, and online platform that anyone can use for campaigns and two-way engagements. In our observation of engageSPARK’s platform in action, there is a plethora of options and information flows accessible to its prospect users. Process flows can be transformed into step-by-step scripts and campaigns in which responses of the user’s intended target segments can be readily extracted – providing many possible utilities. Examples of which are surveys, consumer research, recruitment screening, and any means of two-way engagements via texts and voice calls. These projects are automated – the user just needs to record scripts and detail steps on how beneficiaries can respond (e.g. replying a certain string via text, pressing a particular number during a voice call, or recording open-ended answers to questions).

To enable a platform such as this, CEO Ravi Agarwal and Business Development Director Nick Brown emphasized the tremendous back-end development needed to seamlessly integrate telecommunication services around the world with their online website. Numerous iterations of the platform have been performed, and they strive for continuous improvement via the emerging needs of their prospect clients.

As a social enterprise, engageSPARK strived to make its platform as accessible as possible to humanitarian organizations. During our interviews and observations, we learned how engageSPARK's value proposition design processes are congruent with the contentions of Osterwalder et al.'s Value Proposition Design (2014), Ries' Lean Startup principles (2011), and Kim and Mauborgne's value innovation (1999). engageSPARK intimately understood the customers by establishing feedback mechanisms through business development officers; they continuously iterated their platform to satisfy their target segments; and pursued value innovation by inherently applying the Four Actions Framework of finding elements that can be eliminated, reduced, raised, or created for the target segment (see Table 3). Brown asserts that engageSPARK aimed to provide solutions based on barriers experienced by humanitarian organizations and corporations in relying on traditional telecommunications services.

Table 3. Value innovation of engageSPARK (as interpreted by the authors)

Four actions framework (Kim and Mauborgne, 2015)	Actions of engageSPARK
Eliminate factors or barriers taken for granted by the industry	engageSPARK eliminated the financial barrier of how traditional telecommunication companies deal with enterprise and end-user consumers, which are long-term lock-ins and high price of contracts for SMS and voice campaigns. Instead, engageSPARK opted to use a 'pay-per-use' revenue model. This is essential to target humanitarian organizations and other nonprofits who do not have the capacity to invest huge capital for communication campaigns.
Reduce factors or barriers taken for granted by the industry	engageSPARK reduced the technological barrier for customers who do not know how to harness backend telecommunication activities and advanced mobile technologies by providing a simple and easy-to-use platform that can even be automated.
Raise factors or elements that is overlooked by the industry	engageSPARK raised the value offering element of being able to establish two-way communications with far-flung beneficiaries that primarily connects via SMS and voice calls, overcoming logistical barriers brought by geographical divisions. Although access to far-flung mobile phone users are possible in the past, traditional

Four actions framework (Kim and Mauborgne, 2015)	Actions of engageSPARK
Create new value propositions	<p>telecommunications focused on one-way texts or blast calls. engageSPARK upped the ante by allowing an accessible way to provide two-way engagements.</p> <p>engageSPARK created a mobile platform for two-way engagements instead of the traditional one-way text or call blasts offered by traditional telecommunication companies. Instead of a subscription or retainer model in which the organizations have to be very reliant on the telecommunications provider's expertise, engageSPARK empowers its clients to shape the platform anyway they want to solve their specific needs. They also created feedback mechanisms that allow them to reiterate continuously their services instead of following a traditional model of linear processes.</p>

By examining the value innovation activities of engageSPARK using the Four Actions Framework, we made sense of how engageSPARK designed its value proposition and business models. It is notable how engageSPARK is intimately aware of its target segment's technological and financial barriers while considering the pitfalls of the traditional telecommunications business model. As such, this knowledge of incongruities (Drucker, 2006) allowed them to adopt a 'reconstructionist' perspective (Kim & Mauborgne, 2015) – shaping the communications industry instead of merely competing in it and capitalizing on the changes brought about by technology's continuous advancement.

4.4 Key insights

Amid the talk about new inventions and technology's fast-paced advancement, the case of engageSPARK emphasizes a very important insight in viewing the nexus of technology innovation and management: more than looking for the 'next big thing', there is value in creatively combining existing technologies to arrive at meaningful platforms and solutions. SMS and voice calls have been enjoying mainstream success, and even the internet is widely accessible across the world. However, engageSPARK created a new value proposition by seeing how these two technologies can be synergized as a platform. Thus, before being overeager in discovering what new inventions technology can bring, it is important for engineers and managers to step back and ask: is there an unmet or underserved need being overlooked that existing technologies can already solve?

This reinforces the need for innovation models to be more integrative and embedded in an organization's very DNA while veering away from the traditional linear processes of technology push or market pull. The case of engageSPARK showcases the importance of being intimately aware with existing technologies and the needs of the market. Their initial success, however, is not built on merely executing what might be their founder's early plans – their ability to iterate and incorporate client feedback enabled them to improve their platform and achieve their social objectives while ensuring that the social enterprise is self-sustaining.

In terms of making sense of innovation models, the recent changes in thinking about management, business models, and strategy provides tools and frameworks on how innovation can be truly embedded in an organization's systems. The management concepts discussed in the literature review and the case study analysis enables scholars and practitioners to view innovation not merely under the lens of new technologies, but rather, reconfiguring existing technologies to try meeting the needs of unserved and underserved segments.

It is exciting to think about the open innovation possibilities about engageSPARK and its clients. If innovation would be embedded not only in engageSPARK's business model and DNA but also appreciated by its clients, we can only imagine how the platform can shapeshift to many other solutions that can provide hints in addressing problems. Via two-way engagement, we can better assess the needs of the unfortunate and hard-to-access needy. We can also better prepare for natural disasters, which are unfortunately becoming a real part of ASEAN citizens' yearly lives. The rise of social media and the internet of things may have ushered unprecedented means to connect with one another. But not everyone is online all the time. If engageSPARK can lead innovation collaborations with humanitarian organizations and corporations in socially relevant projects, it can open new ways of addressing old problems with existing but reconfigured technologies.

5. Conclusions and recommendations

In this paper, we conducted a literature review and case study analysis on how social enterprises and other organizations can harness technology and innovation to achieve social good. The models of innovation, juxtaposed with new management thinking in business models, strategy, and entrepreneurship, provide social enterprises some clues on how to serve

their intended beneficiaries while being self-sustaining. To end this exploratory paper, we recommend the following.

For scholars, continue exploring other cases in which existing technologies are reconfigured, via cutting-edge management thinking, to address overlooked societal problems. This is not to say that new inventions and technologies should be put on the side. We contend that this research agenda can allow for effecting impact in the social sector the soonest possible time. Moreover, frameworks that unify innovation theories with actionable management tools can help translate scholarly conjecture into impactful implementations.

For practitioners, we reiterate the need for establishing feedback mechanisms between organizations and their target segments to usher meaningful innovation. Collaborating with networks and doing innovation initiatives together could become critical activities that will enable solutions to society's problems. This paper's juxtaposition of innovation models with actionable management concepts already provides possible steps to consider in planning and executing innovation initiatives. In addition, in developing new products, it may be beneficial to consider how technology can be harnessed to create platforms instead of traditional products and services, as platforms can facilitate open innovation with customers and partners.

For policy-makers, there is merit in framing innovation not only under the lens of mainstreaming new inventions, but rather, framing innovations as creatively combining and reconfiguring existing technologies in solving challenges. As such, policy-makers can fund activities that allow humanitarian organizations, corporations, and nonprofits to dialogue and brainstorm with engineers and technocrats to be more aware of what existing technology can offer. The intimate understanding of engineers about existing technology married with organizations' intimate understanding of their beneficiaries' needs and wants can unlock value that may have been overlooked due to lack of awareness and congruence with each other. In addition, there could be merit in incentivizing open innovation activities among companies and humanitarian organizations to create new solutions.

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