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NOVATION MANAGEMENT AND VALUE CHAIN DESIGN: CASE OF A SMALL PROFESSIONAL SERVICES FIRM

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ABSTRACT

The concepts of innovation and innovation management were usually associated with large firms in developed countries that focused on product manufacturing. More recently, researchers turned to studies of innovation in services and the relevance to small firms in developing countries. This paper explores the relevance and applicability of the concept of innovation management to small firms, particularly in the field of professional services, in the context of a developing state. A qualitative research method was employed involving collection and analysis of published articles, reports, and leading texts on the subject of innovation management. The main finding is that innovation management is highly relevant to small firms especially those that operate in the services sector. The value of the paper lies in the fact that innovation management and value chain innovation were not previously investigated in small professional services firms in the Caribbean, and, therefore, the paper contributes to filling that gap in the literature. The practical implications for managers are that open innovation and services innovation must be embraced, and business model and value chain innovation are critical to small firm delivery of services.

Keywords: Innovation. Innovation Management in Small Firms. Services Innovation. Open Innovation. Business Model Innovation. Value Chain Design.

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GESTIÓN DE INNOVACIÓN Y DISEÑO DE CADENA DE VALOR: EL CASO DO UNA EMPRESA DE SERVICIOS PROFESIONALES

RESUMÉN

Los conceptos de innovación y gestión de innovación están asociados normalmente a grandes empresas en países desarrollados enfocadas en la fabricación de productos. Recientemente, los investigadores se han volteado hacia estudios de innovación en servicios y la importancia que tiene para empresas pequeñas en países en vías de desarrollo. Este artículo explora la relevancia y aplicabilidad del concepto de gestión de innovación para empresas pequeñas, particularmente en el área de servicios profesionales, en el contexto de un estado en vías de desarrollo. Se empleó un método de investigación cualitativa involucrando la colección y análisis de artículos publicados, reportes, y libros destacados en el tema de gestión de innovación. El mayor hallazgo es que la gestión de innovación es altamente relevante para las empresas pequeñas, especialmente aquellas que operan en el sector de servicios. El valor del artículo yace en el hecho de que la gestión de innovación y la cadena de valor de innovación no fueron investigadas previamente en empresas pequeñas de servicios profesionales en el Caribe, por tanto, el artículo contribuye a rellenar este vacío en la literatura. Las implicaciones prácticas para los gerentes son que la innovación abierta e innovación en servicios son conceptos que tienen que adoptar, y que el modelo de negocios y las cadenas de valor de innovación son críticas para la entrega de servicios en empresas pequeñas.

Palabras Clave: Innovación; Gestión de Innovación en Empresas Pequeñas; Innovación en Servicios; Innovación Abierta; Innovación de Modelos de Negocios; Diseño de la Cadena de Valor.

INTRODUCTION

There exists a considerable volume of literature on the subject of innovation which was viewed as the outcome of putting creative ideas into action. Innovation was mainly associated with firms in manufacturing industries that were involved in creating a wide range of products for diversified markets (Drucker, 1985; 2002). Innovation and the management of innovation have become part of the business debate and the concepts are considered relevant to both large and small companies, and more recently linked to the triple helix of university-industry- government interactions (Etzkowitz, 2003). Increasingly, innovation is seen as applicable to the creation of new service offerings, business models, market-penetration techniques, and management practices (Birkinshaw, Bouquet, & Barsoux, 2011). This extended view of innovation was linked to the acceptance of the fact that novel ideas can

impact the value chain in a transformational manner which leads to further innovation such as the entry of open innovation thinking (Chesbrough, 2003). It is accepted that innovation is a complex phenomenon, no universal solutions exist, and individual solutions rarely have general application so that managers must adapt ideas to the situational context of the company (Oxford English Dictionary, 2010).

This paper focuses on the main issues related to the evolutionary nature and understanding of the concept of innovation; the practice of innovation management (IM); introduction of open innovation; the shift from product innovation to services innovation; business models and business model innovation (BMI); and value chain innovation. Most studies of IM are devoted to large manufacturing firms in developed economies, with IM efforts in small

firms largely ignored, and attention to services is a relatively recent area of concern to researchers. This paper intends to partially fill this gap by focusing on small firms in developing countries with special reference to the case of a small professional services firm operating in the field of project development planning. In this context, the following question is posed: Can a value chain be designed for a small professional services firm in the field of project planning based on the insights from innovation management constructs?

The paper is significant to a range of stakeholders including: students of innovation; innovation managers; researchers of IM in small firms, particularly in the services sector; and professional services firms engaged in the consulting industry. The paper contributes to the field of innovation research and practice by exploring the various concepts linked to innovation, particularly, IM and small firms, open innovation and services, BMI, and value chain design. The main conclusion is that IM is relevant to small firms, especially those involved in providing services which are generally more suited to their capabilities than physical products. The subsequent sections of the paper follow a sequence which addresses the theoretical reference framework that guides the study; an overview of the literature relevant to innovation and its associated concepts; the qualitative research method employed; the results and discussion of the major themes and issues that emerged from the literature and practice of innovation; case of a project development consulting firm; the implications for policy and managers; and conclusions, limitations, and future research.

Theoretical reference framework

The theoretical framework adopted is based on the 'evolutionary generation of innovation management' which traced the development of IM over four generations from 1900 to the current era as presented below (Ortt & van der Duin, 2008; Miller, 2015; 2016).

1st generation 1900-1940: witnessed the application of the basic business functions of R&D, marketing, finance, and operations, and creation of hierarchical organization structures

which managed the corporate functions as strategic units

2nd generation 1940-1975: introduced the information age and modern project management where collaboration was established with universities on basic R&D, and industry on products and services facilitated by digital computers and networks

3rd generation 1975-2000: highlighted strategic planning, venture capital financing, digital information capabilities such as computer aided design, the Internet, knowledge management, globalization, and hybrid business models

4th generation 2000-present: emphasis placed on incremental innovation and the concept of dominant design as opposed to the radical innovation of the previous three generations.

The theoretical evolution of the four generations of IM was built on 12 principles and practices highlighted as: invest 80% of funds in incremental innovation; manage knowledge channels; practice a nonlinear model with a spiral innovation process for radical innovation; utilize innovation roadmaps in strategic planning; create 4th generation innovation labs; introduce chief innovation officers; and create innovation hubs (Miller, 2015; 2016). It was argued that the evolutionary nature of IM allows for firms to "adapt innovation management to the changing societal and business environment to overcome the disadvantages of previous innovation management principles" (Ortt & van der Duin, 2008, p. 533). Consistent with this latter argument, the theory was extended to include the concepts of open innovation, services innovation, BMI, and innovative value chain design which represent the core of the case in this paper as detailed in the results and discussion section.

Relevant literature

The concept of innovation was long established in the literature and generated a considerable body of work over decades, but the more recent literature points to the part innovation plays in sustaining business success, whether applied to established or emerging companies, start-ups, non-profit organizations,

and even non-business organizations (Drucker, 1985; Sullivan, 2011). This review focuses on the umbrella concept of innovation and its key associated concepts introduced in the discussion to this point as part of the evolutionary process of innovation thought. Innovation was defined as “the embodiment, combination, or synthesis of knowledge in original, relevant, valued new products, processes, or services” (Harvard Business Essentials, 2003, p.2), and determined as the specific function of entrepreneurs irrespective of the organizational form (Drucker, 2002). The rest of this review presents a brief overview of the relevant literature with emphasis on: categorization and sources of innovation; IM and small and medium enterprises (SMEs); innovation in services; and BMI and value chain design.

Innovations were categorized as either incremental from exploiting existing technologies, or radical by creating something new and distinct from exiting technology (Harvard Business Essentials). This categorization has persisted over time but new terms continue to be added such as break-through, continuous, disruptive, and open innovation; and the field of creativity and innovation in organizations (Anderson, Potočnik, & Zhou, 2014). The source of most innovations were based on a search for new opportunities which could be found either: within an existing company or industry, as a result of unexpected success or even failure; incongruity between economic realities; process needs; changes in the structure of industries; changes in demography of populations such as the current ageing phenomenon; changes in perception of what is best for people such as health; and new knowledge generated over long periods of study and experimentation (Drucker, 1985; 2002).

There is consensus that the “field of innovation management is dynamic and in a continuously self-innovating mode leading to refinement of existing and adoption of new concepts and frameworks” (Tanev, Knudsen, & Gerstlberger, 2009, p. 2). The earlier discussion indicated that the research on IM was largely restricted to big companies that concentrated their attention on product innovation processes. However, the application of IM concepts to SMEs is gaining attention as a result of the utilization of innovation toolkits, networked organization

structures, the prominence of services in developed economies as major economic activities, and the involvement of consulting firms in knowledge-intensive business services (Tidd et al., 2005; Obeidat, Al-Suradi, Masa’deh et al., 2016). The issue of IM in small services companies was treated as a matter of ‘practice’ which is considered as “central to social life, because they are sites of human understanding, which is articulated through action and the key focus in studying innovation practice is the analysis of interactions among people, activities, and artefacts in a specific business context” (Aromaa & Eriksson, 2014, p. 32).

The significant themes and trends in the literature on IM were studied with the following features emerging: accelerating global innovation and new product development; networked organization structures; BMI linked to flexibility and scalability of business models; frugality which involves adapting products to developing countries’ markets; integrating innovation into sustainable value chains; and including the experience of customers as problem-solvers thus creating customer empowerment in the IM process (Horn & Brem, 2013).

Innovation in services involves users in the design, production, and delivery of services, and customer involvement in services production introduced the concept of value co-creation (Chesbrough, 2011). It was argued that service-logic innovation derives from a customer-oriented perspective which renders the product-service distinction artificial, because value co-creation assumes the involvement of the customer (Michel, Brown, & Gallan, 2008). Service innovation archetypes strongly suggest that managers adopt a value-centric approach that combines the strengths of the key archetypes in a quest for achievement of ecosystem viability and enhanced value co-creation (Helkkula, Kowalkowski, & Tronvoll, 2018).

BMI is about creating new kinds of businesses, or bringing more strategic variety into an existing business, and Chesbrough (2017) posited that a firm’s business model helps to identify which knowledge flows can foster innovation or be shared with other firms. The purpose of a business model was described as necessary for defining a series of activities from materials or services procurement for meeting

customer needs, and generating net value by the activities; and capturing value for the firm (Chesbrough, 2007). The importance of BMI to services is increasingly being recognized in the literature, and it was argued that service innovation was under-researched and the compiling of typologies should include BMI as a significant component (Wang, Voss, Zhao et al., 2015). Value chain design is closely aligned to the concept of BMI as reflected in the work of leading authors who identified the need to define the structure of a firm's value chain (Chesbrough, 2007), created a framework for examining an engineering value chain in terms of project lifecycle management (Zang & Gregory, 2011); developed a typology with dimensions of customer identification, customer engagement, value delivery, and value capture (Baden-Fuller & Haefliger, 2013); and designed a framework to integrate all the value aspects of a business model (Rayna & Striukova, 2016). The main result of this paper is based on the case of a professional services firm located in a small developing country which offers consulting project development services to the public and private sectors (Allahar, 2018b), for which the design and analysis of its value chain is presented.

Research method

A qualitative research approach was adopted which involved collection, sorting, reading, and coding of data from published sources (Creswell, 2009). Published data were obtained from nine texts on the subjects of innovation and innovation management including leading university texts by Christensen (1997), Tidd et al. (2005), Skarzynski and Gibson (2008), and Trott (2008), while the remaining texts are listed in the references. Approximately 100 articles were scrutinized for relevance and 62 downloaded for reading from peer-reviewed journals contained in the digital full-text aggregator databases of ABI/INFORM ProQuest and EBSCOhost, using the keywords listed on the title page. Specialist journals consulted included MIT Sloan Management Review, International Journal of Innovation, Technology Innovation Management Review, Journal of Innovation Management, California

Management Review, and Research-Technology Management.

The sorted and coded data were subjected to a thematic analysis, considered "a foundational method for qualitative analysis" (Braun and Clarke, 2006, p. 4), and was undertaken for the purpose of identifying patterns across the research data through a process of data familiarization, coding, searching for themes, reviewing the themes, identifying and refining the specifics of each theme, and writing up the text (Braun and Clarke, 2006). This process facilitates the achievement of a deeper understanding of the dynamics of the phenomenon of IM and related themes, and provides the advantages of flexibility, ease of learning, accessibility to researchers, making the large content simpler to summarize, and producing unexpected insights (Braun and Clarke, 2006). Thematic analysis was considered a transparent and systematic research process which allows for researcher creativity and subjectivity in the theme development process (Vaismoradi, Jones, Turunen et al., 2016).

The final research method employed was an empirical investigation of a single case involving a value chain design and analysis of a professional services firm in a real life context (Saunders, Lewis, & Thornhill, 2009) in order to answer the question posed in the introduction. The firm investigated is relatively young and operates in the field of project development consulting offering development planning services, and represented a unique case for designing a value chain appropriate to its size, environment, and developing-country context. The profile of the company and the value chain model, the main result of the study, are presented in a subsequent section on the case.

Consistent with acknowledged qualitative procedures, the process involved: the researcher as the key instrument for conducting the research; multiple sources of data; a theoretical lens which sought to identify the social and political context of the issues studied, and represented a holistic account to better reflect the complex picture of the study elements (Creswell, 2009).

Results and discussion

The results and discussion that follow derive from the research methods outlined above, and the application of the empirical knowledge and practical experience of the author to the case of a professional services consulting firm. The concepts highlighted were identified from the process of identifying patterns across the data and themes linked to understanding innovation, IM in small firms, open innovation and services innovation, business model innovation, and value chain design.

Understanding Innovation

Innovation has evolved as a broad-based concept which cannot be comprehensively addressed in this paper. Therefore, the critical issues related to categories of innovation, the search for innovation opportunities, the process of innovation, and innovation strategies are highlighted for the purpose of orienting readers to the subject.

Types of innovation

The classification of innovation is common in the literature with types identified as: product innovation referring to the actual offerings of firms and includes kaizen or continuous improvement; process which involves the way in which products are created through considerable improvement in organizational processes; marketing innovation which involves significant improvement in the marketing mix; and management innovation which utilizes techniques such as creative problem solving to effect significant improvements in the organization (Higgins, 1995; Tidd et al., 2005; Trott, 2008).

Innovation opportunities

The search for innovation opportunities is enabled, by awareness of the various signals observed from technology, markets, competitor behavior, shifts in the political and regulatory environment, social development, and global trends (Tidd et al., 2005). These signals include: understanding market dynamics and the

demographic and technological trends which are transforming the ways in which business is done; trend-spotting by observing the ways in which technological products are used especially by younger persons who are more attuned to the new digital environment; monitoring technological trends by researching new technological developments; applying futuristic thinking in scenario planning and foresighting exercises; involving stakeholders in project planning and execution and in the search for creative ideas and innovative solutions; and communicating widely throughout the organization and encouraging feedback (Tidd et al., 2005).

Innovation process

The process of innovation involves stages of identifying and evaluating new opportunities through unfilled gaps in the marketplace; designing an innovation to fill the gaps through an invention or creation of a new product or service and understanding its delivery mechanism; and delivering the innovative product or service to customers (Wickham, 2006). The innovation process evolved through several stages beginning with closed innovation emanating from a company's internal research; to collaborative innovation through corporate partnerships; alliances, joint ventures, and technology sharing; to open innovation through building a high-level value chain; and adopting a co-innovation approach which includes "engagement, experience, and co-creation for value that is difficult to imitate by competition" (Lee, Olson, & Trimi, 2012, p. 824). There are significant differences between the innovation processes followed by large firms and small firms, and a comparison of small and large firms concluded that, in small firms, the achievement of innovation strategy was dependent on the training, qualifications, experiences, responsibilities, and external linkages of top managers. In large firms, the integration of knowledge of support professionals and the level of achievement of innovation strategy are based on the specific organizational design and the formal procedures adopted. In other words, the difference essentially is the level of formality of utilizing innovation procedures (Tidd et al., 2005).

Innovation strategies

At the strategic level, innovation was not restricted to new product development, enhanced services, or applying disruptive technologies, therefore, managers must focus on strategies such as: the dynamics of specific customer target markets; the product and service offerings and the benefits to be derived; innovating the value chain including partnerships and marketing; revenue generation initiatives; and sustaining market advantage (Loewe & Dominiquini, 2006). In the discussion on rationalist versus incremental strategies, it was argued that rationalist strategies observed a linear process to describe, understand, and analyze the environment; determine a direction based on the analysis; and implement the prescribed course of action. Incremental strategies, on the other hand, were based on the premise that firms have imperfect knowledge of the environment, insufficient understanding of their strengths and weaknesses, and cannot predict the rates and directions of future changes (Tidd et al., 2005). In the context of services, it was argued that service companies need to pursue radical, me-too and incremental innovations; formal practices and processes must not be limited to the pursuit of radical innovations; and small service firms should combine rationalist with incremental strategies (Oke, 2007).

Innovation insights

The scope of innovation concepts and practices has widened significantly since the mid-1990s and key insights were gleaned from a comprehensive study of articles published in MIT Sloan Management Review over the period 1977 to 2014. These innovation insights included: creating new value not products; utilizing strategic innovation to redefine how business is done; concentrating on identifying and resolving uncertainties in innovation projects; involving customers as co-creators in new product and services development; pursuing faster development cycles of innovation; constructing an innovation structure to screen, develop, and oversee innovative initiatives; integrating

customer and user knowledge into the innovation process; and training managers to deal with creative people firms (Posner & Mangelsdorf, 2017). These insights inform the discussion that follows in this paper with specific reference to business model innovation and value creation, project development, customer engagement and co-creation, and innovative approaches in firms, and are directly relevant to the value chain design for a professional services firm.

More recently, researchers explored different perspectives on innovation including concepts of continuous innovation for reinventing management practices (Denning, 2011); open innovation and its application to services (Chesbrough, 2003; 2011); disruptive innovation initially applied to the computer industry (Christensen, 1997) and later extended to a range of industries including higher education (Christensen, Aron, & Clark, 2003); and open access publishing (Allahar, 2018a).

Innovation Management and Small Firms

The concept of IM was viewed as a dynamic, continuous process of innovation which covers the stages from idea generation to market launch; value network which considers the activities, interactions, and relationships of all the participants in the network; and cross-functional which is a multidisciplinary perspective that integrates insights from several disciplines (Tanev et al. 2009). The implementation of these approaches led to the conclusion that value co-creation involves the totality of customer value, customer participation, various aspects of the business model, all of which are connected to the requirements for IM (Tanev et al. 2009).

At the firm level, a corporate IM framework (Cohn, 2013) was designed as a pyramid comprising a base of market knowledge, stakeholders, models, and innovation strategy. The core of the pyramid was built on resources of people, facilities, platforms, and partners; a corporate culture of leadership, governance, organizational culture, team spirit, and entrepreneurship; solutions created by products, services, and processes. The peak of the pyramid explained value generated in financial terms, customer benefits, brand familiarity, market capture, and social and environmental contributions. It was suggested that the process

of IM in firms was a complex undertaking that demanded “dynamic coordination, and integration of strategy, technology (including IT base), structure, business process, culture, and people” (Xu, Chen, Xie et al., 2007, p. 15).

The literature on small firms is limited, but, with the growth of the service sector knowledge-intensive business services emerged creating a space for small firms. It was posited that such business services could be pursued by strengthening organizational leadership, building an innovation platform, stimulating the demand for knowledge-based services, and promoting cluster development (Wang & Yan, 2010). Specific IM tools were linked to the process of innovation in small firms, and relevant tools were identified as: cooperative and networking tools such as team building, networking, and collaborative projects; creativity development techniques including brainstorming and creativity workshops; technology management tools involving scenario planning; financial techniques such as financial analysis; and organizational techniques such as creating virtual enterprises (Igartua, Garrigós, & Hervas-Oliver, 2010).

A study of entrepreneurial SMEs indicated that emphasis should be placed on improving the internal competencies and to removing potential barriers for internal knowledge gathering, sharing and utilization (Varis and Littunen, 2010). The critical point is that small firms, embarking on services innovation, should focus on knowledge gathering and sharing which are integral to the consulting process and the value chain design in this paper.

Open Innovation and Services

The concept of open innovation gained popularity from the work of Chesbrough (2003) and was viewed as part of the 4th generation of innovation (Miller, 2016). It is acknowledged in the literature that research on open innovation is growing steadily based on a recent study covering the period 1996 to 2017 (Ebrahim & Bong, 2017).

In this regard, the key elements of open innovation were identified as: developing networks for obtaining information from formal and informal sources; strengthening knowledge exchange; protecting company’s intellectual property rights that facilitate openness and

licenses; and creating a new business model or innovating the existing model to achieve greater openness (Christiansen, Gasparin, & Varnes, 2013). The current practice of open innovation stresses the criticality of customer involvement to the point where customers have become co-creators, and innovation is user-driven, especially with ‘living labs’ introduced as an innovation tool (Westerlund & Leminen, 2011). Interestingly, the attention to the concept of open innovation was predicted to fade away in the future, not because it will no longer be of value, but will become fully integrated into the practice of IM (Huizingh, 2011).

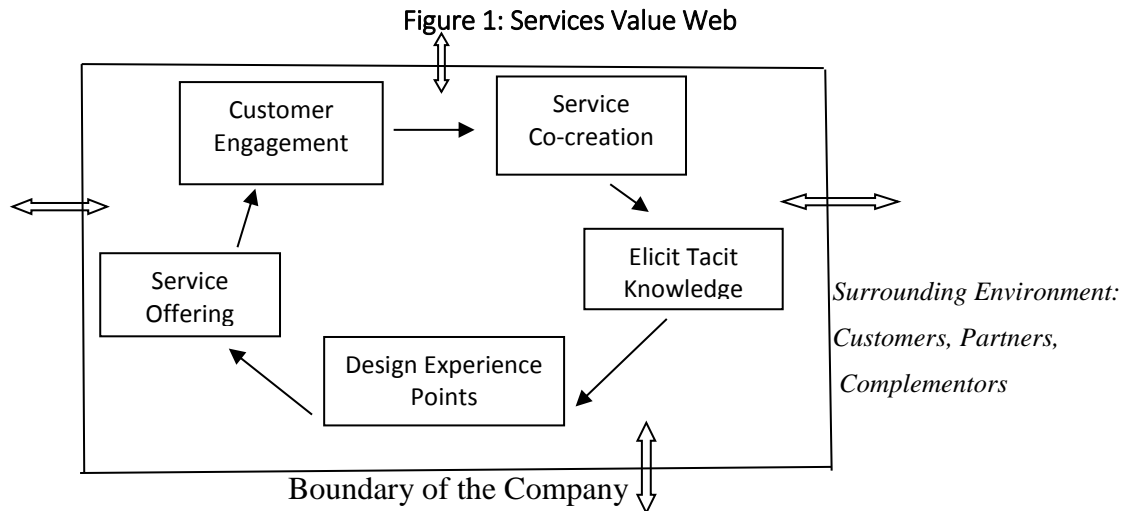
Innovation in services was defined as comprising one or more of the following dimensions: “a new service concept, new customer interaction, new value system/business partners, new revenue model, new organizational or technological service delivery system” (den Hertog, van der Aa, de Jong, 2010) which fit the scale of small firms. Managers, who conceive of their operation as a service business, need to consider their value chain as dedicated to the customer and creating customer experiences. A services value web was proposed, not as a linear process of material inputs being transformed into outputs for delivery to customers, but an iterative process that starts with customer engagement initiated by an inquiry or a service offering. Customer involvement in the process often leads to the co-creation of the service with an exchange of tacit knowledge which distinguishes the process from product manufacturing. With this knowledge, the service provider is able to design or refine experience points, creating a service web which recognizes the role of the surrounding environment as a contributor to the process (Figure 1).

The combination of innovation, co-creation, and design thinking was suggested as a means of generating innovative products and services with co-creation adding value to the service (dos Santos, Bianchi, & Borini, 2017).

Innovation for value co-creation was generated from: leveraging innovative ideas for application to new products, services, and ventures; innovating the value chain to create greater efficiency, lower costs, improved quality, and greater speed of processes; creating shared value for customers through engagement in the

process of experiencing the service; expanding the client base; and introducing entirely new

business models or innovating the business model (Lee et al., 2012).



Source: Chesbrough, H. (2011).

Business Model Innovation

Business models are viewed as an integral part of a firm's strategy, focused on understanding how business models and BMI impact core strategy, and are essentially guides and tools for management, and could be simply replicated or sensitively and creatively applied to the context (Baden-Fuller & Haefliger, 2013). This contention was supported by Teece (2010) who posited that "designing new business models requires creativity, insight, and a good deal of customer, competitor and supplier information and intelligence" (p. 187). The functions of a business model were detailed as: articulating the value created for customers; defining the target market; describing the value chain required for creating and distributing the firm's offerings; specifying how revenue is to be generated, costs estimated, and profits earned given the value chain configuration; positioning the firm within the value ecosystem that links customers, suppliers, competitors, and complementary firms; and identifying the strategy for gaining a competitive advantage in the specific target market (Chesbrough, 2007).

The key features of business models were described as: how a firm conducts its business in a holistic manner; partners are active in conceptualizing the models; and the models explain value creation and capture (Zott, Amit, &

Massa, 2011). Thus, it was argued that "the business model can be a vehicle for innovation as well as a subject of innovation" (Zott et al., 2011, p. 1034). Based on this perspective managers were charged with adopting a business model perspective in managing their companies; incorporating a purposeful design in gearing the business model for innovation; and encouraging "systemic and holistic thinking ... instead of isolated, individual choices" (Amit & Zott, 2012, p. 48).

The emergence of digital technologies disrupted businesses in many industries and generated the need for BMI that led to the creation of a business model framework comprising: development of value networks; a value proposition which details the product or service offered and pricing; value delivery which explains how the value reaches the various customer segments; value capture which describes the revenue model and the cost structure; and value communication providing the channels through which the firm's story and ethos are communicated to customers and key stakeholders (Rayna & Striukova, 2016). This framework focused on value creation compared with the business model canvas which described a firm's value proposition and revenue generation modes (Osterwalder & Poigneur, 2010; Blank, 2013).

Consulting Value Chain Design

The early description of a company's value chain was based on the process view of organizations, the idea of seeing a manufacturing or service organization as a system, made up of subsystems each with inputs, transformation processes and outputs (Porter, 1985). The activities involved were outlined as primary which involve relationships with suppliers and include all the activities required to receive, store, and disseminate inputs; operational inputs; distribution of outputs; marketing and sales; and after sales service (inbound and outbound logistics). Secondary activities were listed as procurement of inputs, HRM tasks, technical knowledge and services such as IT systems, and corporate support services.

The modern concept of value chains focuses on the transformation of ideas viewed as an integrated flow by tapping into in-house ideas, cross-pollination from different parts of the company, and using external inputs; idea conversion through a screening and selection process to exclude non-viable ideas, and development of the idea for implementation; and idea diffusion which involves communicating and spreading the idea (Hansen & Birkinshaw, 2007). Value chain design was closely linked to BMI described as "designed, novel, nontrivial changes to the key elements of a firm's business model and/or the architecture linking these elements" (Foss & Saebi, 2017), and the authors concluded that BMI was still at an emergent stage and the contributions were largely conceptual and descriptive rather than explanatory (Foss & Saebi, 2017). This position was supported by Vils, Mazzieri, Rodriguez, et al. (2017) who argued that BMI research needed a new agenda and direction to advance the concept.

A significant observation was that new service innovations were modifying the traditional value chain through customer access to different service delivery mechanisms such as internet-based platforms and outsourcing of ICT infrastructure maintenance (Gallego et al. 2013). Further, the role of services was evolving beyond providing support for a product to performing activities capable of being integrated into a value chain (Gallego, Rubalcaba, Hipp, 2013). The concept of the "added-value chain model" was

proposed as "a set of business activities extracted from a broad range of business models" (McPhee & Wheeler, 2006, p. 40) which was viewed as a new approach to value chain analysis because it: changed the definition of a value chain to include intangible components such as innovation, brand value, reputation, social capital, and goodwill; redirected thinking from a firm-centric view to a community-based view; and adds activities from cross-functional, multidisciplinary teams fashioning the "value chain as a reliable strategic model" (McPhee & Wheeler, p. 44). In respect of the consulting industry, cases dealt mainly with the area of management consulting with examples of value chain analysis for: diagnosing and finding solutions to organizational problems in companies (Kubr, 2009), utilizing knowledge management towards producing an innovative service by consulting firms (Taminiau, Smit, and de Lange, 2009; Obeidat et al. 2016), and applying the traditional process of creative idea generation, service design and development, and efficient production and delivery of flexible services to support customers (Zhang & Gregory, 2011).

Consulting firms provide knowledge-intensive business services which involve the creation and application of knowledge and deployment of that knowledge and expertise to meeting client needs (Obeidat et al., 2016). The authors defined knowledge management (KM) as a "management tool characterized by a set of principles along with a series of practices and techniques through which the principles are introduced" for the purpose of knowledge creation, conversion, dissemination, and application (p. 1216). Obeidat et al. (2016), from a broad-based study, concluded that KM is built upon a process of: knowledge acquisition involving searching for, identifying, selecting, collecting, organizing, and mapping information; knowledge sharing and dissemination which is critical to consulting firms and such sharing is influenced by opportunities and motivation to share, nature of knowledge, culture, the individual factor, and organizational characteristics; and knowledge utilization which involves the application of knowledge to business operations or processes to produce value for the client or customer (Aranha, Garcia, & Corrêa, 2015).

The question arose of whether consultancy firms are adequately organized to stimulate knowledge sharing and innovation within the boundaries of their own firms, and Taminiau et al., (2009) suggested that the creation of a positive climate for innovation to stimulate a culture in which consultants display competence and cutting-edge knowledge was required. Critical to the entire consulting process is the extent of informal and formal knowledge sharing, and, according to Taminiau et al. (2009), formal knowledge sharing occurs during organizational activities such as meetings and workshops where the learning process among participants is facilitated. On the other hand, informal knowledge, “due to its easy accessibility and free character ... may lead to many new creative ideas and formal knowledge sharing” such as when a consultant introduces an idea into a formal meeting with the managing partners and the new idea is supported (Taminiau et al., 2009, p. 47). The conclusion from this analysis is that consulting firms must adopt a mindset in which knowledge sharing becomes the norm.

Case of a project development consulting firm

Project Development Consulting Company was started in 2001 with a strategic vision of creating a sustainable consulting practice offering distinctive project development planning services to Trinidad and Tobago and wider Caribbean markets. The services offered are project development, urban and regional planning, transportation planning, and socioeconomic and small and medium enterprise business planning which are contracted on a competitive tendering basis. In pursuit of this vision, the firm aimed to consolidate the existing firm’s practice to ensure survival, and developed a consulting value chain design as an innovative means of delivering comprehensive planning services through a network of allied consulting firms.

The company is owned by three professionals whose expertise span the range of the core disciplines identified. The organizational structure of the consulting firm was designed to maintain a small permanent core with the flexibility of incorporating additional expertise,

depending on the nature and scale of particular projects. In order to overcome the constraints of a small operation, the firm established an effective network of alliances with independent architectural, engineering, environmental, geographical information systems, landscape architecture, and land surveying consultants, to provide all of the professional and technical services required for executing large development planning projects.

A SWOT analysis was prepared for the firm which identified its strengths and weaknesses, and opportunities and threats. The five main opportunities identified were: serving additional customer groups and market segments; expanding into new geographic markets; entering into new alliances and joint-ventures; increasing customer demand for planning services; and developing e-commerce capability. The firm pursued the opportunities through leveraging its core competencies of intellectual, reputational, and organizational resources which, in the latter two cases, are valuable, rare, hard-to-copy, and non-substitutable and contributed to its competitive advantage. However, its technological resources need to be enhanced through greater utilization of electronic commerce.

The main contribution of this paper is the novel formulation of a value chain design for the niche area of project development planning for the consulting firm described above. The firm provides project related planning services which area has been generally neglected in the published literature because, such studies are usually undertaken as private consulting assignments (Peterkova & Frankel, 2017). However, insights were obtained from the allied disciplines of project cycle management (Landoni & Corti, 2011) and project management, although described as lacking appropriate consulting methodologies (Adesi, Owusu-Manu, and Badu, 2015). The value chain design was built on a combination of aspects of the 3rd and 4th generations of the innovation management evolution, experiences of services innovation, and business model and value chain innovation (Figure 2).

Figure 2: Project consulting business model/value chain

Knowledge Building	Project Formulation	Strategic Planning	Project Development Implementation
Knowledge acquisition and data collection	Project scoping & preliminary planning	Situation analysis, diagnosis, consultation	Development designs
Knowledge sharing and dissemination	Resource requirement determination	Strategic options and scenario planning	Development plan, phasing, milestones
Knowledge application	Establish guidelines	Appraisal and evaluation	Project budget
Consultant presentation	Team allocation and project schedule	Preferred strategy and key implementation	Structure project implementation unit
Inception report	Client consultation	issues	Final report presentation
	Formulation report	Stakeholder consultation	Project close
		Strategic plan report	

Source: Author design

The design incorporates aspects of business model, value chain, and services innovation based on four components: knowledge building, project formulation, strategic planning, and project design and implementation. Knowledge building is the data collection stage of a consulting exercise, which involves both primary and secondary research obtained from technical reports, interviews, and focus group sessions (Taminiau et al., 2009; Obeidat et al., 2016). Data collected are analyzed and shared with members of the consulting team, as part of the project KM process for completing the project plan (Gasik, 2011). The second stage in the value chain process involves the precise scoping of the project in order to define the professional and technical resource requirements, to assign the appropriate consulting skills, and to conclude contract negotiations (Khang & Moe, 2008). The third step

essentially involves a situation analysis, generation of alternative strategies and scenarios, appraisal and evaluation, and detailing of a preferred development strategy with a checklist of implementation issues (Kubr, 2002).

The final value chain stage is the completion of the project design process, preparation of the development or project plan with a phasing strategy, implementation schedule, milestone achievements, and recommendations for an appropriate project implementation structure, including the technical and human resources required, along with the procedures to be observed. Critical to the entire process along the value chain, are consultation sessions with clients and key stakeholders to obtain feedback on modifications needed (Khang & Moe, 2008). At the end of the process income generated by the business model configuration and consulting

activities is specified by the fee payment stages tied to report submissions to the client; while the value chain elements indicate the knowledge inputs associated with the development stages which together add value to clients as well as the consulting firm (McPhee & Wheeler, 2006; Zhang & Gregory, 2011).

Implications for policy and managers

The main managerial implications and challenges are uncertainty surrounding the actual determination of appropriate policies for promoting innovation in firms; measuring the real impact on economic growth; accepting innovation as a great leveler as well as divider; and recognizing the current trends involving disruptive technologies and the impacts for business (Bogers, Chesbrough, Moedas, 2018). A vital policy implication is gearing organizations to seize the opportunities that will arise from the new world of “machine learning, quantum computing, blockchain, the Internet of Things, the world of sensors, and the world of big data” (Bogers et al., p. 8).

The increasing acceptance of open innovation globally, demands that businesses, universities, governmental organizations, and other organizations formulate policies for embracing the open innovation movement and confronting its challenges. Such policies can be developed by: promoting strong links between science and innovation and emphasizing the triple helix of university-government-industry collaboration; reforming funding approaches to innovation by dismantling current obstacles to funding access; increasing private investment particularly in an environment of high uncertainty about technology, business models, regulations, and user acceptance; and assisting companies navigate the regulatory maze that exists in many economies (Bogers et al., 2018).

The implications for entrepreneurial managers are that the pursuit of IM can be successful by adopting the following actions: monitoring innovation activities of start-ups in their industry to identify disruptive business models, value chain modifications, and technologies; employing greater discipline and consistency in innovation processes, integrating

the power of big data into the innovation process, and linking open innovation to wider IM strategies; learning to innovate for local/emerging countries’ needs and establishing systems for identifying new ideas and technology; accommodating employee diversity and cultural practices in the workplace; and creating an IM path for professionals, and developing common IM procedures and best practices (Jones, Cope, & Kintz, 2016).

Conclusions, limitations, future research

The paper explored the overarching concept of innovation with a focus on perspectives which emerged from the theory and practice of innovation that extended the concept to considerations of IM in small firms, open and services innovation, business model innovation, and value chain design. The conclusions that emerged from the investigation of these concepts and perspectives are:

- The critical success factors for innovation projects are: a full understanding of the project environment; demonstrated competence of project designers, planners, and management team; and effective consultation with stakeholders
 - IM, and its associated concepts are directly applicable to small firms and can support the process of innovation through the application of tools such as cooperative networking, creativity development techniques, scenario planning, and financial analyses
 - Open innovation is directly linked to knowledge creation, open business models, and value creation which form the bases for an effective value chain design
 - The combination of innovation, service co-creation, and design thinking are the means of generating innovative products and adding value to services
 - Business model innovation managers should adopt a business model perspective in managing their companies, and incorporate a purposeful design in gearing the business model for innovation
 - The IM constructs explored in the paper can be successfully applied to designing value

chains for professional services firms which can serve as a guide for managers of firms and professional consultants involved in project planning and management

- The future of innovation will be about innovating business models and value chains, expanding innovation in services, and designing and managing communities of innovation.

The study is limited to the extent that a single case of the value chain design of a professional services firm in a developing country was the subject of the paper. The results of the case can be applied to firms and country-specific contexts that are similarly situated such as the Caribbean territories. Future research is needed on the development of value chain design and analysis of consulting firms in the area of project planning where the literature is very sparse.

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