Execute or Educate?

The Role of Innovation Units in the Professional Services

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From law firms to hospitals, many professional services organizations are under pressure to innovate due to trends such as globalization, big data, and artificial intelligence. While few of these firms traditionally have had innovation units, the presence of such units is on the rise. However, their effectiveness is unclear. Research shows that dedicated innovation units in the professional services do not deliver the same results as in manufacturing firms. To make innovation units also effective in the professional services, I propose an alternative role for such units. That is, change the focus from execution to education. In an educating innovation unit, the tasks are to educate and empower the workforce to lead the innovation efforts and enable contextual ambidexterity. The commonalities among and difference between professional service firms provide an ideal setting to explain when an innovation unit should execute or educate. The current demand to strengthen the innovation capabilities of professional services makes such a framework highly relevant.

Introduction

From a theoretical perspective, professional service organizations possess the ideal organizational structures to innovate. Their knowledge intensity, decentralized organizational structures or autonomous decision-making structures, and low administrative intensity (Mintzberg, 1980; Starbuck, 2006), are organizational characteristics that should help organizations foster a climate for innovation (Burgelman, Maidique, & Wheelwright, 2001; Burns & Stalker, 1994; Damanpour, 1991). However, hospitals, consultancies, contract research

organizations, all classified as professional services, are rarely renowned for their innovative abilities.

Not being a driver for innovation can be a strategic choice (Miles & Snow, 1978). However, the pressure to innovate is mounting. According to the World Economic Forum, the Fourth Industrial Revolutions, fueled by artificial intelligence, big data, and connectivity has just begun and is expected to significantly impact the professional services.

Professional service organizations committed to innovation struggle to do so. The case of Booz Allen and Hamilton illustrates how a management and technology consulting firm struggles with fostering and dispersing innovations throughout the firm. Notwithstanding their intentions to innovate, the overall results are disappointing, since success is often just local despite the global span of the firm (Christensen & Baird, 1997). The Financial Times features a yearly series on innovative lawyers, demonstrating the commitment to innovation in the law profession. Yet, these law firms also find it difficult to foster innovation (Skapinker, 2011). In short, even professional service firms committed to innovation struggle to innovate, while theory indicates otherwise. The question how to organize for innovation in these firms is thus more relevant than ever.

Professional service firms differ significantly from, for example, manufacturing firms (Greenwood, Li, Prakash, & Deephouse, 2005; Malhotra & Morris, 2009; Von Nordenflycht, 2010). The professional services are organizations "whose primary assets are a highly educated professional workforce and whose outputs are intangible services encoded with complex knowledge" (Greenwood et al., 2005, p. 661). How do these specific characteristics impact the management and organization of innovation? And since not all professional service firms are

alike (Von Nordenflycht, 2010), what are the implications of the differences between professional service on the management and organization of innovation?

The contribution of this paper is in creating a framework that defines the role of the innovation unit for different types of professional service firms. While perhaps not previously outlined or described as such, the educating innovation unit is actually used in practice and described in the literature. As it is closely aligned with the concept of contextual ambidexterity. The framework fits current practices used by professional service firms and seems also applicable outside the realm of professional service organizations.

Professional Service Organizations

Professional service organizations are a distinct group of firms because of the knowledge-intensive nature of their services (Von Nordenflycht, 2010). "Knowledge-intensive" implies that the resources and capital of a firm are tied to individual employees. There is no collective deposit of the firm's capabilities or resources (Malhotra & Morris, 2009).

Knowledge intensity, and the related organizational characteristics such as decentralized organizational structures or autonomous decision-making structures, and low administrative intensity (Mintzberg, 1980; Starbuck, 2006), are organizational characteristics that are assumed to help organizations foster a climate for innovation (Burgelman et al., 2001; Burns & Stalker, 1994; Damanpour, 1991). However, knowledge intensity also imposes challenges to innovation – as will be discussed in this paper - which may explain why professional service firms are currently not very renowned for being innovative.

While consultancies, hospitals, engineering and law firms are all professional service firms, they also all have their idiosyncrasies. Von Norderflycht (2010) and Malhotra and Morris (2009) developed similar frameworks to distinguish between professional service firms, see

Table 1. Von Norderflycht (2010) classifies professional services based on differences in professionalization of the workforce and capital intensity: *classic professional services*—law, accounting, architecture; *Neo-professional services*—consulting, advertising; *professional campuses*—hospitals; and *technology developers*—engineering firms, contract research organizations. In addition, Malhotra and Morris make a distinguish according to the business models they use. All professional service firms produce to customer order, but they apply different business models (Malhotra & Morris, 2009). To simplify I distinguish between three business models in this paper: volume, tailored and bespoke.

A volume business model is typically associated with manufacturing and products and is distinctly different from that of a tailored business model (Moore, 2005). While volume operations are not very common in the professional services, they are on the rise (Sawhney, 2016). Bespoke is a terminology used to differentiate between law firms that provide unique services to each client request versus those who tailor their services to clients' request (Susskind, 2013).

By definition, all professional service organizations are knowledge intensive. Leiponen found that collective practices toward knowledge generation are more conductive to innovation than individually based practices (Leiponen, 2006). I will therefore focus on collective practices toward knowledge generation and innovation only.

There are differences in ownership structures between professional service organizations. Since these result from organizational characteristics, but do not determine them (Malhotra & Morris, 2009; Von Nordenflycht, 2010), ownership structures are not included as part of the framework. Also, because there is no relationship between ownership structures and firm performance (Richter & Schroder, 2008).

Table 1: Differences in organizational characteristics between professional service organizations

Different types of professional services	Professionalized workforce	Capital intensity	Business model
Classic **Law** **Accounting** **Architecture**	Strong	Low	Tailored / Bespoke
Neo **Consulting** **Advertising**	Weak	Low	Bespoke / Tailored
Professional campuses **Hospitals**	Strong	High	Volume / Tailored
Technology developers **Engineering** **Contract research**	Weak	High	Bespoke

Innovation in Professional Service Organizations

The innovation management literature on professional service organizations explains what innovation entails and why it is important. However, it provides a rather fragmented overview of the organization and management of innovation.

Innovation in this setting is defined as "the combination of creativity and implementation, thereby entailing the production of novel and useful ideas that improve effectiveness as well as the methods used to put the creative ideas into practice" (Lyons, Chatman, & Joyce, 2007). Discovery or research, i.e., identifying a possible solution or demonstrating how something could work, is not sufficient. Ideas need to be implemented in practice in order to be considered innovations. Innovations can be new products, services, or processes and they can cover multiple dimensions, i.e. client-, marketing- and technology-focused innovations (Hogan, Soutar, McColl-

Kennedy, & Sweeney, 2011). Since most professional service firms produce to customer order, replications of the innovation are usually variations of the original offering. To be clear, this paper is not about improvements of existing services, but about the development of novel ones.

The core competence of professional service organizations is their ability to mobilize and synthesize professional bodies of knowledge (Robertson, Scarbrough, & Swan, 2003). Professional service firms are therefore well-positioned to recombine existing knowledge into novel applications. Innovation is important (Greenwood et al., 2005; Hogan et al., 2011). It contributes to reputation, which in turn significantly affects performance (Greenwood et al., 2005; Maister, 2001). Developing long-term relationships with clients, providing better service quality and greater value, and developing brands with strong reputations, enable firms to distinguish themselves from other professional service providers (Amonini, McColl-Kennedy, Soutar, & Sweeney, 2010).

The meta-analysis of Kuester, Schuhmacher, Gast, and Worgul, (2013) confirms that professional service organizations are a distinct group when it comes to innovation. Their research shows that key drivers for new service development are: a dominant innovation culture, service superiority, customer orientation and customer integration.

Any firm that wants to innovate, needs the ability to generate ideas, select and develop these ideas, and implement them into practice (Hansen & Birkinshaw, 2007). In the professional services, there are additional requirements to this sequence of events(Anand, Gardner, & Morris, 2007). Someone needs to take ownership of the process, the developed expertise needs to be sufficiently different to avoid overlap with existing competencies, yet not too distant in order to claim relevance, and organizational support is needed to transform ideas into new service offerings (Anand, Gardner et al. 2007).

The research on innovation units in professional service firms is sparse, probably because such units are a relatively new phenomenon. In most firms, new services are developed outside of formal innovation units, in ad hoc organizational arrangements (Leiponen, 2006). In one case study, describing an engineering firm, institutionalization of innovation activities was experienced to be ineffective and the innovation unit was dismantled after years of being in operation (Blindenbach-Driessen & Van den Ende, 2006). Research on innovation units in service firms supports the absence of contribution to overall firm performance (Blindenbach-Driessen & Van den Ende, 2014). However, the reason to why this is the case is unclear. The knowledge intensity, the type of knowledge - tacit or explicit - and the location - centralized or decentralized – explains a lot (Leiponen, 2006). Yet, it is unlikely that knowledge transfer is the only factor that determines the performance of an innovation unit.

The Role of an Innovation Unit

There are several tasks all innovation units have to perform, regardless of whether they focus on executing or educating. First, bringing structure to innovation activities is paramount. Innovating ad-hoc – while still common in the professionals services (Leiponen, 2006) – is not an effective or efficient way to innovate (Barczak, Griffin, & Kahn, 2009; Griffin, 1997; Markham & Lee, 2013; Papastathopoulou & Hultink, 2012). Innovation units are responsible for providing and maintaining a structured innovation process that enables the organization to act upon opportunities and bring ideas to practice.

Second, an innovation unit is responsible for connecting innovation teams with relevant expertise and capabilities that resides in and outside the organization, that is support collaboration and open innovation. As such collaboration is essential for innovation success

(Chesbrough, Vanhaverbeke, & West, 2006; Faems, Van Looy, & Debackere, 2005; Salter, Criscuolo, & Ter Wal, 2014).

Third, innovation activities need resources and senior management support (Brown & Eisenhardt, 1995). Senior management defines the strategic direction of the firm and innovation activities enable the firm to execute this strategy.

Table 2: Differences between innovation unit roles

Role of innovation unit	**Execute**	**Educate**
Common tasks	Provide structure Make connections Secure resources and senior management support	
Unique tasks	Identify opportunities Optimize the portfolio Execute innovation projects	Educate the workforce Guide and support their innovation efforts
Common metrics	Number of projects initiated Number of innovation projects in the pipeline Development timelines Return on investment from the innovation activities	
Unique metrics	Number of new services introduced in the market Success of the new services in terms of revenue and profit	Number of employees engaged in innovation activities Timely termination of projects

The general premise is thus that innovation units operate under the strategic guidance of senior management, provide support for innovation activities, and are responsible for structuring the innovation process and connecting teams to relevant knowledge and capabilities that the teams or organization do not poses. The question addressed in this paper, is how these activities

should be organized and supported. In other words, what is the role of the innovation unit in the innovation process? What type of resources should it provide and for which results should the innovation unit be held accountable?

Traditionally, innovation units are tasked with executing innovation activities, which will be labeled as the executing unit. Such a unit is, in addition to the roles described above, charged with identifying, prioritizing, and developing the next generation of services. The management of such a unit is typically held accountable for the number of innovation projects in the pipeline, the number of new services introduced in the market, and the success of these new services in terms of revenue and profit. The latter is often a shared responsibility with the business unit delivering these new services. In other words, the innovation unit that executes, takes on the innovation process itself and has the budget, staff, capabilities, and expertise needed to transform ideas into practical applications. Needless to say, setting up such an innovation unit is a costly endeavor, among others because of employee costs. Over time, the results of the innovation efforts will create sufficient return on investment to cover these costs (Knott, 2012).

There are many reasons why a dedicated unit is needed to execute innovation activities. The most common reason is that operational units of organizations are too much focused on efficiency, today's urgent issues, and status quo to be able to deal with the innovation process that is uncertain, full of ambiguity, and prone to failure, and requires a new skill set (Benner & Tushman, 2003; O'Reilly & Tushman, 2011; Tushman & O'Reilly, 1996).

Alternative to the executing innovation unit described above, is the educating innovation unit. The educating innovation unit leaves the execution of innovation activities to the organization's workforce, while providing structure and guidance. As such, it does not select,

staff, or execute innovation projects. Instead the role of the educating innovation unit is to support employees in their innovation endeavors, through coaching and education.

While the above may sound abstract or unfamiliar, it is in essence having the innovation unit facilitate contextual ambidexterity (Birkinshaw & Gibson, 2004; Gibson & Birkinshaw, 2004). Since there is a lot more to organizing for ambidexterity (Lavie, Stettner, & Tushman, 2010; Raisch & Birkinshaw, 2008; Simek, 2009), I focus on the role of the innovation unit only.

As mentioned in the introduction, professional service organizations are a unique sort of firm, where efficiency in operations is not as crucial as it is in manufacturing firms and where learning and new knowledge generation are omnipresent. Therefore, contextual ambidexterity is far more prevalent in the professional services than in other industries. An example of a firm with an innovation unit that would classify as an educating innovation unit is Seyfarth Shaw (Rohrer & DeHoratius, 2015).

The reason to leave the execution of innovation activities to the workforce are closely tied to the nature of professional services. These services are complex, labor intensive and the required expertise tacit. As such it is difficult to transfer the state-of-the-art front-line knowledge and expertise to an innovation unit and have them develop novel new services (Leiponen, 2006). Professional services are typically not very scalable either, as they are highly dependent on the service provider. Together, making it practical and economical to engage the workforce in new service development activities (Blindenbach-Driessen & Van den Ende, 2006).

An educating innovation unit is still accountable for the number of innovation projects in the pipeline and the overall return on investment from new services, just like an executing unit. After all, innovation activities should sustain themselves. However, the education innovation unit cannot be held accountable for the number of new services introduced or the success of these

services, as it does not scan for opportunities or gets to decide which projects are to be funded. The latter is left to the business units and employees.

Empowering employees to innovate is great, but it also requires providing insight in when it is not worth the time and effort to pursue an initiative. While, the educating unit should be held accountable for the number of employees involved and educated, and for the effectiveness of its education and support efforts, it should also be held accountable for whether or not teams are stopping unfruitful endeavors timely. Timely meaning not giving up too early, nor continuing too long. It serves a similar function as portfolio management. Timely stopping unfruitful endeavors is important as not to clog the innovation pipeline or unnecessarily bog down already busy employees.

Survival rates and the life span of unsuccessful efforts can also be used to measure the performance of the education program. Does the education program provide teams adequate insight in the value and chance of success of the project they are pursuing? Does it help teams focus on the critical activities that support go/no-go decisions (Govindarajan & Trimble, 2010; Gunter McGrath & MacMillan, 1995; Thomke & Manzi, 2014)?

Table 2 provides an overview of the similarities and differences between innovation units with an execution or education role. In the next section the characteristics of professional service firms are linked to the role of the innovation unit. As explained earlier, and in contrast to other industries, innovation units that take on the education role are more prevalent in the professional services, yet units that take on the executing role also exist.

Table 3: Differences between organizational characteristics and the preferred role of the innovation unit

Different types of professional services	Characteristics		Innovation Unit Role
Classic	Business model	Tailored/Bespoke	Educate
Law	Capital intensity	Low	Educate
Accounting	Professionalized workforce	Strong	Educate
Architecture			
Neo	Business model	Bespoke/Tailored	Educate
Consulting	Capital intensity	Low	Educate
Advertising	Professionalized workforce	Weak	Execute/Educate
Professional	Business model	Volume /*Tailored*	Execute/*Educate*
campuses	Capital intensity	High / *Low*	Execute/*Educate*
Hospitals	Professionalized workforce	Strong	Execute /Educate
Technology	Business model	Volume/*Bespoke*	Execute/*Educate*
developers	Capital intensity	High	Execute/Educate
Engineering	Professionalized workforce	Weak	Execute/Educate
Contract research			

Applying the Innovation Unit Roles to Practice

While it is not difficult to envision that professional service organizations with a tailored or bespoke business model benefit from an education innovation unit, because of their lack of scale; those that are high-capital intensive benefit from an execution innovation unit, to create the necessary efficiencies and not waste expensive resources; and that those with a professionalized workforce benefit from an education innovation unit, because that aligns better with the decision making hierarchies and fiefdoms that exist in such organizations. However, not all professional

service organizations are the same; they differ in the business model, capital intensity and professionalization of their workforce.

Classic professional services (law, accounting, architecture)

Classic professional service firms are characterized by tailored/bespoke business model, low capital intensity and strong professionalized workforce (Malhotra & Morris, 2009; Von Nordenflycht, 2010), see Table 1.

The *tailored / bespoke business models* make classic professional service labor intensive and don't provide an advantage of scale. At the same time, classic professional service firms don't have the pressure of producing as efficiently as possible either (Blindenbach-Driessen & Van den Ende, 2010). Making it both desirable and feasible to use the education model for several reasons.

First it is possible to have employees engage in both innovation and operational activities (Gibson & Birkinshaw, 2004), because of the organizational configuration of these firms (Blindenbach-Driessen & Van den Ende, 2014). Second, an educating unit avoids having to invest significantly upfront in innovation activities. Which can be costly and it is difficult to recuperate these cost with a tailored or bespoke business model. Third, engaging teams in service development simultaneously trains the staff needed to bring these services to practice (Blindenbach-Driessen & Van den Ende, 2006), while reducing development costs and the need to transfer knowledge. Making the education innovation unit model a perfect fit for professional service firms with a tailored or bespoke business model.

Low-capital intensity implies that minimal investments are required for any type of activity (Von Nordenflycht, 2010), including innovation. Therefore, classic professional service firms can afford to be more forgiving towards inefficiencies than high-capital intensive firms.

For example, law firms are unlikely to spend a lot of capital on equipment or intellectual property protection to support their innovation efforts.

However, that simultaneously provides another challenge, it is difficult for these classic professional service firms to appropriate the newly developed services (Leiponen, 2008). With limited required investments and limited opportunities for intellectual property protection, it is relatively easy for others to follow suit and offer similar services. Making having a low-cost, yet efficient and effective, development process even more important. Rolling out newly developed services quickly will be easier established with the education model than the execution model.

The term "*professionalized workforce*" relates to the degree to which the field is dominated by ideology and self-regulation, with a professional ideology consisting of a set of norms manifested in explicit ethical codes that are enforced by professional associations (Von Nordenflycht, 2010).

Becoming a licensed professional requires years of training. While expertise is one of the conditions that contributes to creativity (Amabile, 1998), such specialization also has its disadvantages. Highly skilled individuals have strong preferences for autonomy and a consequent distaste for direction, supervision, and formal organizational processes relative to the larger organization and a strong bargaining position for maintaining autonomy (Malhotra & Morris, 2009; Von Nordenflycht, 2010).

Because the firm's capital is embodied in its people and their knowledge is scarce, the workforce of classic professional service firms has a strong bargaining position for maintaining autonomy (Malhotra & Morris, 2009; Von Nordenflycht, 2010). As a result, the organizational structure of these firms often resemble a collective of fiefdoms. Decentralization and autonomy

are generally seen as favorable to innovation in industry (Damanpour, 1991), but create challenges for innovation in the professional services (Christensen & Baird, 1997).

Among others, high levels of autonomy make it a challenge to prioritize and execute innovation on behalf of the organization. Yet, such prioritization is a prerequisite to executing innovation projects. Whom of all the professionals should the innovation unit work for or work with? Instead, using the education model, the responsibility to decide which projects to pursue is with those engaged in the activities. Which makes the educating unit a much better fit for classic professional service firms than the execution model.

If you look at classic professional service organizations known for their innovativeness, such as for instance a firm like Seyfarth Shaw (Rohrer & DeHoratius, 2015), their innovation units are structured similar to the education model. The program is open to all Seyfarth Shaw lawyers, while the execution ram is not just left to a dedicated group of project managers. Similarly, none of the firms that rank high in the Financial Times Innovative Lawyers 10-year anniversary (Sengupta, 2015) appear to have an innovation unit that develops new services on behalf of the lawyers in those firms.

Neo-Professional Service Organizations (consulting, advertising)

What differentiates neo-from classical professional service firms is the lack of a professionalized workforce. As such, leadership in consulting and advertising firms have more control of their employees than leadership of classic professional service firms (Von Nordenflycht, 2010).

In general, the quality of professional services is difficult to assess (Greenwood et al., 2005). Von Nordenflycht (2010) refers to this as “the opaque nature of quality”: the quality of an expert’s output is hard for non-experts to evaluate, even after that output is produced and

delivered. In other words, it is difficult to assess whether the services consultants and advertising agencies deliver is as high quality as they say it is. If quality is already difficult to assess of provided services, it will be even harder to predict the potential quality of a novel not-yet-existing service. This may well explain why Gardner, Anand, and Morris (2008) found that confirmation of the value of radical and innovative ideas needs to be obtained from outside the firm, through clients or others in the profession. In sum, the opacity of quality makes it difficult to evaluate a-priori the value of innovative ideas (Semadeni & Anderson, 2010).

An executing unit will have to decide which activities to pursue and get buy in from the organization to bring these services to practice. Both are challenging for the reasons discussed above, and may explain why traditional R&D units do not contribute to the profitability of service organizations (Blindenbach-Driessen & Van den Ende, 2014). So while neo-professional service firms potentially have the option to execute innovation activities in a more centralized manner, because of the more limited autonomy of their non-professionalized workforce, it will rarely be advantageous for these organizations to do so. In other words, a professionalized workforce makes the education model a must, yet the reverse is not true, that is the absence of a professionalized workforce does not make that an organization has to apply the execution role.

Professional campuses (hospitals)

Professional campuses differ from classic professional services in their business model and capital intensity. They both employ a professionalized workforce.

The *volume business model* brings opportunities to create scale and a return on investment. Upon success you have thousands or perhaps even millions service transactions to recuperate your development costs. The volume business model can, among others, be found in the medical profession (Christensen, Grossman, & Hwang, 2009). Even though each patient is

unique, quantitative methodologies are used to standardized treatment procedures. Keeping these practices up to date is an integrated task within the volume business model's value chain of activities (Moore, 2005).

Within the high volume business model, organizations typically restrict their operations to a few specialties for efficiency reasons (Christensen et al., 2009). However, this drive for efficiency make it unfeasible to combine innovation and operational activities (Benner & Tushman, 2003). Together, the scale, specialization, and efficiency-focus of the operational activities, make that with a volume business model, an executing innovation unit the only option (O'Reilly & Tushman, 2008).

In addition to the volume model, professionalized campuses are also *high-capital intensive*. High-capital intensity is another reason why efficiency is important. It makes it simple too expensive to waste resources. Together, because of the scale, costs, the strive for efficiency in volume operations, (Benner & Tushman, 2003), and the type of activities in the value chain (Moore, 2005), it pays off for professional campuses to have an executing innovation unit. For hospitals this model can most frequently be seen in their research units, where dedicated teams work on the newest drugs, therapies etc.

However, these are not the only innovation activities that takes place in hospitals. Interestingly, there are also service innovations that are not associated with high volume operations or high development costs. Chris Trimble identifies these activities delivery innovations (Trimble, 2015). In line with the tailored and low-capital intensive nature of these services, these innovation activities are executed by dedicated physician lead teams (Trimble, 2015), and would fit, as described by Trimble, the education model much better.

That makes the choice for an executing or educating dependent on the type of services that are being developed. That is, depending on the type of business model and capital intensity of the new service under development.

Technology developers (engineering firms, contract research institutes)

Technology developers are in nearly every aspect the opposite of classic professional service firms, at least that is those with a volume business model, non-professionalized workforce that deliver capital intensive services.

The volume business model, high-capital intensity, and low professionalization of their workforce, makes it possible to have executing units, as firms like Northup Grumman, Boeing, Lockheed Martin attest. While these technology developers deliver systems like defense systems, airplanes in relatively high volumes, other technology developers use a bespoke or tailored business model.

An example is the engineering firms with a tailored business model discussed by (Blindenbach-Driessen & Van den Ende, 2006). This firm struggled to make the innovation efforts of their execution unit pay off. This latter category of technology developers, because of their business model, that is the labor-intensity of their services, they are likely better of using the education model.

For the same reasons, contract research organizations that rely on a bespoke/tailored business model will also be better of using the education model. Something that can be seen in practice as well. Organizations from NIST and MITRE have commercialization offices, yet these innovations are the fruits of labor of their employees and not of a dedicated group of researchers that is tasked with developing novel services or products that can be licensed.

As such it seems that business model takes priority over capital intensity and professionalization of the workforce, when it comes to choosing the role of the innovation unit.

Discussion

In this paper I address why and how the unique characteristics of professional services impact the management and organization of innovation, and suggest two different roles for an innovation unit – executing versus educating.

For classic professional service firms, the role of the innovation unit is clearly defined: education. By the way applying the framework to manufacturing firms, also leads to a clearly defined role. Since the professionalization of the workforce of manufacturing firms is weak, capital intensity is high, and their business model is volume, an executing innovation unit is a perfect match. Since manufacturing firms have traditionally been the subject of innovation management research, it is not surprising that the executing role is the more familiar role associated with innovation units.

For other types of professional service firms, the role of the innovation unit is less straight forward. Comparing the different types of professional service firms, makes it plausible that the type of business model takes priority over capital intensity when it comes to choosing the role of the innovation unit, see table 3. Conflicting demands also arise with the combination of a professionalized workforce and a volume business model, as exist in professional campuses. This tension may partly explain the trend at more innovative hospitals such as the Mayo clinic, Cleveland clinic, and Kaiser Permanente, to reduce the autonomy of the professionalized workforce by making the professionals employees of the hospital. Such an organizational structure makes it easier to centralize innovation activities, make top-down decisions, and enforce the execution and implementation.

The lack of innovation capabilities of professional services is a major challenge and a problem for society. While in the past, professional service underwent little change, the fourth industrial revolution is expected to have major impact on the professional services. With external pressures mounting to provide more innovative and client centered services, many professional service firms are trapped. Most don't have the ability to do respond to an opportunity or challenge without a specific client requires (Blindenbach-Driessen & Van den Ende, 2006), let alone that they know how to organize for innovation. The consequences are dire. For example, while in the past century very few law firms, if any, went bankrupt, the 21-st century has seen an unprecedented turmoil in the legal industry (Christensen, Kenny, Hubbard, & Hodin, 2014; Susskind, 2013).

Instead of innovating, it has been much simpler for professional service firms to limit their efforts to idea generation. Voicing ideas in scientific and non-scientific publications creates sufficient publicity to boost the professional's credentials and contribute to the reputation of the organization. For society, however, this is a meager yield. Without implementation, the knowledge generated is of limited value. Especially in health care this stalemate has become problematic, as very few of the scientific breakthroughs published in journals ever reach practice (Collins, 2011). By addressing how to organize for innovation so ideas are actually implemented in practice, this paper offers professional service firms much-needed support in their innovation efforts.

The defined roles of innovation units also facilitate future research. Previous research on the topic of innovation units identified different locations of the innovation activities, (Blindenbach-Driessen & Van den Ende, 2014), but struggled to examine these differences in a systematic manner. With the differentiation between an education and execution role, it will be

much easier to distinguish which organization uses which model. If the innovation unit executes innovation projects and has employees to staff these projects, the organization uses the executing model. If the innovation unit's main task is to support and educate employees involved in innovation activities, then the role is educating. These different roles can be further distinguished and clarified by the metrics used to assess performance, as outlined in Table 2.

The suggested educational role as preferred model for most types of professional service firms, is in line with Leiponen (2006) findings that education is an important driver for innovation in the professional services. From her research, it is also clear that in most professional service organization innovation activities are not executed in separate innovation units, but integrated within the daily routine (Leiponen, 2006).

Law firms show that aligning hiring decisions with the strategic direction (Hitt, Bierman, Uhlenbruck, & Shimizu, 2006) offers an alternative route to bring in new services. However, just hiring star performers does not work (Groysberg & Lee, 2009). Hiring people with expertise in the domains where the firm seeks to grow does (Leiponen, 2006), as long as these new hires are given the opportunity to establish themselves in their new context (Kor & Leblebici, 2005). This approach is similar to the education model proposed in this paper.

The role of an educating unit resembles the role of an accelerator in the start-up community. For accelerators it is know that education, support, and access to connections accelerate the start-up process and increases the chance of success (Hallen, Bingham, & Cohen, 2016). However, such accelerators don't work within an organizational context, nor have to deal with the specific characteristics of professional services.

Integration of innovation activities as with the educating unit poses its own challenges (Birkinshaw & Gibson, 2004). This paper explains why and when a more integrated innovation

approach – as supported by an educating innovation unit -is preferred. Blindenbach-Driessen and Van den Ende (2014) showed that a separate innovation unit does not contribute to the profitability of service firms. Yet, further research will be needed to show that using an education focused innovation unit is indeed effective and contributes to firm profitability.

Clearly, the framework and innovation unit roles proposed in this paper will have to be tested in practice. Practical examples and rigorous testing will be needed to demonstrate that the education model indeed has merit, that it is worthwhile and possible to differentiate between the executing and education roles, and that the framework as proposed in Table 3 correctly predicts which role is preferred for which type of organization.

Another limitation is that this paper only discusses which role model when relating to the development of innovation activities. While the diffusion of innovations is equally troublesome (Christensen & Baird, 1997). Can an education unit also play a role in the adoption of innovations within the organization or profession? While that seems a more plausible role for an education unit than an execution unit, further research will have to demonstrate that is actually the case.

The educating model also raises questions that need to be addressed. For example, are professionals able to change and disrupt themselves, as the education model requires? Using healthcare as an example, disruption is not going to come from within according to Christensen (Christensen et al., 2009), yet the examples in Trimble's book (Trimble, 2015) show that are examples of physicians who are able to disrupt the system when given the opportunity.

Another interesting question that needs to be addressed is the fail fast principle. With the innovation unit only there to provide guidance, the education model demands integrity from innovators when tasking them to fail fast to succeed sooner. Such behavior may be in line with

professional norms, but can professionals actually differentiate between when it is justifiable to continue, and when they need to stop because a project is no longer feasible? And if so, will they be able to act on that determination?

Conclusion

Innovation is important for professional service organizations (Greenwood et al., 2005; Hogan et al., 2011; Leiponen, 2006). Professionals are the experts in areas such as health care, law, and engineering. Unleashing their innovation potential is important for society, especially because the contribution of professional services to the economy has grown significantly (Leiponen, 2008; Malhotra & Morris, 2009; Von Nordenflycht, 2010).

The specific organizational characteristics of professional service organizations lead to unique innovation challenges. While on the one hand these characteristics are beneficial for innovation, facilitating integration into the day-to-day activities of the organization, on the other, these characteristics make execution of innovation on behalf of the professionals in the organization inapplicable. That is, trying to select the right ideas a priori and develop those ideas as effectively and efficiently as possible (Brown and Eisenhardt, 1995). This role, which is labeled as executing in this paper, has certainly proven its value (Brown & Eisenhardt, 1995; Gloria, 1995; Griffin, 1997). However, it does not seem to work or contribute to the overall performance in professional service organizations that are low-capital intensive, use tailored or bespoke business models, and have a professionalized workforce.

The innovation literature acknowledges that there are alternative approaches to innovation, see for example Brown and Eisenhardt's (1995) communication web and disciplined problem-solving innovation streams. These alternative approaches have evolved around team communication and decision-making models, and have in common that they focus on the

communication within the innovation process. The contribution of this paper is explicating the role of the innovation unit, and explaining when an executing versus education role is preferred, depending on the characteristics of the professional service firm.

Differentiating between different roles the innovation unit can use to fulfill its role in supporting, connecting and facilitating innovation could also be helpful for other types of firms. In the past, most of the literature on innovation has focused on manufacturing firms, (Papastathopoulou & Hultink, 2012). Non-manufacturing firms, which is the majority of firms, are a heterogeneous mix of different types. A significant subgroup of these firms is often referred to as service firms, and the innovation process in these firms as service innovation (Djellal & Gallouj, 2007; Drejer, 2004). Although service innovation research has grown and matured over the past ten years (Papastathopoulou & Hultink, 2012), it still lacks a theoretical framework that helps distinguishing the innovation process in this diverse group of firms from the innovation process in the more homogeneous group of manufacturing firms. Differentiating service innovation management practices depending on their capital intensity, business model, professionalization of their workforce may help practitioners in these firms and help build a more coherent and testable framework to optimize innovation processes for different types of service firms.

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Questions?

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