TE WHARE WĀNANGA O TE ŪPOKO O TE IKA A MĀUI
VICTORIA
UNIVERSITY OF WELLINGTON

School of Management

Innovation in professional services in a context of disruption

MMBA 532 Business Research Project

27 October 2015

Andrew Bailey

Contents

Executive summary

This research is focussed on how large professional services firms in New Zealand innovate in the context of and as a response to potential disruption. The theory of disruptive innovation describes how incumbents can be overwhelmed by innovative new entrants. Typically these new entrants begin in markets which are unattractive to incumbents because they can't make money there with their existing business models. Therefore, some have claimed that new businesses must be set up, or various dual approaches adopted, to survive against disruptive new entrants.

Semi-structured interviews were held with senior members of large professional services firms to understand their perspective on how innovation is managed in their organisation in the context of potential disruption and the capabilities which support them in doing this. From these interviews, a number of themes emerged which were compared with some of the approaches advocated by the literature in terms of responding to potential disruption.

The research found that large professional services firms in New Zealand are focussed on how they can enable innovation from within the firm – typically built off the back of client demand and concentrating on how they work differently with clients, using new methodologies and resourcing models – particularly partnering with third parties to play a service aggregator role – to deliver better outcomes for clients and maintain the professional services firms' incumbency.

At the same time, there are some tentative steps to think about how incubation and/or 'dual organisations' might be able to test more disruptive, alternative business models.

Introduction

One thing almost everyone seems to agree on today is that change is getting faster and faster. Companies, business models and industries are changing and disappearing, apparently overnight.

Much has been made of the rapid changes in many industries and the potential for new technologies or business models to 'disrupt' powerful incumbents. One response has been to claim that these markets leaders must themselves "innovate or die".

This research will identify what the literature says about disruptive innovation and how incumbents are able to respond, and then compare this with how large professional services firms in New Zealand innovate in the context of disruption.

The literature on disruptive innovation is clear that the term is often misused in the popular press. It does not mean a product or service being superseded by a superior one: incumbents excel at these so-called 'sustaining' innovations because they have the resources and competencies to do so. They nearly always win at this game. Disruptive innovation happens when new entrants initially offer performance on different attributes and underperform the mainstream – in practice this often means targeting markets overserved by the mainstream and then rapidly improving to invade the mainstream and 'disrupting' the incumbents, who are, for example, pushed into high-end niches.

Incumbent firms face a dilemma in addressing disruptive innovation because the markets disruptive products or services begin in are typically unattractive to incumbents because they can't make money there with their existing business models. Therefore, some have claimed that new businesses must be set up, or various dual approaches adopted, to survive against disruptive new entrants.

This research aims to be useful to managers of professional services firms who are considering how best to position their firms in the face of expected or manifest disruption from new entrants and how they can innovate themselves to 'disrupt first'. For academic purposes, it can be considered an initial survey into the topic and the findings offer possibilities for further research.

Literature Review

‘Disruptive innovation’: an overused and underspecified term

In 1997 Clay Christensen wrote *The Innovator’s Dilemma* on why well-managed, successful companies with market incumbency and lots of resources failed and, in doing so, coined the phrase ‘disruptive technologies’ to describe new technologies that came to surpass seemingly superior technologies in a market.

Nearly twenty years on, ‘disruptive innovation’ is everywhere. The phrase can be found scattered liberally through Forbes, Harvard Business Review, LinkedIn profiles and the business plan of any start-up worth its salt; received as management gospel, it’s also accused of being a buzzword and – perhaps not quite literally – a cult (Bennett, 2014; Lepore, 2014; Shulevitz, 2013). Judith Shulevitz (2013), writing in the New Republic, called ‘disruptive innovation’ “the most pernicious cliché of our time” and, while allowing that you can’t blame Christensen for every “dumb thing said and done in the name of disruption”, she says he hasn’t been shy in publishing book after book “in which disruption theory is brought to bear first on this sector, then on that one.”

Christensen (2014) himself, acknowledging the proliferation of the term, protests that, “the vast majority of people who use the word ‘disruptive’ have never read anything that I’ve written. They use it to justify whatever they want to do in the first place.”

Before embarking on an exploration of responses to potential disruptive innovation in professional services, therefore, it is worth understanding how the theory of disruption has been developed and defined.

Innovation and creative destruction

The term innovation was first drawn on in a way similar to its modern usage by economist Joseph Schumpeter in 1939 in his work on business cycles. He used it to describe how firms ‘innovated’ to produce new products (or new, higher quality versions of an existing product), new processes, new organisational structures, and brought these innovations to market or to new markets. Schumpeter saw innovation as the prime driver of economic development (Crossan & Apaydin, 2010; Lepore, 2014; Schumpeter, 1939; 1961).

Some, including Christensen, have drawn links between the idea of disruptive innovation and Schumpeter’s concept of ‘creative destruction’, a term he lifted from Marx and used to mean the incessant replacement of old companies, products and industries by new products and business models in a capitalist economy – Schumpeter gives the example of the railroadisation of the American Midwest bringing to life new settlements and industry, while destroying the old agriculture (Christensen, 1997; Lepore, 2014; Schumpeter, 1942). Christensen’s work on disruptive technologies was focused on why it was that some companies failed and others survived through this ‘creative destruction’ process.

The disk drive industry: overwhelmed from below

Christensen’s work started with his study of the disk drive industry, which piqued his interest because successful incumbents had gone on to fall time and time again to new technologies (Christensen, 2014). Studies on technological innovation had categorised innovation as either 1: discontinuous (also see: radical/break-through/revolutionary/step-change), or as 2: continuous (also see: evolutionary/incremental). It had been widely accepted that established companies generally only did well in incremental innovation and struggled with breakthrough innovation, but this seemed an incomplete explanation of what was being observed (incumbents *were* surviving or even leading certain breakthrough innovations), as did the idea of ‘competency-enhancing’ vs. ‘competency-destroying’ innovations (Yu & Hang, 2009). Christensen explicitly says these categories of radical vs. continuous and competency-enhancing vs. competency-destroying are distinct from his concept of disruptive technologies: many of the incumbents he studied had been able to survive/adopt competency-destroying technologies (that is, technologies that make incumbents’ previous investments and competencies obsolete) as long as the new technologies better served the needs of incumbents’ mainstream customers (Danneels, 2004).

Christensen’s initial insight into disruptive technologies was that in the disk drive industry it was not the “technology mudslide effect” that explained failures – where the relentless onslaught of technological change meant incumbents had to continually scramble to keep on top until finally they slipped up. On the contrary, the incumbents led the way in every case in improving the speed and other performance of the drives – both incremental technological improvements and radical technological improvements. Performance improvements along an established “measurable trajectory of performance” are “unambiguous” because it is easy to say, for example, that an Intel Pentium III processor is superior to an Intel Pentium II processor on the performance aspect that matters to customers, that is, processing power and speed (Christensen, 1997; Schmidt & Druehl, 2008). When this happens the innovation will be adopted at the high end of a market (who most value the higher performance) and very rapidly diffuse downwards (sales of the Pentium III very quickly overwhelmed sales of the Pentium II, as might be expected). Christensen termed these ‘sustaining’ innovations as they “sustained the industry’s rate of improvement in product performance”, whether they were incremental or radical. Again, the “industry’s dominant firms always led in developing and adopting these technologies” (Christensen, 1997).

However, unlike the “unambiguous” improvements of sustaining innovations that progress the rate of product improvement, Christensen points out that it is not always so straightforward: “for instance: is a notebook computer better than a mainframe? This is an ambiguous question because the notebook computer established a completely new performance trajectory, with a definition of performance that differs substantially from the way mainframe performance is measured.

Notebooks, as a consequence, are generally sold for very different uses" (Christensen, 1997). This "new performance trajectory" is key to disruptive technologies. In the disk drive industry the equivalent was the architectural innovation of smaller disk drives, which were poorer performing on the performance aspects that mattered to the mainstream customers of minicomputer manufacturers: capacity, cost per megabyte and access time. However, they were smaller and lightweight, which appealed to the emerging desktop personal computer market segment (Christensen, 1997). These kinds of innovations are often technologically straightforward and present less of what customers in established markets want; offering a different package of attributes, they are initially deployed in emerging markets where other performance dimensions are valued. While sustaining innovations favour the incumbents, these second type of innovations disrupt or redefine performance trajectories and "consistently resulted in the failure of the [disk drive] industry's leading firms", that is, they favoured the entrants (Christensen, 1997). The incumbents were overwhelmed from below by products which initially offered less and different performance but rapidly improved to invade their mainstream markets.

Disruption defined

Christensen's distinction between 'sustaining' and 'disruptive' shows that not every innovation that dramatically disrupts a market is 'disruptive innovation' as Christensen defines it. For example, the Apple iPod completely overwhelmed (some would say 'disrupted') the existing portable music market of CD Walkman's and mp3 players. However, the first iPod was a high-end product offering more of what the existing mainstream market wanted: memory to hold more songs, playback quality and portability. The iPod is a sustaining innovation (Schmidt & Druell, 2008).

With this research background and distinction in place, we can define disruption as described by Christensen.

A disruptive technology provides different performance aspects to the mainstream technology and is initially inferior in the aspects mainstream customers care about – for example, the mainstream technology may be a faster and more powerful widget (as per mainstream customer demands), but is less portable and more expensive than the new entrant. For this reason the disruptive innovation will often be deployed in a niche or new market, appealing to those customers who are over-served by mainstream technology. As the disruptive technology improves it gets closer to what the mainstream demands, although it is still inferior to the incumbent technology (which will also be improving via sustaining innovations). The performance of each product and the level of mainstream customer demand in terms of performance can be graphed (see figure 1); market disruption occurs when the performance of the new technology intersects with the performance required by mainstream customers and displaces the incumbent technology.

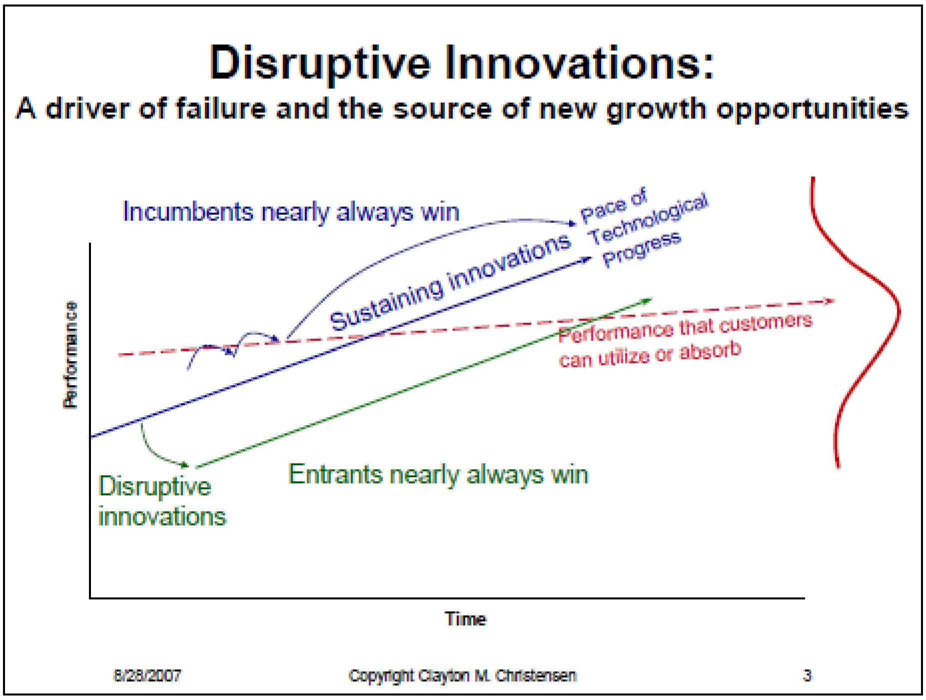

Diagram 1: sustaining vs. disruptive innovations

This will happen when there is performance overshoot from the incumbents on the aspects that the mainstream value and, critically, “asymmetric incentives between existing healthy business [incumbents making lots of money] and potential disruptive business” (Yu & Hang, 2010, p. 437).

In other words, it isn’t a problem of the technological competence of incumbents that allows them to be overwhelmed by disruptive innovations: in the disk drive industry Christensen quite clearly demonstrates that incumbents had no problem developing next generations of faster and more powerful products. Instead, executives are ‘captured’ by their most lucrative customers, which makes it very difficult – even impossible, depending on cost structures – to allocate resources to initiatives that serve new customers at much lower margins (Henderson, 2006). Firms will also find themselves degrading the value of their existing activities, paying huge straddling costs and getting stuck in the middle of competitive strategies, as pointed out by Porter (1980).

Disruptive innovation helps create new markets, as more people are buying a product or, in the case of a new entrant, something like it, so you might expect the market leaders to go after that growth. However, these new markets are not attractive to incumbents because, as Christensen (2014) puts it, “every company has a business model, and they can invest in things that help them make money in the way their business model is structured. If innovation doesn’t allow them to make more money in the way they’re structured to make money, they can’t do it. So that was the big idea. It had nothing to do with technological change.” This is the titular innovator’s dilemma of Christensen’s book.

From disruptive technologies to disruptive innovation

Christensen soon replaced the term ‘disruptive technologies’ with ‘disruptive innovation’ to widen the application of the theory to include services and business model innovation alongside technological innovation – listing discount department stores, low-price point-to-point airlines, cheap mass-market products, and online businesses such as bookselling, education, brokerage and travel agents as examples of disruptive innovation (Yu & Hang, 2009; Markides, 2006). Markides (2006) believes this is a mistake, saying that disruptive technological innovation is fundamentally different to disruptive business model innovation. He believes these innovations “arise in different ways, have different competitive effects, and require different responses from incumbents” (Markides, 2006, p. 19). For instance, Christensen suggests that disruptive technological innovations grow to dominate the market and force out incumbents, however Markides (2006) says the literature on business model innovation doesn’t show “such an extreme position”: instead, new ways of competing grow to a large size but don’t completely replace the old models (p. 21). This is debatable and it’s possible that it’s too early to say: frequently used current examples such as Uber and AirBnB haven’t completely displaced incumbents but may yet in some markets. The distinction between technological disruptive innovation and business model disruptive innovation does seem to have some validity, however. Obviously, if this is true it has very different implications for incumbents, because options other than simply imitating the innovator or trying to ‘disrupt the disruptor’ remain more feasible than Christensen’s theory would suggest.

Expanding and critiquing Christensen’s initial theory

There has been some difficulty with Christensen’s definition of disruption, with Danneels (2004) arguing that it is not precise or consistent enough and that, with Christensen’s examples all being *ex post*, there is a perceived lack of ability to make *ex ante* predictions using the theory. In a similar vein, Tellis (2006) says that due to the nature of disruptive technologies, it would be hard to differentiate between a technology that is simply inferior and a technology with inferior performance that will improve and go on to be disruptive. Lepore (2014) and Barney (1997) also dispute the predictive power of the theory. Others – notably Govindarajan & Kopalle (2006), Schmidt & Druehl (2008) and Yu & Hang (2010) have made suggestions to improve the theory in this respect. Christensen (2006) himself called attention to examples of successful *ex ante* predictions; regardless, these challenges do not appear to have stopped Christensen making a number of predictions in the fields of technology, government, education and health.

Christensen’s initial work also sparked a heated discussion about the definition and scope of disruptive innovation (Yu and Hang, 2010). There have been useful additions in this space that have expanded the concept of disruptive innovation beyond Christensen’s low cost/low performance quadrant. Govindarajan & Kopalle (2006) point out that disruptive innovation can also come from the high cost/low performance quadrant: the cell phone was first accepted by corporate executives, despite its high price, low coverage and low reliability and the landline being preferred by mainstream customers. These high-end disruptions can still present an innovator's dilemma for incumbents because even though they may offer a higher per-unit margin, the perceived niche market aspect makes them unattractive. In fact, AT&T was advised by McKinsey in the 1980s to pull out of the cell phone market because it was not considered profitable, with a worldwide market size of only 900,000 cell phones (Govindarajan & Kopalle, 2006). Yu & Hang (2010) also consider the low cost/high performance quadrant: this is considered to be destructive rather than disruptive innovation where the market has simply no option but to become followers because the new product is both superior and cheaper to produce. They give the example of SiGe chips, which instantly became the mainstream technology for wireless communication.

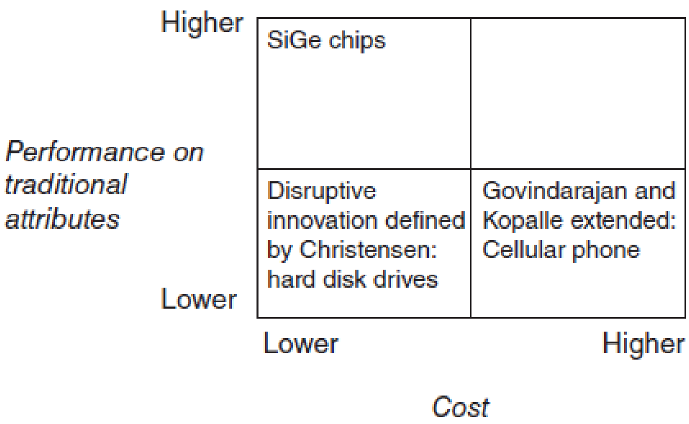

Figure 2: broadening the scope of disruptive innovation. From: Yu & Hang (2010).

Schmidt & Druehl (2008) offer a useful framework to consider three different scenarios for how the classic disruptive innovation, that is, an innovation that encroaches on the old product from the low end upward, could be initiated. In the initial Christensen scenario, low-end disruption occurs from simply selling to existing low-end customers before diffusing up market and doesn't open up a new market. A second scenario exists which Schmidt & Druehl (2008) call a 'fringe-market' scenario, "where customer needs are only incrementally different from those of existing low-end customers", before encroaching on the old product and diffusing upwards from there: they give the example of Southwest Airlines, which catered initially to customers who would otherwise have driven (p. 363). Thirdly, in the 'detached-market' scenario the innovation first opens up a market where customer needs are significantly different from existing low-end customers but is still ultimately able to encroach on the low-end and diffuse upwards: here again the example of the cell phone is relevant. This framework allows four scenarios (one high end, three low end) for managers to consider where they may disrupt or be disrupted.

Henderson (2006) expands on the different readings available for why organisations struggle to address disruptive innovations – one popularly emphasised aspect is that the problem is cognitive: managers simply cannot see past their current mainstream customers. Another reading is that the problem is political: managers will struggle to divert resources and effort away from those in charge of the most profitable areas today. She offers a third explanation, which is competence-based: firms which have built market-facing or customer competence based on their experiences building the current products will find it very hard to evaluate new opportunities or respond to disruptive innovation. This offers room for research around the competencies organisations might need to build to respond to disruption or potential disruption.

Recently, Lepore (2014) offered a stinging critique in the New Yorker, questioning Christensen's methods and findings but predominantly attacking the cult of disruption, its wide-ranging application beyond the initial genesis – which Christensen must bear some of the blame for – and the implications of a worldview where everything must be disrupted, the sooner the better ("competitive strategy for the age of terror"). Defenses arguing Christensen had been misrepresented (Crook, 2014) and articles supporting Lepore (Bennett, 2014) quickly sprung up. There is a great deal to like in Lepore's insistence on more careful definition and use of the concept – including where it might be deployed and where it shouldn't be – but her conceptualisation of disruption as a "gospel" feels overwrought.

What does the literature say about how incumbents can respond to disruptive innovation?

Christensen (2014) asserts very strongly that industry leaders can catch disruptions and succeed but they "have to set up a completely new business model" – even if it's still under the corporation's umbrella. However, he admits this is an incomplete prescription: firms must also manage their legacy operations, which may still have decades of profitability ahead of them. To do this, he says firms must identify the "extendable core" of disruptors – the advantages disruptors hold over incumbents which they can maintain as they improve their performance – and understand where the incumbent's advantage persists, using an assessment of five kinds of barriers to disruptors: 1. momentum barrier (customers used to the status quo), 2. tech-implementation barrier, 3. eco-system barrier (business environment would need to change), 4. new-technologies barrier (technology doesn't exist yet), 5. business model barrier (disruptor would have to adopt incumbent's cost structure). (Christensen & Wessell, 2012).

Gilbert, Eyring & Foster (2012) concur that a dual approach is required, where one transformation repositions the core business to where it can still compete and a second, separate transformation creates a disruptive business for future growth. They argue the boundaries between the two need to be protected (each "must operate as if the future of the organisation depended on it alone"), while identifying the resources the two organisations can or need to share – typically to see what the disruptive business can borrow to "gain a competitive advantage over independent start-ups" (p. 72).

Furr & Snow (2015) suggest a slightly different version of the dual approach, where 'hybrid' products can help "manage the uncertain transition period from one technology, service, or business model to a newer, sometimes disruptive one." They point out that one of the biggest challenges firms face is in getting the timing right: “on one hand they’ve been warned that disruption can sneak up and quickly destroy their business. On the other hand, experience tells them that disruptions can take years, sometimes decades to play out.” Firms can’t afford to move too early and waste the competitive advantage or growth opportunities in the current model or product. Hybrids can help firms stave off disruption for long enough to transition into another market (electric lighting disrupted gas lighting, but gas lighting bought themselves a decade to move into the adjacent heating business). Furr & Snow (2015) suggest seven types of hybrids, depending on whether the disruption is well underway, just begun, or a long way off. When disruption is well underway: 1. Blocking hybrids which can offer a short-term appealing price/performance trade-off, 2. Bottleneck hybrids can use complementary technology to extend the life of the old technology, 3. End-state hybrids combine features of old and new technologies to create a permanent new category (e.g. digital SLR cameras still dominated by incumbents). When disruption is just begun: 4. Bridging hybrids allow incumbents to learn about a new technology they intend to employ themselves (e.g. the Prius), 5. Niche hybrids serve customers whose needs are not met by the disruptive technology. When disruption is still a long way off: 6. Exploratory hybrids help firms learn with a view to explore the future, rather than build a bridge to it (though they may end up as bridging hybrids), and 7. Optimising hybrids combine an element of the new technology, when it isn’t clear if it will catch on, to the old technology to significantly improve performance.

Yu & Hang (2010) point to a “substantial body of literature on enabling disruptive innovation from the organisation itself” (p. 441). They arrange these in terms of the human resources, organisational culture, resource allocation and organisational structure of the firm. Firstly, human resources considerations look at the capability of managers to identify disruptive innovation, incentive structures around this and the possible differences between professional managers and founders in their ability to drive disruptive innovation. Secondly, organisational culture may be important – particularly in ‘unlearning’ old logic and the values which tells employees implicitly which customers are more or less important or whether ideas are attractive or not: these may form constraints. Thirdly, resource allocation has been studied in terms of addressing typical errors (resource dependence, overly structured methods in evaluating projects, investing based on the profile of existing resources) that stifle disruptive innovation – including using strategic buckets to separate sustaining and disruptive innovations. Finally, the organisational structure seems to be important in enabling disruptive innovation: firm size is negatively correlated with disruptive success, lending weight to Christensen’s suggestion of an autonomous organisation within an organisation (Yu & Hang, 2010).

Methodology

A qualitative approach has been taken with this research in order to understand innovation in practice from the perspectives of managers in large professional services firms. Unlike some qualitative research, the approach is not wholly inductive: it aims to take the broad themes emerging from interviews with industry professionals and compare them with the theoretical approaches and observations in the literature. As Bryman and Bell (2011) point out, “there is no reason why qualitative research cannot be employed in order to test theories that are specified in advance of data collection” (p. 393).

A cross-sectional research design has been chosen in order to build a picture of a tightly defined group of organisations and make comment on how that fits with the literature on disruption and how organisations might respond to it. This research will not be generalizable or transferable to other contexts, however the research has attempted to provide an account of the culture and context, which is argued can “provide others with a ‘database’ for making judgements about the possible transferability to other milieu” (Bryman & Bell, 2011, p. 398). Any extrapolations will be limited by the extent that they share work characteristics, industry dynamics, competitive pressures, technological changes, geographic markets and so on. Responses are considered to be representative of the group under consideration, while acknowledging that within these firms there are a plurality of perspectives and views. The validity of the results can be enhanced by testing with responders and confirming that the researcher has acted in good faith (Bryman & Bell, 2011, p. 396 – 398). Arguably the research design could also be considered a form of multi-case case study, however the focus is less on gaining a deep understanding of the individual organisations and their unique contexts, and more on general findings across the group of cases, so can be more accurately considered a qualitative approach to cross-sectional design (Bryman and Bell, 2011, p. 63).

Research method: semi-structured interviewing

A semi-structured interview approach was selected for gathering data. This was chosen because it seemed that approaches to innovation would quite likely not be fully-formed or share a common language between individuals or firms, which would make forcing structured categorisation at the data collection stage either impossible or arbitrary, not to mention losing the richness of where participants might choose to take their responses. This made a more structured interview or survey less attractive. A semi-structured interview allows for the interviewee’s perspective to come through because they have far greater leeway with how to respond than with a structured interview or survey approach (Bryman and Bell, 2011, p. 467). This seemed more likely to shed insight on the research questions because it would uncover the thought processes and challenges faced by senior members of these firms as they seek to innovate and encourage innovation.

An alternative approach could have been to conduct a case study on a single organisation and interview more partners and people throughout the organisation – new hires and middle management as well as senior members. This would have given greater insight into how a single organisation innovates, however given that the research questions were focused more at the strategic level about how firms chose to respond to potential disruption and that these are the decisions made by senior members, a cross-sectional picture of the large professional service landscape was judged to better respond to the research questions. It also seemed that for practical purposes it would be easier to ask for one or two hours from multiple organisations than to ask for a great deal of time from a single organisation.

The semi-structured interview began with the researcher giving a three minute summary of Christensen's definition of disruption and examples. This was important given that one of the findings from the literature is that anything and everything is labelled as 'disruptive' with the result that some people are either confused or ambivalent about the concept. With this context in place, the researcher stated that the literature puts forward various responses to the potential disruption of an industry or firm, but that the research is focused on what is happening in practice.

A semi-structured interview was then conducted, with three main areas of focus:

1. How does your organisation identify strategic innovation?
2. How does your organisation go about innovating and what capabilities enable that?
3. How do you encourage internally the promotion of new service lines/markets/products?

Selection of participants

The five largest professional services firms[1] in New Zealand were identified and interviews with one to two senior members of each firm were sought. Because all these firms run on a partnership model, partners are effectively the owners of the business. They typically run their service line with a great deal of autonomy and also contribute to strategic discussions with the other partners about the overall direction of the firm, with some form of managing partner over the top of all the service lines, effectively as a chief executive. This means that the interview subjects make decisions about the direction of the firm and their service line at a strategic level.

Access was gained by emailing a brief on the research (Appendix 1) and a request for a 45 – 60 minute interview to potential participants identified on the basis of their job title. In some cases, the names of these potential participants were provided to the researcher by people who work at the relevant firms and this may have contributed to a high response rate of those contacted. Seven interviews were conducted with senior members of four firms, most at partner level. These interviews were held face-to-face in the offices of the firms themselves, other than one interview which was conducted by phone due to geographic constraints.

[1] Defined here as the firms traditionally offering accounting, tax, audit and advisory services – chosen because they have significant management consulting practices, a particular interest to the researcher and recently discussed in the literature.

To improve the quality of the information provided by participants, the research was undertaken on the basis that individuals or firms would not be identified. Although the firms haven't been specified, anyone familiar with the market would easily be able to identify who the largest players are and so findings have been presented in terms of the sample, rather than attributed to an individual firm, even under the guise of a pseudonym. This fits with the research approach, which is more interested in the themes presented within the sample rather than each individual organisation. It also avoids any potential ethical issues with disclosing something which might be seen as commercially sensitive.

Analysis of data

All interviews were recorded and then transcribed. On multiple readings of the transcripts and highlighting of different innovation responses and innovation challenges discussed by participants, themes emerged. These themes were, as far as possible, not pre-determined by the theoretical background, but emerged from a simple assessment of how frequently they were addressed by participants.

In order to answer the research question – that is, how professional services firms seek to innovate in the context of disruption – these themes were then taken and discussed with reference to the theoretical frame the literature offers in terms of the different recommended approaches to disruption. Theory and practice can then be compared and contrasted, with some comments made on why this might be and whether the theory suggests other approaches should or could be adopted, or whether the approaches adopted practically could contribute to the literature.

Limitations of analytical approach

This analytical approach, like the research method itself, is subjective. The purpose of using frequency of themes as the base unit of analysis is that this is seen to relate to the perceptions of managers (that is, they will speak more about the things top of mind) which is an important part of the theory of disruption. The limitation remains, however, that it is the researcher doing the theming, introducing a level of subjectivity in how themes are chosen and collated.

The analysis could have been greatly improved by adding further feedback loops, with further validations with the research participants leading to refined questions and follow up interviews. This was not practical because of time constraints on both the researcher and the participants.

Findings – main themes emerging from data collection

Innovation and disruption is a big focus for professional services firms

While different participants had different perspectives on how the industry was changing and might be expected to change in the future, all gave an indication that innovation and the potential for disruption was frequently discussed in their firm. They are all offering innovation-related services of some form to their own clients and some indicated their partner groups have spent a lot of time talking about what disruption might look like for their firm in New Zealand.

There is a tension and balance between following and leading customers

Professional services firms can't afford to build things there's no market demand for ("we're not into build it and they will come [P1]"), but there's also no growth to be had in providing the same services as before. Christensen found that firms could be disrupted when they became captive to their key clients – focussed on giving high value clients better and better products, allowing room for others to creep in at the lower-end.

Most respondents talked about doing a bit of both in terms of building off current client demands and 'educating' new markets about potential services, but client relationships in general seemed to be more influential:

> A lot is driven not by bringing products to market, but strategies driven off long-term client relationships. Take [Client A], our work has helped shape what their future operating model should look like, which they're implementing now. Executing on that took different capabilities. [Client B] were going through a similar programme at the same time, so we've been able to build a practice in country off the back of that. [So you] end up not building a new product or service line or practice here on-site that you then take to market, you end up building of the back of client need [P1].

At the same time, all respondents acknowledged the role that 'leading' clients plays in developing new service lines or even just new business in existing service lines. This often takes the form of thought-pieces "to get businesses to sit down and wake up [to the reality of disruption in their industry][P1]" or presentations which provide a global perspective on trends in a given industry. Respondents from two of the firms talked about building new service lines where it was necessary to "create the need from clients [P3]" as it wasn't a traditional service they'd bought before.

> We're getting uptake [for the new service] in the highly competitive industries – insurance, banking, telcos – where the relationship with the customer is central. We're working to build an entirely new product off the back of new technology [but] we're driving a lot of these conversations rather than clients. So [we're running] lots of pilots, and we're subsidising the cost of *x* for this one, for example, to sell the long game [P5].

Firms are likely to increasingly play a service aggregator role and resource projects more flexibly in general

Rapidly adding new services or products requires new capabilities outside all these firms' traditional strengths. Respondents saw a growing role for their firms to bring together these capabilities to solve complex problems for clients, wherever the skills are. This could include partnering with other organisations, working with more contractors and simply being more flexible in internal resourcing.

> In the traditional partnership or associate model there would be three or four [organisations], but it needs to be 50 organisations that we're happy to work with. Some of our direct competitors will be working with the same agencies. That's cool; we'll have to get over it. Partly because NZ is a small place and if we wanted exclusivity we wouldn't get far – there's not enough players in the market [P5].

While this has always happened to an extent, barriers between organisations are seen to be breaking down. There is also a move towards more flexibility around hiring models:

> A lot of specialists are contractors, so we'll build loyalty with them but not necessarily require them to work full time for [the firm]. The creative services profession is driven by people who want to work in a casual or contingent way, and it's going to be hard for big management consulting firms if they can't offer that [P3]."

The deep relationships large professional services firms have built with clients through traditional service lines are seen to be transferrable into new, innovative opportunities

A feature of the service aggregator model is that these large professional services firms have access to senior people at major firms and the advantage of trust and proven relationships with big clients. Some respondents believe that this means for new service line opportunities, such as innovation services, "the [large professional services firms] will get a bigger slice of the innovation action. Because we have a trusted relationship and won't mess it up – we're big enough and can't afford to [P5]." This is likely to give the large professional service firms an extendable competitive advantage for the largest and most lucrative clients.

Acquisitions and partnerships are a 'go-to' for innovation

In the view of more than one respondent, "big organisations need to take people who already know how to do it [P2]," allowing them to see that it's already working and then learning from them. All the firms had acquired other firms in the last few years.

When starting new service lines, either acquisition or partnership was seen as necessary to get credibility and capability. In this instance, the firm might have a relationship or reputation with an existing client or a client who would traditionally buy services from a large professional services firm. This makes them a trusted delivery partner because, "clients know they need to do things differently but they're not prepared to go to the small guys to procure the services because they don't trust them enough; they trust us," but acquisitions may be needed to deliver on that promise.

Barriers to innovation include organisational structures, traditional fees/charging and culture

All respondents, often without prompting, reflected on the things that make innovation challenging in large professional services firms.

> "[Adding this new service line] will change the way we have to work internally – the same challenges our clients have. Traditionally large consulting organisations are very hierarchical. The tier one consulting firms will have to change quite a bit [P5]."

The organisational structure and partnership model was seen to be potentially challenging, because people are incentivised to protect their service line (making it hard to pull the right people into innovative, multi-disciplinary teams) and, given partners effectively own their own business, a "spending their money" mentality can exist: "we're slowly trying to bring down the service line and hierarchical barriers that have formed over time and to create the environment to encourage and support innovation…when you're in a meeting and a partner's there, everyone looks to the partner…you have to break down and change those barriers [P1]." This was seen to need to happen "over time and incremental change: I don't think there's a step change opportunity [P5]."

Large professional services firms' fee structure, where staff charge clients in six minute increments, can also pose a barrier at times. "The hard thing is that [our people] are chargeable. When they're coming up with stuff that changes the way we're doing things it's generally not chargeable, so doesn't make us money. So it's a difficult balancing act between 'we'd like you to come up with new ideas and be innovative', but 'can you please bill us $30,000 a month [P2].'" While many services are now fixed price rather than time-based, the price is still generally calculated using an hourly rate and the staff member doing the work recording their time in six minute blocks, so the tension remains in the background. When a new initiative is being looked at, young staff members will generally enthusiastically volunteer as they see the potential career rewards, but one respondent pointed out that, "it is hard with a chargeable time model. We don't take them off chargeable time. Accounting firms are notoriously bad at doing that – we just say do it in your spare time and so inevitably it slips. Even though the innovation is probably more important to the firm than the chargeable time, but if you get a client screaming at you…they pay the fees [P2]."

Finally, a couple of respondents – notably two who were newer to the firms – pointed out that, "traditional firms have cultural norms that are quite inbred and quite powerful. It's not as easy as outsiders might think for traditional firms like management consulting firms, banks, professional services firms to innovate. It's hard for them. It's harder than people think. And this is probably irrespective of size because it's about changing the way people think. It is early days in NZ in terms of management consulting firms embracing innovation [P3]."

Innovation enablers include environmental factors, talent, flexibility and new methodologies

In response to some of the challenges in innovating, firms are focussing on ways to encourage and enable innovation.

Creating the right environment is seen as important – this includes the physical layout of floors, making things more visual, breaking down the use of email as the sole means of communication, using different collaboration and communication tools, and trying to put in place more flexible working arrangements for those for whom "a 9 – 5 approach isn't the way some people want to work or need to work." At least one firm runs a programme building the ability of leaders to be inclusive, "recognising that you want to create the environment for people of all ages and stages to lead and innovate." The goal of this is to move to an environment where people can "storm things through without having to work through the traditional wheel, which doesn't encourage people to try fast and fail fast [P1]."

Firms are also increasingly experimenting with new methodologies and processes to help innovation, including training consulting teams on the foundations of agile, "not only a different way of doing things but getting people to realise there are different ways to collaborate", design thinking, innovation techniques, ideation, and taking things from the start-up ecosystem world. This is partially arising from the innovation and disruption services firms are beginning to offer to clients, but they are also thinking about how they use these techniques to innovate themselves. One technique given as an example is the 'exponential organisation':

> Build a little organisation out to the side with a completely different set of rules and constraints – different people without resource contentions. Call it something different, give it a different physical location and then grow that while shrinking the legacy business. Why would we expect these [large, legacy] organisations to change? Their business is to protect their core business. They're not built to be innovative. They don't have the people or capability to be innovative…but if there are challenges where they need to be innovative to respond, then recognise that their business is not the right place to be thinking about this. They need to grab an exponential organisation out to the side which they can grow while shrinking the other.

Innovation is being seen in the way firms work with clients as much as it is in products or services

While a couple of respondents talked about new products and services – dashboards and apps sold as services as opposed to traditional fee-based, resource-heavy advice or audits, for example – much of the innovation is coming in way firms are engaging with clients.

> We used to have 90% accountants in the building. Now it's wildly different – we have engineers, marketers, behavioural change experts – a completely different bunch of capabilities you're bringing to bear to solve complex problems for clients in an engaging way. That's where a lot of the innovation is happening. Not providing a product to clients, but innovative solutions, which might capture

> leading technology, or capability or methodology to actually advance them up the maturity curve for the problems they have.

This might mean working with different models and applying them to their large traditional clients, for example, using start-up frameworks like incubation or acceleration to help clients get through their own big innovation challenges, rather than selling them a target operating model or a channel strategy, as with more traditional consulting work.

This also means the relationship with clients is, in some cases, changing. Some firms are going into more of a partnering relationship – not time-based or total risk: "our model with client relationships has changed quite a lot. We'll take at risk fees – so if it doesn't work we won't get paid everything. For clients, that means if it didn't work it didn't cost too much and we shared the pain together [P4]." This is often driven by clients, particularly in the innovation services space, wanting to talk about outcomes: "because there's a degree of risk they want us to invest with them on outcomes and that's changing and challenging the [fee] model massively [P5]." One respondent acknowledged that while there was a lot of discussion about different fee models, "we haven't done anything interesting in that space in NZ yet [P5]."

The New Zealand and Wellington market context is important

The literature on innovating in response to disruption is not New Zealand/Wellington specific and while the concepts are certainly illuminating, there are some considerations about selling professional services in Wellington. For more than one respondent, this context is important when considering how firms are impacted: "We see New Zealand as following, trying to catch up. Perhaps the local market is not demanding innovation – we see a real dearth of it in New Zealand [P4]." Other respondents pointed out that, "there aren't a lot of people [in the Wellington market] who want to be leading edge, they want to be fast followers [P1]" and while this helps the consulting firms add value by providing references from their global experience, it might also means clients are less likely to want to try something new – with both private and public sector sometimes being incentivised to consider the short-term [P5].

On the other hand, Wellington has a lot of tech start-ups, so while clients of the large professional services firms may not be demanding new things right now, their proximity to the start-up ecosystem may change that. If clients are genuinely less demanding than might be expected, there is a possible hypothesis that there is space in the market for a 'lower performance but good enough' response from a new entrant – although the large professional services firms have been fairly aggressive in some cases at spreading down the market. As this wasn't part of the research question this wasn't explored in depth.

Discussion and implications

This discussion will focus on comparing the themes which emerged from the interviews with the approaches outlined in the literature, with the goal of answering the research question of how professional services firms are looking to innovate. The literature will act as a frame for discussing 'archetypal' innovation responses.

Christensen's theory on the constraining effect of business models is endorsed by practice

As predicted by Christensen (1992), there is evidence that the existing business model makes it challenging for large professional firms to innovate, even at a 'sustaining' innovation level, but particularly at a more disruptive level. At a local level, there is potential for the partnership model to incentivise staying close to key clients with whom they have a deep (and lucrative) relationship. Christensen (1992) points out that this is one of the ingredients which can lead to a firm being prone to disruption. One scenario that could be imagined is that a partner with perhaps a few years left before retirement is more likely to focus on where the higher margins are today, with less incentive to consider longer-term changes in business models or technologies, since any innovation costs would be 'spending their money' for a return which might not flow to them. Of course, in a large firm, there are many partners so it might be argued that this wouldn't necessarily prove damaging, provided there was a spread of partners, however it is a systemic feature of the business model which makes it more prone to being captured by key clients.

Despite this inherent business model characteristic, there is evidence that firms are attempting to overcome this (with different levels of maturity) through internal innovation services functions, which provide (or will provide) the firm with methodologies or thinking about how they might innovate – either to disrupt their current models, for example, by replacing the audit process with a software-as-a-service, or simply to work in a different way with clients. This isn't a silver bullet – most respondents reflected on the challenges of innovating internally, but may help address some challenges, simply because an investment has been made at a corporate level. Yu & Hang's (2010) observations on the importance of resource allocation – such as using strategic buckets to separate sustaining and disruptive innovation and not using overly structured methods to evaluate projects are also relevant here.

The implication for managers is that an innovation portfolio needs to be managed at both local and corporate levels: the cultural and environmental drivers for innovation mentioned by participants are best managed at a local level and innovation should be pushed down to all areas of a firm, but corporate funding and expertise for innovation, particularly disruptive innovation, is also important to lower the risk of short-termist incentives.

The bulk of innovation appears to be built off the back of client demand (sustaining innovation) however firms are also trying to set up more disruptive practices

Innovation is typically built off the back of client demand, which is, almost by definition, sustaining innovation because it advances improvements in services for the mainstream customers. This is a good thing (as one respondent said, "build it and they will come" is not a particularly good business plan) but leaves gaps for new entrants at the low-end if following lucrative customers causes firms to either lose sight of potential niche or adjacent markets, or if they are unable to follow there due to the implications for margins or cost structure. The question then would come as to whether any entrant would be able to improve quickly enough to invade the mainstream. This isn't a question for this research, which is focussed more on responses to these potential risks.

Although there is a debate in the literature about whether truly disruptive innovation can be enabled from within the firm (most writers advocate keeping these new businesses separate to avoid resource contentions and keep both businesses honest), large professional services firms seem to be aiming to develop disruptive products and services generally from within the firm. Arguably, setting up a new practice or service line may be seen as somewhat 'separate' but it would heavily depend on how it was set up and the understanding of the rest of the firm about the nature of the ring-fencing. Some of the new hiring and partnering models would also contribute to a 'fresh feel' for a new practice, but not to the extent sometimes advocated in the literature (that is, different physical location, different people, resources, business model, and so on). More commonly in the local market at least, new practices have a relatively similar business model, but are just pointed at a different market segment.

The implication for managers is a decision whether they believe their incumbency – and they certainly hold the advantage currently over any new entrants, even if it was to prove primarily only a momentum barrier (Christensen & Wessell, 2012) – and sustaining innovations are likely to be sufficient, and whether they believe that their current method of building disruptive innovations is avoiding the challenges described in the literature. There may be some scope for small bets on disruptive practices which are kept more separate from the core business. It appears there is some evidence of this in the global parent firms.

There is scope for and some early days forays into dual business model approaches

The dual business model approach, where a completely new business is set up and deliberately kept separate from the core doesn't seem to be a big feature in New Zealand's professional services firms – most likely because the sustaining approach is making good returns. However, some form of it could be embraced as a way of de-risking and exploring alternative business models. There is some evidence that some of the new service line teams are tentatively interested in setting up what was a described as an 'exponential organisation', which is kept separate and allowed to grow as a way of transitioning through change, rather than trying to change the existing business. This is very early days, but if it was pursued it would seem to fit with Christensen's advocated 'dual business model' approach. A more subtle version can be seen in some of the organisations' new practices, where small scale experiments were set up to incubate and launch new services, building the comfort of the firm as they went by ideating and staying low risk. Although this is not about reinventing the business model of the core, it allows firms opportunities to use these new methodologies and learn from their experience. There are examples in the literature where large firms set up start-ups, which were given a few months to try and disrupt an aspect of the business to test whether they were susceptible to disruption or not.

Implications for managers are how these innovative methodologies can be nurtured in order to learn more about how to change and, if sensible, disrupt themselves.

Some new products and services can be understood in terms of a hybrid approach

Some of the potential disruptions speculated by participants include how big data or analytics could transform audit services, for example, if a technology firm like Google was to enter the market and do real-time audits based on rules. Several of the new products and services launched by participants, understood in this context, can be seen as hybrid approaches, aiming at launching a new service which will help them learn about a new technology or approach they intend to employ themselves. One example would be that of dashboard apps, which aggregates data from a number of sources (Xero, Reuters, and others) with an overlay of smart business and accounting advice from the professional services firm. This is disruptive to a traditional fee-based accounting or advisory service as it is sold as a service and is infinitely scalable, unlike the people-heavy cost structure of traditional professional services. This kind of solution is something conceivably a technology firm could try to build, but this large professional services firm has done it first. The hybrid element to this product/service is that it may still allow them to sell some traditional services as extensions. More importantly, though, it will allow them to learn from the experience how to build and sell potentially disruptive products or services, such as software-as-a-service solutions.

The implication for managers is that learning opportunities from hybrids should be sought in areas where disruption is a possibility. Hybrid products shouldn't generally be seen as an end-state – they are a way to transition successfully where disruption is a factor. Large professional services firms can use the literature on disruption (for example, to evaluate whether the enabling factors are in place) to assess which service lines might be more susceptible to disruption than others and then consider how hybrid approaches would help them bridge or transition through the uncertainty. This will be particularly important to avoid moving too early and is politically easier to do rather than something which could destroy the existing business model.

Conclusion

Response to the research question

Large professional services firms in New Zealand are focussed on how they can enable innovation from within the firm – typically built off the back of client demand and focussing on how they engage differently with clients, using new methodologies and resourcing models – particularly partnering with third parties to play a service aggregator role – to deliver better outcomes.

At the same time, there some tentative steps to think about how incubation and/or ‘dual organisations’ might be able to test more disruptive, alternative business models.

Environmental and cultural elements of working in the firm were also considered important enablers of innovation and firms are continuing to put effort into these areas.

Research limitations

This research was deliberately based on the perceptions and perspectives of the senior managers at these large professional services firms – this was chosen because disruptive innovation involves a large element of how markets and innovations are perceived by incumbents. However, this, combined with the small sample size of one to two senior managers per organisation means that it is possible that other innovative approaches are being taken at the firms that were not discussed.

The analytical approach meant that themes were taken based on frequency and coherence – this assumes that the most frequently mentioned approaches are also the most significant in terms of outcomes for successful innovation.

Future research

There is scope to hone in on some of the more quantitative questions left unanswered by this research – possibly through a mixed methods study which could build more of a picture around the client bases and revenue streams of these large professional services firms. This would provide more context to the innovation being discussed by participants and how it fits with past and current revenue profiles.

The ‘dual business model’ or ‘exponential organisation’ offers interesting opportunities for a case study to understand how it might help organisations transition through potential disruption. At this time it is too early, but it is possible that one or more of the firms will have progressed this thinking in the medium term.

Innovation and disruption is a hot topic in these firms and at the partner and senior partner level there are a real variety of views. Further research could explore, potentially through a case study, the plurality of the views held and how this either contributes to inertia or fuels innovation.

References

Barney, J. (1997). On flipping coins and making technology choices: luck as an explanation of technological foresight and oversight. In Garud, R. Nayyar, P. and Shapira, Z. (eds), *Technological innovation: oversights and foresights*. New York: Cambridge University Press, p. 13 – 19.

Bennett, D. (2014). *The innovators new clothes: is disruption a failed model?* Retrieved from: http://www.bloomberg.com/bw/articles/2014-06-18/the-innovators-new-clothes-is-disruption-a-failed-model

Bryman, A. & Bell, E. (2011). *Business research methods.* New York: Oxford University Press.

Christensen (2014). *The innovators dilemma: Clayton Christensen on truly disruptive ideas*. Retrieved from: http://www.bloomberg.com/bw/articles/2014-12-04/innovators-dilemma-clayton-christensen-on-truly-disruptive-ideas

Christensen, C. & Raynor, M. (2003). *The innovator's solution: creating and sustaining successful growth*. Boston: Harvard Business School Press.

Christensen, C. & Wessell, M. (2012). *Surviving disruption.* Retrieved from: https://hbr.org/2012/12/surviving-disruption

Christensen, C. (2006). The on-going process of building a theory of disruption. *The Journal of Product Innovation Management.*23. pp. 39 – 55.

Christensen, C., Wang, D. & van Bever, D. (2013). *Consulting on the cusp of disruption.* Retrieved from: https://hbr.org/2013/10/consulting-on-the-cusp-of-disruption

Crook, C. (2014). *An incompetent attack on the innovator's dilemma.* Retrieved from: http://www.bloombergview.com/articles/2014-06-27/an-incompetent-attack-on-the-innovator-s-dilemma

Crossan, M. & Apaydin, M. (2010). A Multi-Dimensional Framework of Organizational Innovation: A Systematic Review of the Literature. *Journal of Management Studies*, 47(6), pp. 1154 – 1191.

Danneels, E. (2004). Disruptive technology reconsidered: a critique and research agenda. *Journal of Product Innovation Management*. 21. pp. 246 – 258.

Furr, N. & Snow, D. (2015). *The Prius approach*. Retrieved from: https://hbr.org/2015/11/the-prius-approach

Govindarajan & Kopalle (2006). The usefulness of measuring disruptiveness of innovations ex post in making ex ante predictions. *Journal of Product Innovation Management.*23. pp. 12 – 18.

Henderson (2006). The innovator's dilemma as a problem of organisational competence. *The Journal of Product Innovation Management.* 23. pp. 5 – 11.

Lepore (2014). *The disruption machine: what the gospel of disruption gets wrong*. Retrieved from: http://www.newyorker.com/magazine/2014/06/23/the-disruption-machine

Markides, C. (2006). Disruptive innovation: in need of better theory. Journal of Product Innovation Management. 23. pp. 19 – 25.

Porter, M. (1980). *Competitive Strategy: Techniques for Analyzing Industries and Competitors*. New York: Free Press.

Schmidt, G. & Druehl, C. (2008). When is a disruptive innovation disruptive? *Journal of Product Innovation Management.* 25. pp. 347 – 369.

Schumpeter, J. (1942). Capitalism, Socialism and Democracy. London: Routledge. pp. 82–83.

Schumpeter, J. (1961). *The theory of economic development : an inquiry into profits, capital, credit, interest, and the business cycle* translated from the German by Redvers Opie (1961) New York: OUP.

Shulevitz (2013). *Don't you dare say 'disruptive'.* The New Republic. 244(13), pp. 12.

Tellis, G. (2006). Disruptive technology or visionary leadership? *Journal of Product Innovation Management.* 23, pp. 34 – 38.

Yu & Hang (2010). A reflective review of disruptive innovation theory. *International Journal of Management Reviews,* 12. pp. 435–452.

TE WHARE WĀNANGA O TE ŪPOKO O TE IKA A MĀUI
VICTORIA
UNIVERSITY OF WELLINGTON

October 2015

I would like the opportunity to interview you as part of my MBA Business Research Project. The research is concerned with how professional services firms innovate as a response to potential 'disruption', and the capabilities that are important to them as they do this. The interview is designed to take 45 – 60 minutes.

The success of this research is reliant upon your honest opinion so maintaining confidentiality is of the utmost importance. **Under no circumstances will the information presented during the interview be attributed to any one individual or organisation. Organisations will be identified in general terms only, e.g. "large professional services firm"**.

With your permission, the interview will be recorded and kept password-protected for the duration of the research. The interview recording will be deleted at the conclusion of the research.

The research findings will be published in the Victoria University library and excerpts may be included in academic publications and/or academic conferences.

Victoria University of Wellington has granted ethical approval as a teaching activity and this project has been reviewed by the Course Coordinator.

If you for any reason would like to make contact regarding this research please contact one of the following:

Andrew Bailey (student)	027 201 8254	andrew_b86@hotmail.com
Professor John Brocklesby (supervisor)	04 463 5136	john.brocklesby@vuw.ac.nz

Regards,

Andrew Bailey

TE WHARE WĀNANGA O TE ŪPOKO O TE IKA A MĀUI
VICTORIA
UNIVERSITY OF WELLINGTON

Personal Interview

CONSENT FORM

I agree to be interviewed by Andrew Bailey for the purposes of his MBA Business Research Project and consent to the use of my opinions and information. I understand that none of the opinions or statements that I make during the interview will be attributed to me personally. I am also aware that the findings derived from this study will be published in the Victoria University Library and excerpts may be included in academic publications and/or academic conferences.

I have been informed of the purpose of the research and the confidentiality conditions.

I understand that raw data collected during the interview will only be available to the researcher, Andrew Bailey, and his supervisor, Professor John Brocklesby.

Name: ……………………………… Date: ………………………………

Signed: ………………………………..

If you would like a copy of the research summary please add your email address below: