



# **Complexity and Duplicity in the Digital Age: New Implications for Business and Labor Management Strategy**

**Thèse**

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# Résumé

Les sociologues différencient souvent les époques en fonction de la manière dont le commerce est pratiqué (Ashton, 2013 ; Rose, 1991). Souvent, les progrès technologiques modifient la façon dont les parties échangent des biens, un phénomène qui a des conséquences sur le changement d'époque (Wright, 2004). À cet égard, les historiens économiques distinguent généralement l'ère féodale de l'ère industrielle en raison de l'invention de la technologie de la vapeur à la fin du 17e siècle et de son application généralisée au milieu du 18e siècle (Ashton, 2013). La disponibilité du World Wide Web a créé l'ère numérique. Alors que l'ancienne époque de l'ère industrielle limite principalement l'échange de travail dans une période définie, Internet permet l'expansion des paramètres commerciaux.

Alors que les universitaires considèrent que l'ère numérique a entraîné des changements substantiels dans le domaine du commerce et des échanges, la plupart des théories sur la gestion (en particulier celles concernant la planification et la stratégie) trouvent leur origine dans l'ère industrielle, c'est-à-dire l'ère précédant l'existence de l'Internet. Malgré les efforts de chercheurs tels qu'Allen et al, (2007), l'éventail complet des options de stratégie compétitive disponibles pour les entreprises modernes n'a peut-être pas été suffisamment délimité. Le présent ouvrage soutient que les technologies basées sur Internet ont influencé l'émergence d'industries distinctement numérique et que, par conséquent, la théorie concernant l'avantage concurrentiel comme celle de Michael Porter doit être réexaminée.

Le but de ce travail est de fournir un aperçu conceptuel de l'émergence de la complexité à l'ère numérique et de montrer en quoi ce phénomène émergent a des implications pour la stratégie en général, mais aussi pour les relations de travail. Le projet a produit des articles scientifiques revus par des pairs dans des revues universitaires classiques. Ces articles traitent des conséquences de la duplicité pour trois types d'acteurs: ceux qui élaborent et mettent en œuvre la stratégie commerciale; les consommateurs; et ceux qui opèrent dans le marché du travail.

# Abstract

Sociologists frequently differentiate eras based on the way commerce is undertaken (Ashton, 2013; Rose, 1991). Often, technological advance changes the way parties exchange goods, a phenomenon that has consequences for epochal change (Wright, 2004). In this regard, economic historians typically differentiate the feudal era from the industrial age because of the invention of the steam technology in the late 17<sup>th</sup> century and its widespread application in the mid 18<sup>th</sup> century (Ashton, 2013). The availability of the World Wide Web created the digital era. Whereas the old industrial-age epoch mostly limits work exchange within a defined era, the Internet permits expansion of trading parameters.

While scholars mostly consider that in the era of the Internet substantial changes have occurred in relation to commerce and trading, most theories about management (particular those concerning planning and strategy) have their origins in the industrial age, the era before the Internet existed. Despite the efforts of scholars such as Allen et al, (2007) the full range of competitive strategy options available to modern firms may not have been adequately delineated. The present body of work argues that Internet-based technologies have influenced the emergence of distinctively post-modern or digital age industries and that, therefore, theory regarding competitive advantage such as those of Michael Porter must be revisited.

The aim of this work is to provide a conceptual overview of the emergence of complexity in the digital era and indicate how this emergent phenomenon has implications for strategy generally and the employment relationship in particular, insofar as technological complexity concerns labor control. The project has produced peer-reviewed scholarly articles in mainstream academic journals. These articles address the consequences of duplicity for three kinds of actors: those who craft and implement business strategy; consumers; and, those in (what is conventional though of as) the labor market.

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*À ma mère, ma sœur et ma femme*

*“If you're not confused, you're not paying attention.”*

— *Tom Peters, Thriving on Chaos: Handbook for a Management Revolution*



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# Preface

Major works or plans of action often get implemented in a way that is not in accordance with their original conceptualization. One reason for this is that each evolving iteration includes new insights from conversations with colleagues. This work is no exception. At the beginning of my studies I resolved, with the approval of my director, to explore the idea of complexity in the digital age and its consequences for business models. In particular, I was interested to critique Michael Porter's blueprint for analyzing competitive advantage. Porter's grid has been massively influential but seemed to me to be wholly inadequate for interpreting how firms are successful in digital age industries. Professor Gould captured much of the substance of this problem when he told me that he thought that – insofar as specific industries are concerned – Porter's grid was like bringing a knife to a gunfight. Whatever the case, for the first three years of my journeymanhood, I devoted my energy to preparing three articles discussing Porter and his conception of generic strategy. Of those three articles, the second would have used data collected from telecommunications vendors to test the conceptualisation I proposed in the first article.

After multiple conversations with the members of my department and my committee, we decided that a thesis with articles that only deals with the notion of competitive strategy would not be sufficient for a Ph.D. in Industrial Relations in Laval University. Thus, in order to continue the work I started three years earlier, my emphasis needed to be broadened, to include employment relations content. Therefore, this work now provides a conceptual overview of the emergence of complexity in the digital era and indicates how this emergent phenomenon has implications for strategy generally and labor control in particular. Each chapter of this work will address the consequences of duplicity for three kinds of actors: those who craft and implement business strategy; consumers; and those in (what is conventionally thought of as) the labor market.

My latest version of the thesis now unambiguously includes employment relations content. The article discussing data gathered from telecommunications vendors was put on hold so that I could give attention to the contemporary dilemma of people management in this sector. I thank the committee for the conversations we had. I consider that these conversations have allowed me to make my thesis project more robust as well as better positioning it as a contemporary employment relations work.

Being the first student at the Industrial Relations department within Laval University to undertake in a Ph.D by publishing peer-reviewed articles, has placed me in a situation where I was subject to rules that kept evolving and were sometimes difficult to interpret. One of those rules concerned the authorship of submitted manuscripts. My director and I agreed that, for the first and second of my published articles, I would contribute as the second author, while I would be the sole author of the third article. However, the industrial relations department subsequently created a rule whereby only a first authorship status would be recognized for Ph.D. by publication candidates. After further conversations with my director and members of my committee, we decided that the project overall will include articles where I am the second author as long as, instead of three articles, I produce four and, of these, one establishes me as the sole author and another establishes me as the first author.

Henceforth, the first article in my portfolio (A Spring-clean of Michael Porter's Attic: the Canadian Telecommunications Sector as an Exemplar of Refurbished Generic Strategy) and the second article (Smart for whom? Cost ambiguity as Corporate strategy in the 21st century telco sector) presented in this work identify me as contributing as the second author. My director and I view the production of these two works as the early phase of my scholarly training and development. These projects afforded me the opportunity to learn how to:

- I. Craft sentences and paragraphs
- II. Structure a narrative
- III. Conceive of and sharpen-of a central argument / core message
- IV. Target an appropriate journal
- V. Submit a manuscript for peer-review
- VI. Cope psychologically with tough criticisms from multiple external sources (often scholars working in leading universities outside of Canada)
- VII. Respond to criticisms
- VIII. Modify draft manuscript in light of criticism
- IX. Deal with subsequent fine-tuning and publication protocols

My second author status on the first two articles I produced for this project does not mean that I did not make a substantial contribution to the production of these works. Indeed, I believe that Professor Gould will confirm that my input was wide-ranging and profound. Professor Gould was tough on me, always pushing me to read more, think more deeply and take the lead in determining key messages coming from literature and how we were going to proceed in light of such missives. My director constantly pushed me to formalize, in writing, my knowledge of the telecommunication industry and was critical and probing of what I wrote. After multiple discussions, we jointly

decided to experiment with inclusion of a third dimension to Michael Porter's original competitive advantage framework to reconcile the technological advances that delineate the digital age and assess their implications for corporate strategy. This revised framework is presented and defended in the first chapter of this work. This article was submitted to *Competitiveness Review* on September 1<sup>st</sup>, 2014. The journal editor replied on November 3<sup>rd</sup>, 2014 asking for substantial changes (See Appendix D). These recommendations were conceptual in nature and included suggestions for improved written communication. In the final published version of the work, some of the original paragraphs were deleted (eg. background on the Canadian telco. industry history). The revised paper was submitted on November 23<sup>th</sup>, 2014 and was accepted on May 18<sup>th</sup>, 2015 under the reference: Gould, A. M., & Desjardins, G. (2015). A spring-clean of Michael Porter's Attic: The Canadian telecommunications sector as an exemplar of refurbished generic strategy. *Competitiveness Review*, 25(3), 310–323. <https://doi.org/10.1108/CR-04-2014-0008>. According to Google Scholar, as of September 2020, this article has been cited 20 times (several of these citations come from the best peer-reviewed journals in the world). Furthermore, the work now appears on reading lists for graduate management courses in leading universities such as the University of Minnesota's Carlson School of Business, the University of Singapore, Monash University, and the University of NSW.

The second article, presented in chapter 2 of this work, exposes techniques and gives examples that telco vendors use for maximising revenue from their clients. Although the showcased five-point strategy was based on the Canadian telco industry it is, in fact, generic to digital age sectors (a point defended in the article itself). This paper merges results from focus groups with Canadian telco vendors and consumer data satisfaction surveys to demonstrate the inability of consumers to control their costs when doing business with a digital age industry. I personally took the lead in developing, piloting and implementing the methodology used for this study. The first version of this paper was submitted under the name « Five Reasons You Cannot Control the Costs of a Smartphone: A Dark New Strategy on the Digital Age Corporate Landscape » on February 4<sup>th</sup>, 2014. The editor came back on August 16<sup>th</sup>, 2014 with an acceptance of the article with modifications (See Appendix E). The revised version was resubmitted on February 9<sup>th</sup>, 2015 and accepted on March 9<sup>th</sup>, 2015 under the reference as Gould, A. M., & Desjardins, G. (2015). Smart for whom? Cost ambiguity as corporate strategy in the 21st century telco sector. *info*, 17(2), 59-79. As of September 2020, this work has been downloaded multiples times.

The third chapter of this thesis concerns the evolution of the construct "free". Specifically, it proposes that the term, in the digital age, enables vendors to apply strategically notions of "free" in a distinctive — and sometimes disingenuous — way. Using the contemporary telecommunications sector as a key exemplar of an

unambiguously digital age industry, new strategic meanings and applications of “free” are explored and compared to their industrial age equivalents. It uses the notion of modularity and platform technology to argue for a broader definition of “free” and explores such a broader definition’s consequences for firms and consumers in the digital age. In developing our thesis about “free”, my director (as always) pushed me relentlessly to critically evaluate literature from disparate sources. He introduced me to his writing colleague, Professor Kathleen Park from the Massachusetts Institute of Technology (MIT), who critiqued early versions of the paper. As part of this project, Professor Gould, Professor Park and myself had a version of the work accepted in a conference paper in the Academy of Management Annual General Meeting, held in Chicago in 2018. The Academy of Management Meeting is the most exclusive strategic management conference in the world, and – axiomatically - the one with the largest conference paper rejection rate (upwards of 90%). Our paper was subsequently incorporated into the Academy of Management Proceedings from that year (see: <https://journals.aom.org/doi/10.5465/AMBPP.2017.17059abstract>). The article presented in the third chapter has been through multiple revisions and re-examinations. Initially named: « Something for Nothing in the Internet Era: The Coming of Age of Free as a Competitive Strategy Lever », the article was supposed to be an essay that presented an argument concerning an ethical conundrum. However, following further evaluation, we decided to reposition the work so that it became a dissertation about marketing. As such, the literature review of the paper has been substantially modified to fit within the scope of marketing journals. Furthermore, the title of the paper was renamed to: « Sizzle without the Sausage: The Emerging Strategic Implications of Receiving a Free Offering in the Digital Age ». This manuscript was submitted to the Journal of Marketing Theory and Practice (a first-rate scholarly journal with an impressive h-index and high impact factor) on 26<sup>th</sup> of August 2019 and was accepted subject to minor change on 11<sup>th</sup> November 2019 (see Appendix F). In the aftermath, we made relevant changes and are currently further news.

The fourth chapter of this work describes and interprets techniques that employers in the digital age use ad workforce management strategies. Having its origins in Braverman’s original conception of labour control, this work details how such a construct has expanded in the digital age to include the conception of confusion. Using the notion of “confusopoly”, typically found in the finance, marketing and ethics literature, we broaden use of the term so has to embrace labour managements. I, and I alone, wrote the fourth article, and thus, am its sole author. However, my director assisted me with wording and phraseology, as I have come to learn that the quality of written communication is a critical element of good scholarship. The title of the work is “Cantilevering the Malaise: Confusopoly in the 21st Century Employment Relationship”. Has been presented as a paper at the International Academy of Management and Business Conference on December 3, 2020. The document has won the “Best Student Paper” (runner-up). As of January 2021, the manuscript, in the form presented at chapter

4, has passed the desk review of the Organization Journal (ISSN: 13505084, 14617323) and is waiting reviewers' appreciations.

# Introduction

This paper argues that technological advance such as development of platforms and increasingly sophisticated forms of component modularity that have made possible, in particular, the Internet have also given rise to the possibility of specific forms of complexity in the world of commerce. The notion of “possibility” is what is important here as it implies the emergence of a conception of choice. In this sense, some firms operating within digital age sectors choose, as a matter of strategy, to take advantage of the full potential of particular technologies whereas others orientate themselves towards providing straightforward offerings. Because complexity is pervasive - affecting offerings themselves, organizational structures and protocols, and employment arrangements – it is not only a new strategic lever, but has wide-ranging implications for management style, marketing, employment relations strategy (as distinct from the broader idea of competitive strategy) and employee strategy (insofar as bargaining and negotiation is concerned).

This work uses notions from contemporary philosophy – particularly those concerning the nature of technological change – to draw conclusions about how digital age sectors embrace a conception of strategy that can be contrasted with the view embodied in industrial-age sectors. When I refer to strategy and strategic orientation, my conception is large but nonetheless focused on one lever or axis along which employer choice is possible. This axis is closely aligned with the construct of “duplicity”. In a nutshell, duplicity arises when technology advances to a point where certain people who may benefit from it are not readily able to understand how to use it. Such opaqueness between the presence of an object/attribute and the benefit it may offer, gives rise to a choice for vendors concerning how such disconnect should be managed. Where a vendor decides to exploit confusion, they pursue a strategy of complexification (Gould & Desjardins, 2015). Insofar as such a choice affects multiple elements of a firm’s functioning, to understand its implications, consideration of disparate bodies of literature is necessary: certainly, including material pertaining to strategic management but also employment relations-related scholarship.

This introduction is divided into five sections. The first examines the nature and history of the concept of strategy. In this section I present and defend a view of strategy that has military origins but which, for purposes of the current project, explicitly emerged from the 1960s. The second section will provide an analysis of qualitative developmental milestones in recent technological innovation that are associated with the emergence of the

digital age. It is during the digital age that the notion of complexity, as the work's focal construct, takes on strategic import. The third section addresses the consequence for workers of new strategic choices. The fourth section details the history of the Canadian telecommunication sector – the latter is used as an exemplar of a distinctively digital age industry. The fifth section presents the research question and methodology used for the next chapters.

### *The Definition of Strategy*

The concept of strategy has military origins and has a long-term association with planning how to defeat an enemy. In this sense, its original instantiation invokes physical competition. For example, an early use of the term appeared in Ancient Greece where "chief magistrate" was a title given to military men. This expression was used as a noun however roughly translates into the modern English word "strategy" (Horwath, 2006). Such a form of usage – that is as a title - was prevalent until Count Guibert, a French military thinker, broadened the conception and, in particular, established the construct as a verb in his work "La Strategique" of 1799. It is in this latter sense - that is, an activity or process – that the word is mostly understood today (J. B. Barney, 1986; Gray, 2004; Mintzberg, 1987). Within business and management contexts, the term "strategy" retains its military connotations and thus evokes conceptions of enemies, defeat, competition, etc. In the world of commerce, usage of the term arose in the 20th century and is typically attributed to H. Igor Ansoff's work Corporate Strategy in 1965 (Ghemawat, 2002). Hence, the modern notion of strategy applies as much to matters of profit-orientated endeavour as it does to those of war. In both cases, the construct, in an applied sense, entails setting goals, determining actions for their attainment, and mobilizing resources to execute such actions (Freedman, 2015). As a matter of orthodoxy, a strategy describes how the ends (goals) will be achieved by prescribed means (resources) (Chaffee, 1985; Fredrickson, 1986).

Strategy is typically viewed as a precursor to success in business (Raynor, 2007; Ven, 1992). There are several related reasons for this. First, resources available to achieve goals are invariably finite and, therefore, have an associated cost (Ghoshal, 1987). Second, firms operate in competitive arenas (Birkinshaw et al., 2005; Covin & Miles, 1999). As such, in practice, they mostly exist in multi-firm industries, which may be, for example, oligopolistic structures, but more realistically, often approach configurations of "perfect competition" (Stigler, 1957; R. Wilson, 1977). Such systems are only "partially open" (in that markets do not always and inevitably become larger) and, as such, tend towards being "zero-sum" in the way they distribute rewards (Meegan, 2010;



Zhu, 1992). Third, the Holy Grail objective of firms in advanced capitalist economies, according to diverse perspectives, including Marxist (Marx, 1867), neo-classical (Rudzite, 2019), etc. – is profit maximisation (Duménil & Lévy, 2011; Shaw, 2009). However, profit maximisation is inevitably a derivative goal, the preliminary objective often being attainment, at least in an abstract sense, of something akin to a monopolistic industry structure (Krugman, 1979; Panzar & Rosse, 1987)<sup>1</sup>. In this regard, when managing a firm, sophisticated conjecture about how to influence the competitive arena (although controversial in that at times it can border on attempting to reduce competition and even be illegal) is, in practice (and certainly the view I embrace in this paper), invariably a key component of strategy formulation (Day & Nedungadi, 1994; McGrath et al., 1998).

As a matter of orthodoxy, strategy is interpreted as a firm's adaptive/competitive pattern of activity (E. H. Bowman & Helfat, 2001; Chaffee, 1985; Watts et al., 1995). This perspective embraces strategic thinking (the recognition that a firm competes against other entities in an arena for limited resources) (Kapferer, 2012) and strategic planning (the operationalisation of strategic thinking) (Steiner, 2010). However, it (strategy) may also be incidental in nature. In this latter sense, it may occur without deliberate planning or forethought – that is be latent (Cool et al., 1989; Swait & Adamowicz, 2001) - and/or manifest informally as often occurs with small or newly established enterprises (Olson et al., 2005; Webb et al., 2014). This broad conception of strategy – which forms the basis of the current work's operational definition of the construct – takes its cues from the canonical works of management scholarship. Specifically, Chandler describes strategy as: « a determination of the basic long-term goals of an enterprise, and the adoption of courses of action and the allocation of resources necessary for carrying out these goals. » (Chandler, 1962). In a similar vein, Michael Porter defines the notion as the: « (...) broad formula for how a business is going to compete, what its goals should be, and what policies will be needed to carry out those goals » (M. E. Porter, 1980).

Notwithstanding my aforementioned, somewhat global, view of the essence of business and competitive strategy, modern scholars, in devising idiosyncratic definitions, have emphasised the notion's different aspects. For example, Okpurughre et al. view the essence of strategy as being synonymous with identification of those activities that uniquely deliver value (Okpurughre et al., 2014). In this respect, his conception attaches importance to the idea that strategy is concerned with both deciding which activities to perform differently and where to perform different activities to one's rivals. By contrast, McKeown argues that "strategy is about shaping

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<sup>1</sup> There is a debate about the nature of monopolies. One relevant theme of this literature is that one can never really attain such an industry structure because offerings always have substitutes (Swan, 1970; Ulaga & Eggert, 2002).

the future," and, as such, can be viewed as a blueprint addressing how to get to a desirable end-point with available resources (Mckeown, 2011). Other scholars define strategy as "a system of finding, formulating, and developing a doctrine that will ensure long-term success if followed faithfully" (eg. Kvint (2009), while complexity theorists define strategy as the unfolding of the internal and external aspects of the organization (firm) that results in actions in a socio-economic context (Stacey, 1995).

Strategic management is a subcomponent of strategy. For present purposes, I will view it as the formal establishment of goals and associated implementation measures that are ultimately endorsed by a firm's senior managers. Such a process cannot be divorced from consideration of available resources and examination of internal and external environmental elements. According to Bowman, three elements constitute strategic management: practice, methodology and theoretical underpinning (E. H. Bowman & Helfat, 2001). Practice concerns the substance of firm operations. For example, the manager of a McDonald's outlet implements a codified approach for making and delivering a limited range of low-cost food items. They employ standardised measures to optimise both their entity's input/output ratio (a general measure of efficiency) and speed of offering delivery (an industry-relevant measure of efficiency). Methodology concerns the systems – and rationales for such systems - that the manager of a firm puts in place to support decision making. For example, the manager of a McDonald's outlet has, as one of their systems, just-in-time inventory management<sup>2</sup>. Theory exists concerning the frame of reference and paradigms that describe and constrain the range of choices that are available to firm managers (Pettigrew et al., 2001). For example, the supervisor of a McDonald's outlet has a highly constrained range of choices (effectively zero) about how they habitually prepare their entity's food offerings. Specifically, they must implement an industry-wide blueprint that is formalised at a corporate-level and arguably has its philosophical origins in early 20th century notions of scientific management (Grönroos, 1994; Jacobs et al., 2004).

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<sup>2</sup> "Just-in-time" inventory management is a common inventory management technique and type of lean methodology designed to increase efficiency, cut costs and decrease waste by receiving goods only as they are needed. JIT was originally formed in Japan as a response to the country's limited natural resources, leaving little room for wastage. (see Waddell & Bodek (2005)

### *Strategic Management in the 20th century*

In the 20th century, paradigms for thinking about strategic management were typically either of one of two kinds. First, there were those that represented a response to historical, political, demographic and sociological circumstances but that had little to do with industry competitive advantage (Pettigrew et al., 2001). These perspectives do not really concern the modern notion of relative positioning within an industry, and thus are incongruent with my aforementioned view of the essence of strategy. Rather, they are typically best thought of as a widespread consensus about how an event of historic significance (eg. a world war, the extensive proliferation of a new technology) should be exploited for human betterment. For example, a U.S. public-policy response to the labor shortage occasioned by World War II was the introduction of women into the workplace to replace their male counterparts who had been drafted to undertake active-service duties. Second, there are paradigms that have been derived using inductive reasoning principally, and which came about because managers of a specific firm had developed a way to make their entity more profitable. For example, Conke (2013) noted that in the late 1960s, within certain industries, managers were becoming aware that it was commercially desirable to be able to manipulate an entity's external environment. This imperative brought theorists together in a combined effort to create principles for dealing with uncertainty and imprecision (Helland, 2009; Hillson, 2017; Rumelt, 1991).

This section presents literature from each of the two aforementioned paradigms to create a portrait of the evolving nature of strategic management in the 20th century. Table 1 summarizes finding from this corpus of material.

Period	Philosophical influence	Commerce boundaries	Technological advance	Socio-political event	Academic teaching	Consequences for firms	Firm's strategy involved
<b>Before 1900</b>	Clerical	Regional	Irrelevant	Irrelevant	Adam Smith, The Wealth of Nations	Remain small and employ as little fixed capital as possible	None, market forces are controlled by an "invisible hand."
<b>The Starting of Productivity (1900-1938)</b>	Rationalization	National	First Industrial Revolution using water and steam power to mechanize production. Machinery (railway)	Urbanization, World War I	Economic performance, production and market control	Increase size of firms, more workers involved and the need for control of activities of the firm	Scientific Administration of work, bureaucratic methods
<b>The Formalization of Strategic Planning (1939-1964)</b>	Pragmatism	International (America exporting to Europe)	Second Industrial Revolution: electric power to create mass production. Advance in machinery and mass production	World War II and post-war	Industry mobilization, the economic problems of National Defense	Increase of the portfolio of firms, multi-division of the firms to serve different markets. Modernization of the administration of firms "Bigger is Better"	Firms cannot be passive and adaptive anymore. Firms must control the external environment via tools like SWOT.

<p><b>Increase of Competitiveness and incertitude (1965-1989)</b></p>	<p>Gaston Berger's lucid analysis of Edmund Husserl's phenomenology and studies on the character structure</p>	<p>International (bilateral commerce between Europe and America)</p>	<p>Third Industrial Revolution: electronics and information technology to automate production. Creation of the Internet (for military use) and advance in computerization.</p>	<p>First (1973) and Second (1979) Petroleum Crisis associated with an economic stagnation</p>	<p>Strategic cost analysis for strategic purposes and the two phases of economist's influence</p>	<p>External changes in the environment (outside of the control of the firm) makes strategists develop frameworks that could take into consideration incertitude and imprecision</p>	<p>Firms must take into consideration out-of-control external variable and a high degree of incertitude in their strategy. They must also reduce their portfolio of offerings. Models like Porter's five forces (1980), Resource Dependence Theory (1976) and Institutional Theory (1977) make their appearance.</p>
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<b>The value of Knowledge and complexity (1990-2019)</b>	Complexity theory, based on John Stuart Mill's conceptualization and retaken by authors like Senge (1990;2006)	Dissipation of boundaries of commerce between countries	Fourth Industrial Revolution; the fusion of technologies that is blurring the lines between the physical, digital, and biological spheres. Internet became a commodity (network)	Government deregulation on multiple industries	Teaching strategic model from the last era (e.g. StakeHolder model)	Intellectual property and intangible capital become recurrent and valuable. Complexity arises from external and internal environment. More investment in research and development	Emphasis on organizational learning and internal factors as a competitive advantage. Balanced Scorecard (BSC) Kaplan & Norton (1997, 1992).
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Table 1 History of Management Strategy: Overview of Literature

*From 1900 to 1965: The Pre-Emergence of Strategy in Capitalist Economies*

Strategy, as defined in this paper, became mainstream in the fourth period (1965-1989) mentioned in Table 1 and remains dominant in 2019. Before this era, firms typically had goals but not strategy per say. For example, during the period between 1900 and 1938 a firm's administrators routinely sought to control costs and were concerned about efficiency (maximising output and minimising input) from both capital and labor (Lambertini & Rossini, 1998). During this epoch, arguably for the first time, they used formulaic-based methods of analysis and formalized budgeting protocols to measure and control labor-related activities. However, those who originally applied scientific management principles were not engaged in strategy application – at least not according to my previously presented conception - because in the era when notions such as Taylorism and Fordism were at their zenith (Jessop, 2005), these approaches were adopted universally across industries and as such represented a baseline orthodox standard for profitable functioning. In this sense, during the era (1900-1938), scientific management does not embody a conception of an array of viable options for profit maximisation (Merkle & Riley, 1980). Another example of management protocol that would not be classed as strategic according to my definition would be health and safety compliance. Here, the idea is that baseline safety, at least in advanced Western capitalist contexts, is largely a matter of compliance and thus not established as a firm-specific source of competitive advantage. On the other hand, safety insofar as it applies to individual offerings, may be a source of competitive advantage. For example, some motor vehicles have a managed reputation as being safer than others, a case in point being Volvo's offerings (Karadeniz, 2009; Tingvall & Haworth, 1999).

Following the Second World War, Western governments and research institutions formed pragmatic partnerships for the post-war reconstruction effort and, in particular, to kick-start economies that had been largely co-opted for military purposes (Conke, 2013). Aside from the destruction caused by the war and the need for reconstruction of Europe, the emergent world was divided in its allegiances toward capitalism and socialism (Hobsbawm, 2008). In the West, a commitment to capitalism was accompanied by new optimism about the future and an associated rising domestic demand, fuelled by both steadily increasing incomes and a concomitant reliance on credit (Guttmann, 1994). Cross-jurisdictional trading activity, especially within North America and Europe increased. Consistent with the axiom that strategy becomes less important when markets are growing and more important when they are contracting, this was not a period when competitive advantage was of relatively high importance (Hoskin et al., 1997; Kalpič, 2008). In this sense, in many instances, firms merely needed to exist in industries to be profitable (Hobsbawm, 2008). It is in this period that multinational enterprises - firms that have operating divisions in more than one country - emerge for the first time (Heller et al., 2009; Wernerfelt, 1995). Such entities were mostly American, which led authors such as Marens (2010) to describe

the era as that of American corporate hegemony. The idea of international exports, at least insofar as certain new American firms were concerned, also emerged in this period (1939-1964) (Heller et al., 2009). However, notwithstanding such transformation, strategy, as I have defined it in this paper - where the emphasis is on differentiation within a circumscribed competitive arena - was still left largely off the corporate agenda. Rather the notion that bigger is better served as a primitive substitute for more nuanced consideration of competitive advantage (David et al., 2013). In a nutshell, the owners of capital could be assured that their resources would be profitable without having to reflect on the influence of competitors.

#### *Industry-Based Competition and Uncertainty (1965-1989): Strategy as a Means of Survival*

The instantiation of modern strategy, as I have defined it in this paper, began – at least from a historical perspective – as a response to market saturation and the stagnant market growth of Western economies in the latter part of the second half of the 20th century<sup>3</sup> (A. M. Gould & Lokrou, 2018). In such constrained circumstances, a profitable entity expropriates its surpluses in an increasingly zero-sum context (A. M. Gould & Lokrou, 2018). Such conditions existed in Table 1's fourth identified era. The circumstances surrounding the emergence of an increasingly zero-sum context in the Western World were firmly cemented in place by the 1970s. From this time, Japan had been rebuilt after the war and emerged as an economic super-power (Shah & Ward, 2003). Courtesy of theorists such as Deming (Aguayo, 1991), its reborn industries had markedly overcome their image problem concerning outsider perceptions of poor quality and had pioneered development of distinctive production and distribution techniques such as lean manufacturing (Shah & Ward, 2003). Moreover, the Asian-tiger economies of Singapore, South Korea, Malaysia and Taiwan had, even more recently, emerged as export-orientated nations (A. M. Gould et al., 2017; A. M. Gould & Lokrou, 2018; K. M. Park & Gould, 2017). Such international influences, in particular, meant that return on capital within Western industries had, by the 1970s, regressed towards an international mean (A. M. Gould & Lokrou, 2018; Moody, 2008). In practice, American-based firms in elaborately transformed manufacturing sectors (eg. auto, electronics, etc.) were now sharing domestic markets with their Asian rivals (A. M. Gould & Lokrou, 2018). Although events such as the OPEC oil crisis of 1973, in which Gulf-State oil producing nations acting as a cartel abruptly quadrupled the prices they were charging client countries for their offering exacerbated the malaise, the oil crisis counts more

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<sup>3</sup> A state of market saturation exists when, within a circumscribed timeframe and location, everyone who wants an industry-specific offering (for example, a motor vehicle) already possesses such an offering (without getting caught up in the debate concerning definitions of “needs”, “wants” and “demands”) (O’Kelly, 2001). A state of market stagnation exists when, within a circumscribed timeframe and location, a market for an industry-specific offering is not growing (measured in, for example, number of “buying elements” – individuals, institutions) (Easterly, 1994).



as a one-off event than as an economic structural change when interpreting the emergence of the new epoch (Akins, 1973). Hence, insofar as the West is concerned, the axiom that "Bigger is Better", which had rendered strategy a largely marginal activity in the 50s and 60s, was, by the 1970s, an outmoded maxim. Henceforth strategy – as it is still known in the contemporary world of business (and as I have defined it at the beginning of this section) – would be a central part of Western corporate life.

From the 1970s strategy essentially became synonymous with what needs to be done to enhance industry-based competitive positioning, the view that I have presented as central to my thesis. This focus establishes the object of analysis as an industry; a group of firms (configured nationally or internationally) which each produce, as its principal output, the same or a substantially similar kind of offering (Chernatony et al., 1994; Fiegenbaum & Thomas, 1990). In such a milieu, the mission of a strategy is to determine how the executive of any one firm within a configuration can improve their entity's relative performance: with the key term here being "relative". The rationale for such a stance harkens back to the war/military conflict metaphor. Specifically, "relative" improvement takes on importance when a market is saturated and/or not expanding and an "enemy" is thwarting expansion. Because shareholders demand a return on their investment year over year, in the absence of an expanding customer base – and assuming minimal offering innovation – such a result can only be delivered through "stealing" market-share from competitors (Henderson, 1983; Zhu, 1992).

A late industrial-age paradigm for conceiving of generic strategy options came courtesy of thinkers within the Boston Consulting Group with their development of the Boston Consulting Group Matrix (BCG Matrix) and the Nine Block Matrix (Amatulli et al., 2011). These frameworks identify which, of an array of offerings, a firm's managers should jettison and retain within a portfolio. The idea is that if the strategic manager makes the right call re this matter, they will have made consequential progress in improving their entity's relative positioning within a multi-firm arena (a.k.a an industry) (E. Bowman et al., 2002). Such a view of strategy has come to be associated with its own parlance; one retains "stars" and jettisons "pineapples." Typically, the correct mix of offerings is optimised using break-even analysis or more specifically contribution-margin analysis (Farris et al., 2010)<sup>4</sup>. Approaches within this genre establish a connection between firm internal operations and market preference underpinned by a quasi-objective economic logic as opposed to, say, manager intuition (Ghemawat, 2002). Sophisticated offering-portfolio analysis based on notions of break even and marginal costing are

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<sup>4</sup> Marginal cost analysis, a central tenant of contribution theory, concerns the total cost implications for a firm when it outputs one more unit of a good.

somewhat restricted in where they can be applied and typically work best when developing strategy for large firms. However, even within large entities, portfolio-analysis is not a universal panacea. For example, it indicates a desired state but give few clues about how managers can transition from where they currently are to an optimal prescribed point.

### *The contribution of Michael Porter*

A prominent strategy theorist in the late industrial age era (1965-1989) was Michael Porter. A notable contribution of Porter was that his generic blueprint for the orientation of any single entity are a derivative of the industry circumstances in which that entity exists (M. E. Porter, 1980). Porter's legacy has become that a strategy-orientation is largely constrained by the prevailing circumstance of a competitive arena (Bleakley et al., 2013; M. E. Porter & Kramer, 2011). For example, in updating Bain's 1956 original conception, Porter's five industry forces model (competition between competitors, new entrants, the existence of alternative products and services, the bargaining power of suppliers and buyers) unambiguously establishes the principle that strategy creation is an outside-in process (M. E. Porter, 1980; M. E. Porter & Kramer, 2011). Moreover, an often overlooked point concerning Porter's generic strategy conception (originally presented as "low-cost niche" "low-cost general", "differentiation niche" and "differentiation general") (M. E. Porter, 1979) is the principle that the stewards of a firm should not knowingly take their entity into "occupied" terrain (A. M. Gould & Desjardins, 2015a, 2015b). Much of the detail of Porter's theorising flow from this axiom. For example, he specifically noted that an industry consists of unrelated buyers, sellers, substitutes and competitors (M. E. Porter, 1979, 1980). He proposed that maximum wealth accrues to players within an arena who best erect barriers against existing competitors and potential new entrants (Murray, 1998; M. E. Porter, 1989). He made the case that, within an arena, uncertainty regarding the future actions of actors (including competitors) is sufficiently low that an entity's stewards can reasonably engage in prediction as a basis for strategy selection (Coyne & Subramaniam, 1994).

The work of Michael Porter in the early 1980s marks a point of change in the literature. Until that point, most literature was aiming to stipulate ideological differences rather than identifying strategy options. For example, the work of Alan Fox (1974) in defining unitarist versus pluralist types, argues that these orientations are immutable – they represent archetypes. However, strategy, à la management strategy became a focal theoretical concerns from the late 1970s, mostly due to the influence of Michael Porter. While ideology is largely immutable,

strategy, is contingent in nature. It refers to potential, choice and change as one seeks to gain advantage over competitors.

### *Michael Porter's Conceptualisation*

In perhaps what is one of his most important works of 1991, Michael Porter asks why firms succeed or fail. To that matter, his essay attempts to reconcile management and economic literature to create a dynamic and updated theory of strategy. The author defines firm success as the "manifestation of attaining a competitive position or series of competitive position that lead to superior and sustainable financial performance" (M. E. Porter, 1991, p. 96). The traditional neo-classical view implies, as stated by Nelson (1991) that economists tend to see firms as players in a multi actor economic arena; their analytic preoccupations being the arena itself rather than individual firms. However, unlike most economists, Porter put the firm at the center of his analysis and provides what Nelson (1991) would describe as an evolutionary theory. In other words, differences between firms within a single industry do matter. Hence, strategic planning cannot be fully grasped without considering both the firm itself and what other firms in an industry are doing.

Michael Porter uses a chain of causality processes to link environmental circumstances and firm behavior. Fundamentally, his model indicates that a set of structural determinants of differences in the cost or buyer value of activities (drivers) are the determinants of a firm's success in a sector of activity. Figure 1 illustrates the conceptualisation of the determinants of success in distinct businesses according to Michael Porter.

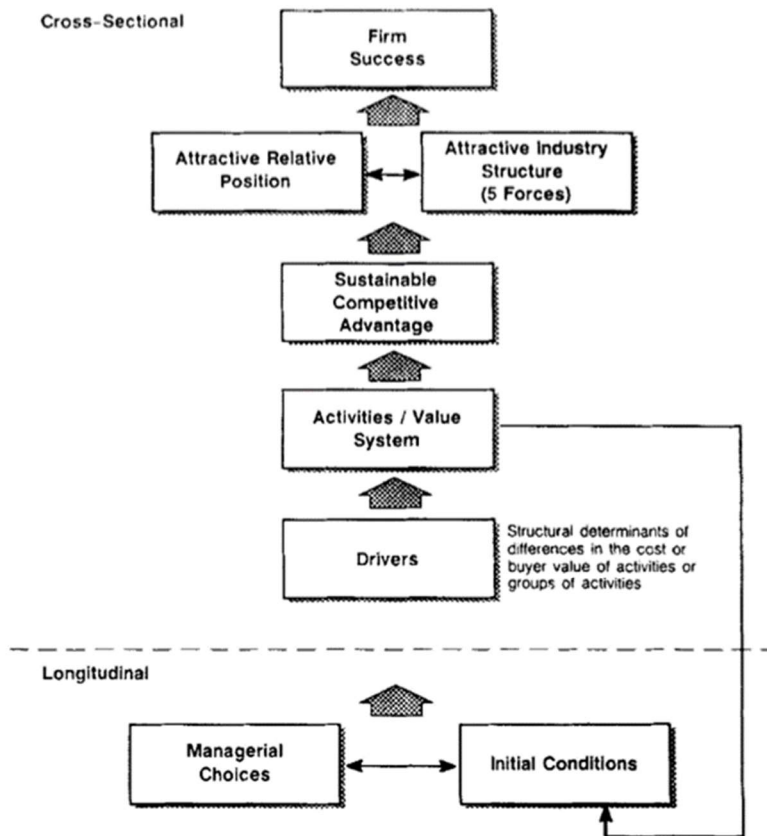


Figure 1. The Determinants of Success in Distinct Business

Source: Porter, Michael, « Towards a Dynamic Theory of Strategy », dans P. McKiernan, Historical Evolution of Strategic Management, vol.2, Dartmouth, Dartmouth Publishing Co. Ltd., pp.197-219.

At a larger level, firm success is a function of the attractiveness of the industry in which the firm competes and its relative positioning in that industry (M. E. Porter, 1991, p. 100). For example, one can analyze Bell Canada's profitability within the Canadian telecommunications industry and interpret its success level through reference to competitors within that industry.

The first element mentioned by Michael Porter, the attractiveness of the industry – which in practice is the industry structure- can be analyzed using five competitive forces. It is noted here that the industry structure is partly exogenous and can be partly influenced by a firm's action. Hence, structure and firm position are interrelated. Those five forces are (1) the threat of new entrants, (2) the bargaining power of suppliers, (3) the

treat of substitute products or services, (4) the bargaining power of buyers and (5) rivalry among existing competitors.

The second element mentioned by Porter is the relative position of the firm within its industry's structure. To optimize advantage, a firm must rely on an attractive position. However, this positioning is an outcome and not a cause. This situation is what Michael Porter named the competitive advantage. This concept is twofold: one firm can attain a competitive advantage with an offering<sup>5</sup> at the lowest cost possible or through providing an offering that differentiates the firm from its competitor through providing an attractive and universally desirable attribute. For example, Wal-Mart is positioned within the retail industry as a low-cost provider. On the other hand, Mercedes differentiates itself from competitors in the car industry with premium offerings (eg. cars that offer more power, better efficiency and/or technological advances that other brands do not offer). Porter's view about positioning differs from the traditional economic view of Holmstrom and Tirole (1989) and Williamson (1989) who consider differences between firms as a largely matter of chance that make different choices profitable (Nelson, 1991).

### *Cost leadership strategy*

This first strategy involves the firm winning market share by appealing to cost-conscious or price-sensitive customers (M. E. Porter, 1979). This is achieved by having the lowest prices in the target market segment, or at least the lowest price to value ratio (price compared to what customers receive). In order to succeed to offer the lowest price while still achieving profitability and a high return on investment, the firm must be able to operate at a lower cost than its competitor. Porter (1979) noted three ways to achieve this.

The first approach is achieved through a high asset utilization. For example, in service industries, this may mean a restaurant that turns tables around very quickly, or an airline that turns around flights very fast. In the manufacturing sector, it will involve production of high volume of an offering. In other words, these approaches mean that the fixed costs of production are spread over a larger number of units of the offering, which permit a

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<sup>5</sup> The term offering is used according to Albrecht, K., & Zemke, R. (1990) conceptualisation

lower unit cost, hence increasing their economies of scale. For industrial firms, higher levels of output require an initially high market share, and create an entry barrier to potential competitors, who may be unable to achieve the scale necessary to match the firm's low costs and prices. Miles and Snow (1984) will later identified this phenomenon as the defender position.

The second means of achieving low overall cost according to Porter is through achieving low direct and indirect operating costs. This is possible by offering a high volume of standardized products, that do not offer any kind of aesthetic or personalization advantage. Production costs are kept low by using fewer and standard components and limiting the number of models produced to ensure larger production runs. Maintaining this strategy requires a continuous search for cost reductions in all aspects of the business (M. E. Porter, 1979). This may include outsourcing, controlling production costs, increasing asset capacity utilization, and minimizing other costs including advertising (Akan et al., 2006). The associated distribution strategy is to obtain the most extensive distribution possible. Hence, the marketing of this firm will try to highlight the low-cost product features (Akan et al., 2006).

The third generic means of achieving overall low-cost is through enhancing control by the firm of the value chain encompassing all functional groups (finance, supply/procurement, marketing, inventory, information and technology). For example, for supply chains this could be achieved by bulk buying to create quantity discounts, squeezing suppliers on price, instituting competitive bidding for contracts and/or working with vendors to keep inventories low using methods such as Just-in-Time. Other procurement advantages could come from preferential access to raw materials, or backward integration.

Not every firm will use a cost leadership strategy. Hence, this strategy is only viable for large firms with the opportunity to enjoy economies of scale and large production volumes. However, small businesses can be "cost focused" not "cost leaders" if they enjoy any advantages arising from low cost offerings. For example, a local restaurant in a low rent location can attract price-sensitive customers if it offers a limited menu, rapid table turnover and employs staff on minimum wage. However, in this strategy, innovation is not suppressed. Hence, the latter may also enable a small firm to offer a cheaper product or service where incumbents' costs and prices have become too high (Markides, 2006). An example is the success of low-cost budget airlines which, despite

having fewer planes than the major airlines, are able to achieve market share growth by offering no-frills services at prices much cheaper than those of the larger industry players (Markides, 2006).

Authors such as Allen and Helms (2006) describe two possible disadvantages a firm may have by pursuing a cost leadership strategy. First, they may have the disadvantage of diminished customer loyalty, as price-sensitive customers will switch once a lower-priced substitute is available. Second, a reputation as a cost leader may also result in a reputation for low quality, which may make it difficult for a firm to rebrand itself or its products if it chooses to shift to a differentiation strategy.

### *The Differentiation Strategy*

The differentiation strategy involves an offering that proposes an advantage based on premium pricing. Examples of the successful use of a differentiation strategy include BMW Group Automobiles, Apple Computer (product's design) and Mercedes-Benz automobiles. A differentiation strategy is appropriate when either the target customer segment is not price-sensitive, the market is saturated (or near-saturated), and customers have very specific needs which are possibly under-served (R. S. Allen & Helms, 2006). In this situation, the firm has unique resources and capabilities which enable it to satisfy these needs in ways that are difficult to copy. These could include patents or other Intellectual Property, unique technical expertise (e.g. Pixar's animation talent), talented personnel, or innovative processes. A successful differentiation strategy is implemented when a firm accomplishes either a premium price for the product or service, increased revenue per unit, or the consumers' loyalty to purchase the firm's product or service is enhanced (brand loyalty) (M. E. Porter & Heppelmann, 2014). Differentiation drives profitability when the added price of the product outweighs the added expense to acquire the product or service but is ineffective when its uniqueness is easily replicated by a competitor's. Successful brand management also results in perceived uniqueness even when the physical product is the same as competitors. For example, one may say 'let's get a Starbuck' instead of 'let's get a coffee', thereby naming the brand instead of the offering.

However, the differentiation strategy is not suitable for all firms. First, it is not recommended for small firms, but more appropriate for big firms (Pelham & Wilson, 1995). To apply a differentiation strategy, it is often necessary

to focus exclusively on one functional area of a firm's operations (eg. finance, purchase, marketing, inventory etc.) is most important. Finally, as mentioned by Banker, Mashruwala and Tripathy (2014), it can be advantageous to use different kind of strategy on different firm offerings, for example for something a broad differentiation strategy and for others a focus differentiation strategy. The cases of Coca Cola and Royal Crown beverages are good example of this (Grant, 2016).

More recently, according to McWilliams and Siegel (2001), there are two variants of the differentiation strategy: The shareholder value model holds that the timing of the use of specialized knowledge can create a differentiation advantage as long as the knowledge remains unique. This model suggests that customers buy products or services from an organization to have access to its unique knowledge. The advantage is static, rather than dynamic, because the purchase is a one-time event (McWilliams & Siegel, 2001). The second variant, the unlimited resources model utilizes a large base of resources that allows an organization to outlast competitors by practicing a differentiation strategy. An organization with greater resources can manage risk and sustain profits more easily than one with fewer resources. This provides a short-term advantage only. If a firm lacks the capacity for continual innovation, it will not sustain its competitive position (McWilliams & Siegel, 2001).

### *The Coherence of Strategic Planning*

In order to attain a competitive advantage, multiple aspects of the firm's structure and activities must work according to the strategy. Hence, human resources management, the technology used, the supply value chain, the suppliers, the salespeople selling the offering must embrace the initial strategy. However, as mentioned by Michael Porter, the competitive advantage a firm decides to follow must take into consideration the external environment and the initial positioning of competitors. Porter (1985) indicates that if two firms are following the same strategy within the same industry, the firm being the closest to the fundamental guidelines will survive; the other firm will either be unsuccessful or forced to find a new positioning in the industry structure. A contemporary example of this is the attempt by the retailer Target to offer roughly the same array of offerings as Wal-Mart in Canada - a low-cost provider for a broad spectrum of consumers. The failure of Target within its first year of operation in Canada is largely due to it being unable to offer the lowest price available with Wal-Mart mostly winning in the low-price stakes:



"Transportation costs are higher, distribution costs are higher, fuel costs are higher, wage rates vary across the country, the tax rates are different, cost of goods are different, the duties — I think the scale we have here in Canada is quite different from the incredibly different, densely populated U.S. marketplace." (Shaw, 2013)

Michael Porter utilizes the concept of drivers to explain why some firms are able to perform in certain contexts while others fail. For Porter (1991), the sustainability of competitive advantage depends on the number of competitive advantages in the value chain and, especially the particular drivers underlying each one. This view corresponds to other conclusions of scholars like Womack, Jones and Roos (2007) and Clark and Fujimoto (1991) who argue that most firms have an easier time replicating themselves than imitating their competitors. As demonstrate by Porter, a brand reputation is a typical competitive advantage but can be considered either a cost advantage (less need for marketing) or a source of differentiation (with a premium price). In this regard, Porter distances himself from the neo-classical view of firm profit maximisation (Nelson, 1991).

Porter determines that there are two reasons that explain the sustaining of competitive advantage for firms in the long run. First, there is the notion of managerial choice. Such choice, made under conditions of uncertainty, defines firm positioning, its configuration and its activities (M. E. Porter, 1991). For Porter, the most successful firms are those that define new positions or find new value. Hence, pure managerial choices may lead to the assembly or creation of particular skills, assets and resources-based strategy. There are numerous examples of firms that are successful after a creative act where there were few initial strengths (eg. Apple Computer) (M. E. Porter, 1991). Scholars like (Nelson & Winter, 2004) and (Lazonick & Lazonick, 1990) argue that management choice is important by highlighting the relevance of a coherent strategy within a firm to decide what new ventures to select. However, managerial decisions are made under constrained conditions. The market position that a firm occupies today is the result of earlier decisions. Often, those decisions are hard to reverse and create a path of dependency (Ghemawat, 2002). Hence new innovations in a mature industry may be harder to deploy in an older firm with a different set of core strategies compared to a new firm with no prior path dependency (Tushman & Anderson, 1986).

The second reason explaining why firms are able to sustain competitive advantage in the long run are demonstrated by pre-existing conditions of a firm (reputation, skills, etc) which are a legacy of their history. These

conditions may be found within an individual firm or in the environment where the firm is based. Hence, the near environment will define, according to Porter, many of the input markets the firm has to draw on and will mostly indicate the choice of strategy to follow. Therefore, competitive advantage may reside as much in the environment as in an individual firm (M. E. Porter, 1991). As mentioned, both firm and external environment influence each other. Accordingly, firms, through innovation, shape the environment and the latter responds, almost organically, to the firm. Michael Porter summarizes those proximal factors using four categories that are now widely known as the Porter's diamond. First, the factor of production (factor conditions) concern highly specialized elements that are tailored to the needs of a particular industry. These include human resources, physical resources, knowledge and capital. Second, home demand (demand conditions) plays a disproportionate role in influencing the perceptions of buyer's needs (M. E. Porter, 1991). Hence, a sophisticated home market buyer can pressure firms to innovate faster and therefore create more advanced offerings than other firms in the industry. Third, related and supporting industries can produce inputs that determine innovation. They can provide advantages in terms of information, signalling, access to technology, etc. Supporting industries may also participate in the upgrading process, thus stimulating other firms in the chain to innovate. Fourth, firm strategy, structure and rivalry indicate industry intensity of competition which indirectly leads to pressure to innovate (local competition playing a greater role). This element includes the way in which firms are created, set goals and are managed.

Michael Porter later added two more concepts to his diamond. First, there is the chance factor. Indeed, some events or occurrences are outside the control of a firm and play a role by conferring on some firms unmerited advantage and, on others, underserved setbacks. However, Porter describes chance as less common than we may think and concludes that it is of marginal importance. Second, Porter indicates that the state can influence any sphere of the diamond. Indeed, it can modify the supply conditions of production factors, demand conditions and competition between firms. Those modifications can occur at the local, regional, national or international level.

The framework made by Porter is considered dynamic since change in one of its impacts the others. For example, innovation will not appear within an industry if there is no pressure from rivalry or buyers. This idea of innovation by Porter is more detailed than his predecessors. Authors like Schumpeter (1976) and Simon (1957) theorise on the concept of innovation but were never able to link the latter to the external environment of the firm (Nelson, 1991). Each part of Porter's diamond are also mutually reinforcing. Hence, the development of specialized supporting industries tends to increase the supply of specialized factors (M. E. Porter, 1991). This

can also explain why some industries like the movie entertainment, or the web-based industry (Google, Yahoo) seem to cluster geographically in the same place; such clustering arises because suppliers, customers and related industries exist within range. Finally, Porter's diamond may explain why some firms fail to sustain competitive advantage: it is either because of emerging weaknesses in their local environment or due to rigidities or internal problems that external circumstances cannot overcome (M. E. Porter, 1991). This idea is developed by (Nelson, 1991) who indicates that firm success resides in a capacity to generate and profit from innovation rather than differences in command over particular technology.

### *Criticisms and Contributions*

While Michael Porter's framework is often cited amongst scholars, his conceptualisation has been subject to criticisms which can be summarised under five headings. First, certain scholars have argued that Porter's framework does not take into consideration the full range of approaches that a firm can pursue. Authors that criticize Michael Porter from that angle often try to elongate the advantage axis. For example, (R. S. Allen et al., 2007) experiment with adding additional categories such as supply chain and training. Second, there is evidence that Porter's strategies are not mutually exclusive. For example, Murray (1998) found that in the case of high-technology industries such as those fabricating micro-chip components, some firms stand-out by offering both a low-cost and differentiation advantage. Third, Porter's framework has been attacked because of how simplified and/or stylized it is. Indeed, it is difficult for scholars to find examples of application of Porter's generic strategies in many industries (Miller, 1992; Morrison & Roth, 1992; Spender, 1992). Fourth, Porter's view of competitive advantage is not able to specify how firms can transition from one approach to another and/or how the conception of strategy is not sensitive to an expanding industry structure and increasingly diversified markets (L Downes, 1997). Fifth, scholars argue that Porter's framework does not apply to every industry, like retail for example (Pitelis & Taylor, 1996), do not apply to fragmented markets (Brastad & Jarl Borch, 2003) nor with small firms (Alpkan & Aytakin, 2002; K. S. L. Lee et al., 2001). Therefore, it may be that Porter did not correctly specify where and how his framework should be used.

Aside from being merely criticized, Porter's theory of competitive advantage has also been used as a stepping stone by authors to create new frameworks. For example, Prahalad and Krishnan (2008) indicate that, in a world where markets are becoming saturated, firm-planning inevitable embodies a situation of offering customization. Such conjecture continues the parallel efforts of qualitatively orientated scholars who have created a genre of

strategy literature that has existed alongside of Porter's paradigm. Other genres offer alternative conceptualisations of the nature of strategy. For example, Moore (1997) emphasises his theory on collaborative approaches; Botten & McManus (1999) demonstrate the importance of trial and error that often forms part of plan formulation; Pfeffer (1995) indicates that it is possible to produce sustainable competitive advantage through the effective management of people; and Juga (1999) proposes a framework that is derived from a resource-based perspective.

However, despite criticisms and new theory genres, Porter's conceptualisation of strategy is still widely viewed as the default management theory paradigm of the 21st century (Marcus, 2010; Njuguna, 2009; M. E. Porter & Kramer, 2011). Moreover, Porter himself indicates, in an interview, that his framework is an appropriate tool for analysing new industries that emerged in the digital age (Harfield, 1998a).

#### *The Commodification of Knowledge and the Elaboration of Complexity (1990-2019): Strategy Not keeping Pace*

The current period of thinking concerning generic strategy orientation identified in Table 1 commenced from approximately the early 1990s. The Internet transitioned from being a piece of US military infrastructure to a public utility in 1992 (Berners-Lee, 2000). Henceforth, I will refer to this date as marking the beginning of the digital age. The widespread uptake of the Internet was seminal in transforming myriad aspects of firm operations in nearly all sectors of Western economies and in integrating pre-industrial non-Western economies into global value-chains (Berners-Lee, 2000; Kambil, 1995). Broadly speaking, as was the case immediately prior to the industrial revolution, a circumscribed essentially technological trigger event provided new commercial opportunities (i.e. new markets), more efficient ways of transforming input into output (through more sophisticated paradigms for combining labor and capital – factories), and new means of corporate communication (multi-workplace firms) (Kambil, 1995; Melewar & Navalekar, 2002). The tendency has unambiguously been to give managers a wider repertoire of decision-making options, irrespective of their operational ambit. However, when philosophising about optimisation, it is noteworthy that having more choice is not necessarily beneficial (Eisenhardt, 1990; Melewar & Navalekar, 2002). Indeed, relevant advantage only accrues when two conditions prevail, the second of which is subordinate to the first. First, a decision-maker must be able to crystallise options (Melewar & Navalekar, 2002). For example, if there is an alternative to leasing or buying (perhaps “borrowing”), this has no practical import if it does not appear as an explicit “third” choice. Second, the decision-maker must

be in a position to analyse – not necessarily fully but to a threshold level - the relative strengths and weaknesses of each possible option (K. Kumar et al., 2016). For example, the lease/buy choice is associated with well-documented generic consequences. It is perhaps less clear, but nonetheless important to establish, the potential drawbacks of a decision to “borrow”. These two concerns, which are the essence of the somewhat vague contemporary notion of “information overload” (Edmunds & Morris, 2000; Maes, 1995) impact the practice of modern strategy within the corporate arena. However, theory about strategy has not kept pace. Specifically, orthodox generic blueprints a la Porter (1979), have typically not been well adapted to the digital age and remain largely an attempt to reconcile, and provide guidance for, the behavior of industrial era managers (A. M. Gould & Desjardins, 2015b).

Before examining in detail how the generic tools of the modern corporate strategist have been rendered largely unfit for purpose, I examine the way in which, from a philosophical standpoint, the Internet has changed the world of commerce. I use two constructs to structure the substance of my argument, platforms and modularity.

The Internet has accelerated the growth and proliferation of other technological advances. Specifically, it has been an influence on certain circumscribed technologies becoming redundant, the fusion of technologies and the blurring of boundaries between the physical, digital, and biological spheres (Schwab, 2017). Consideration of the Internet cannot be divorced from notions of a so-called new economy that, according to Castells (2000, 2010), is informative, global and networked. These emergent constructs are cardinal characteristics of the contemporary world of commerce and create necessary context for recasting strategy. In an applied sense, to note that an economic system is informative is to recognise that, at least relative to other economic systems, productivity and competitive advantage depend on a firm’s managers` capacity to generate, process and apply data, that is to turn it into knowledge (Xu et al., 2016). Also in an applied sense, to say that an economic system is global is to draw attention to the fact that its capital and labor input, the internal operations of firms comprising its industries, and aspects of its disposal of output are ultimately activities that are not jurisdictionally bounded and, as a consequence, largely deregulated (A. M. Gould & Desjardins, 2015b). Such a system can be contrasted with earlier instantiations of Western-style capitalism. For example, America`s 19th century`s railroad system allowed elements of commercial exchange to transcend local boundaries and was pivotal in creating a national economic system and, in so doing, shaping the identity of the modern United States (Braverman, 1998). Similarly, the Internet has had an analogous influence, but worldwide in its corraling influence (Berners-Lee, 2000). Insofar as an increasing emphasis on deregulation is concerned, focus on an exemplar industry – the one that is my project’s object of analytic interest - is instructive. Specifically, in 1990 there were two firms in

Canada's wireless cellphone sector offering standard devices (those used principally for making phone calls and sending text-messages). However, in 2018, there are 14 such entities that operate mostly without geographical impediment. To say that an economic system is networked is to acknowledge the organised and planned interrelations between elements of that system. Of course, as classical theorists such as Marx (Marx, 1867; Marx & Paul, 1928) and Durkheim (Lukes, 1973), with his conceptions of organic and mechanistic solidarity have pointed out, early instantiations of capitalism are distinguishable from pre-capitalist production modes in that they elaborate networks (S. H. Kim, 2004; Loewen, 2016). However, to say to that an economy is networked (in the more modern sense) is to not just consider one of its elements, such as labor input, being coordinated but instead view coordination as omnipresent at all points of a value-chain (Castells, 2010; Galambos, 2005).

The increase in information available for firms and consumers alike, in major part by the wide diffusion of the internet as a commodity, creates a complex environment. Hence, philosophes from the digital era have been using Complexity Theory, derived from John Stuart Mill's conceptualization which centered, in particular, on the notion of multi-element biological systems (Mill & Robson, 1991). This view has been elaborated by authors like Murray (1998) and Senge (2006) who proposed the notion of detail and dynamic complexity. These authors define detail complexity as complexity arising due to the presence of multiple variables:

The reason that sophisticated tools of forecasting and business analysis, as well as elegant strategic plans, usually fail to produce dramatic breakthroughs in managing a business - they are all designed to handle the sort of complexity in which there are many variables: detail complexity. (Senge, 2006)

Dynamic complexity, on the other hand is a category of complexity where the cause and effects are more subtle - the effect is not immediately obvious at the time the cause is introduced, however emerges as causes accumulate and an effect becomes more obvious (Murray, 1998; Senge, 2006). This genre of research has had two theoretical preoccupations. First, it has sought to explain how complexity is created. Second, it has sought to elucidate ways of managing complexity, a concern that has attracted the attention of strategic management theorists. For example, Wernerfelt (1995), argued that strategy should indicate how resources can ensure a more favorable competitive position; Barney (1991), explained the desired characteristics of resources (value, rarity, inimitability and irreplaceability) and how to obtain a sustainable competitive advantage and; of Prahalad & Hamel (2006), emphasized the importance of identifying, cultivating and exploiting essential skills, potentially able to provide access to new markets and increase customer satisfaction. Each of these scholars started with

the idea that complexity should be tamed either inside, or outside the firm. They have produced various models for so doing (eg. the Balanced Scorecard (BSC) Kaplan & Norton (2007). Among the existing proposals, some are controversial, such as the "alternative" economic system proposed by Lovins, Lovins, & Hawken (2000), and others are mainstream, such as Porter et al. (2007) and Büscher, Sullivan, Neves, Igoe, & Brockington (2012), which addresses the organizational challenge of surviving the transformations of the natural society-environment relationship.

### *Complexity and its Bastard Child, Duplicity*

This section discusses views about complexity, particularly as they apply generally to systems and organisations. The perspectives canvassed mostly fall within the scope of the Complex Adaptive System (CAS) paradigm, which will also be discussed. A goal of this section is to present and defend an operational definition of complexity that has contemporary practical relevance, especially when seeking to further develop strategy theory. A further goal of the section is to elucidate the nature of the association between complexity and duplicity and, in so doing, reveal what this association means for the practice of strategy within digital age industries.

Simon (1962) defines complexity in a system as "a large number of parts that interact in a non-simple way." A growing number of interdependent parts increases coordination requirements and raises the total number of interfaces within the system (Larsen et al., 2013). In other words, the more elements there are in a system and the more interconnections that exist between such elements, the more complex is that system. Some have attempted to create a theoretical framework to capture the essence of this idea. For example, Kauffman's (1993) theory of complex adaptive systems is presented in the form of an equation that establishes system complexity (K) as the function of the number of interdependencies between the elements within that system and the number of elements or agents in that system (N). He invokes modal logic to reveal that a higher N generally implies a higher K.

In his canonical book 'Hidden Order: How Adaptation Builds Complexity', Holland (1995) presents a compelling case for a unified theory of CAS. He proposes a framework that includes four properties (structures) and three mechanisms (processes). This view creates a template for establishing a CAS's level of complexity (Brownlee, 2007; Camazine et al., 2001; Sole & Goodwin, 2002). However, characteristically CASs are not governed by a

single operating principle in the same way, for example, that Newton's Second Law of motion ( $F=ma$ , where  $f$ =force,  $m$ =an object's mass, and  $a$ =an object's rate of acceleration) is comprehensive in its explanatory power (at least when applied to large bodies). Rather, CASs are better thought of as a series of semi-autonomous subsystems that are either housed in a single shell structure or separated from their context by an overarching philosophical principle. In this latter sense, one might describe a firm as a CAS. In such a case, there is not necessarily physical separation of the entity from its environment and its points of interaction with non-firm elements – boundary spanning, etc. – may be fuzzy (Wu et al., 2018). However, one speaks of the firm as an abstract entity, perhaps a legal entity (i.e. a registered company) or an accounting entity (i.e., an entity about which one compiles an annual income statement and balance sheet). Insofar as the more abstract idea of systems is concerned, subunits of an overall structure are governed by distinctive rules, each set of which influences its neighbouring subunits. In aggregate, a system's various collections of subunit rules are constrained by top-down influences via a process that Holland calls "rule discovery" (John H. Holland, 1992).

The impact of organisational complexity has been an object of scholarly interest for strategic management theorists (Nickerson & Zenger, 2004; O. Williamson, 2002). Organisational complexity has been viewed as an aggregate measure of how many interactions between sub-entities occur within a larger circumscribed organization plus how many occur between the organisation and external elements (Nickerson & Zenger, 2004; O. Williamson, 2002). In practical terms, it indexes the likely resource commitment for a division, project, or team. If the size of the organizational structure or system (measured according to the aforementioned idea of "number of interactions") reaches an arbitrary threshold, that organization is said to be complex (M. Thompson & Bevan, 2013). An implication of this view is that causality is bi-directional: more interdependencies increase the coordination requirements among activities and partners and a higher number of activities and partners adds to complexity because it increases the likelihood of inter-element interactions (Larsen et al., 2013).

In light of the aforementioned discussion, it appears that there is a circumscribed construct which akin to Thompson and Bevan's (2013) idea of organisational complexity. This notion has practical utility. Indeed, it is gaining in its relative importance as distinctively digital age industries take root in the modern era. There are three reasons for such a growing influence. First, digital age technological advance increases the possibility of interconnection. The digital revolution has blurred the boundaries between physical, numerically encoded, and biological spheres (Schwab, 2017). However, as noted, whilst the emergence of the Internet was perhaps the most consequential influence on the birth of the digital age, other – sometimes conceptually overlapping - elements have also contributed to the change of epoch. For example, authors such as Schilling (2000) argue



that the Internet is best understood as a “tipping-point” technological manifestation of the elaboration of platforms and modularity. Muffato (1999, p. 457) defines a platform as « a relatively large set of product components that are physically connected to a stable sub-assembly and are common to different models. By using a platform approach, a company can develop a set of differentiated products ». According to this view, digital age industries cannot create their offerings without the existence of sufficiently evolved platform technology. Relatedly, modularity is the extent to which elements of a system have utility when separated from that system. For example, the CPU of a computer has relatively high modularity because, when it is removed from its motherboard, it can be inserted into motherboards from other machines. By contrast, the decapitation of a chicken produces a disembodied bird’s head that has no modularity; that is no obvious utility when combined with other elements. These two constructs – platforms and modularity – are inimitable for understanding computer networking, a la the Internet. Schilling, in particular, has developed theory that reconciles these ideas. Her view is based on five principles (1) heterogeneity of inputs, (2) a tendency towards increasingly modular system, (3) synergistic specificity, (4) urgency and (5) heterogeneity of demands.

Schilling’s view is analytic. Indeed, it is best considered as a contribution to analytic philosophy. As such, it is not a framework to guide in strategy formulation and thus has no explicit planning implications (Schilling, 2000). However, with the rise of networked computing in the digital age, her view serendipitously moves from the realm of being purely analytic to being, at least partly, a tool for strategic managers. It certainly provides a set of relevant sub-constructs and associated vocabulary. Specifically, in order to reach higher levels of functionality, a system must, put in terms of the Schilling (2000) conceptualisation, have enhanced synergistic specificity; because of heterogeneous inputs having more limited recombination possibilities. For example, banks and financial firms rely on micro-chip data storage on credit cards to permit their consumers to do their daily operations without the need for traditional checking. This situation implies that the micro-chip on the card is parametrized to only accept certain inputs (eg. selected ATM) and match a specified user with their correct financial data. Another example of a system with enhanced synergistic specificity is given by Gross et al. (2009) who interpret the Ipod by Apple as a mobile device that is dependent on an orthodox desktop application for its content management. Hence, I argue that the Internet can be interpreted as an end-point instantiation of elaborated platforms and enhanced modularity. The Internet – broadly interpreted to include infrastructure such as wireless servers and satellites - increases interconnection between elements, certainly compared to any multi-nodal industrial age system. This phenomenon – the expansion of interconnectedness - is a key driver of complexity.

The second reason for a growth in organisational complexity concerns a general tendency towards industry deregulation. Specifically, technological advance has created a state where the stewards of capital are able to deploy resources to where they will yield the highest return. This often entails physically separating elements of a firm (eg call centres in India, distribution nodes in the United States, etc.). Public policy can be interpreted as a response to such possibility inasmuch as jurisdictions in the modern era vie to outdo each other in offering favourable conditions for the deployment of capital (I. Wilson, 2000). A case in point would be telecommunications. This sector has altered massively and that the industrial/digital age distinction provides a qualitative, or step-wise, point of demarcation for appreciating the transition. In Canada, deregulation of the industry has roughly paralleled relevant technological advance. Specifically, from 1903 until 1985, the sector was heavily regulated by the Railway Act of 1903 (MacMurchy, 1905). During this era, Bell Canada had a monopoly on service provision. Following repeal of the act, this monopoly was rendered defunct as new players entered the industry. Although the Internet did not exist in 1985 as a public infrastructure, cellphones had recently emerged. These devices relied on a proto-Internet-type utility because they represented the first generation of simultaneously mobile and networked elements.

The third influence that increases complexity in the digital age concerns the value of information to transacting parties and, in particular, the transformation of information into currency (or, at least, a more liquid asset than it was previously). The influence of information as mean of creating value in commercial transactions affects consumer behavior (Castells, 2010; Edmunds & Morris, 2000). Literature from marketing, sociology, and psychology address aspects of this phenomenon insofar as it influences the giving of free products to consumers. For example, Gebauer, Fleisch, & Friedli (2005) discusses behavioral implications of the transition process from products to services where firms are not looking for money from their consumers but instead want information about them to enhance profits. For example, Facebook is a free social networking offering that raises the bulk of its revenue from targeted ads and/or selling users' information. Moreover, Aguiar (2017), and Chen, Ni, & Yu (2019) indicate that this new so-called "free" offerings are similarly present in the music industry (eg. Spotify) and with mobile apps (eg. mobile games).

### *The Unwholly Alliance Between Duplicity and Complexity*

While not explicitly mentioned by the literature, it is possible to argue that the elements that gave rise to complexity in the business environment are indirectly also augmenting the opportunity for duplicity and deception. This section will elaborate on the three influences mentioned in the first section of this work (technological advances, deregulation and the value of information as mean of transaction) and how they can be related to duplicitous behaviors.

The first influence includes technological advances in the digital age that increase the possibility for interconnection. The interconnection can be from the hardware side – as a computer is created from a processor and a motherboard that enable modular components (RAM, hard-drive, usb peripheral, etc.) to work in harmony to communicate with other devices across the Internet. However, this hardware modularity also permits easier interconnection between different actors in a business relation. Hence, when buying a product, consumers may look for the rating of other consumers about the product itself, but also the firm as a whole, the supplier, etc. This information is now available worldwide. However, as mentioned within marketing literature, duplicity can be omnidirectional. Hence, some websites like Ebay.com, for example, also offer vendors an option to rate buyers in their transaction. Another example is the new alternative marketing strategy used in social media with the help of influencers. Well known people who are followed by many people on social media are often used by marketers to promote new offerings without being directly involved in the marketing scheme. In other words, this opening in interconnection between different actors increases the possibility of duplicitous behaviors when compared to the traditional unidirectional relation between a vendor and a seller.

The second set of influences that increase duplicitous behaviors is deregulation that many digital age industries experienced, starting from the end of the 20th century. According to Patwardhan and al. (2009), the high volatility of the environment some industries are facing force them to give more liberty to their employees, especially their salesforces in order to survive in an environment where changes are unpredictable and modification in one agent's behavior may cause a chain reaction, (Jenkins & Delbridge, 2017; Patwardhan et al., 2009; Pehlivan et al., 2015). However, as noted by Ross and Robertson (2000) and Sparks (1994), giving a salesperson room for improvisation is an element that increase the risk of duplicity. This behavior is not exclusively present on the lower-end of the hierarchy of a digital age firm. As mentioned by Adams (2010), when an industry has the opportunity to be more complex than it needs to be, the idea of “confusopoly” may appear as a practical way to gain economic advantage by making it difficult for a potential consumer to make rational choices. Initially

illustrated in the comic Dilbert (Adams, 2010 See appendix B), the concept (confusopoly) has been adopted by the economist Richard Cordray (2014) when describing large financial institutions:

There's actually an economic term for this; it's called "Confusopoly." If [the sellers] can confuse the consumer enough then the consumers won't necessarily know what choice they're making, and they can be talked into just about anything<sup>6</sup> .

When applied to a firm-consumer relationship, confusopoly means, generally refers to a situation where a group of firms in the same sector offer roughly equivalent products, and a particular player's strategy may be to confuse the consumer as opposed to, for example, competing on price. In fact, for such a strategy to work, at least two players in a multi-firm industry arena must pursue it. Examples of confusopoly are to be found in sectors such as mobile phones where various price plans exist based on combinations of available minutes, text messaging capabilities, Internet bandwidth, music option, etc. Such a suite of options often renders comparisons problematic (A. M. Gould & Desjardins, 2015a). In the context of the employment relationship, confusopoly is operationalised by an employer who becomes acquainted with the narrative with which it is associated. They need to explain its purported advantage to a budding worker (Kuehn & Corrigan, 2013a). The key idea here concerns narrative, the story to be told. In taking such control, they have a plethora of options. For example, they may paint a pessimistic picture of likely worker benefit. Whatever the case, the party offering work chooses the story to tell, the scenario to present. Scenarios are circumscribed visions of the future and require both detail and justification for their constituent elements. However, they do not necessarily require that an interlocutor (the would-be worker in this case) understand all their facets. This approach often works because the interlocutor does not want to seem foolish or naïve. In short, the employer presents a beefed-up emphasis on complexity, especially when compared to traditional workplace bargaining that occurs in a context constrained by industrial-age labor market institutions such as unions, works councils, arbitration, etc.

The portmanteau word "confusopoly" was coined to describe, in essence, new elements of the retail customer experience when interacting with vendors in industries whose principal product is internet-enabled offerings including, for example, cell phones, tablet devices, and sectors where value being added is somewhat less tangible, such as personal finance and online dating, etc. As a portmanteau term, the idea embraces, in a somewhat delimited way, two elemental constructs. First, in certain kinds of new economic transactions, one party in the exchange has a negotiating advantage concerning what is being exchanged by virtue of both the

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<sup>6</sup> See Cordray, Richard (Jan 8, 2014), Richard Cordray Extended Interview Pt. 2 (Online) <http://www.thedailyshow.com/watch/wed-january-8-2014/exclusive---richard-cordray-extended-interview-pt--2>

data they possess and their capacity to analyse such data (Kalaycı, 2016; Patterson, 2017; Siciliani, 2013). This is the confusion element. It is instantiated in cases where a confident vendor uses a technical analysis of a hapless consumer's smart-phone usage patterns to convince them that they should switch to a more expensive plan. Another manifestation is where an industry arranges itself so that its players provide offerings, the relative advantages of which cannot be well compared; once again, as often occurs when buying smartphone plans. The second element of confusopoly concerns the monopoly element (Patterson, 2017). The notion embodied here is that consumers, despite perhaps having awareness that they are at an analytic disadvantage, are compelled to continue with an exchange. It is noteworthy that the monopoly element is somewhat obscure and certainly departs from neo-classical economic conceptions of the term. For example, a monopoly – in the sense that the word is being used in confusopoly – may exist in circumstance where an industry structure is better described as an “oligopoly” (Kalaycı, 2016; Siciliani, 2013) in the sense that it is comprised of a group of firms that, although existing as separate commercial entities, act in concert insofar as consumers are concerned. When done illegally this strategy is often described as “collusion” (Leitch & Motion, 2003) and when done legally, “cooperation” (Yandle, 1998). For example, a digital age industry (group of firms) may each deemphasise their own existence but rather, at least insofar as marketing and imaging is concerned, foreground products they are each selling, an iPhone for instance.

In other words, when a group of firms in the same sector offer roughly equivalent products, a particular player's strategy may be to confuse the consumer as opposed to, for example, competing on price. In fact, for such a strategy to work, at least two players in a multi-firm industry arena must pursue it. Examples of confusopoly are to be found in sectors such as mobile phones where various price plans exist based on combinations of available minutes, text messaging capabilities, Internet bandwidth, music option, etc. Such a suite of options often renders comparisons problematic (A. M. Gould & Desjardins, 2015a).

The third influence mentioned in the first part of this work is the value of information in digital age transactions. This influence proposes that in the digital age money, as a currency, become less relevant when comparing to the prior industrial age. This reduction in the importance of money in the digital age is in favour of an increase in the liquidity of information. The most notable manifestation of this phenomenon is the rise of free offerings for consumers in the digital era. Hence, social media services like Facebook, Instagram, Snapchat, or mobile games are often presented to consumer as free of charge. However, while no money is asked of consumers to use such services, the terms of use (TOS) often hide details on how consumer's data will be handled. The information contain in the TOS can be, at least, complex, and often duplicitous. As noted by the United Kingdom law firm

Schillings when commenting on the terms of use of Instagram, a social media network created mostly for teens and young adults: (...) contains 5,000 words across 17 pages with language and sentence structures only a postgraduate could be expected to understand<sup>7</sup>. As noted by Maronick (2014), most consumers do not read the TOS when installing new software. Reason for such neglect includes the length of the contract and the perceived cost vs. benefit of reading it. In other words, digital age industries find advantage in using duplicitous strategies in order to gain their consumer's information compared to industrial-age industries, where money is the main and only currency available.

### *Confusion in the Employment Relationship in Digital age Industries*

In the previous section of this paper, I argued that complexity is a necessary pre-condition of duplicity and that both constructs take on strategic import in the digital age. Here, I develop this conception insofar as it applies to labor management. I define and examine the distinctively digital age phenomenon of labor control *via* confusion to indicate that complexification is pervasive in the modern epoch but that its strategic implications have a common theme. The theme is this: relegate the party with lesser economic and institutional bargaining power to the status of a novice and elevate the party with more economic and institutional bargaining power to the status of an expert. Hence, bargaining in the industrial age, be it in relation to price of products or price of labor, typically existed in a context of economic and institutional power imbalance (Bacharach & Lawler, 1981; Inkpen & Beamish, 1997). For example, the consumer purchasing a tape recorder was characteristically less wealthy and had less influence over the price they paid than the device's manufacturer (A. M. Gould & Desjardins, 2015a, 2015b; Možný et al., 2018). However, in such cases, there was no consequential imbalance in relevant knowledge about the benefits of the device in question or its operation. A similar logic applied to the labor market where a job was offered (or not) and could be assessed by the offeree using standard economic metrics which notably included price (wage) and quantity (hours to be worked). In the digital age, this creates a new source of power imbalance between employers and those living mostly from a wage income. It thus represents an emerging base for further ensconcing the power mismatch between each of these parties.

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<sup>7</sup> Hillen, B., (2017). Instagram terms and conditions rewritten in simple language for teens (online)  
<https://www.dpreview.com/news/3759280259/instagram-terms-and-conditions-rewritten-in-simple-language-for-teens>

A recurrent analytic concern of pluralist-orientated employment relations scholars pertains to how the institution of the employment relationship endures in spite of systemic elements where employer and employee interests are misaligned. In the industrial age, analysts examining this matter mostly adopted one of several research paradigms. For example, to shed light on the problem, scholars have used variants of the Fox and post-Fox framework (eg Purcell and Sisson, (1983); Deaton, (1985); Purcell, (1986); Purcell, (1987); Sisson, (1989); Marchington and Parker, (1990); McLoughlin and Gourlay, (1992); Storey and Bacon, (1993); Belanger and Edwards, (2007)); ideas based on conceptions of a dual labor market theory (eg Doeringer & Piore (1985) and Jacoby (1979)), international comparative literature (eg Dore, (1983)); strategic management literature focusing on high performance work teams through mutual gains bargaining theory (eg Osterman, (1994, 2006)); varieties of capitalism literature (eg Hall & Soskice, (2001), Gould, et al, (2014)), and labor control/labour-process theory (eg. Braverman, (1998); Burawoy, (1982); Degiuli and Krollmeyer, (2007); Cressey and McInnes, (1980)). More recently, several of these conceptions have been augmented. For example, one such revision agenda considers how elapsed time will interact with key consequential variables. Such effort has been done using the variable of time itself, as in chronology, as deterministic (eg Gould, (2010); Gould and Desjardins, (2014)), or various proxies for time, including conceptions of cyclical economic fluctuation (Ramsay, 1977).

With the emergence of new employment forms mostly brought about under the influence of technology, theories on misaligned employer/employee interests from the industrial age have been tested with mitigated results (Dixon, 1999; Hirsch, 2014; Lawrence et al., 2017; Marucci-Wellman, 2018). One reason for this concerns the changing nature of the object of analytic interest. In other words, in the contemporary world, the employment relationship itself is often harder to see and/or more abstracted than was previously so (Cunningham-Parmeter, 2016). The cases of *Uber* drivers, and those who work for firms such as *Skip the Dishes* are illustrative in that. In each of these instances, it is just not clear who counts as an employer and employee. Specifically, modern scholars whose analytic preoccupation is Taylorist-forms of deskilling as manifested in the 21st century, have chartered the rise of distinctively digital age “bad jobs” (Jaehrling et al., 2016; Kalleberg et al., 2000a; Kalleberg, 2018; Rubery et al., 2018). However, as an analytic point, although the expression “bad job” is common in contemporary scholarship, when viewed through the lens of history, the construct is not so much about a particular genre of job but rather jobs in general (Brenner, 1977; Marx, 1867; Rothstein, 1990). In this respect, the modern notion of “bad jobs” is a circumscribed category of jobs that are especially exploitative.

In essence, the deskilling thesis is the contention that, when a production process is organised so that workers are required to do the simplest possible of tasks, they become interchangeable and thus further denuded of, an

already unequal, bargaining power (Braverman, 1998). This genre of criticism is perhaps best represented in Harry Braverman's *Labour and Monopoly capital* but, as any Marxist-orientated scholar will appreciate, in fact has a much longer history (Braverman, 1998; Jacoby, 1979; Marx & Paul, 1928). Another way to view such a strategy is to consider it as the conscious reduction or elimination of the distinction between the capital and labour elements of business inputs. In practice, a key part of this merging is to reduce worker downtime, in much the same way as one interested in efficiency seeks to deploy a machine 24 hours a day (Derksen, 2014). The deskilling genre, although in recent times held out as a critique of capitalism (Braverman, 1998; Ikeler, 2016; Jacoby, 1979), in fact draws much of its inspiration from a seminal advocate of market economies, Adam Smith (Smith, 1957; Smith & Copley, 1995). Specifically, Smith proposed that, the more a manufacturing process can be conceived of as a series of simple and discreet tasks, each done by one person, the greater the resulting productivity (Smith, 1957). Smith's concern here was more to understand the elemental aspects of a manufacturing process, largely based on the assumption that efficient output in the context of unsaturated markets is to everyone's benefit. Thus, as more of a philosopher (and advocate for the new capitalist system) than a strategist, he was somewhat neutral on the competitive consequences of what he was proposing (Smith, 1957). Certainly, he was not interested in misaligned interests between employers and their employees. It was these latter areas of interest that became the concern of Braverman. For Braverman, a capitalist who splits a job into its elemental components and assigns each of these to individuals, takes greater control over key aspects of the lives of such individuals. The capitalist does this though rendering his workers readily substitutable (Elwell, 2011).

For present purposes, consistent with the view of the International Labour Organization (ACTRAV, 2011), precarious employment refers broadly to employment with inadequate rights and protection at work. Hence, precarious workers are those whose employment forms are insecure and uncertain, have limited access to decent wages and social security, and receive inadequate non-pecuniary benefits and legal protection (Bosch, 2004; Kalleberg, 2018; Rubery et al., 2018; Supiot et al., 2001). Consistent with the aforementioned operational definition of the construct, the insecurity that qualify precarious workers are mainly due to their non-specific skills they offer to the labour market ((Curtin et al., 2016; Kalleberg et al., 2000a; Nelken & Hunter, 2006). The form and incidence of precarious work varies among countries but, in most cases, is better revealed using multiple criteria pertaining to worker relative disadvantage (International Labour Organization, 2016). Precariousness may be associated with one or more conditions: the UK, for example, has witnessed increasing shares of low wage employment, subcontracted work, variable and nonguaranteed hours and low paid and dependent self employment (Rubery et al. 2016). According to Kalleberg (2018), the causes for the erosion of the collective



bargaining or dismissal protection are due to globalization, the expansion of the service sector and the ensuing demands for flexibility, technological change and the widening of the gap between low- and high-skill workers.

In the digital age within Western economies, precarious work forms are unambiguously on the rise, a phenomenon observed by both sociologists (Curtin et al., 2016; Jaehrling et al., 2016; Marucci-Wellman, 2018; Rubery et al., 2018) and economists ((Cohen, 2015; Lambert & Herod, 2016; G. Morgan & Nelligan, 2018; Nelken & Hunter, 2006). For example, in comparing six countries, Kalleberg (2018) concludes that there is a worldwide increase in precarious employment, which leads to precarious living conditions and a decline in subjective well-being. Similarly, Rubery, Grimshaw and Johnson (2018) conclude that precarious work is the new norm in the 21st century. Concomitantly, in countries such as the United States and the United Kingdom, industrial-age institutions which had been accruing since the industrial revolution and which were intended mainly to enhance employee bargaining power, have been rendered less relevant (and in many cases, indeed, eroded) in the 21st century (Kalleberg et al., 2000a; Nelken & Hunter, 2006). For example, standard employment relationship protective rights, such as coverage by collective bargaining or dismissal protection, have now been weakened to the point that the differences between a permanent full-time job from which a worker can be dismissed at any time and a fixed-term contract have become fluid (Cohen, 2015; Kalleberg, 2018; Rubery et al., 2018). In these circumstances, employers are well incentivised to diminish the relative size of their core and increase that of their peripheral workforce.

While recent studies show a strategy for employers to deskill and control their employees, no work has been done, to my knowledge, regarding the process by which the employer convinces the worker give-up control over their work (Kasper et al., 2010; Patterson, 2017; Siciliani, 2013). Confusopoly may be an option to illustrate specific tactics that retail employers use to make a division of the labour. In the digital age, confusopoly has been used to characterise the relationship that vendors have with their (generally retail) clients (Kalaycı, 2016; Siciliani, 2013). The term has not been used more broadly. In particular, it has not been used to characterise the nature of the employment relationship that exists in digital age industries.

*The Canadian Telecommunications Sector: A Historical Perspective*

According to the North American Industry Classification System (NAICS) (2017), the Canadian telecommunications industry is comprising of « establishments primarily engaged in providing telecommunications and video entertainment services to their customer premises and/or to mobile telecommunication devices over wired and wireless network facilities operated by them. These establishments can own a network, lease a network or combine leased and owned facilities and their networks can integrate various technologies. »<sup>8</sup>. This work will take the definition offered by the NAICS and will add to it another element. Specifically, when discussing the telecommunications sector, it is assumed that firms within the sector must operate, with their own installations, in at least two (2) Canadian's provinces.

Telecommunications in Canada is a complex sector of activity that is not just a retail sector but also a supplier to other industries (Hossain & Kathuria, 2004). However, the telco-sector has had industry growth as well as access to additional markets. For example, in 1990 there were 2 firms in the wireless sector whereas in 2018, 14 firms are in the sector. This has placed consumers in a situation where they have more nuances choices and, to optimise their circumstances, must undertake more sophisticated analysis. However, the biggest transformation of the landscape is found within the wireless sector. While a consumer had the choice between one firm in 1990, consumers now have access up to 13 firms offering wireless services in the 21st century.

The first national deregulation concerning telecommunication in Canada came with the passing of the Railway Act (MacMurchy, 1905) at the end of the 20th century. Before that, Bell Canada had a monopoly of telecommunication. Hence, the termination of the Railway Act in 1985 permitted new entrants into the industry. The first one was Telus that offers trans-provincial home phone service in 1985. While both companies were fighting for the totality of the market share, Bell Canada kept most of the corporate business while Telus was expanding their customers' market share (Babe & Collins, 1990; Government of Canada, 2017). This duopoly existed until the end of the 20th century when other providers entered the industry. More specifically, Videotron mainly tried to attract local customers via their ads targeted at specific cultural aspect of the province of Quebec, or by opposing the long-help monopoly of Bell Canada. For example, figure 2 shows a 2014 ad war between

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<sup>8</sup> See

<http://www23.statcan.gc.ca/imdb/p3VD.pl?Function=getVD&TVD=307532&CVD=307548&CPV=517310&CST=01012017&CLV=5&MLV=5>

Bell and Videotron. On the other hand, Rogers Communication primarily aims business customer, with a high focus on technology (see figure 3).



Figure 2. Bell Canada and Videotron Ads in 2014: Targeted Audience

**FAST**

**FORWARD**

**WORK FASTER AND MORE FOCUSED.  
WITH OUR NEW HSPA NETWORK.**

Stay ahead of your business and your competition with our new HSPA network. Work online up to ten times faster than before. Our new HSPA air cards allow you to surf wirelessly on your laptop at broadband speed. We've also just launched a new suite of products with Windows Mobile 6 giving you complete access to Outlook, Word, Excel, Explorer and PowerPoint. Six more reasons not to return to your office.

To learn more contact a Rogers Business Solutions consultant today at 1.888.123.4567

 **ROGERS**

Figure 3. Rogers Communication Ad (2014)

*The beginning of the 21st century in the Canadian Telecommunication*

According to the 2003 Monitoring Report from Statistic Canada, Bell Canada provided wired local services through approximately 13.1 million network access lines (local telephone lines) in Ontario, Quebec, Atlantic Canada and the Maritimes. Of the 13.1 million access lines, 8.5 million were residential access lines and 4.6 million were business access lines. Revenue from wired local services and access lines decreased 0.4 percent to \$6.1 billion in 2003, due in part to a 0.8 percent reduction in the number of access lines in service as well as others regulatory decisions. The reduction in Bell's access lines is largely due to: consumers migrating to a competitor's wired service; some wireless substitution; and a decrease in the number of second telephone lines as consumers switch from dial-up to high-speed Internet services (Government of Canada, 2003). In 2003, revenue from wired long distance services declined 3.6 percent to \$2.5 billion when compared to last year. The decrease in 2003 reflects the continued competitive pressure to lower the price of wired long distance services which was only partially offset by the higher demand for these services.

Telus provided local wire-based services in Western Canada by operating as an Incumbent Local Exchange Carrier. The firm operates as a Competitive Local Exchange Carrier (CLEC) outside of its traditional territory, in central and eastern Canada, using its own facilities or by acting as a reseller. Local and access revenues are earned principally by allowing customers to complete calls in their local calling areas and to access long distance networks, cellular networks and the Internet. In addition to local calling, local service revenues include enhanced calling features, such as call display, call waiting, call forwarding and voice mail. Local Service revenues also include Centrex for business customers, public pay telephones, and competitive long-distance carrier access. Local and access revenues decreased 1.6 percent in 2003 to \$2.16 billion, mostly due to price cap decision impacts imposed by the telecom regulator along with the 0.8 percent reduction in the total number of network access lines. Network access lines decreased due to the removal of second lines as a result of the migration to high-speed Internet service, the substitution of wireline telephony for wireless services, continued migration of business lines to more efficient ISDN services, and access line losses to competitors. In 2003, Telus had 4,870,000 network access lines in Alberta, British Columbia and Quebec. Wire-based long-distance services interconnect customers in different local calling areas, and also provide domestic and international connectivity. That year, long distance revenues declined 5.4 percent to \$961 million.

As for the wireless sector, Bell Canada through its subsidiary Bell Mobility, operated a wireless Personal Communications Services (PCS) and cellular telecommunications system in large areas of Ontario and Quebec.

Bell Mobility, through the Bell Wireless Alliance (BWA) partners (Aliant Mobility, MTS Mobility and SaskTel Mobility), provided wireless service in Atlantic Canada, Manitoba and Saskatchewan. In 2003, the firm also operated in British Columbia and Alberta through resale arrangements with Telus Mobility, the latter being the larger wireless operator in British Columbia and Alberta. Revenue from wireless services was generated from the provision of cellular, PCS, paging and wireless data communications services. In 2003, Bell Mobility's operating revenue increased 15 percent from the previous year to \$2.5 billion. The increase in wireless revenues was primarily due to a 13 percent increase in cellular and PCS subscribers to 4.4 million, combined with increased usage per subscriber, as the majority of wireless subscribers added in 2003 purchased higher revenue, post-paid plans.

As for Rogers Wireless Communications, the latter had 3.8 million wireless customers in 2003, an 11 percent increase from 2002. At the end of 2003, its networks covered 93 percent of the Canadian population with analog service and 85 percent with digital service. In 2003, Rogers Wireless assets were \$3.1 billion, and revenues increased 16 percent to approximately \$2.3 billion. Rogers Wireless incurred a positive net income of \$138 million that year, significantly better than its net income loss of \$90.7 million for 2002. This increase can be attributed to a rise in operating profits as well as a foreign exchange gain from the strengthened Canadian dollar. In November 2003, Rogers Wireless began trials of Enhanced Data Rates for GSM Evolution (EDGE). EDGE is a 3G radio technology which provides wireless data speeds that are up to three times faster than those provided by GPRS, the common technology used at that period (Government of Canada, 2017). This upgrade allowed customers to connect their laptop PCs to the network for access to the Internet and other data applications. Rogers finished deploying EDGE across Canada in July 2004.

Through its acquisition of smaller firms, Telus Mobility became one of Canada's leading wireless communications service providers. Telus Mobility now includes the operations of the former Telus Mobility, Clearnet Communications Inc. and QuébecTel Mobilité. The firm provided wireless voice, Internet and data services across Canada through its Personal Communications Services (PCS) and Mike digital wireless networks. In 2003, Telus wireless revenues increased 17 percent from the previous year to \$2.4 billion. The increase in revenues reflects the 14 percent increase in Telus Mobility's wireless subscriber base to 3.4 million. In March 2003, Telus Mobility announced a roaming and resale agreement with Aliant Mobility, whereby Telus would expand its 1X wireless data network to major centres in Atlantic Canada. Additionally, in July of the same year, Telus announced the investment of \$20 million over three years to expand its next generation digital wireless PCS network. The expansion began in British Columbia to upgrade its existing network's digital

capability and to extend service coverage to small and rural communities. In February 2004, Telus acquired 11 licences in rural Quebec during the Industry Canada's spectrum auction of the 2300 MHz and 3500 MHz frequency bands, spending \$58,700, hence announcing a \$4.5 million expansion of its 1X digital wireless network in rural and remote areas of Quebec.

*The 2015 Telecommunication Sector in Canada: a New Pattern for the 21<sup>st</sup> century*

The number of fixed telephone subscriptions have decreased drastically, going from 65.25 million in 2003 to a mere 44.33 million in 2015. This decrease in profitability on wired service started in 2003 with a net-lost growth of 2.4% compared to the year before (2002) (23.8 billion dollars) and fell to 21.4 billion in 2015. At the same time, the number of households in Canada that cut their TV subscription is on the rise. According to Statistics Canada (2017), a total of 333 000 households terminated their subscription. However, monthly revenues per television subscriber had increased, especially with the Internet Protocol Television (IPTV) ranging from 61.4\$ to 77.3\$ per month depending on the provider. On the other hand, other services started to show rises in their usage rate. Hence, according to Statistics Canada (2019), Canadians, since 2010 are spending more time online. As of 2012, Canadian adults were spending 1.68 hours per day online. Online penetration based on age group found that those between the ages of 12 and 54 have the highest internet usage rate. Internet users also have a variety of devices from which they can connect to the internet. In 2014, adults in Canada spent 877 minutes per week online using their mobile devices. This increase in functionality also increased the total revenue from the cable company. Hence, in 2015, the Cable and IPTV revenue rose to 6.63 billion of dollars.

According to the Report of Masse and Beaudry (2014), one of the most volatile sectors in the telecommunications industry is the wireless sector. Since 2008, the federal government has intervened in various ways, through deregulation, to foster the emergence of a fourth national wireless provider that would enter in direct competition with what Canadian's called the "big three" players (Bell, Telus and Rogers). However, despite the effort of the Canadian's government by implementing policies aimed at increasing the number of competitors in the wireless market, Bell, Telus and Rogers are still dominate the Canadian wireless market (Government of Canada, 2017). For example, the provinces of Ontario, Alberta and British Columbia, which together account for more than 60% of Canada's population, still lack the presence of a fourth wireless firm in their market (Masse & Beaudry, 2014). However, despite having a new major firm in the telco-sector, the Canadians saw the rise of new, more local,

providers. First, EastLink in the Maritime Provinces, and Videotron in Quebec (owned by Quebecor), were two strong performing companies that already offered wireline telephone, Internet and television services and have successfully deployed their wireless networks. Their strong regional presence and their ability to offer a wide array of services are major reasons for their success (Government of Canada, 2017). However, Videotron has yet to make a decision on whether or not to deploy the 700 MHz spectrum licences in Ontario, Alberta and British Columbia that it acquired in the 2014 auction. Since Videotron is a province-based firm with no presence outside of Quebec, most analysts doubt that it has the ability to exploit a wireless network in several provinces unless it teams up with other providers (Masse & Beaudry, 2014).

The reaction of Telus, one of the “big three” players to new potential firms entering the Canadian’s industry consist of simply buying the smaller firms. For example, Public Mobile, one of the three new entrants that is not linked to any firms already establish in Canada is offering only wireless services. While being independent since their acquisition of 2008’s spectrum auction, Public Mobile was acquired in the following year by Telus for nearly five times the purchase price of its spectrum licences. Another new wireless firm, Mobilicity, has been under creditor protection since the government rejected its acquisition by Telus (Masse & Beaudry, 2014). Finally, WIND Mobile, another new entrant in the 2008’s spectrum auction, was sold to Shaw in 2016 for \$1.6 billion.

New firms in the Canadian Telco-sector aim mainly at either local businesses or specific market niches. For example, WIND Mobile only offer home coverage in the cities of Ottawa, Toronto and surroundings. On the other hand, Public Mobile aim mainly to appeal to new immigrants who often are denied service from the “Big Three” due to credit check. However, the major telecommunication providers also chose to expand their market. To do so, they expand typically their services with subsidiary firms: Virgin Mobile for Bell Canada, Fido (formerly Microcell) and Chat-R for Rogers and Koodo for Telus. In this regard, legal fights occurred in the last years between Wind Mobile and Public Mobile versus Chat-R stating that their parent company, Rogers, was using an illegal tactic to put them out of business (Masse & Beaudry, 2014). Figure 5 demonstrates the representation of wireless service providers within each province in Canada. It is possible to remark that the Big Three are roughly equally allocated in the country (with the exception of some regulation, for example Manitoba Telecom. Service in Manitoba). Also, the new entrants typically aim for the highest populated provinces like Ontario and Quebec.



Table 2. Wireless Service Subscriber, Market Share, by Province, 2013

Province/territory	Bell Group	Telus	Rogers	New entrants	Other
British Columbia	19	39	38	3	0
Alberta	24	48	25	3	0
Saskatchewan	12	13	8	0	68
Manitoba	6	10	33	0	51
Ontario	29	19	45	5	1
Quebec	33	29	29	9	0
New Brunswick	57	26	17	0	0
Nova Scotia	53	33	14	1	0
Prince Edward Island	56	32	12	1	0
Newfoundland and Labrador	71	28	2	0	0
The North	99	0	0	0	1

**Source:** CRTC, *Communications Monitoring Report 2014*, October 2014, Table 5.5.6: Wireless service subscriber market share, by province and territory (2013), p. 216.  
**Note:** The "Bell Group" category includes Bell Canada; Bell Mobility; Latitude Wireless; NorthernTel, Limited Partnership; Northwest Mobility; SkyTerra; Télébec, Limited Partnership; and Virgin Mobile. In 2013, Public Mobile's figures were included with those of Telus. The "New entrants" category refers to the new wireless entities that acquired spectrum in Industry Canada's 2008 AWS spectrum auction and were still operating as competitors to Bell, Telus and/or Rogers in 2013. These entities included: Data & Audio Visual Enterprises Wireless Inc.; Globalive Wireless Management Corp., operating as WIND Mobile; Videotron G.P.; and more recently, Bragg Communications Inc., operating as Eastlink. The "Other" category includes TSPs such as MTSAllstream, SaskTel, and other small TSPs.

This increase in wireless offering is a direct response to increased demand. Hence, according to Statistics Canada's Survey of Household Spending, while 96% of Canadian's household had a wireline in 2003, only 75% still retain one in 2014. Moreover, the wireless acquisition went up from 54% in 2003 to 86% in 2014. Another salient change is the switch from the wireline telephone to the cellphone as a main device for a household. Hence, in 2003, 45% of Canadian had only a wireline. This proportion was a mere 13% in 2013. Over the same period, the mobile wireless as the only communication device went from 2.5% in 2003 to 23.7% in 2014. Figure 6 gives an overview of the current market representation of the wireless sector in Canada, including the parent company and their brands or subsidiaries, the technology used, their total subscriptions and their monthly average revenue per user.

Table 3. Canadian Wireless Providers, Total Subscribers and Monthly ARPU

Parent Company	Brands and subsidiaries	% of Canadian population covered	Subscriptions (2016)			Blended ARPU monthly (2014)
			Postpaid	Prepaid	Total	
Rogers Communications	Rogers Wireless, Fido, Chatr	LTE: 95% <sup>[7]</sup> HSPA+: 97% GSM: 97% <sup>[8]</sup>	8,360,000	1,612,000	10,143,000	\$62.30
Telus Communications <sup>[note 1]</sup>	Telus Mobility, Koodo Mobile, Public Mobile	LTE: 97% HSPA+: 98% <sup>[9][note 2]</sup>	7,500,000	1,100,000	8,600,000 <sup>[10]</sup>	\$66.24
BCE Inc.	Bell Mobility, Virgin Mobile, MTS Mobility <sup>[11]</sup>	LTE: 97% HSPA+: 98% <sup>[12][note 2]</sup>	7,690,727	778,145	8,468,872 <sup>[13]</sup>	\$66.69
Shaw Communications	Freedom Mobile	LTE: Greater Toronto Area and Greater Vancouver Area <sup>[14][15]</sup> HSPA+: 98% <sup>[15]</sup> <sup>[note 3]</sup>	667,028	376,260	1,043,288	\$37.40
TNW Networks <sup>®</sup>	TNW Wireless	LTE: 95% HSPA+: 97% <sup>[note 4]</sup>	N/A			\$22.00
Vidéotron General Partnership	Vidéotron Mobile	Québec and Ottawa	N/A	828,900		\$69.44
SaskTel	SaskTel Mobility	Saskatchewan	N/A	614,221		\$64.39
Eastlink	Eastlink Wireless	Atlantic Canada	N/A			
Tbaytel	Tbaytel Mobility	Thunder Bay	N/A			
Iristel	Ice Wireless	Yukon, Northwest Territories, Nunavut	N/A			

Insofar as consumers are concerned, Canadians have, during the late 1990s and early 2000s, increased their multimedia and wireless consumption. According to the CRTC Monitoring Report (2017), while the majority of Canadians still own and use landlines, the data attests to a slow and steady shift away from this technology in favour of wireless services. Indeed, more Canadian households have mobile phones (84.9%) than landlines (78.9%) – a big change from only ten years ago, when just over half of Canadian households subscribed to mobile phones (53.9%) and almost all owned landlines (96.3%). Affordability may also be a factor. Hence, as Canadians embrace mobile wireless, wireless-only households are most prominent among the two lowest income quintiles.

As for television, data from 2013-14 indicate that on average, Canadians 18 to 34 years of age watch less than half the number of hours of television (20.6h per week) as those 65 and over (41.8 h per week). Children (2 to 11 years of age) and teens (12 to 17 years of age) appear to be following a similar course. Hence, it is possible to divide the Canadian population into two groups on the basis of television viewing habits: under 50 years old and above 50. Older viewers continue to watch a significant number of hours of television, while younger viewers do not appear to be following the trend.

As for wireless services, Canadian households currently spend more on wireless (79.08\$ monthly) and broadcasting distribution undertaking (BDU) services (53.95\$ monthly) than they do on Internet (38.91\$ monthly)

and wireline telephone services (31.10\$ monthly). However, at the same time, the monitoring report shows differences across household income quintiles: households in the two highest quintiles spend more than twice as much on mobile wireless than those in the lowest income quintile – a pattern that roughly holds for cable and DTH satellite television and Internet services. In the case of landlines, spending remains relatively evenly distributed across income quintiles.

In 2015, Canadian households spent an average of 203\$ monthly on telecommunication services. Compared to the earlier 2014, this is an increase of 12\$, or 6.2%, which is three times the rate of inflation. From that monthly expenditure, the wireless service is the most expensive with an average of 79,08\$. This may be explained by the rapid expansion of the smartphone. Hence, in 2013, more than 17% of households had three or more cellphones. Moreover, according to the CRTC (2017) households with lower revenue (less than 30 000\$ yearly) spend more than 8% of their total revenue on telecommunication services. Overall, since 2011, this indicates a net growth of 23,6% of monthly expenditure on this kind of service.

In conclusion, we can analyze the Canadian telecommunication sector as a dynamic industry that has undergone key changes since the end of the 20th century. With deregulation, multiple firms have entered the Canadian industry through offering various kinds of wireless services. Hence, Canadian households have switched from traditional landlines to a more 'connected' way to communicate, (i.e. one using the internet and smartphones). Moreover, according to the CRTC (2017) most internet basic operation's (banking, social media) are now done via handset devices instead of on a computer. While there has been a continued increase in competition between providers from the beginning of 2007, Canadians are still having increasingly more expensive monthly bills and consumers demand for new offerings in the telecommunication sector continues.

### *Research Question(s) and Methodology*

The aim of this work is to provide a conceptual overview of the emergence of complexity in the digital era and indicate how this emergent phenomenon has implications for strategy generally and the employment relationship in particular. The project has produced peer-reviewed scholarly articles in mainstream academic journals. The questions posed in these articles address the consequences of duplicity for three kinds of actors: those who craft and implement business strategy; consumer; and, those in (what is conventional thought of as) the labor market.

### *Consequence of duplicity for business management in the Digital Age*

Porter's conception of management strategy was created to address the planning-related conundrum faced by industrial-age firms which mostly existed within a factory and/or manufacturing competitive arena. It has some utility with service delivery but may be less well adapted to those sectors which have proliferated in the Internet age and which offer a wider and more nuanced range of products/services. This article views the phenomenon of offering/user interface complexity as having competitive strategy-related consequences. Accordingly, it presents a modified version of Porter's generic strategy framework which incorporates the dimension of complexity alongside the original dimensions of "target market" and "type of advantage." It uses an analysis of the contemporary Canadian Telco sector to prosecute its case.

### *Consequence of Duplicity for Consumers in the Digital Age*

Two articles are reported on in this section. This first one will depict the vendors perspective: The digital age has seen the emergence of genuinely new industries and product offerings. An archetypal example of such a sector is telecommunications and an archetypal device is the smartphone. Notwithstanding its alluring array of possible functions, for the price-sensitive customer there is a downside to smartphones arising from the way they are costed. This study asks two related questions about this matter: (i) what tactics do telcos pursue in their dealings with retail customers? (ii) How do contemporary telco selling tactics inform theory about concepts such as platforms, modularity, and customer-type? Qualitative results reveal answers to these questions. Findings indicate that the industry may seek to have consumers misanalyse their usage requirements; thereby paying

more for their device than they anticipated. The conclusion has strategic and theoretical implications which are explored.

The second article will be a philosophical work on the concept of free in the digital age and its various applications:

During the industrial age—the era before the Internet—the notion of receiving something for free was an established although somewhat marginal aspect of commercial life. In this former era, an offering could be freely given because it was (1) nearing its expiration date, (2) being offered to whet customer appetite, (3) serving as a loss leader; or (4) pursuant to the razor and blade business model. In the digital age, new industries have emerged influenced by the increasingly sophisticated platform and modular-based technologies. Such new sectors partly define the modern epoch and enable vendors to apply strategically notions of “free” in a distinctive — and sometimes disingenuous — way. Using the contemporary telecommunications sector as a key exemplar, new strategic meanings and applications of “free” are explored. In making a contrast between the industrial and digital eras, it is argued that free is now a fully-fledged element of commercial strategy.

#### *Consequence of Duplicity for Workers in the Digital Age*

In this article, presented in the fourth chapter, I propose that the term confusopoly has broader strategic import than that pertaining solely to sales and marketing within digital age industries. Indeed, the term can be “cantilevered” horizontally to embrace another domain of strategy option; those concerned with labour management. Using focus group-derived data taken from telecommunication-sector sales vendors, I show that the way that these employees are dealt with by their employer(s) has key points of correspondence with the way they are trained (and required) to sell their wares to an unwitting public, described above using the disparaging term confusopoly. Hence, the argument of this article can be summed-up with a single proposition: Dilbert’s confusopoly (Adams, 1998) is pervasive in distinctively digital age sectors of modern economies, effecting, at a minimum, elements of sales and marketing strategy as well as labour-use strategies. As such, criticisms of the approach – although based on denunciations of the customer/firm relationship – are mostly also applicable to the employment relationship.

While some articles in this project will be theoretical, I plan at least one empirical work. For these works, data will be gathered from two sources. First, vendors will be invited to answer electronically a survey about the Canadian telecommunication industry (see appendix A), this will be the quantitative section of this work. The second method will entail focus groups where vendors will be invited to discuss and share their experience in the industry and constitute the qualitative part of the research.

For the first method of gathering data, the survey contains two sections. The first contains demographic items about participants and items concerning their past work experience. Most items in this category are indexed using more than one multiple choice item and associated factor analysis.

According to Bhattacharjee (2012), research design should specify at least three processes: (1) the data collection process, (2) the instrument development process, and (3) the sampling process. In order to demonstrate that functional complexity can be considered a dimension of competitive strategy, structured surveys will be administered to telecom salespeople working in retail outlets across the province of Quebec (Canada). The survey has been designed using multiples items measuring Porter's original conceptualization (competitive advantage and competitive scope). It also adds new items measuring the presence -or not- of functional complexity via duplicity techniques within telecommunications firms.

#### *Rationale for Using Structured Surveys, Collection methods, Internal and External Validity*

According to Bhattacharjee (2012), data collection methods can be grouped into two categories: positivist and interpretive. Positivist methods test hypothesis. A hypothesis that has been tested and affirmed creates a premise that is subsequently used for deductive reasoning. From deductive reasoning, a theory is created. On the other hand, interpretive methods use a less rigorous approach to theory building. They employ inductive reasoning that starts with specific instances and derives a general theory about all similar instances. Positivist and interpretive methods are often associated –incorrectly- with quantitative and qualitative research respectively (Dixon-Woods et al., 2005). Instead, quantitative and qualitative methods refer to the type of data being collected and the means by which they are analyzed. Hence, quantitative data is that which exists in

numeric form and is mostly analysed using inferential statistical techniques. In contrast, qualitative data is typically non-numeric. It may be based on “judgment calls” concerning interviews and observations.

Internal validity and external validity are two elements that are traded when choosing a research methodology (Coggon et al., 2009; Roe & Just, 2009). Internal validity (causality) refers to whether an observed change on a dependent variable is caused by a corresponding change in a hypothesized independent variable(s), and not by extraneous variables (Bhattacharjee, 2012). External validity – also called generalizability- indicates if an observed phenomenon can be generalized from a sample to a population (i.e. population validity), or other people, context, organizations (i.e ecological validity). Figure 4 presents a conceptualization by Bhattacharjee (2012) regarding different research designs according to their relative amount of internal and external validity.

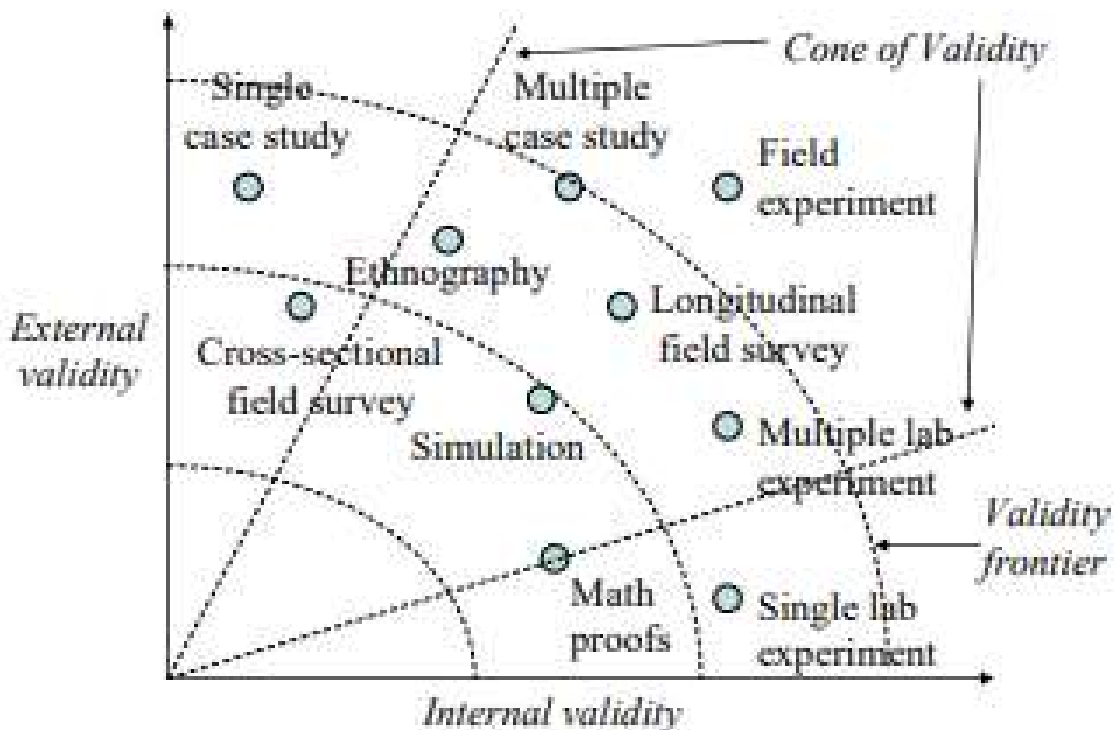


Figure 4. Internal and External Validity Trade-Off According to Research Design

In this regard, cross-sectional field surveys are an appropriate choice of research design for exploring the relationship between variables. Cross-sectional field surveys are non-experimental designs that measure independent variables and test their effects using statistical methods (Bhattacharjee, 2012). In other words, field surveys capture snapshots of practices, beliefs or describe a situation from a random sample of subjects in the field settings by using a questionnaire at the same point in time. Cross-sectional field surveys are often reported to be cheaper and deliver the same amount of data compared to other forms of epidemiological studies (P. N. Lee, 1994). Moreover, Coggon et al. (2009) indicate two more advantages of cross-sectional designs. First, they allow different variables to be collected more efficiently than in longitudinal studies. Second, compared to other techniques, cross-sectional field surveys raise additional research questions. Considering the goal of this thesis is mainly an exploratory study of the strategic implication of functional complexity in digital age industries, cross-sectional field surveys are an appropriate choice of research design.

### *Survey Development*

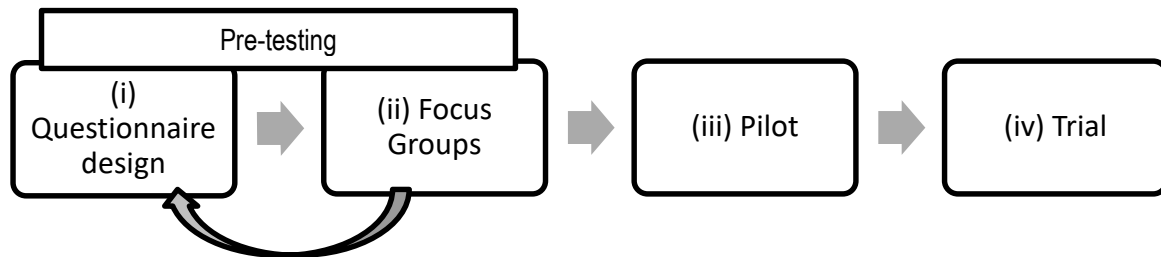
According to Shaughnessy and Zechmeister (1985), survey methods refer to the methodology employed for obtaining survey data. There are four possible ways to gather data via survey: self-administered questionnaires, personal interviews, telephone interviews, and internet surveys. Shaughnessy and Zechmeister (1985) noted that there is no one best survey method for all circumstances. Hence, each survey method has its own advantages and disadvantages. As such, each study's idiosyncratic characteristics largely determine choice of survey strategy, an understanding carried out below.

The surveys used in this thesis will be administered on the internet. There are three reasons for this. First, we can assume that salespeople in the telco. industry in Canada are more tech-savvy than most of the general population. Therefore, Internet, as a means to transmit the survey should be priorities instead of traditional mail surveys. Second, since the researcher expects to have a long questionnaire to explore the presence of functional complexity as a strategic lever for firms, telephone surveys should not be considered. Furthermore, telephone surveys risk losing the participant in a long series of questions. Third, for economic and practical reasons, an Internet-based survey will be easier to implement and distribute to salespeople in the telco. industry.



### *Survey's construction*

Researchers agree that the construction of a survey can be summarized into four steps (Cooper & Schindler, 2011; Franklin et al., 2010). Figure 5 presents a generic strategy for survey creation. Insofar as this project is concerned, each step contains a reference that matches corresponding section in this introduction.



*Figure 5. Survey's creation and distribution*

#### *(i) Questionnaire design*

The thesis survey, presented in appendix A, contains three sections. The first contains demographic items about participants and items concerning their past work experience. Most items in this category are addressing using multiple choice items. The second section of the survey asks participants about some of their employers' specific policies and their interpretations of their firm's strategic orientation. The third section asks participants to locate their employer and competing firms within the industry on a 3-dimensional graphic where each dimension represents a qualitatively distinct strategy orientation. In both the second and third section of the survey, participants had to respond on a 5-point Likert scale (1= Totally Disagree, 5= Totally agree). In addition to demographic items, the survey collects data about the utility of the tentatively proposed strategy framework.

The survey's items regarding competitive advantage and the competitive scope have been taken from prior research analyzing competitive advantage (Newbert, 2007; Vorhies & Morgan, 2005). The 10 items concerning the notion of complexity were written in following consideration of relevant literature and will be part of a validation process (face validity) by the focus group. Appendix C, presented in the last section of this work, presents survey items alongside the strategic orientation that they are intended to index.

The study's survey has been translated from French to English via a back-translation technique (Brislin, 1970)<sup>9</sup> with another student from Laval University's Industrial Relations Department. This project had ethical approval gained on April 28th, 2014 and renewed until May 1st, 2016.

(ii) *Focus groups*

Focus groups were held over a period of two months (May-June 2014) to ensure the construct validity<sup>10</sup> of the items presented in the survey. The two focus groups are from salespeople from two different Canadian telco. firms in Quebec City. Six men and five women participated in the focus group. The goals of the focus groups were to determine if:

- Items were incomprehensible (i.e. not able to be understood);
- Items were ambiguous (i.e. were understood differently by different people);
- Items were understood to be asking about phenomena that were analytically consequential, had construct validity (i.e. understood to be asking about what the researcher was interested in knowing about).

Moreover, participants were asked to provide their overall reaction to the questionnaire and improvement that they feel should be made to the survey. Aside from superficial modifications to certain survey items, no modifications on the substance of items were proposed by the focus group.

(iii) *Pilot*

According to Teijlingen and Hundley (2001), pilot surveys are used to evaluate each phase of survey implementation, including the steps involved in administration. Pilot studies replicate the final survey on a smaller scale than the eventual sample. Moreover, according to Franklin et al. (2010), focus groups can be used to test

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<sup>9</sup> Back translation can be defined as the procedure according to which a third party interprets a document previously translated into another language back to the original language. The third party has not been previously involved in the project and have no prior knowledge of the objectives.

<sup>10</sup> Construct validity is the degree to which a test measures what it claims to be measuring (see Cronbach, L. J and Meehl, P.E. (1955).

an entire questionnaire. Since construct validity was largely established using a focus group, this study did not conduct a pilot study.

(iv) *Trial*

The survey was available to salespeople from April 17th, 2015 until July 17th, 2015. The study's survey was put online on Limesurvey service (see Limesurvey.org), a survey platform that hosts servers within Canada, a criterion highlighted by the ethics committee.

*Survey Sample Size and the Sampling Strategy*

The statistical process of selecting a subset of a population of interest for purpose of making observations and statistical inferences about that population is called sampling (Bhattacharjee, 2012). The sampling process can be presented visually as three steps as shown in figure 6. Insofar as this project is concerned, each step contains a reference that matches a corresponding section in this chapter.

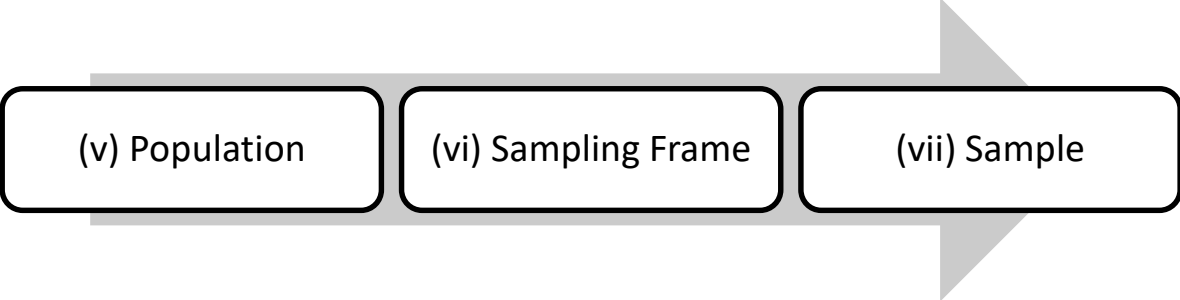


Figure 6. *The Sampling Process*

(v) *Population*

A population can be defined as all people or elements (unit of analysis) with the characteristics that are addressed in a research question (Bhattacharjee, 2012). Exploring the presence (or not) of functional complexity as a strategic lever with the Canadian telco. sector could have been done by raising pertinent questions with

managers, marketing department officials or even CEOs of firms in the sector. However, we choose salespeople from Canadian telco. retail store as the target population of this study. There were four reasons for this. First, such an approach would have likely resulted in a low response rate. Those actors are often busy and wouldn't have time to sit down for a survey analyzing their selling tactics. Second, as highlighted by the ethical committee, there are industry secrets and some managers would feel constrained to answer pertinent questions. The third reason for choosing the salespeople from Canadian telco. retail store as the target population for this study is their availability. According to telco. firm websites, most firms have between 275 and 700 employees in the retail sector in the province of Quebec and Ontario. Hence, since this work aims to draw conclusions on the industry as a whole, each firm must be adequately represented. By targeting all retail salespeople, we increase our chance to represent all firms, relative to only interviewing 2-3 high ranking managers per firm. Fourth, we decided to exclude salespeople working for third-party companies. Best Buy, La Source, and La Cabine Telephonique are each business that offer telecommunications services to customers. However, salespeople working in those firms are often required to sell more than one provider to customers and may be asked by their employer to target specific third parties in their dealings with customers. For example, Best Buy could ask employees to sell at least 30 cellphones from Bell Canada and 45 from Rogers per month in order to keep their license. Such scenario would typically apply to the phone marketing sector, where a representative would make a "cold call" to potential customers. These phenomena could blur possible correlations between a telco. firm's specific strategy and the behavior of its salesforce.

(vi) *Sampling frame*

The second step of the sampling strategy is the sampling frame. In this study, regarding feasibility and cost-efficiency, we targeted salespeople from the Quebec-Windsor corridor. The Quebec-Windsor corridor is the most densely populated region of Canada, containing nearly half of the country's population and three of the five largest metropolitan areas. Insofar as telco. firms are concerned, there are over 245 retail stores from 7 firms: Bell Canada, Telus, Vidéotron, Rogers, Virgin, Koodo, and Fido. However, some geographical differences are noted. For example, Fido, mainly a Quebec telco. provider only has 4 retail stores in Ontario and relies heavily on third-party sellers to ensure services to customers (i.e. WOW mobile, Wireless Wave, etc.). Other firms, like Vidéotron, do not offer wireless service in-store to the province of Ontario, except for the cities of Ottawa, Gatineau, and Hull.

(vii) *Sample*

The last step of the sampling strategy is choosing the sampling technique. Two categories of sampling are possible: probability (random) and non-probability sampling (Bhattacharjee, 2012). Probability sampling is a technique in which every unit in the population has an equal chance of being selected in the sample. Six techniques are available for a probability sampling: (1) simple random sampling, (2) systematic sampling, (3) stratified sampling, (4) cluster sampling, (5) matched-pair sampling and (6) multi-stage sampling. On the other hand, non-probability sampling is a technique where some units of the population have a higher probability of being selected than other elements of the population according to same criterion, or where the probability of selection cannot be accurately determined (Bhattacharjee, 2012). There are four sub-techniques which comprise non-probability sampling: convenience sampling, quota sampling, expert sampling and snowball sampling.

In this study, three methods for recruiting participants were used. Data response rates from each of these methods will be further discussed in this thesis. First, since the author of this thesis had worked in the telco. industry for over 11 years, he had multiple contacts with regional managers that oversee retail stores (snowball sampling). A presentation letter was sent to those managers (see appendix E) describing the project and soliciting their help to recruit participants. This result was partially successful. For example, executives from two firms agreed to participate and send the survey to their workforce. Executives from other firms refused to participate, telling the researcher that their firm has an internal policy that prevents them from participating in external surveys.

Second, an invitation was sent via email to the university population inviting them to connect to the survey if they work as a salesperson in the telco. industry. This method was mostly unsuccessful. Only two respondents replied to the invitation of the researcher.

Third, in-store visits from the researcher were done to meet salespersons, who explained the project to them. Following their consent, he offered them the opportunity to complete the questionnaire via a tablet provided (accidental or opportunity sampling). Store visits were done by the researcher to ensure representability of all telco. firms.

### *Focus groups with telco-industry outlet-based vendors*

The second method of data collecting include telco-industry outlet-based vendor focus-group. Two 90-minute focus groups were held in Quebec City on the 25 and 30 January 2013. There were six former retail telco salespeople in each meeting and hence 12 individual contributors across the two sessions. Participants were approached by the researcher who also manages telco retail-outlet operations in Canadian shopping malls. Hence, they were recruited as a convenience sample. Each had a minimum of six months of experience working in industry retail outlets.

Consistent with the recommendations of authors such as Yin (2009) and Silverman (Silverman, 2007, 2013), four strategies were used to avoid concerns such as demand characteristics and other systematic sources of error that may have biased focus-group findings. First, the purpose of the study was deliberately kept vague (i.e. the facilitator began the session by saying “we are not sure about how the telco industry interacts with retail consumers and want to start our exploration of this issue with a discussion of how you go about doing your job”). Second, post-hoc questionnaires were administered which asked participants if they were aware of the purpose of the sessions and/or if they felt at ease discussing the way they do their job. Third, there was a priori development and pretesting of focus-group thought-starter questions.

Focus groups used the same format. Contributors were asked unstructured/opened-ended questions about how they personally, and the telco industry generally, go about selling to consumers. They were invited to give basic responses and then to elaborate. During the sessions, those who were not responding directly to questions were asked to add-to, modify and/or clarify points being made by primary contributors. Questions that were posed to focus group participants included:

- What do you say to customers when they approach you and ask for assistance in choosing a suitable smartphone/tablet device?
- How do you close a sale? – How do you ensure that you don't lose a customer?
- How do you go about explaining the variety of product/service offerings that a customer could potentially purchase? How do you make sense of such complexity for your client?

- How much corporate pressure are you under to make sales? How do you manage such pressure? What corporate advice is offered to you about meeting your sales/financial objectives?
- What things are you told to do to make your firm successful? Do you implement corporate sales/marketing policy or do you modify it? Please speak about this issue.
- What problems do you have implementing corporate sales/marketing policy?
- Were there aspects of your past employer's approach to sales and marketing which worried you or which you had trouble implementing? Please speak about this matter.
- What were the most frequent complaints that you received from customers? Please consider complaints/problems at the point of sale and those arising subsequently.
- What things are you told to do to make your firm successful? Do you implement
- corporate sales/marketing policy or do you modify it? Please speak about this issue.
- Does your employer offer you any kind of training? If so, how, when and where does this happen ?
- Are there aspects of your employer's approach that you find to be dishonest? Have you ever felt misled by your employer? Have they told you things that were not quite true? Have you ever felt they have made things overly complicated just so you can't understand them?
- Is your current job in the telecommunications industry going to lead to a career in that industry for you?
- How would you describe your working conditions? What do you like the most about your job? What do you dislike the most about your job?
- What are the most frequent criticisms you personally receive from your manager? What are the things your manager has praised you about or appears to like about the way you do your job?
- How does pay work for outlet vendors in the telecommunications industry? If I were starting as a vendor, what you advise me to do to maximise my pay?
- Can you describe what a typical working day is like for you?
- How would you describe your relationship with your outlet manager and more senior managers within your firm? Would you say you guys see eye-to-eye on most things?

The dialogue provided by focus group participants was recorded on audiotape, transcribed and subsequently presented to two research assistants for interpretation. The assistants were given broad instructions. They were invited to create superordinate categories (themes) and – if called upon – to explain the process they used for creating such themes. The themes created by the assistants were subsequently examined by the researcher who had prior familiarity with selling tactics literature and practice.

### *Conclusion*

The purpose of this introduction is to make four points. First, the concept of strategy, although originally a military concept, has been embraced within the world of business, including within the industrial age sector and those in the digital age. Strategy is typically viewed as a precursor of success in business (Raynor, 2007; Ven, 1992). There are specific reasons for this. Resources available to achieve goals are invariably finite and, therefore, have an associated cost. This principle is relevant because at least according to a neo-classical economic perspective, the Holy Grail objective of firms in capitalist markets economies is profit maximisation. For present purposes, I will view strategy as the formal establishment of goals and associated implementation measures that are ultimately endorsed by a firm's senior managers. Such a process cannot be divorced from consideration of available resources and examination of internal and external environmental elements.

Second, in the 20th century, paradigms for thinking about strategic management were typically of two kinds. First, there were those that represented a response to historical, political, demographic and sociological circumstances but that had little to do with industry competitive advantage (Pettigrew et al., 2001). Second, there are paradigms that have been derived using inductive reasoning principally, and which came about because managers of a specific firm had developed a way to make their entity more profitable (Conke, 2013). A prominent strategy theorist in the late industrial age era (1965-1989) was Michael Porter. A notable contribution of Porter was that his generic blueprint for the orientation of a given entity is a derivative of the competitive arena in which that entity exists (M. E. Porter, 1980). Porter's legacy has become that a strategy-orientation is largely constrained by the circumstances within such a competitive arena.



Third, in the 21st century, technological advances such as development of platforms and increasingly sophisticated forms of component modularity have given rise to the possibility of specific forms of complexity in the world of commerce. The Internet has accelerated the growth and proliferation of other technological advances. Specifically, it has been an influence on certain circumscribed technologies becoming redundant, the fusion of technologies and the blurring of boundaries between the physical, digital, and biological spheres (Schwab, 2017). Some authors have an optimistic view of the role of technology in creating societal betterment. For example, Clark Kerr proposes that technology was broadly beneficial and would help eliminate community inequalities because it would make work more interesting. However, we see in the digital age technology, specifically through elaborated platform and modularity, increase complexity and interconnectivities, elements not necessarily associated with making work more interesting. Simon (1962) defines complexity in a system as “a large number of parts that interact in a non-simple way.” A growing number of interdependent parts increases coordination requirements and raises the total number of interfaces within a system (Larsen et al., 2013). In other words, the more elements there are in a system and the more interconnections that exist between such elements, the more complex is that system. This complexity is also present in the business world. The impact of organisational complexity has been an object of scholarly interest for strategic management theorists (Nickerson & Zenger, 2004; O. Williamson, 2002). Organisational complexity has been viewed as an aggregate function of how many interactions between sub-entities occur within a larger circumscribed organization plus how many occur between the organisation and external elements (Nickerson & Zenger, 2004; O. Williamson, 2002). In practical terms, it indexes the likely resource commitment for a division, project, or team. If the size of the organizational structure or system (measured according to the aforementioned idea of “number of interactions”) reaches an arbitrary threshold, that organization is said to be complex (M. Thompson & Bevan, 2013). An implication of this view is that causality is bi-directional: more interdependencies increase the coordination requirements among activities and partners and a higher number of activities and partners adds to complexity because it increases the likelihood of inter-element interactions (Larsen et al., 2013).

Fourth, in the digital age, new terminologies have emerged to deal with the evolving idea of complexity and how that idea is manifested in 21<sup>st</sup> century industries. One new word associated with this lexicon is confusopoly. When applied to a firm-consumer relationship, confusopoly denotes a situation where, when a group of firms in the same sector offer roughly equivalent products, a particular player’s strategy may be to confuse the consumer as opposed to, for example, compete on price. For such a strategy to work, at least two players in a multi-firm industry arena must pursue it. Examples of confusopoly are to be found in sectors such as mobile phones where various price plans exist based on combinations of available minutes, text messaging capabilities, Internet bandwidth, music option, etc. Such a suite of options often renders comparisons problematic. In the context of

managing employees, confusopoly concerns the fact that there is information asymmetry in the employment relationship. Specifically, employers take charge of and control a complex narrative that the employee is to embrace (Kuehn & Corrigan, 2013a). The key idea here concerns narrative, the story to be told. In taking such control, they (the employers) have a plethora of options. Hypothetically, they could paint a pessimistic picture of likely worker benefit but, if they do, will be overtly acting against their own interests.

The next chapters of this work will individually provide a conceptual overview on the consequences of confusopoly for three kinds of actors: those who craft and implement business strategy; consumer; and, those in (what is conventional though of as) the labor market.

# **Chapter 1. A Spring-clean of Michael Porter's Attic: the Canadian Telecommunications Sector as an Exemplar of Refurbished Generic Strategy**

## **1.1 Résumé**

Le présent document considère le phénomène de la complexité de l'offre et de l'interface utilisateur comme ayant des conséquences sur la stratégie concurrentielle. La conception de la stratégie de gestion générique de Porter a été créée dans les années 1980. Il n'est pas bien adapté aux industries qui ont proliféré à l'ère d'Internet. Par conséquent, la conception présentée dans cet article offre une version modifiée du cadre stratégique générique de Porter. La nouvelle vision intègre la dimension de la complexité aux côtés des dimensions originelles de "marché cible" et de "type d'avantage". L'article s'appuie sur une analyse du secteur canadien contemporain des télécommunications pour présenter sa position.

Conception/méthodologie/approche - Le projet utilise une analyse des orientations déclarées du positionnement concurrentiel des entreprises œuvrant dans le secteur canadien contemporain des télécommunications pour établir un raisonnement concernant la nature de la stratégie générique modifiée à l'ère numérique. Il utilise le raisonnement inductif pour généraliser les résultats sur le secteur des télécommunications à d'autres industries récemment apparues (l'ère numérique).

Constatations - Une vue révisée de la grille stratégique générique de Porter est présentée et défendue.

Limites/implications de la recherche - L'étude n'analyse qu'un seul secteur, mais tire de nombreuses conclusions générales. Il utilise un raisonnement inductif qui est limité par la mesure dans laquelle le cas exemplaire (télécommunications) peut être comparé à d'autres cas de la même catégorie (autres industries de l'ère numérique). L'étude n'utilise pas une analyse approfondie des documents de planification stratégique des entreprises individuelles ; cependant, ce n'est pas une limite à moins que et jusqu'à ce qu'une critique conteste les affirmations faites sur les stratégies génériques poursuivies.

Implications pratiques - La nouvelle conceptualisation peut être utilisée comme outil de planification pour les entreprises de l'ère numérique.

Originalité/valeur - Le projet est une tentative novatrice d'actualiser la vision de Porter sur la stratégie générique. Elle surmonte les problèmes qui ont été associés aux tentatives antérieures de révision.

## 1.2 Abstract

This paper views the phenomenon of offering/user interface complexity as having competitive strategy-related consequences. Porter's conception of generic management strategy was created in the 1980s. It is not well adapted to industries which have proliferated in the Internet age. Accordingly, the conception presented in this article offers a modified version of Porter's generic strategy framework. The new view incorporates the dimension of complexity alongside the original dimensions of "target market" and "type of advantage". The article uses an analysis of the contemporary Canadian Telco sector to prosecute its case.

Design/methodology/approach – The project uses an analysis of the stated competitive positioning orientations of firms operating in the contemporary Canadian Telecommunications sector to build a case about the changed nature of generic strategy in the digital age. It uses inductive reasoning to generalise findings about the Telco sector to other recently emerged (digital age) industries.

Findings – A revised view of Porter's generic strategy grid is presented and defended.

Research limitations/implications – The study analyses only one sector, but draws many broad conclusions. It uses inductive reasoning which is limited by the extent to which the exemplar case (telecommunications) may be compared to other cases within the same category (other digital age industries). The study does not use an extensive analysis of strategic planning documents of individual firms; however, this is not a limitation unless and until a critique challenges the claims made about generic strategies being pursued.

Practical implications – The new conceptualisation may be used as a planning tool for digital age firms.

Originality/value – The project is a genuinely new attempt to update Porter's view of generic strategy. It overcomes the problems which have been associated with previous attempts at such revision.

## *Introduction*

Internet-based technologies have influenced the emergence of distinctively post-modern or digital age industries. For example, the telecommunications sector is vastly different now to its 20th century predecessor which created one offering through connecting twisted-pair copper wire fixed lines through switching exchanges. The fact that there are genuinely new products and services and better ways of delivering more traditional offerings raises the possibility that frames of reference about competitive strategy from the 1980s – before, in particular, the widespread proliferation of the Internet – need reframing.

Despite the efforts of scholars such as Allen et al (2007), the full range of competitive strategy options available to modern firms may not have been adequately delineated. This article argues that the 21st century telecommunications sector, in particular, has available to it generic planning choices which may be pursued in certain other modern industries and which require that industrial-age – or pre-Internet –conceptions of commercial advantage, such as those of Michael Porter, be revisited. We use Porter's strategy-grid as a jumping-off point for considering new and distinctively contemporary generic planning possibilities. Such new options arise partly because of changes brought by technology. However, their emergence has also been influenced by diminishing levels of government-imposed regulation in certain countries including, for example, Canada, Australia, New Zealand and the United Kingdom. The revised set of generic approaches may entail elements of duplicity, guile and manipulation. To prosecute our case, we analyse the approach taken by players in Canada's contemporary telecommunications industry; an archetypal digital age sector.

The article is structured in three parts. First, theoretical foundations are provided where a two-epochs-conception of recent economic history is presented: the industrial age, a period up until the 1990s when the Internet became widely available; and, the digital age, the period thereafter. Second, Porter's view of generic strategy is described and placed in historical context. In the second section we also focus on the modern Canadian telecommunications sector to reveal a need for an elaborated view of generic strategy. We use inductive reasoning to reveal that this industry is an exemplar case and therefore has common characteristics with other recently-emerged contemporary sectors. An updated version of Porter's generic strategies is presented. In the third section, Managerial Implications and Conclusions, we consider the practical utility of an expanded view of Porter's original framework. Using this elaborated conception, we explore ways to enhance the strategic planning capabilities of digital age firms.

### *Theoretical Foundations: Two Eras and Porter's View of Competitive Strategy*

Economic historians often distinguish between eras based on the way commerce is undertaken as well as the array of consumer product/service offerings that exist as a consequence of prevailing technology. Kluvver (2006) and Laudon and Laudon (2012) differentiate between a post-industrial mode of commerce where the emphasis was principally on the newly-emerged services-sector and the digital or new-media age when information became a more important commodity and computer networks the means by which it was shared and traded. Laudon and Laudon (2012) argue that the point of demarcation between these epochs is marked by the emergence of the widespread public use of the Internet. Others have reached a similar conclusion about the timing of the change using different reasoning. For example, Kambil (1995) and Gupta (1995) argue that until the creation of the World Wide Web commercial endeavour, although often facilitated by communications and transport-related technology, was limited by geography. They use such rationale to conclude that the Internet, which has provided a means for expanding market parameters, has created a new era.

If the arrival of the Internet was a direct influence on the emergence of a new digital age era, then other more protracted contextual elements can be considered as indirect influences. One of the first of these was described in the Woodward-Blauner hypothesis which represented a critique of the fragmented and routinized work methods of the industrial-age factory paradigm (Beamish, 2010; Lincoln & Kalleberg, 1992; Marsh & Mannari, 1981). This perspective was influenced by Emile Durkheim's division of labour thesis which proposed that class conflict is a fleeting problem that will eventually resolve itself (Beamish, 2010; Ritzer & Smart, 2007). Such a view conceives Marxist notions of employee alienation as having much to do with how capital and labour coexisted when the factory paradigm was becoming established and therefore anticipates that the early 20th century hardships endured by the proletariat would be ephemeral. In particular, growing pains would occur because technology was sufficiently developed to be integrated into a strategy of mass production but not so advanced that it could make work interesting (Milgrom & Roberts, 1990). From a practical standpoint, optimism about the trajectory of modernity appears to have face-validity. For example, prior to the digital age those with responsibility for selling technology-enabled products – such as vendors within the pre-Internet consumer electronics industry – undertook tasks that were simultaneously easy to execute and uninteresting because the devices they sold required little explanation, few usage instructions and almost no costing analysis. A relevant case in point would be the comparison that could be made between selling a transistor-radio and selling a smartphone and its associated usage contracts.

For current purposes – and consistent with the view of authors such as Bernes-Lee (2000) - the point of demarcation between the post-industrial and digital/post-modern eras is approximately 1992 when the World Wide Web became a public utility. Wright Mills (1959, 2000, 2010) suggests that part of the value of seeing social history through the prism of different eras is that such circumscribed epochs create genres of ideas, or distinct intellectual traditions. In this article, using a before/after-type analysis, one such tradition is examined: scholarship about competitive business strategy.

In the 1980s the idea of management competitive strategy became fashionable in Western business schools and within the executive ranks of the private sector (C. Williams, 2006). The task for those developing strategy was twofold. First, they had to find generic principles; and second, they had to produce customized action plans (Mintzberg, 1987; Mintzberg & Westley, 1992). Their goal - heavily influenced by a newly emerged so-called neo-classical world view of Western market economies - was profit maximization. Such theoretical preoccupations can be characterised as a quest to determine what firms generally, or in an overall sense, should do to be profitable. On the other hand, within enterprises themselves, executives and consultants were employed to craft and implement more specific initiatives to create shareholder wealth (Pfeffer, 1995).

In the contest of ideas about generic competitive strategy, the for-quadrant blueprint offered by Michael Porter reigned supreme (A. A. Thompson et al., 1998). Indeed, it became a standard for classifying how commercially-orientated entities gain competitive advantage. In his original work, Porter (1979) identified four generic approaches that are defined by two axes, the target market and the type of advantage being pursued. The options arising from this template are: low-cost leadership, or appealing to a broad spectrum of customers based on being the overall low-cost provider of an offering; broad differentiation, or distinguishing an offering in a way that will appeal to the lion's share of prospective buyers; best-cost provider, incorporating elements of low cost leadership and broad differentiation in such a way as to give customers the best price for a differentiated product; focused niching based on low-cost, or singling-out a narrow buyer segment and providing those customers a desired product at a lower cost than rivals; and, focused niching based on differentiation, or singling-out a narrow buyer segment and giving such customers a desired product that meets their tastes and preferences better than rivals. Under conditions where consumers manifest differing preferences, competing entities should choose a strategy that has not already been taken by a rival (M. E. Porter, 1985). For example, if one firm has established itself as a focused low-cost leader, other players in the same sector are limited to choosing one of the other three strategies; or at least are somewhat constrained to choose an approach which fits thematically under one of the non-selected generic headings (M. E. Porter, 1980).



Porter's generic strategies apply within constraints. Such context is partly defined by his Five-Forces model which posits that going-concern entities manage each of four industry-external factors (eg firms in other industries offering substitute products; buyers; potential new entrants; suppliers of key inputs) and one industry-internal factor (eg. rivalry among competing sellers). According to Porter, the Five-Forces define the universe of influences impacting a commercial entity.

Aside from the specific impacts of Porter's circumscribed Five Forces, cultural values and priorities influence the application of his generic strategies framework. Culture, in this context, refers to shared values, assumptions, beliefs and norms linking members of a firm or work unit (eg Goldsmith (1995); Bartol et al. (2008)). Using this perspective – or slight variants of it – culture, and in particular cultural change, becomes aligned with considerations of competitive advantage and strategy. Aside from such intra-firm preoccupations about what firms do to be competitive, there are also broader elements associated with advanced forms of capitalism which inevitably frame application of Porter's strategies. For example, his conceptualisation often becomes more potent when applied to entities operating within a deregulated and market-based private-sector environment; or, at least a milieu that establishes a role for customers in determining the fate of an enterprise (M. E. Porter, 1985, 2008). This element of context creates a multi-firm or oligopolistic and dynamic industry structure that may be evolving towards perfect competition. In such circumstances new entities may enter an arena and existing ones may exit as a result of performance failure (Porter, 1985, 2008).

With the passage of time, Porter's conception of generic strategy has been subject to at least five lines of critique. First, certain scholars argue that it does not account for the full range of approaches that a firm could pursue. For example, Allen et al, (2007) have experimented with elongating the advantage dimension to include additional nominal categories such as supply chain and training. Second, there is evidence that Porter's strategies are not mutually exclusive. For example, Murray (1998) found in the case of high-technology capital-intensive industries such as fabrication of superconductors, that some entities stand out because they are both low-cost and offer a differentiation advantage. Third, it is sometimes difficult to find examples of the application of Porter's generic strategies. This raises the prospect that his archetypes are overly simplified and/or stylized (eg. Spender (1992); Morrison & Roth (1992); Miller (1992)). Fourth, Porter's conception of strategy is not sensitive to a changing industry context and/or does not specify how contestants can transition from one approach to another (L Downes, 1997). Fifth, it may be that - despite his claims about having created an omnipotent blueprint - Porter has not adequately specified the parameters of his framework. For example, some

argue that his generic approaches do not work well with small firms (Alpkan & Aytakin, 2002; K. S. L. Lee et al., 2001), in fragmented markets (Brastad & Jarl Borch, 2003), and in retail settings (Pitelis & Taylor, 1996).

A more nuanced view of strategy – and one that represents at least a partial rebuke of Porter’s generic options perspective has been developed by Prahalad and Krishnan (2008). In reflecting on what appears to be a growing emphasis on customer relations as markets within advanced economies become saturated, these authors present a case that firm-planning inevitably embodies consideration of elements such as offering customisation. For example, they note in their N=1 conceptualisation, that competitive strategy cannot be understood “without focusing on the importance of the individual consumer experience” (Prahalad and Krishnan, 2008: 4). Aligned with this idea is their R=G conception which emphasises the role of supply-chains as part-and-parcel of strategy. Such work continues the parallel efforts of qualitatively orientated scholars who have created a genre of strategy literature that has existed alongside of Porter’s paradigm. A key influence on this work was Prahalad’s and Bettis (1986) perspective which invokes the idea of dominant management logic; positing that firm strategy cannot be understood as merely a rational and depersonalised process but rather relies on appreciating the preferences and biases of executives who are charged with its formulation. Other genres offer alternative conceptualisations of the nature of strategy. For example, there are those that: emphasise collaborative approaches (eg. Moore (1997); focus on the purported trial and error that often forms part of plan formulation (eg. Botten & McManus (1999); and, are derived from a resource-based perspective (eg. Juga (1999).

In spite of critiques, attempts at revision, and the presence of other research genres, Porter’s conception of strategy has survived into the 21st century as a dominant management theory paradigm (Marcus, 2010; Njuguna, 2009; M. E. Porter & Kramer, 2011). It has even been suggested – based largely on interviews with Michael Porter himself - that Porter’s planning grid is appropriate for analysing the circumstances of digital age industries (eg Hartfield (1998b); a point contested in this article.

#### *Conceptual Framework: A Metamorphosed Industry and a Reframed View of Porter*

Certain digital age industries have traceable ancestor-sectors that existed in the industrial age. Modern telecommunications providers are a case in point. Telecommunications products/services may be contrasted with their predecessor offerings because they do genuinely new tasks and use the same infrastructure to do different kinds of tasks. This latter point about the emergence of common infrastructure has been interpreted by

philosophers such as Pitelis and Taylor (1996) and Warf (1989) as evidence of the growing sophistication of platform technologies and an associated recognition of the importance of component modularity (Langlois, 2002; Schilling, 2000).

Another case of a pre-super-technology industrial-age industry was the old consumer electronics sector; exemplified in the 1970s in the Western world by transistor radios and radio cassette players. During that era, there was broad consensus concerning – for example - what a radio could do. Customers would not have expected that it could take photos or act as a personal messaging service. Another feature of the industrial age was that, although technology enabled certain modern functions to be carried out, the same technology was not sufficiently evolved to provide more than one function. Offerings themselves may still have been multipurpose. Using the transistor-radio example, it would have been possible to design a device that played music and took photos. Such a gadget would have been - and in some cases was - ugly and awkward. For example, a multipurpose product in the 1960s – which survived until the 1970s – was the Westinghouse Escort Transistor Radio/Lighter/Clock/Flashlight; the (unsightly and unwieldy) Swiss Army Knife of transistor radios. The aesthetic disadvantage of the era's multipurpose products mostly meant that radios stayed radios and cameras stayed cameras; a state which created conceptual alignment between the look, feel and expectations of offerings and their functions.

In the digital age era advances in micro-processing and miniaturization - alternatively conceptualised as elaboration of platform technologies and modularity (eg Langlois, 2002; Schilling, 2000) - have produced new functions such as email facilities. Another consequence of such innovation is that the same infrastructure can now be used to do different tasks. For example, it is no longer necessary to physically attach a camera to a transistor radio to create a multi-purpose product. Rather, there is a contemporary system that is sufficiently versatile to metamorphosise from a picture-taking into a music playing device. As a consequence, from both consumer and technical perspectives, there has been a degree of convergence between the industrial-age telecommunications industry and the former consumer electronics sector. This phenomenon can be appreciated through analysing what a smartphone is and does; a modern example of using the same infrastructure/platform to execute up to hundreds of different functions; and, in the process, blurring the boundary between form and function. For example, in 2012, major Canadian telecommunications providers typically offer at least 750 products/services that can be combined to create additional options (Rogers Communications, 2012). Hence, as is known to Iphone and Blackberry users, the devices offered by this industry have potential for doing much more than making and receiving phone calls.

The two aforementioned differences that have emerged with the marrying of telecommunications and consumer electronics – capacity to do genuinely new and multiple tasks using the same infrastructure/platform - create strategy and marketing-related dissimilarity between the industrial and digital age eras. For example, in the digital age new functions often entail, in the service/product ratio, more service than product (Vargo & Lusch, 2008). Furthermore, the common-infrastructure innovation has fuelled rapid growth in offering availability (Rust & Espinoza, 2006). Hence, when a customer asks for a mobile phone plan they may have to choose from amongst hundreds of options that entail consideration of functions to be used and circumstances of use. This condition creates a modern consumer environment that is more complex than its earlier incarnation. One manifestation of such enhanced complexity is that offerings may be able to be accessed over lengthy periods and in varying degrees. For example, when purchasing an iPhone or a Blackberry, a customer who seeks primarily a telecommunications device would probably be asked how much texting they want to do. They may receive an option of having 100 text messages per month for free, between 100-500 for \$4,99 or unlimited for \$19,99 (Rogers Communication, 2012). They would only be able to have this discussion with a vendor if they had already agreed in principle to pay for a plan. Post-payment negotiations of this kind would centre on one aspect only of the device's functionality. Similar planning discussions would also be necessary if the customer wanted to download books or music. Such context creates a state where buying a modern telecommunications-type device will inevitably bring a consumer into contact with multiple product/service delivery cycles. It also mostly requires that buyers enter into several contractual arrangements as well as relationships where they will unwittingly be brought into the orbit of firms that will attempt to sell to them (American Marketing Association, 2010; Zanelli, 2011).

It has been noted that, due mostly to technical advance, but also a changed public policy orientation in certain countries, telecommunications has altered massively and that the industrial/digital age distinction provides a qualitative, or step-wise, point of demarcation in the transition. Here it is argued that telecommunications, when considered across several decades, is a generic case of two sectors – each with its own characteristics - that exist within separate circumscribed timeframes. Because the industry is an exemplar case, inductive reasoning may be used to generalise findings about the sector to certain other new spheres of commercial endeavour (Warf, 1989). Specifically, telecommunications has in common with other new sectors the following attributes: in relation to its offerings, it tips the balance towards more service in the service/product mix (Albrecht & Zemke, 1990; Hopkinson et al., 2005); through broadening and extending notions such as platforms, *a la* Schilling (2000) and modularity *a la* Langlois (2002), it frees consumers from the one-infrastructure/one-function principle; it replenishes its offerings more regularly than in the preceding era, thus sharpening the distinction between early adopters and late-majority consumers; and – the point of this article – it seems to be associated with a new kind

of corporate strategy. Such characteristics mean that modern telecommunications can be compared to, for example, personal finance (credit card and mortgage-related offerings); text and entertainment-based media (post-modern music, movie and print-media industries and their derivatives such as audiobooks); modular electronic offerings (for example, buying a personal computer which, in practice, is the purchase of hardware and software and their associated contracts); and Internet-based bundled offerings (for example, one-stop-shop holiday packages). Hence, to the extent that these comparisons can be made, the digital age has brought with it genuinely new offerings and modes of delivery. As a consequence, we propose that generic strategies should be recast to suit contemporary technological and regulatory circumstances. This section concludes by presenting and defending an updated template.

Aside from enhanced versatility, one patent consequence of digital age technologies is that contemporary offerings are more complex than their industrial-age equivalents. Two, somewhat different definitions of complexity are relevant here. First, complexity may refer to the number of, and interrelations between, an item's components. For example, one may say that the space-shuttle is a complex machine. Second, complexity may refer to the training and/or knowledge required to use an item. For example, one may say that flying a space shuttle is complex.

Insofar as consumerism is concerned, the notion of user-offering interface complexity (the latter kind of complexity) may be indexed indirectly through using conceptions such as Roger's (1962) view of the consumer uptake of new innovation. This framework portrays individual members of a potential market for a new offering as converting to an actual user across a timespan. The first users are referred to as innovators. The next group are early adopters, followed by the early majority, the late majority and, finally, the laggards. Roger's (1962) view, although originally developed as a marketing tool for industrial-age value-added offerings such as televisions, stereos and radios, has special importance in the digital age. As noted by social commentators such as Jones and Moore-Chick and Woolley (2012) and Kulviwat et al. (2007), it has been used to interpret how innovation tends to divide populations into those who are technically savvy and those who are not. Such analyses reveal that – in the contemporary world - offering complexity is a salient attribute of certain industries. This does not suggest that complication and intricacy is, always and in every case, the *ordre du jour* in digital age industries; but only that – because such attributes are possible – they are a potential strategy-related consideration. Hence, complexity, at least of the user/offering interface kind, is viewed here as a planning issue. For purposes of hypothesis testing it is grafted on to Porter's original conception to create a third axis. The notion of grafting-on a third axis was done following consideration of alternative ways to incorporate a generic view of complexity into

Porter’s original framework. For example, we entertained the possibility of extending the offering advantage axis to incorporate two more nominal categories; high complexity and low complexity. However, we rejected the resulting framework because, as will be revealed in the case of Telco firms, an entity’s strategic orientation may simultaneously be, for example, to pursue differentiation and low complexity, etc. In order to retain this element of Porter’s original conceptualisation a “third axis” solution is offered. Figure 1 presents the cube structure that arises from such an augmentation.

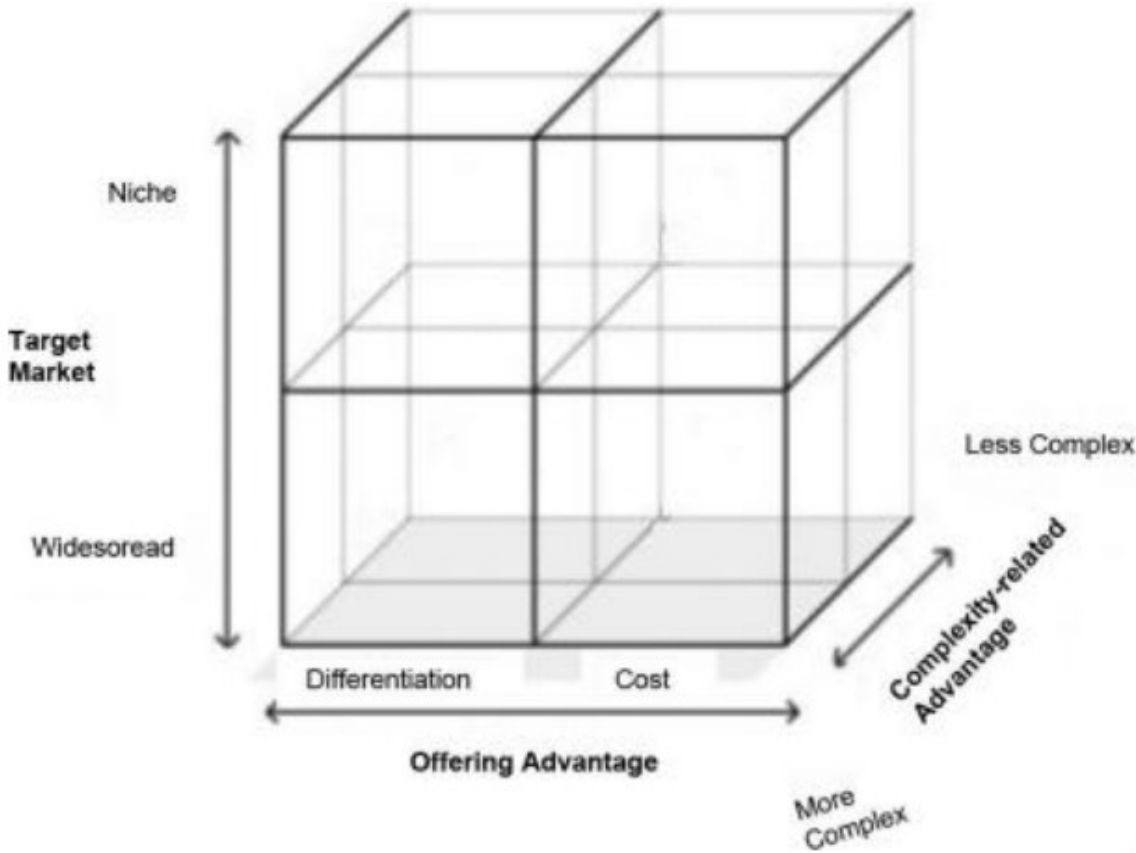


Figure 7. Revision of Porter’s Framework to include the Dimension of Complexity<sup>11</sup>

The strategic space created within Figure 1’s cube structure is road-tested here using Canada’s digital age telecommunications sector. Specifically, statements about each major player within the industry were taken from the strategy and planning sections of their respective homepages. For example, Roger’s (homepage at: [www.rogers.com](http://www.rogers.com)), as the first provider of the LTE (long term evolution) network, describes itself as being at “the forefront of wireless innovation and technology.” According to the cube conceptualisation, it therefore offers a

<sup>11</sup> Initially called Figure 1: Revision of Porter’s Framework to include the Dimension of Complexity

complexity-related advantage, across a broad range of customers and – through its emphasis on speed of access (a desirable attribute) – a differentiation advantage. Bell Canada (homepage at: [www.bell.com](http://www.bell.com)), pitched throughout the country to all market segments, in early 2014, described itself as having “the best price on the market – period.” However, it also has a reputation for complex-costing methodologies associated with its various offerings (H. Gould et al., 2013). Telus (homepage at: [www.telus.com](http://www.telus.com)), the third player in the Canadian Telco industry, says on its website that “nobody likes surprises – introducing clear and simple prices – the price you see is the price you pay”. Here the emphasis is on simplicity of use – and of costing methodology. Differentiation is based on enhanced customer-service. For example, they have a rule – noted on their website – that “a customer ringing a service agent who is kept on hold for more than five minutes will have a free month of wireless access.” Videotron (homepage at: [www.videotron.com](http://www.videotron.com)), a cultural and geographical niche firm appealing principally to French Canadians, offers differentiation based on enhanced (and locally-provided) customer service and guaranteed speed of Internet access. It pursues a complexity strategy. Its website (in French) trumpets the versatility-related advantages of bundling its various offerings and the ensuing cost-related advantages. It is not possible to have a stand-alone offering using Videotron as a provider. It is therefore also not possible to compare, for example, the cost of its Internet-service with that of an alternative provider.

Virgin (homepage at: [www.virginmobile.ca](http://www.virginmobile.ca)) pursues a low-cost, niche, non-complex provider strategy. Using mostly sexual metaphors, it communicates on its website that it has “cheap-no contract plans,” that it is for “young people,” and that it is “hassle-free.” By contrast, Koodo (homepage at: [www.koodomobile.com](http://www.koodomobile.com)), with its slogan of “say no to billification” and claims of having the “best customer service in Canada” pursues a strategy of differentiation to a niche market through providing a non-complex offering. In 2012, Koodo won the J.D Power and Associates Award for highest customer satisfaction with stand-alone wireless service. Fido (homepage at: [www.fido.ca](http://www.fido.ca)) also pursues a non-complex advantage but is pitched to a broad and price-sensitive market. The Fido motto is, “giving low prices a good home.”

The latest new entrants to the Canadian Telco sector are ChatR (homepage at: [www.chatwireless.com](http://www.chatwireless.com)) (a subsidiary of Rogers) and Wind mobile (homepage at: [www.windmobile.ca](http://www.windmobile.ca)). These firms occupy the low-cost, niche, and complexity space within Figure 3’s cube. Consistent with Porter’s original conception, and with the present paper’s reframing, they appear to have positioned themselves in this way to take advantage of unoccupied strategic terrain.

In light of these descriptions, which each appear to have face validity, the cube-structure presented in Figure 1 is used to reveal the competitive orientation of each Canadian Telco player. This analysis is presented in Figure 2 which uses three dimensions to indicate the competitive space within which firms compete.

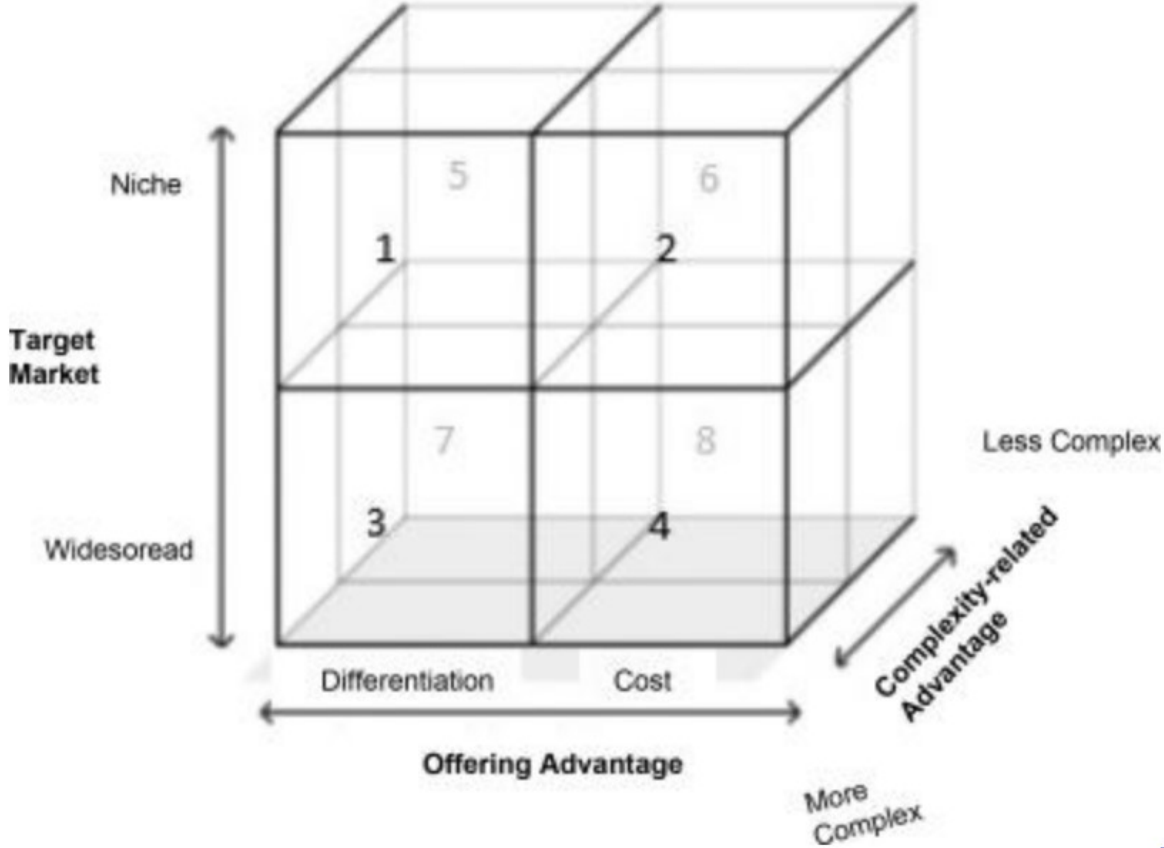


Figure 8. Competitive Positioning of Players within the Canadian Telco Sector.

Figure 2: Competitive Positioning of Players within the Canadian Telco Sector.

- |                        |                         |
|------------------------|-------------------------|
| (i) Videotron          | (v) Koodo               |
| (ii) No major provider | (vi) Virgin Mobile      |
| (iii) Rogers Wireless  | (vii) Telus Corporation |
| (iv) Bell Canada       | (viii) Fido             |



### *Managerial Implications and Conclusions*

The updated view of Porter's strategies presented in Figure 1 (and Figure 2) portrays something about modernity – and digital age industries – that seems intuitive and for which there is empirical evidence; complexity, and potential complexity, is ever present in contemporary consumer offerings. In light of this, it is reasonable to ask what user/offering interface complexity may mean for corporate strategy development. The point of this article has been to propose and defend one response to this question; an amended view of Porter's generic strategies. From a planning perspective, executives who are charged with choosing a course of action for their firm should be able to apply the cube framework using the same protocols that they would have adopted in the industrial age, when only two axes defined their choices. Specifically, as far as possible and other things being equal, they should avoid competing in a space that is already occupied by another player; conceptualise the cube as consisting of eight sub-spaces that are either growing or contracting as a function of a dynamic market; and – as per the advice offered in industrial-age textbooks - continue to align sub-strategies and elements of organisational culture with an overarching commitment to a (now) stereotaxic three-dimensional orientation. Importantly, and as with Porter's original two-axis conceptualisation, they should avoid entering into a "complexity-war"; defined here as a race to outdo competitors in bringing to market ever more elaborate offering bundles. Such a trap could be compared to always, and in every case, attempting to provide the lowest cost offering within an industry; a folly that was originally identified by Porter himself.

The revised strategy cube also comes with implications for consumers. For example, it raises the prospect that ever-increasing levels of technical sophistication - or, at least user/interface complexity (the second kind) - are not inevitable. Indeed, it may be that as a complex offering emerges an equivalently straightforward one will follow in its wake. These kinds of phenomena had their parallel in the industrial age. However, perhaps in that earlier era, the patterns seemed more intuitive; for example, it was always clear that there were perfectly adequate alternative modes of transport to a Porsche or Ferrari (niche/differentiation on Porter's original grid).

Knowledge of generic management strategy options – and the dimensions of strategy – continues to be a prerequisite for more context-specific executive planning. In the 21st century there are new businesses which use Internet-derived technologies to deliver services/products which were not available during the industrial age. A case in point is the modern telecommunications industry however there are other such sectors. With an unprecedented pace of change and (often) less regulation of commerce, managers with planning responsibilities in new and increasingly technologically sophisticated sectors should be concerned about competitive

positioning. In their quest to find contemporary planning tools, they may question whether Porter's perspective of generic strategy continues to be useful. We have argued that his original conception benefits from being updated to reflect new planning possibilities. It is in this spirit that we have proposed and defended our revised model.

## **Chapter 2. Smart for whom? Cost ambiguity as Corporate strategy in the 21st century telco sector**

### **2.1 Résumé**

Objectif - Cet article vise à exposer les techniques que les vendeurs des fournisseurs de télécommunications utilisent pour maximiser les revenus de leurs clients. Bien que la stratégie en cinq points révélée ait été basée sur l'industrie canadienne des télécommunications, elle est interprétée comme générique à l'ère numérique.

Conception/méthodologie/approche - Les constatations sont fondées sur des groupes de discussion avec des vendeurs de services de télécommunications et des données sur la perception des clients. Le raisonnement inductif est utilisé pour généraliser les résultats à d'autres industries de l'ère numérique.

Constatations - Ce document présente cinq techniques génériques utilisées dans l'industrie canadienne des télécommunications pour s'assurer que les clients ne peuvent pas contrôler le coût d'un téléphone intelligent. Ces techniques sont décrites comme une gamme d'offres hybrides, chacune ayant sa propre structure de coûts et sa propre stratégie de tarification ; le problème de la sous-estimation ; les appareils qui ne sont pas géostationnaires ; les ententes avec des tiers et la mort par les milliers de qualifications.

Limites/implications de la recherche - La recherche développe la théorie sur la modularité et les technologies des plates-formes.

Implications pratiques - Les résultats et les idées ont des implications pour le renforcement des dispositions de protection des consommateurs dans l'industrie des télécommunications, ainsi que dans d'autres industries qui se caractérisent par l'ère numérique.

Originalité/valeur - Cet article développe la théorie (en particulier en ce qui concerne les technologies de plate-forme et la modularité). Elle interprète la flexibilité qui accompagne la technologie moderne comme ayant un inconvénient particulier pour les consommateurs, à savoir l'élimination de leur capacité à contrôler les coûts. Pour autant que les auteurs aient pu le constater, une telle interprétation n'a pas été présentée jusqu'à présent. On espère que la classification des conclusions deviendra en quelque sorte un modèle de politique publique pour assurer la protection des consommateurs.

## **2.2 Abstract**

Purpose – This paper aims to expose techniques that telco vendors use for maximising revenue from their clients. Although the five-point strategy unearthed was based on the Canadian telco industry, it is interpreted as generic to the digital age.

Design/methodology/approach – Findings are based on focus groups with telco vendors and client perception data. Inductive reasoning is used to generalise findings to other distinctively digital age industries.

Findings – This paper finds five generic techniques that are used within the Canadian telecommunications (telco) industry to ensure that customers cannot control the cost of a smartphone. These techniques are described as an array of telco hybrid offerings, each with its own cost-structure and pricing strategy; the underestimation problem; devices are not geostationary; third-party agreements; and death-by-a-thousand-qualifications.

Research limitations/implications – The research develops theory about modularity and platform technologies.

Practical implications – Findings and insights have implications for strengthening consumer protection arrangements in the teleco industry, as well as other distinctively digital age industries.

Originality/value – This paper elaborates theory (particularly with respect to platform technologies and modularity). It interprets the flexibility that comes with modern technology as having a specific downside for consumers, namely, the removal of their capacity to control cost. As far as the authors have been able to ascertain, such an interpretation has not hitherto been presented. It is hoped that the classification of findings will become something of a public policy template for ensuring consumer protection.

## *Introduction*

Within certain distinctively contemporary industries proliferating product/service options and associated offering complexity appear to have strategic consequences. For the early adopter retail consumer within these new sectors, super high-tech but apparently indispensable items such as smartphones offer the allure of multiple features which can be deployed in hybrid combinations. For the seller, there are myriad marketing opportunities which may emphasise elements such as having a one-stop shop for all of life's needs and "the cool factor", a euphemism for what Gomez and Gould (2010) characterise as group cohesion or bounded solidarity concerning norms and products that exist mainly in youth culture. However, mixed in with corporate hype about offering advantage and coolness, these same twenty-first-century industries use pricing strategies that produce value for the firm through creating confusion and ambiguity for the consumer. Such an approach can be viewed as a corporate strategy-related issue and has more theoretical implications.

In this article, an analysis of telco (telecommunications) vendors' work will be used to draw conclusions about a competitive stance that appears to be emerging as generic within particular contemporary industries. The strategy concerns the way costs are passed on to retail consumers. Because modern teleco devices offer seemingly unlimited functionality, it is difficult to give end-users an accurate approximation of what they will pay for their device through a billing cycle. Based on results obtained from teleco sector, focus groups as well as industry–client perception survey data, it will be argued that telco firms contrive to create such confusion and/or take advantage of it. Hence, rather than assisting its clients to understand and therefore control their costs, the industry derives advantage from making consumer needs-analyses hyper-complex. From a design, development and manufacturing perspective, providers are incentivised to create meaningless functionality to enhance ambiguity and make consumer cost-control unduly difficult. From a retail perspective, vendors typically have no commercial reason to assist end-users to correctly analyse smartphone device requirements and are disinclined to discuss with their clients the cost implications of likely usage patterns. Indeed, such retailers have an interest in perpetuating customer confusion. This state may alternatively be thought of as contemporary technology interacting with – or being exploited by – vendor policies to create negative consequences for the client. More specifically, it will be argued that inculcating customer confusion is a strategy implemented within retail outlets through five protocols that occur when a retail consumer interacts with a telco-firm. These five protocols are conceptualised as tactics. They perpetuate cost-related ambiguity as an industry norm; make those who misanalyse their needs/wants feel unintelligent and therefore loath to complain or speak about their malaise; and marginalises late-majority consumers as Luddites.

The project asks two related questions which, although about the telco sector, are also somewhat generic to other digital age industries:

1. What strategies do telcos pursue in their dealing with retail customers?
2. How do contemporary telco selling tactics inform theory about concepts such as platforms, modularity and customer-type?

Findings are relevant to management strategy theorists and practitioners – particularly business ethics theorists – and those interested in how technological advance impacts the emergence of new industries. The article is structured in four parts. First, there is a review of literature which presents: an overview of the characteristics of the digital or post-modern age; an exposé of key characteristics of consumer technology using contemporary concepts such as modularity and multifunctionality to guide, in particular, an analysis of how the modern telecommunications (telco) sector is different from its predecessor telephone industry; and a review of theory addressing modern telco industry user-characteristics and market considerations. Section 2 describes – and gives rationale for – the study’s methodology. The Section 3 presents focus group and client perception survey results. Section 4, the discussion, interprets findings/themes as tactics used by telco vendors pursuant to the implementation of a strategy. This discussion will also explore what findings suggest about theory concerning platform technologies, modularity and modern telco consumers; and raises further possible research agendas. Section 5, the conclusion, reflects on the broader implications of the study’s results for the digital age and relevant literature.

*Literature representations: digital age technologies, telco vendor policies and modern telco user characteristics*

Economic historians frequently distinguish between eras based on the way commerce is undertaken, as well as the array of consumer product offerings that exist as a consequence of prevailing technology. For example, authors such as Kluvver (2006) and Laudon and Laudon (2012) differentiate between a post-industrial mode of commerce where the emphasis was principally on the newly emerged services sector and the digital or new-media age when information became a more important commodity and computer networks the means by which it was shared and traded. Accordingly, Laudon and Laudon (2012) argue that the point of demarcation between these two eras is marked by the widespread public use of the Internet. Sociologists interpret the same period of transition somewhat differently. For example, authors, such as Rose (1991), Bell (1976) and Strangleman and Warren (2008), view the switch to an Internet-enabled world as marking the beginning of post-modernism.

Insofar as work and commerce is concerned, they generally deemphasise notions of a so-called digital age but rather interpret the critical transition point as the time from when individuals started identifying less with their job and/or class and more with their leisure preferences and other lifestyle considerations. Partly as a result of different perspectives – and disparate intellectual traditions – a fuzzy boundary exists between the post-industrial and digital/post-modern age. For purposes of the current article – and consistent with the view of authors such as Berners-Lee (2000) – the point of demarcation between the two eras is approximately 1992 when the World Wide Web became a public utility.

If the arrival of the Internet was a direct influence on the emergence of a new era, then other more protracted contextual elements can be considered as indirect influences. One of the first of these was anticipated in the Woodward–Blauner hypothesis which represented a critique of the fragmented and routinised work methods of the industrial-age factory paradigm (Lincoln and Kalleberg (1992); Beamish (2010); Marsh and Mannari (1981). This perspective was influenced by Emile Durkheim’s division of labour thesis which proposed that class conflict is a fleeting problem that will eventually resolve itself (Ritzer and Smart (2007); Beamish (2010)). According to such a view, Marxist-type notions of worker alienation have much to do with how capital and labour coexist when the factory paradigm is becoming established and therefore hardships endured by the proletariat are ephemeral. These growing pains occur because technology is sufficiently developed to be integrated into a strategy of mass production but not so advanced that it can make work interesting (Milgrom & Roberts, 1990). From a practical standpoint, optimism about the trajectory of modernity appears to have face validity. For example, prior to the digital age, those with responsibility for selling technology-enabled products – such as vendors within the pre-Internet consumer electronics industry – undertook tasks that were simultaneously easy to execute and uninteresting because the devices they sold required little explanation, few usage instructions and almost no costing analysis.

#### *Digital age technologies and the increasing importance of platforms and modularity*

Digital age technology is associated with the rise of theory in two related areas: platforms and modularity. Authors such as Muffato (Muffato, 1999, p. 147) define a platform as “a relatively large set of product components that are physically connected as a stable sub-assembly and are common to different final models. By using a platform approach, a company can develop a set of differentiated products”. On the other hand, Bresnahan and

Trajtenberg (1996) view this same phenomenon more broadly. Drawing on Kogut and Zander's (1992) conception of how knowledge may be viewed as a portfolio of options for future advantage, they argue that platforms are synonymous with general purpose technology or innovation that obtains its worth through being deployed by downstream licensees and as a means of accommodating multiple disparate functions. Hence, at least one line of reasoning about the commercial application of platforms has been that their owners create value for themselves through hosting more specific offerings. Contemporary strategy-orientated literature addressing this same phenomenon suggests that markets are established which allow the creators of software to compete with each other for the best platform provider (Gambardella & McGahan, 2010; Kogut & Zander, 1992). Accordingly, the owners of platforms make decisions about which offering they will host based on their perception of how attractive that offering will be to an end-user (their client). The emphasis here is on platform providers as marketers, a focus which downplays their role as innovators but instead portrays them as selectors of innovation. This view is consistent with Bresnahan and Trajtenberg's (1995) original conception of platforms as general purpose "enabling technologies". For example, a basic-functionality platform technology in the modern telco industry is Android Market.

Schilling (2000) addresses the issue of modularity, specifically product modularity. Consistent with the work of authors working across disparate disciplines (Garud et al., 2009; Garud & Kumaraswamy, 1995; N Warren, 1997), she defines this construct as "the degree to which system elements can be separated and recombined" (Schilling, 2000, p. 312). Her view invokes the notion of mixing and matching components and addresses, in particular, how modularity is inclined to evolve. The framework is based on the interaction of elements/variables within and external to a system being analysed. Schilling's (2000) conception of how modularity changes do not attribute agency to key system actors and therefore do not offer explicit strategy advice. Rather, it implies that systems evolve in a specified way if left unchecked and in response to key contextual shifts such as – what she calls – urgency and heterogeneity of demands. In this regard, Schilling describes her framework in organic, or even Darwinian, terms, as a general systems theory. She notes, for instance, "that the context creates forces which draw a system towards a particular state" (Schilling, 2000, p. 314). On the other hand, Schilling's (2000) conception does have implicit planning implications. Indeed, with the rise of networked computer systems and distributed computer power, her formulation gains a special strategic utility. For example, her first proposition about modularity is that "the degree to which functionality is achieved through component specificity will be negatively related to increasing inter-firm product modularity" (Schilling, 2000, p. 322). Hence, if a manufacturer's offering requires highly specific components, it may make sense for that manufacturer to de-emphasise outsourcing and focus instead on vertical integration, at least for relevant inputs.



Concepts such as platform technology and modularity became more important dimensions of corporate strategy as the industrial-age consumer electronics industry entered the digital age. This transition period mostly saw greater degrees of offering modularity in that sector. Put in terms of the Schilling's (2000) conceptualisation, industrial-age devices have greater synergistic specificity as a consequence of heterogeneous inputs having more limited recombination possibilities. For example, a transistor radio, a classic late-industrial age consumer electronics item, uses a transistor-embedded circuit board – which could be argued to be a limited-potential platform technology – in combination with somewhat combinable elements such as a switch, a dial and battery apparatus. However, the same device also relies on much less readily combinable elements, including an antenna and a small speaker. Partly as a result of this relatively low level of component modularity, the resulting product – the transistor radio – cannot be used for anything other than converting electromagnetic radio waves into sound waves. Hence, during the era when such items were popular – an era that can be characterised generally as consisting of technical systems of low component modularity – there was a broad consensus concerning what they could do. It is axiomatic that few would have expected that a radio-type device would take photos or act as a personal messaging service.

At the time when transistor radios were the Ipods of their day, it was possible to design products that did more than one task; however, there were limits to such versatility. Once again, this kind of an early attempt at multifunctionality can be analysed using the aforementioned concepts of platform technology and modularity. For example, industrial-age multipurpose items typically had to encase separate primary infrastructure within a single (generally plastic or Bakelite) housing unit. Such a shell-structure could be conceptualised as a platform according to the Muffato's (1999) definition, albeit a low-tech one, which provides merely a suitable physical spatial arrangement for modules to be plugged-in. A case in point of a versatile product in the 1960s which uses a platform to support downstream technologies, is the Westinghouse Escort Transistor Radio/Lighter/Clock/Flashlight; the (unsightly and unwieldy) Swiss Army Knife of transistor radios ([www.radiomuseum.org/r/westinghou\\_rs21p08ars\\_21\\_p\\_08.html](http://www.radiomuseum.org/r/westinghou_rs21p08ars_21_p_08.html)). Other examples of multipurpose offerings of the late industrial age include clock-radios and radio cassette recorders. These items typically – at least when analysed at one level – combined two different infrastructures (elements of low-modularity) and possibly a shared infrastructure such as a speaker (an element of greater modularity). The aesthetic disadvantage of industrial-age multipurpose offerings mostly meant that gadgets retained a distinctive use-based identity, a state which created conceptual alignment between the look, feel and expectations of an offering and its function. Industrial-age multi-purpose products can be interpreted using Schilling's (2000) general systems view of modularity.

However, to take full advantage of Schilling's (2000) framework, in cases of – say – twentieth-century technology, it is often necessary to broaden the object of analysis from the components of individually-combined single-function items to the ensemble of combined items considered collectively. This shift in analytic focus does not appear to violate Schilling's (2000, p. 314) assumption that modularity may be considered at various horizontal strata of "hierarchically nested systems". For example, if an integrated transistor radio is viewed as a module, then it would have been highly interchangeable or – to use the Schilling (2000) parlance – have a low level of synergistic specificity. In particular, it can be placed in a plastic shell structure which could also house other products. Because the platform in such a case is a housing unit, the limiting factor would be awkwardness and unsightliness, a shell (platform) cannot be made infinitely large. This impediment – henceforth referred to as the one infrastructure/one function principle of industrial-age technologies – typically meant that, when it came to creating versatile products, manufacturers were constrained in their capacity to offer additional functionality.

Scholars have focussed attention on the use of digital age technology to bridge gaps of time and distance. They typically conclude that one of the commercial implications of communications-related innovation is more fierce competition (Bell, 1976; Smart et al., 2010). For example, the Internet potentially enables a consumer to shop throughout the world to obtain a best price (Barkley et al., 2007). Alongside the time/distance gap-bridging facility that has come with advances such as fibre-optic cable, chip miniaturisation, enhanced processing power and twenty-first-century wireless-connectedness, two more theoretical phenomena have emerged. First, platform technologies have been created which are no longer mere physical housing units. Indeed, the digital age notion of platforms is critically concerned with how contemporary technology may enable an offering to metamorphosise from a device that does one function to a gadget that does an entirely different task.

The second consequence of advances in computer processing power and chip miniaturisation, insofar as it impacts contemporary product offerings, concerns modularity. Compared with their industrial-age equivalents and interpreted using Schilling's (2000) modularity framework, the components of digital-era devices are generally less "synergistically specific" and hence more interchangeable. Such systems-related differences have practical consequences. For example, as mentioned, in the digital age, it is no longer necessary to use a platform which physically connects a tape-recorder to a transistor radio to create a multi-purpose product. Rather, an infrastructure system has been created that is sufficiently versatile to change itself from a sound recording device into a gadget for listening to remotely transmitted audio. The Apple *iPhone* is an archetypal example of such an offering. It uses the same platform to execute up to hundreds of functions, in the process, blurring the boundary between form and function. The new-age one-infrastructure/multiple function (platform) principle has also been

driven, largely at a consumer level, by the emergence of new functions. For example, in the digital age, there have emerged utilities and conveniences such as email facilities, more advanced gaming, GPS technology and, in the very recent past, applets that may be used on tablet-type devices which do dissimilar tasks such as life coaching and management of grocery lists.

*The emergence of the digital age telco industry and modern telco vendor policies*

Certain digital age industries have traceable legacy sectors. Contemporary telco firms represent a case in point. Telco products/services can be contrasted with their predecessor offerings because they do genuinely new tasks and use the same platform to offer an expanded range of functions. These two differences create substantial strategy and marketing-related dissimilarity between the industrial and digital age eras. For example, in the digital age new functions often entail, in the service-product ratio, more service than product (Vargo & Lusch, 2008). The common infrastructure innovation – provided on a computer-based platform – has fuelled rapid growth in offering availability (Rust & Espinoza, 2006). Hence, when a customer asks for a mobile phone plan, they may choose from amongst hundreds of options, a state which means that the twenty-first-century consumer environment is more complex than its earlier incarnation. One manifestation of such enhanced complexity is that service/product offerings may be able to be accessed over lengthy periods and in varying degrees. For example, when purchasing an Iphone or a Blackberry, a customer who seeks primarily a telecommunications device would likely be asked how much texting they want to do. They may receive an option of having 100 text messages per month for free, between 100-500 for \$4,99 or unlimited for \$19,99 (Rogers Communication, 2012, 2019). They would only be able to discuss these options with a vendor if they had already agreed in principle to pay for a plan. Such a negotiation would centre on one aspect of the product's functionality. Similar planning discussions would be necessary if the customer wanted to download books or music (Rogers Communication, 2013c, 2013b, 2013a). Hence, buying a contemporary telecommunications-type device inevitably brings a consumer into contact with multiple product/service delivery cycles. It mostly requires that end-users enter into several contractual arrangements, as well as corporate relationships, where they will unwittingly be brought into the orbit of firms that will market to them using emerging and/or unconventional methods (American Marketing Association, 2010; Zanelli, 2011).

The contemporary telco industry in the Western world is a distinctively digital age sector in the sense that it has arisen as a result of two specific influences. The first of these is the proliferation of the Internet and associated advances in miniaturisation, chip capacity, processing-speed and the emergence of wireless communication

infrastructure (Laudon and Laudon, 2012). As noted, from a systems perspective, these kinds of advances have been interpreted as representing a rise in increasingly sophisticated platform technologies as well as – at least the potential for – increasing technology-related modularity. Second, within Western countries, such as Australia, Canada, New-Zealand and Great Britain, there has been a change of public policy orientation concerning telephones and related devices. In these jurisdictions, for most of the twentieth century, twisted-pair copper wire phone line networks transmitting an analogue signal between exchange hubs were mostly run by the government as public or quasi-public utilities (A. M. Gould, 2010). Throughout the 1980s, an emphasis on deregulation and a market-based approach to capital allocation created a new paradigm for delivering phone services (Harvey, 2007).

During the period of telco industry deregulation, the relevant supporting technology was evolving. It took several big steps forward in the early 1990s. The Internet and “thin” computers or distributed systems linked through servers were not the only relevant innovations of the era. For example, the IBM Simon, the first Smartphone device was made available to the public in 1993 at a cost of \$899 in New York City (Sager, 2012). Henceforth, the concept of a wireless telephone was to be broadened to include functions such as Internet access, text messaging and the remote transmission of images. In the period from the 1990s until 2012, these functions have come to be seen as part and parcel of a phone-like device. Such a broadening of Alexander Graham Bell’s original ideal can be measured in dollars. For example, in 1999, Canadian households paid \$450 annually for their telephone service. In 2007, this amount (adjusted for inflation) was \$773 (Robertson, 2008). In 2002, the profit to revenue ratio in wireless infrastructure surpassed that of fixed-line infrastructure for the first time. In subsequent years, the fixed-line segment of the teleco market saw either a stagnant or negative growth (Gouvernement du Canada, 2005). In 2012, major Canadian teleco providers typically offered at least 750 products/services that can be combined in hybrid options. As a consequence, devices, such as the Iphone and the Blackberry gained potential for doing much more than just making and receiving phone calls.

### *Modern telco consumers*

Notions of telco customer-type typically – and often implicitly – emphasise the importance of creating a positive consumer experience and/or aligning offerings with consumer needs. Relevant research on telco market segmentation mostly assumes that straightforward notions of client satisfaction are ultimately what firms seek to achieve. For example, Petruzzellis (2010) used interviews to create three categories of telco consumers based on consumption-style and buying motivation. These are technology enthusiasts who focus on technical

performance and functionality; pragmatists, who are sensitive to price and tangible attributes; and Brand-Huggys, who are loyal to a brand and/or buy based on perceptions of the selection preferences of their peers. A process-orientated perspective of customer-type is offered by Kasper et al. (2010) who examined the mobile-phone industry in The Netherlands. These authors conclude that customers cope with offering availability using one of three strategies: price sensitivity, brand loyalty and functionalism. Kasper et al.'s (2010) view asserts that strategies should be aligned with customer-type. Other work in this genre also emphasises typology and alignment of product/service offerings with the needs of market segments (Schwartz et al., 2002). These perspectives of technology typically assume that customer confusion is a universally undesirable side-effect of growing offering sophistication. For example, Kasper et al. (2010, p. 147) counsel managers that they should [...] carefully check whether providing additional information and choice really contributes to improving decision-making.

This conclusion is viewed here as controversial and provides a point of departure for the present study. Specifically, it may be that improving customer decision-making is antithetical with seller interests. For example, Hoch and Deighton (1989) note that consumer information allows a buyer to create hypotheses that assist them to achieve better value for money. They further describe – albeit without strong evidence – a family of strategies that vendors use to undermine a consumer's confidence in their capacity to use knowledge to create hypotheses, the so-called “making-the-customer-feel-dumb” phenomenon. The logic of undermining consumer confidence is: if one party believes that they are at an intellectual disadvantage, they will suspend critical reasoning and, in so doing, surrender decision-making power. Hence, vendors are likely to have little motivation for creating clarity for customers and substantial motivation for making them more confused.

## *Methodology*

This section presents an overview of this study's procedure and associated rationale.

### *Procedure*

This study uses two data sources to address its question(s). Each indexes a different perspective on the object of analysis. The two data sources are: telco-industry outlet-based vendor focus-group results and qualitative results obtained from telco industry consumers concerning their experiences interacting with the industry and using industry services/products.

#### *Focus groups with telco-industry outlet-based vendors.*

Two 90-minute focus groups were held in Quebec City on the 25 and 30 January 2013. There were six former retail telco salespeople in each meeting and hence 12 individual contributors across the two sessions. Participants were approached by one of the authors of this article who also manages teleco retail-outlet operations in Canadian shopping malls. Hence, they were recruited as a convenience sample. Each had a minimum of six months of experience working in industry retail outlets.

Consistent with the recommendations of authors such as Yin (2009) and Silverman (2007), four strategies were used to avoid concerns such as demand characteristics and other systematic sources of error that may have biased focus-group findings. First, the purpose of the study was deliberately kept vague (i.e. the facilitator began the session by saying "we are not sure about how the telco industry interacts with retail consumers and want to start our exploration of this issue with a discussion of how you go about doing your job"). Second, post-hoc questionnaires were administered which asked participants if they were aware of the purpose of the sessions and/or if they felt at ease discussing the way they do their job. Third, there was a priori development and pretesting of focus-group thought-starter questions.

Focus groups used the same format. Contributors were asked unstructured/opened-ended questions about how they personally, and the telco industry generally, go about selling to consumers. They were invited to give basic responses and then to elaborate. During the sessions, those who were not responding directly to questions were asked to add-to, modify and/or clarify points being made by primary contributors. Questions that were posed to focus group participants included:

- What do you say to customers when they approach you and ask for assistance in choosing a suitable smartphone/tablet device?
- How do you close a sale? – How do you ensure that you don't lose a customer?
- How do you go about explaining the variety of product/service offerings that a customer could potentially purchase? How do you make sense of such complexity for your client?
- How much corporate pressure are you under to make sales? How do you manage such pressure? What corporate advice is offered to you about meeting your sales/financial objectives?
- What things are you told to do to make your firm successful? Do you implement corporate sales/marketing policy or do you modify it? Please speak about this issue.
- What problems do you have implementing corporate sales/marketing policy?
- Were there aspects of your past employer's approach to sales and marketing which worried you or which you had trouble implementing? Please speak about this matter.
- What were the most frequent complaints that you received from customers? Please consider complaints/problems at the point of sale and those arising subsequently.

The dialogue provided by focus group participants was recorded on audiotape, transcribed and subsequently presented to two research assistants for interpretation. The assistants were given broad instructions. They were invited to create superordinate categories (themes) and – if called upon – to explain the process they used for creating such themes. The themes created by the assistants were subsequently examined by the researchers who had prior familiarity with selling tactics literature and practice.

*Qualitative results obtained from telco industry consumers concerning their experience(s) interacting with the industry and using their device.*

Major firms within the Canadian telco sector frequently collect from samples of their customers, what they refer to as, client-perception data. An industry standard for client feedback is that eight to ten individuals who make a purchase within a given retail outlet per month will be targeted to provide their impressions of both their purchased offering and their buying experience (Rogers Communication, 2012).

Following an approach from this article's authors, the major Canadian telco firm Rogers agreed to make the qualitative component of its client database for the months of April, May and June 2013 for the province of Ontario (Canada's most populous province) available for this project. The accessed data took the form of anonymous client comments. These had been separated a priori from the quantitative elements of client feedback. Comments were collected and presented in a random order (in French and English) with each block of comments coming from an individual client.

Rogers and its various subsidiaries, as the largest telco provider in Canada (with 36 per cent of the market share for mobile phones; (Canadian Radio-television and Telecommunications Commission (CRTC), 2012), operates 256 corporate outlets; those which sell under licence are not counted in this number. In Ontario, the firm operates 156 corporate outlets (approximately 61 per cent of its national retail operation and accounting for approximately 66 per cent of its national market share).

In total, 94 qualitative customer survey elements were obtained from the 156 Ontario outlets that provided the reference group that was targeted for data. Rogers was able to indicate that in the year from June 2012 to June 2013, it had 12,296 new customers nationwide and that approximately 66 per cent of these (8,115) were from the province of Ontario. Hence, the sample of this sample (96) represents close to 1 per cent of Ontario's Rogers's customers for the reference period.

Qualitative client perception data was provided in its raw form to three research assistants. These assistants – who did not previously participate in identifying superordinate categories (themes) from the vendor focus group



transcripts – were asked to group comments into themes. They were not given criteria or detailed instructions about how they should go about their task. Rather, they were told that the researchers were seeking to identify six to ten conceptual groupings. The assistants were also told that the project’s researchers would be interested to know – post-hoc – about the process they used to create categories.

*Analysis: combining perspectives of telco industry vendors and their customers.*

Vendor focus group and consumer perception output were combined to create an impression of the tactics that vendors use to make sales. Three research assistants (who had not been involved with either analysis of vendor focus group data or client perception data) were asked to examine themes emerging from the vendor focus groups and the client perception database. Their task was straightforward: they were asked to systematically take each vendor focus group theme and determine the extent to which it was similar to each theme arising from the client perception database. They were to rank the level of similarity on a five-point Likert-type scale where one represents “no obvious similarity” and five represents “near sameness”. They, thus, had to make 48 individual decisions, i.e. they had to compare each of eight focus group themes with six client perception data themes.

A matrix structure (Table I) was used to contrast two different perspective of telco industry selling tactics. Matrix columns were established as vendor perception of what they do to sell their offering. Rows were established as client perception-related themes. The individual cells of the matrix were numeric measures of degree of conceptual alignment between vendor- and client-generated themes.

The last column of Table I provides a measure of the extent to which telco industry vendors and their clients view the selling process in the same way. A maximum possible score in each cell of this last column would be 30 (perfect alignment between what vendors say they do to make a sale and all aspects of how a client perceives this vendor tactic). The lowest possible score that could be recorded in the last matrix column would be 6 (no conceptual alignment between what vendors say they do to make a sale and all aspects of how a client perceives this vendor tactic).

The researchers – as a rule of thumb and post-hoc – accepted a score of more than 15 (with a fuzzy boundary created post-hoc) to establish adequate conceptual alignment between what vendors say they do to make a

sale and all aspects of how a client perceives this vendor tactic. Where scores were less than 15, alleged vendor selling tactics were not necessarily discarded. However, researchers examined them again to determine if they are likely to be deployed with guile and/or duplicity. In this regard, researchers assumed that it is possible that certain vendor tactics are intended to be non-obvious.

### *Rationale for the study's design*

The study seeks primarily to ascertain what telco vendors do to make sales. Assuming that vendor focus group participants can be made to feel at ease about disclosing how they do their job, the most straightforward way of tackling such an issue is to ask sellers about their tactics (recommended by Marshall and Rossman (1989)). However, a degree of convergent validity is afforded by the client perception data. It is noteworthy that the consumer perspective was established as subordinate to the vendor perspective because it was assumed the consumers will not necessarily be in a position – either during the selling process or post-hoc – to perceive and analyse the tactics being used on them. On the other hand, if a client cannot grasp what a vendor is doing to sell to them, it is necessary to determine if, indeed, the reported vendor tactic is being implemented. It may be that the vendor tactic is not intended to be seen by the client. In such a case, the paradigm being used in this study allows for an unseen tactic to remain in play. However, in the event that a vendor says that they are using a particular tactic which should – according to the vendor – be able to be perceived by a consumer and there is insufficient consumer-based evidence of the phenomenon, the selling tactic was – at the discretion of the researchers – able to be eliminated from consideration. Variants of the technique used here for combining qualitative perspectives have been used in other commercial contexts by authors such as Marshall and Rossman (1989).

To avoid the possibility of data (quote)-mining and/or a tendency to favour evidence which confirms pre-existing hypotheses/prejudices, independent – and separate – “analysts”, as needed, were used to identify themes emerging from vendor focus groups, client perception data and the perspective-combining exercise.

## Results

Table I is a matrix which presents the study's results. Results presented in Table I provide evidence that vendors engage in five tactics to make sales (tactics i to v and with less consumer evidence for the presence of tactics vi, vii and viii). These elements are mostly acknowledged by vendors and are strongly perceived by clients. They will be focussed on – and interpreted – in the discussion.

Table 4. Two perspectives (themes) on the tactics used by telco vendors to sell smartphones

<b>Table I</b> Two perspectives (themes) on the tactics used by telco vendors to sell smartphones							
<i>Customer perspective/ Vendor perspective</i>	<i>(a)</i>	<i>(b)</i>	<i>(c)</i>	<i>(d)</i>	<i>(e)</i>	<i>(f)</i>	<i>Score (out of 30)</i>
(i)	4	1	2	3	3	3	16
(ii)	5	2	1	1	3	3	15
(iii)	1	5	2	4	4	4	20
(iv)	4	3	2	3	1	2	15
(v)	2	1	4	5	2	2	16
(vi)	2	1	1	1	3	4	12
(vii)	2	2	1	2	3	2	12
(viii)	4	3	1	1	1	1	11

**Notes:** Themes written below the matrix include letters and numbers used in the matrix for reference to themes, for customers and vendors, respectively. Vendor themes: (i) An array of offerings – each with its own cost structure; (ii) Client underestimation of an offering's potential; (iii) Devices not geostationary; (iv) Clients must enter into unanticipated third-party agreements; (v) Death of a price by a thousand qualifications; (vi) Discussing a teaser price but not what it includes; (vii) Discussing possibilities decontextualised from cost; (viii) Deliberate demonstration capability (functions must be discovered). Customer themes: (a) customers suspect their device can do more than they use it for and are frustrated by the possibility that they cannot use it with maximal utility (and that they pay for things they are not using); (b) Customers complain that vendors are not equipped to and/or unwilling to take advantage of the full range of functionality (given the run-around/no one can solve the problem because it is no one's responsibility); (c) Frustration (on the part of established customers) that new customers receive better deals than established customers; (d) Apparent lack of vendor knowledge and/or poor vendor communication skill (where the customer makes specific requests); (e) Apparent lack of vendor knowledge and/or poor vendor communication skill (where the customer makes no specific request but expects the vendor to guide him/her in order to customize functionality and respect a consumer budget) – customer blames themselves/feels stupid; (f) Apparent lack of vendor knowledge and/or poor vendor communication skill (where the customer makes no specific request but expects the vendor to guide him/her to customize functionality and respect a consumer budget) – customer blames the vendor/believes the vendor is stupid

Table I Two perspectives (themes) on the tactics used by telco vendors to sell smartphones

## *Discussion*

This discussion will address what the study's findings suggest about the tactics used by the telco industry to be commercially successful, a response to the first question. It then examines data pertaining to the study's second question which addresses what results suggest about literature-based theory, particularly theory concerning platforms, modularity and telco customer-type.

### *Telco industry selling tactics and the customer experience*

The study's first research question is, what tactics do telcos pursue in their dealings with customers? Here this question is answered. As noted, five partially overlapping themes emerged from focus group discussions and were corroborated by client perception survey data. This section interprets each of these.

#### *1. An array of telco hybrid offerings – each with its own cost structure and pricing strategy*

*"We sold a lot of different products. Each had to be costed differently because each has its own special abilities"*

- ex-telco vendor #4.

Advances in micro-processing, chip miniaturisation and wireless communication have created a state where a common platform technology can support hundreds – or even thousands – of functions. An archetypal example of this is the smartphone, so named because, in addition to being a mobile telephone device, it can do other tasks. The smartphone may be used as a disconnected utility or as one which is Internet- and/or satellite-enabled. For detached functions such as, for example, use as a calculator, a costing methodology may be easy to understand and explain. In practice, it entails conveying an appreciation of the variable costs of the device's battery or external power-supply requirements and a fixed – or semi-variable – cost; conceptualised as incremental depreciation of the life of the apparatus. However, detached functions are not the *raison d'être* for a smartphone but merely provide additional marginal utility. Rather, much of what smartphones do requires wirelessly connected associated infrastructure. The use of such external technology is typically costed – and priced – using principles such as data-download requirements and minutes of access (technically data download

is the metric which is used for costing smartphone Internet access but customers invariably prefer to attempt to convert this measure into a “minutes of access” metric. Such a conversion cannot be done straightforwardly, a complication which creates industry advantage and consumer disadvantage). For example, at the time of writing, Rogers and Bell Canada had a choice of available data-download options for their smartphone clients (technically this metric is bandwidth, which roughly equates to extent of access through a server to the Internet and includes capacity for upload and download). These are offered as data-based packages but are sometimes imprecisely converted (upon request) into approximations of minutes of access. A typical client may choose amongst options of 100, 250, 500 MB, 1, 3 or 5 GB of download capacity per month or, as an alternative, pay for what they use on a weekly or monthly basis. They could be told – or otherwise become aware – that phone calls, text-messaging and Internet downloads have different use requirements. More specifically, a single remotely-accessed medium, such as smartphone Internet usage, has variation in data drawdown requirements. For example, on an Android device, the viewing of a short text-based email will typically require about 0.005 MBs of bandwidth, whereas a 20-minute HD video may require up to 80 MBs of bandwidth. On the other hand, individually branded smartphones draw differently on data to perform identical functions. For example, a Blackberry compresses data about 20 per cent more efficiently than an Iphone and therefore provides a less expensive means for viewing email-based texts and images (this benefit accrues when viewing images because it results from a download compression and not an upload compression).

When choosing a smartphone and associated offerings, a source of confusion arises because of a problem of perspectives. Customers typically speak about the functions they seek whereas vendors speak about data-use requirements. This predicament is exemplified in the case of communication-related possibilities. In the twenty-first century, there are multiple ways to bridge the distance-gap in real time. A customer will often have implicit awareness of the presence of various options. The choice they make is typically between, for example, pay-per-call, special long distance plans and voice IP protocols like Skype or Whatsapp. Thus, they view their problem as being about what product/service they should use. For the majority, this decision is price-dependent. In deliberately taking a counter-perspective of the same issue, the vendor communicating with the smartphone customer is likely to analyse a set of needs using a data-download, or “bandwidth” frame of reference. This kind of seller/buyer language mismatch is contrived and maintained by the industry in order to place the customer at an expertise disadvantage. As a result, it appears – based, in particular, on client perception data – customers begin to lack confidence in their buying interactions with the industry. In an effort not to look foolish, they usually accept what they are told and are loath to complain.

## 2. The underestimation problem

*“Generally customers only knew about a tiny percentage of what their device could do when they left the store. Even if they asked me, I couldn’t know all that a device can do and why should I bother. I’d made my sale. ”*

- Ex-telco vendor #3.

A smartphone is a piece of handheld infrastructure with either a touch screen and/or physical qwerty keyboard which supports multiple functions including those which necessitate integrated wireless data connection to a remote server. A broader conceptual definition was presented in the introduction. However, focus group participants said that most of their former customers used terms such as Iphone, mobile phone or cellular phone to identify, what is more accurately called, a smartphone. This finding was revealed also in client perception data (embodied in Theme 5, in particular). There is industry data suggesting that the majority of people who buy a smartphone are seeking primarily a portable device that they can use to make calls (Rogers Communication, 2012, 2013b). Furthermore, a typical smartphone consumer is not aware of at least 30 per cent of its basic functionality (Rogers Communication, 2013b).

Telco vendor focus groups participants suggested that firms explicitly instruct sales staff not to inform clients of the full range of potential uses of a smartphone. For example, according to one ex-industry vendor, Bell Canada tells its vendors to only demonstrate how to make and receive phone calls and text messages. Hence, a customer, or perhaps their children, must discover a new device’s additional functions including features such as its web browsing and GPS facilities. Such discovery is often costly for the customer and therefore profitable for the vendor. For example, Internet browsing on a smartphone is bandwidth dependent and therefore charged at a variable rate (Bell Canada, 2019b, 2019a; Rogers Communication, 2013c, 2013b, 2013a). The majority of customers purchasing a device for the first time are price sensitive and sign up for the lowest-cost plan. Within one to two billing cycles, it is estimated that about 30 per cent of first-time customers change their plan due to unexpected costs associated with function discovery (Bell Canada, 2019b, 2019a).

### 3. Devices are not geostationary

*"[...] the thing about smartphones is that as soon as you leave your house you are going to be in trouble. You can end-up paying a lot more than you think; you are going to be screwed. "*

- Ex-telco Vendor #3.

Smartphones are obviously portable. This convenience has cost implications which are difficult to conceptualise and explain. Such a problem – which is in fact an advantage for the vendor – invariably results in customers paying more than they planned in their recurrent smartphone budget.

In the telco industry, the concept of roaming exists. This refers to use of offerings on a device outside of a designated home area. When a customer roams, certain service-elements go from being charged on the basis of a one-off fixed or semi-variable fee, to being variably-costed. Roaming in different parts of the world attracts arbitrarily different time-based tariffs. These differences also exist within a geographical region. For example, in the USA, it may cost \$1.45 a minute for someone from a Canadian home base to make a local phone call. The same fee can be up to \$4.00 per minute in Cuba for the Canadian who roams within that country (Rogers Communication, 2013a, 2013b, 2013c). Internet roaming charges work slightly differently because they do not rely on a distinction between local and long distance. For example, outside of a home area in Canada, a customer who roams within the USA may pay up to \$50 per MB of Internet download. In Cuba, the same quantum of downloaded data could cost \$2000 (Rogers Communication, 2013a, 2013b, 2013c).

It was revealed in industry client perception data and telco industry focus groups that travelling smartphone customers typically find out about the cost implications of roaming after being unpleasantly surprised by their monthly bill the first time after they have strayed outside of a home base. Such customers may subsequently complain to their vendor that they were not properly informed of how their service-use requirements would be expensed when they were away from their place of residence or phone registration. If this occurs, the industry can offer a solution: "travel packages". These enable a customer to make either a one-off or monthly purchase of a plan which allows them to reduce costs outside of a home base zone. In theory, it is possible to receive discounts of up to approximately 70 per cent per minute for phone calls when travel packages are used to roam. Indeed, marketing copy for Rogers, Bell Canada and Telus trumpets consumer savings of this magnitude (Bell

Canada, 2019b, 2019a; Rogers Communication, 2013c, 2013b, 2013a; Telus Corporation, 2019). However, customers are mostly told that packages come with conditions. These vary across functions and are designed to stop a 70 per cent discount on client roaming fees being realised. For example, at the time of writing, Rogers offers a travel deal which charges Internet usage in increments of 20 kb packages. Research has shown that over 50 per cent of smartphone Internet log-on activity when roaming (away from a home base) is to send and receive emails (Bell Canada, 2013a, 2013b). A short text-based email will typically only require about 5 kb. Under the terms of the Roger's travel plan, this kind of communication would be expensed at the minimum 20 kb rate.

Internet access away from a home base may be further complicated because of compatibility with infrastructure used in locations where roaming occurs. For example, the Canadian telco industry's high speed Internet-on device (Long-Term Evolution [LTE]) which costs up to three times more than a regular smartphone and allows customers – theoretically – to access the Internet at higher speeds than normal (perhaps up to 100 mbytes per second). However, the LTE service may be incompatible with infrastructure used at roaming locations so that the promise of fast service is often met with the reality of speeds which fall below the benchmark set by home-based Internet access, sometimes up to 40 times slower (Motorola, 2010).

Another customer-hostile feature of roaming concerns the pre-sale locking of devices. When an offering is purchased, it is configured to be locked – or restricted – so that the vendor firm is the only provider which is able to provide services such as roaming. Vendor focus groups revealed that customers rarely request the unlocking of their device, mostly because they are not aware that they can. If a customer does request unlocking so that they will be free to test the market for a cheaper service provider, they will be charged a fee. For example, Rogers charges \$50 to unlock one of its smartphones.

Unlike the concept of roaming, device portability carries forward an industrial-age distinction which comes from the old telephone industry, the dichotomy between local and long-distance calls. As was the case in the industrial-age, in the modern era, this distinction has cost implications. For the smartphone consumer, such imposts must be overlaid on roaming-related considerations to begin to calculate a likely billing fee. For example, a smartphone user who is based in the city of Montreal and who does not leave their home base can use one of up to, say, 50 different Rogers plans to make local calls. In so doing, they will have their pre-arranged minutes expensed at an agreed upon rate. If a client inadvertently speaks on the phone for more than their maximum



allotted period, they will be charged an over-use rate (this matter could have been dealt with under the heading “underestimation”. It is dealt with here to make a contrast with long-distance smartphone scenarios. Insofar as smartphones are concerned, the short-/long-distance distinction is best understood when contrasted with “roaming”). It was noted in the telco vendor focus groups that a non-proactive client – or one who does not use, or is not aware of, the Internet to check their liability to the telco – will often not know about local call overuse charges. They will typically find out about them through the post when they receive a bill. It is noteworthy that many smartphone users are not aware that they can use the Internet to check their liability to a provider (Rogers Communication, 2013a, 2013b, 2013c).

Focus group participants noted that there is a complex costing methodology associated with using a smartphone from a home base to make long distance calls. Without a long distance option, Rogers charges 45 cents per minute in addition to normally expensed minutes. This means that if a customer goes over their allotted minutes, at least one of the elements of the double-billing (i.e. the normally expensed minutes) is increased. Long-distance plans are the purported solution to double billing. According to marketing copy, they offer “unlimited use” (Rogers Communication, 2013a, 2013b, 2013c). However, the industry uses this term disingenuously. For reasons that are unclear, the word “unlimited” is a misnomer and refers to converting minutes which would otherwise be expensed on local calls to long distance. Hence, it is certainly possible to exceed a purchased usage amount with an “unlimited” long-distance smartphone option. In such cases, the per-minute charge rate increases greatly.

When it comes to long-distance calling, a source of confusion for smartphone clients arises from fuzzy-boundaries that are associated with the notion of a home base. The technical reason for such ambiguity arises from the way signal towers and servers (switches) manage signal traffic. From a costing standpoint, the issue can be conceptualised as two invisible bubbles: one for outgoing and one for incoming calls. On the one hand, an outgoing call bubble will always surround the smartphone user when they move within the provider’s network. If a user strays outside of the provider’s network, roaming is initiated. However, from 2007, a new regulation in Canada has created options whereby smaller providers such as Videotron can offer their customers access to the networks of larger providers; in such circumstances, the clients of the smaller providers, by virtue of using borrowed infrastructure, are treated as though they are roaming. This moving bubble phenomenon has an organic shape. Its form changes constantly such that, for practical purposes, the local/long distance distinction becomes impossible to specify for the travelling smartphone user. On the other hand, the “incoming call bubble” is fixed geographically. It is placed around a client’s specified cell number which is not necessarily the point

where the smartphone is purchased. Hence, incoming calls will always count as long-distance if a client receives the call while they are outside of their receiving bubble.

#### 4. Third-party agreements

*"Whenever you buy a smartphone you are actually entering into deals with lots of third parties"*

- Ex-telco Vender #4.

Aside from a primary provider agreement, smartphone customers typically enter into other contracts with firms which can imbue their device with additional functionality. There are mostly two duplicitous elements to these arrangements: expectations about a device and contract fee-structures.

Insofar as expectations are concerned, there is industry-based research suggesting that awareness of a smartphone's functionality is not matched by awareness of the additional contracts that are necessary to realise such potential (Anderson, 2006; Cusumano, 2012; Howard, 2012; Unni & Harmon, 2007). For example, after buying the basic device, a smartphone customer must download applets to extend their unit's functionality. In so doing, they will create agreements with firms such as Apple (for Apple store) and Google (for Google play). They typically find out about these additional contractual requirements immediately after the point of sale or, at least, once they have agreed in principle to pay for a basic package. In practice, it is not possible to avoid third-party agreements when purchasing a smartphone. One reason for this is that those who purchase a device are required to create a personal identification (ID) with the manufacturer to gain support and receive warranty-related services.

The fees charged by third parties in the digital age telco industry use complex costing methodologies in much the same way that point-of-sale providers have multifaceted and difficult to explain billing rates. Third parties invariably provide offerings which have data-use-based variable cost structures that differ by item (and/or downloaded applet, etc). From a consumer perspective, there is also the problem of the blame shifting that may

occur as a result of ambiguity over who is to be the primary service provider. For example, often –to use an applet which has been purchased from a third party – software upgrades are required on a smartphone. A provider may obfuscate responsibility through indicating that a client’s device lacks the requisite technical specifications to support new software. For the client, this may mean that they must use a computer to download the latest software onto their device, a task which, according to focus group participants, many smartphone clients find daunting. Participants indicated that their clients would often pay to ensure that smartphones were equipped with software that could support the latest applets, etc. Currently, there is a trend towards third-party providers offering free-applets (Rogers Communication, 2013a). Following a download, a client will find that such giveaways are delivered with additional elements which may serve as advertising, opportunities for third-parties to phish for data and/or for routing customers to subscription-based online offerings. In this context, phishing refers to a mostly illegal marketing-based practice which entails misleading customers into disclosing passwords/emails/billing and credit card details and (often) on-selling such data.

##### *5. Death by a thousand qualifications*

*“When you buy a Smartphone, we would quote you a price and then tell you other things that you would need to buy before you could actually make the thing really work the way you expect.”*

- Ex-telco Vendor #2.

When buying a teleco device such as a smartphone, it is common for a vendor to offer a product/service which seems to meet a specified client’s needs and is within a fixed budget. It was noted in the vendor focus groups and confirmed with client perception-related data that – at the point of sale – vendors tell clients that sometimes costs may exceed expectations. For example, vendors may offer price-sensitive clients a low-rate mobile phone plan. They would tell such consumers that a monthly budget of, say, \$20 is sufficient to operate their phone. After clients agree in principle to this plan, they are told that they need to buy the phone-unit for, say, \$100 more. After the customer agrees to this additional impost, they are advised that a “good” phone costs \$250, and not \$100. After agreeing to the good phone, the price-sensitive customer is told that they can have Internet access on their new device for an additional \$45 per month. At the time of writing, Rogers Communication offered an all-in-one telephone-Internet package which appears to give comprehensive access to voice services, text-messaging, Internet bandwidth, call display and voicemail (Rogers Communication, 2013a). This package is

promoted for \$45. However, when a customer requests the option, it always becomes necessary to upgrade elements of the basic package to ensure minimal-level benefits. This may include paying extra for long-distance calls which, as noted in the discussion about “bubbles”, may only be calls occurring over short distances as well as Internet bandwidth enhancements which aim to create merely minimal levels of web functionality.

### *Theoretical implications*

Telco vendor focus-group and client perception data suggest a view of industry strategy which centres on exploiting the possibilities afforded by digital age technology to offer a device with near unlimited functionality but – at the same time – one for which costing analysis will be dauntingly complex. In this section, the theoretical implications of such a strategy are explored with reference, in particular, to literature addressing platform technologies, modularity and types of telco customers/market segmentation considerations. Thus, this section addresses the study’s second question: how do contemporary telco selling tactics inform theory about concepts such as platforms, modularity and customer-type?

As noted, theory about platform technologies suggests that providers of these launching pads make their decision about which technologies (generally applets) to host based on a competitive analysis of which elements they believe are likely to be most attractive to potential consumers. This study’s findings suggest that such a conception does not tell the whole story. Specifically, results indicate that platform providers may – in addition to considering how cool, interesting and/or useful an offering may be from a consumer perspective – also consider whether it has potential to create costing-related complexity that can be transferred to end users (consumers). This view broadens the conception of input to platform provider decision-making. For example, in deciding whether to host a specific application, a platform provider may consider that the likelihood a consumer will underestimate the cost of obtaining and using the offering as well as issues of offering attractiveness. Such a conclusion is generic and plays-out slightly differently in the telco industry where there is a platform provider for basic handset infrastructure (such as Bell Canada, Rogers Communication and Telus Corp.) and another platform provider for software application (such as Google Play, Apple Store, Blackberry OS and Windows Marketplace).

Insofar as modularity is concerned, the literature review noted that Schilling's (2000) conceptualisation – as a derivative of general systems theory – deemphasises agency on the part of actors in the process. However, the framework does make predictions about how changes in contextual elements may influence movement towards increasing modularity and away from synergistic specificity. Two of these are about customers. Specifically, P8 of her article says that “heterogeneity in desired function or scale of a product will be positively related to inter-firm product modularity”. P10 says “if there are pressures to increase or decrease the inter-firm modularity of a product system, the speed of technological change will increase the likelihood of such a migration”. These two assertions imply that a firm's degree of modularity is inclined to optimise consumer value and utility. They may be interpreted alternatively as applying to the telco industry thus: a key segment of the smartphone market is becoming less homogeneous in both the number and kind of different applets required on a device. The rate of such preference divergence is increasing and expected to increase. These contingencies create either tablet or phone-devices (platform)/software (module) ensembles with increasing degrees of modularity. Modularity is therefore the means for creating customer value because it provides a device which meets consumer needs. However, this study's findings suggest a more nuanced view. Results suggest two possibilities: each of which are compatible with Schilling's (2000) conception. First, modularity may serve to simultaneously deliver expected offerings to a heterogeneous market and be a vendor strategy for creating corporate value through influencing consumers to misanalyse their needs. Second, modularity is exclusively a means of placing customers in a position where they misanalyse their user requirements. This latter perspective says that, although modularity may appear to provide offering heterogeneity, it has – in fact – emerged in the digital age as a complex form of deception involving the coordination of several marketing-related elements. Such a hypothesis portrays telco consumers as being convinced by their industry that they require devices with multiple functions (a push-related view) as opposed to portraying them as being the most important driver of innovation (a pull-related view).

The study's findings have implications for established notions of customer type within digital age industries including the telco sector. For example, the consumer categories identified by authors such as Petruzzellis (2010) remind offering providers that elements within their portfolio should be aligned with market segments. His categories implicitly portray the vendor as responsible for ensuring customer satisfaction with all aspects of an offering; including its cost. This same view is reflected in Kasper et al. (2010) study which reveals that certain customers are more comfortable than others with complexity. The strategic implication of such research is that agents of the industry should effect cultural change and/or re-education of the market; with the goal being to generally make consumers more technically savvy. However, this study's findings imply that the industry may have its greatest chance of maximal profit when all customers misanalyse their needs and have to pay more but – for whatever reason (perhaps embarrassment, perhaps wanting to be part of the in-crowd/be cool, etc) – do

not speak about their malaise and/or continue to endure it. To the extent that some customers do not expect and/or do not accept being duped, new – and very different – categories emerge. According to this view, the technology enthusiast (Kasper et al., 2010) would be the least corporately desirable type of customer.

The notion of consumer costing analysis – or misanalysis – entails an increasingly sophisticated role for vendors. Specifically, it recasts them as facilitators of a disingenuous strategic process which requires that they have detailed knowledge of telco offering cost structures, as well as a measure of guile. The results of this study suggest – albeit indirectly – such a phenomenon. They buttress mid-twentieth-century views about the trajectory of technology, particularly the Woodward–Blauner hypothesis which implies that work is generally becoming simultaneously more interesting and complex.

#### *Future research*

This study's conclusions form a basis for further inquiry. Some future research agendas have already been foreshadowed but will be readdressed briefly here.

First, there is the issue of what an industry strategy of inculcating customer confusion means for the design, development and manufacturing of digital age devices. For example, are the objectives of individual elements of the value-chains of contemporary industries well-aligned? If not, is it the case that retailers are best characterised as taking unethical advantage of modernity's complex technology? Another line of future research concerns the scope and context of customer confusion as an approach to making sales. Theorists such as Porter (Porter, 1986,1989) note that a particular strategy gets chosen from amongst an array of options. Saturated industries – or those operating under conditions of perfect competition – generally entail each player pursuing a different generic strategy. The question therefore arises: how can – what seem like – the widespread use of an approach based on confusion be contrasted with other approaches that digital age firms may take? Finally, the strategic role of modularity requires further scrutiny. A future project could ask about which, of the two views presented in Section 5.2 of the discussion, seems most representative of the way digital age sectors operate. These two views are:

1. modularity simultaneously delivers expected offerings to a heterogeneous market and is a duplicitous vendor strategy; and
2. modularity is exclusively used as a strategy of duplicity and the perception is contrived that it is designed to deliver customised offerings to a diverse market.

### *Conclusion*

Digital age industries have arisen as a result of two influences: increasing sophistication with platform technologies and their associated potential for enhanced modularity; and a market-orientated policy orientation which has seen capital move from the public to the private sector. The new spheres of commercial activity have generic features. Their offerings: tip the balance towards more service in the service/product mix; free consumers from the one-infrastructure/one-function principle; are replenished more regularly, thus sharpening the distinction between early adopters and late-majority consumers; and – important for current purposes – seem to be associated with a new kind of corporate strategy. This article has focussed on the digital age telco sector; however, its conclusions may be relevant to the competitive orientation of other similar recently emerged industries. For example, results may be generalised to sectors including: personal finance (credit card and mortgage-related offerings); text and entertainment-based media (post-modern music, movie and print-media industries and their derivatives such as audiobooks); modular electronic offerings (for example, buying a personal computer which, in practice, is the purchase of hardware and software and their associated contracts); and Internet-based bundled offerings (for example, one-stop-shop holiday packages).

Digital age offering complexity is made possible through the evolution of platform technologies and enhanced scope for component modularity. The goal of the new approach is to produce firm wealth for commercial entities through creating confusion and ambiguity for a retail consumer. In this milieu, end-user self-analysis is near impossible and miscalculation mostly inevitable. However, the new approach seeks to normalise customer misanalysis, making end-user overpayment the rule rather than the exception. Hence, unlike their predecessor sectors, digital age firms support a strategy of disingenuousness – not just through the possibilities afforded by more advanced platform technologies and increasingly levels of modularity – but with psychological elements.

The client is established as requiring a customised offering to cope with modernity and, as such, the master of their own destiny and of technology. However, if a client gets an analysis wrong (which they invariably do), it must be their fault because they are unintelligent and/or a twenty-first-century Luddite. In this environment, complaints are rare, slowed down because consumers fear that they will be perceived as either dumb and/or unable to evaluate their needs like everyone else.



# Chapter 3. Sizzle without the Sausage: The Emerging Strategic Implications of Receiving a Free Offering in the Digital Age

## 3.1 Résumé

Pendant l'ère industrielle - l'ère se situant avant Internet - la notion de recevoir quelque chose gratuitement était un aspect déjà établi bien que quelque peu marginal de la vie commerciale. À cette époque, une offre pouvait être donnée gratuitement parce qu'elle (1) approchait de sa date d'expiration, (2) était offerte pour aiguïser l'appétit du client, (3) servait de produit d'appel ou (4) suivait la logique du modèle commercial du rasoir et de la lame. Dans l'ère du numérique, de nouvelles industries sont apparues, influencées par des plateformes de plus en plus sophistiquées et des technologies modulaires. Ces nouveaux secteurs définissent en partie l'époque moderne et permettent aux fournisseurs d'appliquer stratégiquement les notions de " gratuité " de manière distinctive - et parfois trompeuse. En utilisant le secteur contemporain des télécommunications comme exemple type, de nouvelles significations et applications stratégiques du mot " gratuit " sont explorées. En établissant un contraste entre l'ère industrielle et l'ère numérique, cet article fait valoir que la gratuité est maintenant un élément à part entière de la stratégie commerciale.

Mots-clés :

Ère de l'internet; ère numérique; ère industrielle; ère économique; stratégie de vente

## 3.2 Abstract

During the industrial age—the era before the Internet—the notion of receiving something for free was an established although somewhat marginal aspect of commercial life. In this former era, an offering could be freely given because it was (1) nearing its expiration date, (2) being offered to whet customer appetite, (3) serving as a loss leader; or (4) pursuant to the razor and blade business model. In the digital age, new industries have emerged influenced by increasingly sophisticated platform and modular-based technologies. Such new sectors partly define the modern epoch and enable vendors to apply strategically notions of “free” in a distinctive — and sometimes disingenuous — way. Using the contemporary telecommunications sector as a key exemplar, new strategic meanings and applications of “free” are explored. In making a contrast between the industrial and digital eras, it is argued that free is now a fully-fledged element of commercial strategy.

Keywords:

Internet age; industrial age; digital age; economic era; vendor strategy

## *Introduction*

The idea of getting something for free has been viewed with skepticism by the commercially savvy for as long as trading has existed. Expressions such as there is “no such thing as a free lunch” and “nothing’s for nothing” have origins that are hard to trace but certainly date back centuries (Friedman, 1975; Kipling, 1899). In modern times, the idea of giveaways is mostly a mere applied preoccupation for those trying to make a buck. However, its longer-term history is largely the preserve of philosophy and mathematics. For example, before the ancient Romans, who never had a concept for nothing, and the Greeks who explicitly rejected the idea, the Babylonians in 3000 BC invented, possibly for the first time, a digit for zero, thus establishing a conceptual demarcation between “nothing” or non-existence and a nil-quantity. This distinction has had ongoing significance for theorizing about the world of commerce (Anderson, 2009).

Prior to the arrival of the Internet — referred to here as the industrial or pre-digital age — use of the word “free” was relatively less common than in the contemporary epoch. In earlier eras, it was also typically deployed in a more restricted way. For example, until the 1980s, “free”— aside from mostly being used as a teaser strategy to whet customer appetite — was often likely referencing something akin to what is today referred to as a loss-leader strategy; or, in the absence of a further purchase, a non-ambiguous net benefit for the party receiving an offering and a net loss for the party gifting it (e.g., Hess & Gerstner (1987); Lal & Matutes (1994); Vindevogel, Van den Poel, & Wets (2005)). Consider, for instance, a pre-Internet electronics outlet offering customers transistor radios “for free” on the condition that they enter the retail store. If the customer did not buy other merchandise, such a vendor tactic would likely have contributed to an income-statement loss. Even if a customer were to have purchased other items, the vendor would still have been relatively disadvantaged if the purchased elements could have been sold without having given something else away.

As noted, “free” has never been “free” from controversy. With the exception of some early 20th century strategizing which appeared to advance an agenda based on the mutual advantages of using freely given items to develop commercial relations, as exemplified in Kropotkin’s link economy (1902; 2006), those who offer their wares at no cost have mostly been viewed as disingenuous or possessed of guile. At the very least, they seem to be disguising their motives. As such, in a sense, the words “vendor” or “seller” are misnomers when applied to those who appear to give away their wares, although it is difficult to conceive of appropriate replacement terms. Whatever the case, a person who enters a marketplace on the supply side and gives something away without demanding payment seems, at least intuitively, to violate an innate natural law — that of reciprocity

(Gouldner, 1960; Helle, 2014; Homans & Merton, 1961), which hearkens to evolutionary and cultural norms of mutual obligation (Tiger & Fox, 1971). In these circumstances, the thoughtful consumer has always wrestled with inner turmoil when confronted with a "free" offering. Such dissonance is occasioned mostly because of mores about usage of the word itself and the fact that seasoned people of commerce possess implicit awareness that capitalist market economies function best when their parties pursue self-interest. At least in theory, giving something for "free" violates Aristotle's identity principle; something is what it is and is not what it is not. In the specific case - and at the risk of being tautological - anything that has value has cost, the pertinent question being who should bare such impost?

Whatever philosophical or linguistic points there are to be made about free, giveaways persist as an integral part of human commercial and personal interactions. However, as objects of scholarly interest, they seldom receive analytic attention. In this regard, aside from literature referred to which creates context for the current essay and following interrogation of relevant library databases at North American research institutions, the authors of this essay were unsuccessful in finding articles that seriously dealt with commercial applications of free from either a philosophical or theoretical perspective. Indeed, most literature dealing with free comes exclusively from the domain of marketing and has an applied focus, often addressing how and when giveaways will boost overall profitability. For example, Lowe (2010) discusses in a competitive sense, consumer impressions of discounting as opposed to pure giveaways. Ellison, Steinfield and Lampe (2011) describe the open-source (free) software movement and argue that it has evolved into an occupational community. Neuhaus and Neuhaus (1998) discuss the non-planned proliferation of free data/information and conclude that, in relative terms, there has been negligible discernable change across a 40 year period in the amount of material the public can freely access. Kaskarelis (2009) presents an argument that there is a long-term trend towards diminishing capacity to profit from "free" time without spending money. Suri, Marchanda and Kohli (2002) examine how consumer affect modulates price discounting. Nicholls (1992) challenges Crosby's (1980) claim that quality is free (or rather of minimal cost) in that it entails doing things right in the first instance. Also on this theme, Kenyon and Sen (2015) similarly take a counter-perspective to Crosby (1979) when they present data that are consistent with Nicholl's (1992) thesis.

In addition to ad-hoc applied marketing literature that mostly examines biases/distortions in human analytic capacity that have implications for profit maximization, there is scholarship addressing the notion of free in circumscribed special circumstances. Much of this material is also ad-hoc in that it mostly represents focused responses to industry-specific questions. For example, in the arts, particularly music, the unregulated

dissemination of content is often inevitable. One hears tunes in everyday life on the radio and perhaps may want to hear them again. In such situations, “free” is very much associated with a specialized kind of utility (Aguilar, 2017). Furthermore, insofar as scholarly literature is concerned, there are two perennial marketing-related debates. First, there is conjecture about the devaluation of the inherent worth of a freely given item versus other commercial advantage that may flow from giveaways (Helm et al., 2009; V. Kumar & Reinartz, 2016). Second, there is speculation concerning how an item should be paired and the role of pricing in creating demand and perceptions of value (Doligalski, 2015; Koukova et al., 2012).

Hence, in summary, when surveying marketing and management-related scholarly literature where the concept figures prominently, one sees a loosely connected body of work that mostly has an applied or bottom-line focus. What is noticeably missing from this literature is theory concerning the generic circumstances where giveaways can (or should) be integrated into a marketing plan and how recent changes in these generic circumstances modify this conception. In other words, it remains unclear where “free” has historically been applied in commercial endeavor and how such circumstances have evolved in the digital age. The present article fills this void; a void which has a growing urgency because, as will be demonstrated, in the digital era an increasing proportion of offering exchanges are officially “for free”. In the digital economy, in contrast with – say - the last decades of the industrial age, it has become more difficult to disentangle various elements of an offering; at least for certain contemporary industries. Although modern vendors use the word “free,” distinctively post-industrial information asymmetries create conditions where purchasers are less able to discern the underlying cost and value structures in product bundling than was previously the case. In spite of apparently new principles governing economic exchange in the digital age (ex Shapiro and Varian (1998)), the term “free” retains mystery. Generally, something offered for “free” must generate - in one way or another - a net positive return for the giver, or the offer could not be sustained (Modigliani & Miller, 1958). However, in keeping with the new principles, but not fully explained by them, notions and manifestations of “free” have changed in the digital age in ways that are not necessarily apparent or favorable to consumers. This essay invokes notions from modern philosophy such as modularity and platforms in conjunction with Shapiro and Varian’s (1998) new rules to support its case and distinguish the contemporary from the preceding epoch. The concept of free has broadened in the digital age era. Such expanded scope is interpreted in strategic management/marketing terms. Indeed, this broadening is associated with a new strategic management and marketing-related lexicon (eg devaluation effects, network externality, user disutility sensitivity, user engagement /reciprocity). These concepts and their associated parlance represent new “strategy dials” to be adjusted by managers and marketers. The figurative dials are brought into being under the influence of proliferating technology. As such, they are the cultivated side-effects of technological change. Insofar as the notion of free is concerned, for certain contemporary industries such as

telecommunications, the expanded array of aforementioned “dials” creates a state where free is not seen as a mere tactical inducement and/or afterthought but rather a competitive lever. This view implies that, in the modern era, a more sophisticated and planning-oriented analysis of when things should be given away (or discounted) is necessary; a point which has, to date, been made obliquely; mostly in the form of a raised, but as yet unanswered, question (eg by Anderson (2009); Liu, Au, & Choi (2014); Pujol (2010); Schenck (2011); Shampianier, Mazar, & Ariely (2007)). Once again, in keeping with Shapiro and Varian’s (1998) new rules, the essay further argues that, not only has the idea of “free” been imbued with additional strategic significance, it has become more difficult to analyze in the digital age. The notion incorporates previous understanding of benefit and loss for each party but potentially also includes additional possibly disingenuous elements that have not been well explored but appear to exploit information asymmetry to disadvantage buyers. Because the word “free” is ubiquitous in contemporary marketing copy produced by digital age industries and has expanded its scope, the article addresses the need to update and revise how the concept forms part of modern commercial – and particularly marketing-related - planning. It presents a view of how “contemporary free” contrasts with “industrial-age” free. This article is structured in three sections. First, it focuses on how the digital age is distinctive. Second, it explores the evolving meaning of free in this new era. In the third section, it discusses the competitive and consumer-related implications of new forms of “free”.

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### *The industrial age and the digital age: a transition in technology and business strategy*

Business scholars frequently distinguish economic eras based on the way commerce is conducted as well as how particular technologies make possible delivery of products/services. For example, the industrial revolution - the invention and application of steam power to boost production and transport factory output long distances - catalyzed the transition from a craft-based to an industrial society (Allen (2009); Beniger (2009)). Similarly, the Internet has been an impetus for bringing about the subsequent post-industrial epoch with its emphasis on digital

commerce as well as on the services sector and non-standard forms of employment, etc. However, while the rising services sector in general reflects a post-industrial concern to provide for new kinds of business and consumer needs and could be viewed as a response to the time constraints of the middle class, the digital age is especially also associated with the commoditization of information and interconnectedness (Kluyver, 2006). Hence, irrespective of how economic eras are classified, a consensus exists that technology has driven the major transitions, be they the emergence of the industrial age following the industrial revolution or the dawn of the digital age (Spulber, 2007; Warnick, 2001). Hence, when considering epochal change, technological transformation mostly provides the first layer of context for other background elements to become established. In the particular case, it is possible to conceive of technological change occasioning management and marketing-related change that, in turn, occasions a changed conception of the notion of “free”. For purposes of the current article — and in keeping with the view of information age pioneers such as Berners-Lee (2000) — the changeover between the post-industrial and digital eras is approximately 1992 when the World Wide Web became a public utility<sup>12</sup>.

#### *Technological Revolution as the First Contextual Layer Occasioning Change in Commerce*

At a sector-specific level, particular technological advances have influenced the change from the industrial to the digital age. For example, aside from relying on the Internet, modern credit cards would not be possible without elements such as chip miniaturization, advances in plastics and fiber science, artificial intelligence programming, and purpose built proprietary computational and storage infrastructure (Chan et al., 1999; Davenport et al., 2012; Ngai et al., 2011). Hence, it has been observed that disruptive technology contributes to the creation of new sectors of economic activity and motivates incipient entrepreneurs who replace their predecessors (Oram, 2001; Spulber, 2007). The digital age is replete with examples of such restructuring. For instance, mobile computing — on devices ranging from palm-size to A4 paper-size — has enabled fast and easy connections to corporate networks. Cloud computing, or delivering time-sharing services over the Internet, has recently rendered obsolete certain data storage and retrieval expertise that was often delivered by businesses in-house (V. Chang et al., 2015). Signifying the ever-diminishing impact of physical distance, rapidly growing

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<sup>12</sup> Henceforth—and consistent with authors such as Tapscott, Lowy and Ticoll (Tapscott, 1998)—the new era will be referred to as the digital age to emphasize the critical role of technology. The date also represents the point from which myriad consumer electronics fundamentally changed in underlying technologies, functionality, look and feel.



enterprise services firms in, for instance, India now deliver a full suite of cloud storage, retrieval, analysis and visualization specialization to multinational firms in other countries (Pahwa, 2015).

In interpreting the commercial impacts of digital age technology, Schumpeter's (1976), seminal notion of creative destruction and its antecedent influences such as Gresham's law (Macleod, 1858) which states, in its most elementary form, that bad money drives out good money, provides something of a default starting point. To summarise, creative destruction proposes that a key aim of product innovation is to render existing industries defunct. Such a view gave rise to a genre of research about the nature of economic expansion. A consequence of the Schumpeterian perspective of economic growth is that quality-enhancing innovation supplants prior technologies (Aghion et al., 1998; Romer, 1990). Working in a similar paradigm-supplanting tradition, scholars such as Schilling (2000) and Langlois (2002) conceive of disruptive technology as a tipping-point phenomenon. They interpret innovation as the application of a novel idea enabled by pre-existing technology. Social media such as Facebook, Instagram, Twitter, Line and Snapchat are relevant examples. The rise of these forms of networking has been viewed not so much as a triumph of technical innovation, but rather as a novel application of a well-established infrastructure — the Internet — to provide a better strategy for addressing communication-related challenges (Ellison et al., 2011; Haas et al., 2014; A. Kumar et al., 2016). For current purposes, the Schilling (2000) and Langlois (2002) modern take on disruption combine the novel with the extant for portraying the creation of new technology-enabled offerings which demand revised business models incorporating new conceptions of free.

Schilling (2000) views modularity as key to understanding technology development. Consistent with the work of authors across disparate disciplines (e.g., Baldwin & Clark, (1997; 2000); Garud & Kumaraswamy (1995); Warren, Moore, & Cardona (2002), she (2000) defines her object of interest — modularity — as the degree to which system elements can be separated and recombined. This perspective invokes a construct of mixing and matching components. Drawing on Herbert Simon's (1962) original view which addresses the generic nature of rudimentary components in complex systems, Schilling (2000: 312) presents five tenets as the basis of her framework. These are: (1) heterogeneity of inputs, (2) increasingly modular systems, (3) synergistic specificity, (4) urgency and (5) heterogeneity of demands. Schilling's view is passive in that it deemphasizes agency on the part of those who interact with a modular system. Hence, it does not provide explicit strategic advice but rather proposes that technologically-linked elements evolve without deliberate planning if left unchecked and in

response to contextual change<sup>13</sup>. However, her conception has implicit planning implications. Indeed, with the rise of networked computer systems and distributed computer power, her formulation gains special strategic utility. For example, her first proposition about modularity is that “the degree to which functionality is achieved through component specificity will be negatively related to increasing inter-firm product modularity” (Schilling, 2000: 3). This assertion suggests that if a manufacturing run requires specific components, it is desirable to avoid outsourcing and focus instead on vertical integration, at least for such key inputs. Insofar as data storage and transmission is concerned, proliferation of modularity has been the key to both access and the manipulation/transformation capability for both buyers and sellers at all points in a value-chain. For example, in subscribing to a streaming service (eg movies), the consumer has at their finger-tips comparative information concerning cost, content and quality from multiple providers that is updated in real time. The same utility is obviously available to the providers themselves.

According to the Schilling conception, modularity, at least from a philosophical standpoint, is an incremental phenomenon. However, its impacts are potentially best conceived of as contributing to a qualitatively changed state when a threshold is reached. Hence, one speaks of an “explosion” (state-change) in data storage and retrieval in the digital age.

Hand in hand with elaboration of component modularity in the digital age has been the rise of platforms. Langlois (2002) interprets platforms as metaphoric shell structures — akin to a circuit board — on which multiple infrastructures are accommodated, activated and used in combination. Although such technologies could seem independent from their subordinate elements, in fact they enable interrelationships. For example, Microsoft Windows, a graphical user interface, is more accurately viewed as a platform developed initially for desktop PCs. It is the modern legacy of less user-friendly operating systems (Silberschatz & Tuzhilin, 1996). As is known to PC users, MS Windows hosts MS Word, Outlook, Access, Excel and Publisher based on common modules and components in the operating system. MS Windows also interfaces with IBM-owned statistical software SPSS. However, at a functional level, the MS Word and SPSS packages interface, a point appreciated when “cutting and pasting” from one application to the other. A similar phenomenon occurs with smartphones and tablet

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<sup>13</sup> Schilling uses organic—even Darwinian—terms to describe her framework’s predictions about how a system may change. For example, she notes “that the context creates forces which draw a system towards a particular state” (Schilling, 2000: 14).

devices, where the mobile operating system platforms Android and Apple iOS support the development of an ever-increasing number of apps, many of which are compatible with each other.

*The Second Contextual Layer: New Marketing/Competitive Positioning Strategy and a New Lexicon*

The emergence of offerings supported by modularity and platforms has corporate strategy implications. For example, compared with the digital age, industrial-age consumer electronics items typically had less modularity, meaning less capacity for their elements to be separated and recombined. Schilling (2000) notes that products from previous decades were functionally constrained, mainly because they relied on inputs that did not have other uses. For instance, transistor radios, a classic late-industrial age device, needed multi-use parts such as a switch, dial, battery, antenna and a small speaker. However, the same devices also had less interchangeable elements, including transistors, capacitors and resistors in customized circuit board configurations. The resulting product converted electromagnetic radio waves into sound waves. During the era when such items were popular — an era characterized by technical systems of comparatively low modularity — electronic items were mostly limited to one or two functions (eg a radio-cassette player). These limitations constrained industrial-age inter-firm competitive strategy. Porter (1980, 1981, 1985) specified this constrained context with such constructs as his dual-axis (target market and type of advantage) conception of competitive positioning and his five-forces model (1979). In recent times, theorists — including Porter himself — have revised and updated these strategic frameworks (R. S. Allen et al., 2007; Larry Downes, 2009; Larry Downes & Nunes, 2014; M. E. Porter, 2008; M. E. Porter & Heppelmann, 2014; Michael E. Porter & Heppelmann, 2015). In some cases, the rationale for such elaboration and update effort has been that more sophisticated platforms and greater degrees of modularity create new generic dimensions for industry rivalry (eg Gould & Desjardins(2015b)). As noted, an especially salient implication of burgeoning platforms and modularity – which has come to be something of a defining feature of digital age commerce – is the central role that data plays in determining whether a transaction occurs. In this regard, the analytic burden is greater for those on the receiving-end of a transaction in the digital age. Such analysis becomes harder as a function of two elements: the amount of data being analysed and then number of permutations/transformations to which such data is to be subjected (Anupindi et al., 2011; Carliss Y. Baldwin & Clark, 1997).

Aside from literature focusing on how to compete within digital age industries, a strategy centered question, there is scholarship focusing on how classical age economic and marketing precepts are reapplied in the new

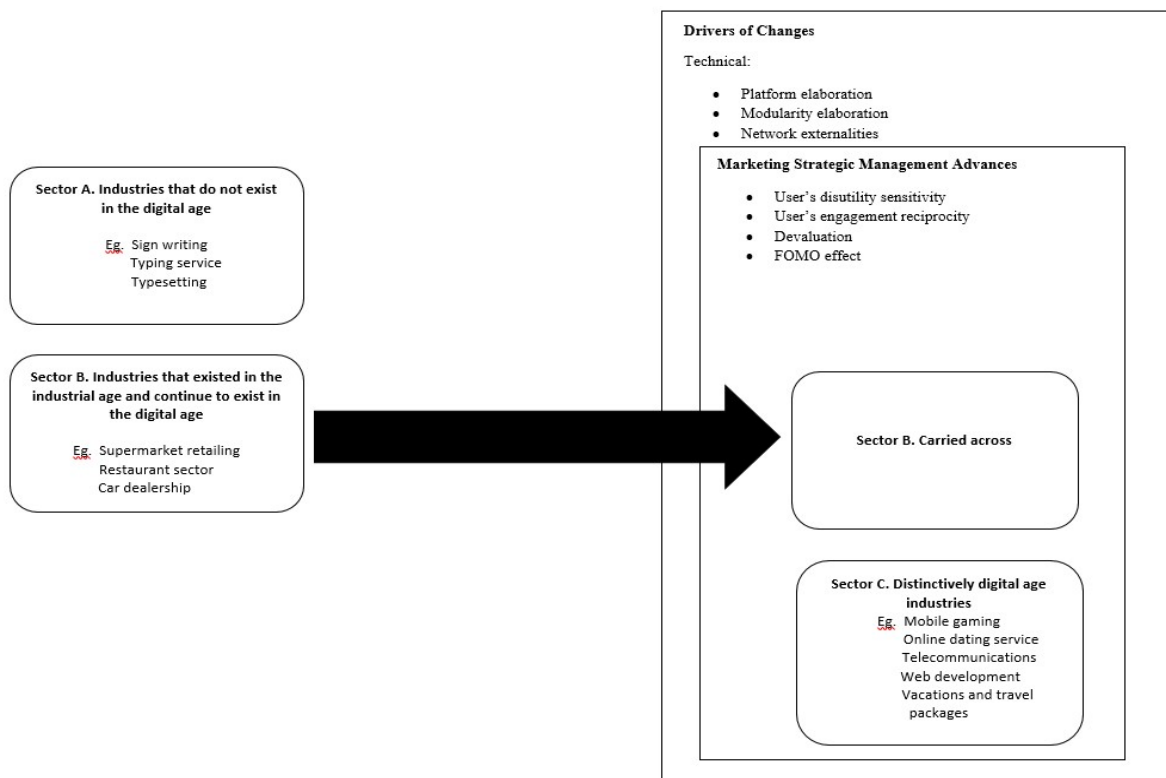
sectors. In general terms, competitive asymmetries associated with data exchange over the Internet have been documented by authors such as Shapiro and Varian (1998) who detail ways for digital age vendors to amass intelligence on prospective consumers. Such profiling pertains to distinctively digital age offerings (eg download-type products) as well as offerings from legacy industrial-age sectors that are now sold through different channels, such as over the Internet (eg. consumer goods). According to the same authors, key principles of e-commerce arise because it is now possible to develop a more fine-grained appreciation of customer types. Arising from such more sophisticated profiling is the fact that pricing strategy has become more nuanced. For example, Shapiro and Varian (1998) describe three distinctively “digital-sector” approaches to pricing: (i) personalised, where a price starts as an across-the-board standard but gets adjusted in response to a particular individual’s emergent willingness to buy (eg customized items which have not yet been bought but have been placed and left in a “virtual shopping cart”); (ii) group pricing where differently segmented groups receive customized prices (eg. Microsoft Office is often associated with a student price); and (iii) versioning where a product exists as a spectrum of different versions, each of which represents either “cut-down” offerings or the actual offering (which often occurs when a game app/software is made available at a discount if it will not afford to the user complete functionality). Application of these strategies gives rise to broader and uniquely digital age phenomena. These include the networking effect, where the more an offering is widespread and utilized, the more it becomes valuable, “sharing” which is a specialized form of scale-economy, and “lock-in” where once an offering has been selected and acquired, changing it is costly for the buyer. This latter phenomenon is a specialized form of the classical conception of switching-cost (Shapiro and Varian, 1998).

#### *The Layered Influence of Technological Change and Elaborated Strategy: New Emergent Sectors*

Notable among the new sectors of commercial activity in the digital age are wireless telecommunications, smartphones, personal computing, electronic gaming and personal equities trading. Some of these activities have largely replaced their industrial-era equivalents, a case-in-point being mobile/smart phones substantially displacing landlines. On the other hand, other new devices have emerged without obvious antecedents, tablet devices and smart home security devices exemplars. Moreover, certain industrial-age sectors have continued to exist in substantially the same form across the two epochs under consideration. For example, aside from their small on-line operations, modern supermarket retailing is a substantially similar kind of enterprise to the one that existed throughout the pre-Internet 20th century (Pritchard et al., 2010; Reardon & Hopkins, 2006). Figure 1 reveals how industries have evolved under the influence of both changed technology (Spulber, 2007; Warnick, 2001) and a more competitive environment, often necessitating an enhanced emphasis on marketing. One point

that is highlighted by Figure 1 is how industry evolution consists of three sectors of economic activity, one of which is defunct, the second of which exists more or less as it always did, and the third of which is genuinely new. The other point made in Figure 1 concerns the layered-nature of the contextual drivers of industry evolution. In this regard, the initial drivers are typically changed technology. Subsequent drivers concern management and marketing strategy.

Figure 9. The Elaboration of Free: A View of Industry Evolution across Two Economic Eras with Consideration of the Drivers of Changes<sup>14</sup>



### The notion of “free”

The idea of “free”, insofar as it applies to commerce, has a lineage with obscure origins. This history has had an uneasy association with hucksterism, duplicity and even fraud. Because victims of information asymmetry are inclined to be on the buying side of a commercial exchange, the prospect of getting something for free — at

<sup>14</sup> Initially named Figure 1. The Elaboration of Free: A View of Industry Evolution across Two Economic Eras with Consideration of the Drivers of Changes

least for the receiver — often exacerbates feelings of personal mistrust and uncertainty (Brown, 2003; Koukova et al., 2012).

There is evidence from marketing literature that people have difficulty believing that something freely given is authentic (H. Chen et al., 2017; Diekmann, 2004; Mao, 2016; Rao, 2013). Such reticence has been interpreted from the perspective of evolutionary biology and, more specifically an innate sense of a just world or reciprocal obligations. For example, the accepting of something ostensibly for free sometimes triggers an atavistic cognitive and emotional impulse towards bilateral exchange (H. Chen et al., 2017; Cialdini, 2006). This phenomenon implies that receiving, or being offered, something for “free” at least within pseudocommercial contexts, produces dissonance because seemingly motiveless giving behavior creates a sense of unfulfilled obligation.

Aside from archaic urges to reduce dissonance arising from violation of the principle of exchange, free is associated with other psychological phenomena. For example, Shampanier, Mazar and Ariely (2007) discovered in a marketing comparison study that when shoppers were offered certain products for free (as compared with other shoppers being offered the same product at a low price), the free items were perceived as providing greater utility than their bought equivalents. These researchers interpreted this result in win/loss terms through invoking notions of triumph, and self-efficacy. Others working in the same genre have speculated that, because the original field-experiments were based on very low-priced items (comparison of zero to one cent), it is possible that an observed effect-size would be greater for a hypothetical paradigm where free items were compared with higher priced merchandise such as automobiles and consumer electronic products (Laffont et al., 1998; Shampanier et al., 2007).

Conjecture about how consumers may act irrationally when offered something for free has specific application in the digital age or, more specifically, for digital age industries. As noted, authors such as Shapiro and Varian (1998) have presented a view of how the new rules apply. Furthermore, others such as Rochet and Tirole (2003), describe the idea of a two-sided market whereby, in digital sectors, offerings are typically intended to simultaneously cater to several customer groups (eg the windows operating system is a product for end-users and app developers). These authors draw attention to the fact that classical economic principles are applied in digital sectors with more nuance. In spite of such elucidation, scholars writing about the new economy, particular those writing from a marketing perspective, have not well highlighted how free, in its modern form, has evolved

(see, for example, Aguiar (2017); Chen, Ni and Yu, (2019); Hamill (1997); Shang, et al, (2017); Spanyol, (2014); Brown, (2004); and Jung et al, (2012) for various commentaries on the nature of e-commerce vis-à-vis the industrial age which do not discuss the role of “free” offerings). More specifically, literature does not make a contrast between what free means in the digital age and what it meant in the previous era. Consider, for example, the case of smartphones where consumers are given a device ostensibly for “free” or a dramatically reduced price and then enticed into seemingly endlessly renewable expensive contracts. This scenario is orthodox in the smartphone sector. Indeed, the high-end mobile device married to the service contract — from the 2007 start of the first iPhone combined with AT&T Wireless in the US and with Orange Telecom in the UK — helped establish Apple as a global leader in upmarket smartphones. The downside for customers is that, in order to avoid contracts they must dedicatedly pursue buying an unlocked mobile phone, while staving off sales associates’ entreaties to enter into a contractual arrangement. For such customers, this rather challenging undertaking is carried out, not through going to the telco firm or brick-and-mortar third-party retailers, but through paying a high price direct to the originating company such as Apple, Samsung, Huawei, HTC, Sony or LG. Ironically, such a direct unlocked purchase then provides customers with the “freedom” to select the most cost-effective wireless service provider of their choice (or even ultimately to accede to pressure from a dominant wireless provider such as, in North America, AT&T or Verizon, to put the unlocked phone onto a wireless or customer care service contract). Such a dilemma for the contemporary consumer begs a generic question: how is “digital age free” conceptually different to “industrial-age free?” As noted, this is not a question that has been raised where it might be expected to be; in e-commerce marketing-orientated literature (Aguiar, 2017; Brown, 2004; Burke, 2002; Y. Chen et al., 2019; Hamill, 1997; Jung et al., 2012; Koukova et al., 2012; Shang et al., 2017; Spanyol, 2014). The substance of the response that we provide (and defend) to this question is summarized in Figure 2.

Generic Strategies	Sectors A and B (carried across)		Sector C	
	<i>Salient advantages for vendors</i>	<i>Salient advantages for consumers</i>	<i>Salient advantages for vendors</i>	<i>Salient advantages for consumers</i>
S1: Time running out	<ul style="list-style-type: none"> <li>Reduce holding costs</li> <li>Avoid wasting stock (expiration date)</li> <li>Creates goodwill (customer loyalty/reciprocity, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>A net “in-use” advantage that must be realized in the short term</li> <li>Straightforward analysis of the situation’s contingencies</li> </ul>	<ul style="list-style-type: none"> <li>Advantages limited for vendors – greater emphasis on logistical requirements due to increased numbers of cycles of giveaways</li> </ul>	<ul style="list-style-type: none"> <li>In the context of shorter product’s life cycles, more opportunities to receive free offerings</li> </ul>
S2: Pusher/free sample/freemium	<ul style="list-style-type: none"> <li>Exposes potential consumers to an offering that they may like but not voluntarily think of or experiment with</li> </ul>	<ul style="list-style-type: none"> <li>Exposure to a broader range of offerings without immediate impost</li> </ul>	<ul style="list-style-type: none"> <li>Exposes potential consumers to an offering that they may like but not voluntarily think of or experiment with</li> <li>Free trials often inexpensive to establish (eg. Limited time access to software, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>Exposure to a broader range of offerings without immediate impost (however such exposure is more ethereal than was previously the case)</li> </ul>
S3: Lost leader	<ul style="list-style-type: none"> <li>Enhance probability of making a sale of another more expensive product</li> </ul>	<ul style="list-style-type: none"> <li>Receive a free item in circumstances where they can well analyze the cost and benefit of making a subsequent purchase</li> </ul>	<ul style="list-style-type: none"> <li>Can appear to be providing an offering for free without necessarily doing so and potentially through duping a customer into making additional unplanned purchases</li> </ul>	<ul style="list-style-type: none"> <li>Somewhat limited – potentially non-existent</li> <li>Consumer cannot readily appreciate immediate utility or analyse subsequent utility</li> </ul>
S4: Razor and blade	<ul style="list-style-type: none"> <li>Creates something of a monopoly for a secondary product</li> </ul>	<ul style="list-style-type: none"> <li>No inherent advantage. However, the customer can readily analyze the pros and cons of attaching themselves in the long term to a single vendor</li> </ul>	<ul style="list-style-type: none"> <li>Can disguise the fact that a digital age “razor” has no obviously utility.</li> <li>A monopoly can be created covertly</li> </ul>	<ul style="list-style-type: none"> <li>Somewhat limited – potentially non-existent</li> <li>Consumer cannot readily appreciate immediate utility or analyse subsequent utility</li> </ul>



### *Free in the Industrial Age*

Because offering something for free did not emerge for the first time in the digital age, 20<sup>th</sup> century scholars as well as those charged with corporate strategy formulation have provided, at least implicitly, both solid definitions of “free” and conceptions of why offerings may be made available freely. Insofar as definitions are concerned, “free” can be seen as the action of providing something of value to another party without an expectation that the other party will incur its cost (Ghosh, 1998; Samuelson, 1997). This view entails two key assumptions. First, an item given freely must have economic value, or utility, for its receiver. Accordingly, giving an item of no value to someone, even if they are not paying for it, does not meet a definitional threshold requirement. This idea has been established by economists working in disparate traditions including Marxist (Brenner, 1977) and neoclassical (England, 2002), who typically describe utility as being in either use or exchange<sup>16</sup>. The importance of value leads elegantly to the second point about the nature of “free”: if an item — product or service — is worth something, someone has to create it and in so doing incur a cost.

In the 1960s and 70s, scholars typically agreed on why it may be desirable for a commercial entity to give something away for free (Arrow, 1975; Hofer, 1990; Telser, 1964); and for various general overviews on when it is commercially advantageous to give away merchandise in lowtech environments, see commentaries including those by Mao (2016); Chen, Duan and Zhous, (2017); Laffont, Rey and Tirole, (1998); Rao, (2013); He, Kuksov and Narasimhan (2017). Indeed, even a cursory perusal of the epoch’s marketing-orientated literature suggests that during the industrial age, there were essentially four reasons for corporate gifting. First, to maximize profit, an entity may seek to take advantage of a diminishing lifespan of an item (e.g., McCracken, ; Murakami, Oguchi, Tasaki, Daigo, & Hashimoto, (2010); Oguchi, Murakami, Tasaki, Daigo, & Hashimoto, (2010). This is called here the “time-running-out” strategy. For example, a seller gives a free can of soda to a consumer if the expiration date on the soda was the next day. In such a case, the lifespan of the freely given product is typically not an exchange-related advantage to the consumer who has limited opportunity to trade their windfall offering. Rather, it likely offers a utility-related advantage. For the “seller”, providing the free drink permits an item of rapidly

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<sup>15</sup> Initially named Figure 2. The Value/Strategic Benefits of Free for Vendors and Consumers across Two Epochs: Sector A and Sector B (carried across) versus Sector C

<sup>16</sup> For example, a can of soda comprises two elements: the can itself and the liquid in it. It is only the liquid (drink) that has economic value or utility. Once the soda is consumed, the can will remain but will have no utility (unless it can be recycled).

depreciating value<sup>17</sup> to be jettisoned while possibly creating something akin to goodwill in the relationship with a consumer.

The second free strategy that a late industrial-age firm can – or could - use to gain economic advantage may be understood through reference to the contingencies arising when, for instance, an illicit drug supplier attempts to create a new long-term client. Although some literature refers to “free sample marketing” (Hofer, 1990) or “freemium” (Liu et al., 2014; Pujol, 2010) to describe this paradigm, the more descriptive term “pusher-strategy” is used here. A seller using a pusher strategy provides a free sample to entice an end-user consumer to try something that the consumer would otherwise consider negatively or would not buy (Hayes, 1984, p. 195; Liu et al., 2014; Pujol, 2010; Schenck, 2011). The approach relies on the principle that the would-be purchaser will be sufficiently enamored of the trial offering so that, on subsequent potential purchase occasions, they will exchange money for it. For example, a seller may gift a consumer with a free new flavor of soda so that the consumer will be primed to buy the same product on the next visit. Variants of this strategy are widespread in the contemporary energy drink sector, as well as elsewhere in the food sector (Aversa et al., 2015). The approach is also frequently used in supermarkets; for example, it is applied when a shopper is invited to try a sample of, say, a new confectionary product (Hutcheson & Moutinho, 1998).

The third late industrial-age situation where the notion of free might arise is called the lossleader strategy (Chambolle, 2005; Hess & Gerstner, 1987; Lal & Matutes, 1994). As noted, the idea here is that a seller is forfeiting the retail value of an item to provoke another sale; or at least create meaningful contact with a potential consumer. For example, a grocery store manager may have a policy of giving away a free can of soda with the purchase of a (more expensive) candy bar. For the consumer, such a transaction enables additional value; they get two things when they have only overtly paid for one. For the seller, there is a net profit or, at least compared with the “no-deal state”, a “contribution” to fixed-costs (ideally the profit on the purchased item covers its “full”

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<sup>17</sup> Technically, passing an expiration date is not a case of depreciation. Depreciation is the process of drawing-down on or expensing, in a prescribed way, a non-current physical asset. There are generic depreciation schedules that may be, for example, linear, curvilinear (reducing-balance) or those reflecting a “production-units” approach. These kinds of schedules are incremental. As such, when depicted as graphical functions across long periods, they are represented by “smooth” curves. By contrast, passing an expiration date is not applicable to physical assets and—from a utility-function perspective—is depicted graphically as a stepwise and abrupt state transition.

cost and makes, at least, a contribution to the fixed cost of the so-called free offering—a concept which is explained in detail by “contribution-theory”<sup>18</sup>.

In the late industrial age, the idea of stand-alone utility distinguishes the first three rationales for “free” from the fourth: “the razor and blade business model.” It is noteworthy that avoiding the losses associated with the three previous approaches — merchandise passing an expiration date (time-running-out), free sample marketing (pusher-freemium strategy), and providing a lower-value gift in anticipation of larger-value sale (loss leader strategy) — mostly requires that the freely given offering has utility on its own. In the razor-and-blade case, a free item has no utility without the purchase of an additional offering; the expression “give ‘em the razor, sell ‘em the blade” originally uttered by King Camp Gillette, founder of the Gillette Safety Razor Company (Noble & Gruca, 1999), epitomizes this axiom of duality. The razor and blade model was developed in the late industrial epoch but, as will be seen, was mostly applied then on a limited basis and has been achieving its fullest expression, albeit in a modified form, in the digital age.

### *Free in the Digital Age*

As indicated in Figure 1, the digital age can be conceived of as two sectors of economic activity. The first consists of late industrial-age industries that have carried over into the new era. The second consists of genuinely new industries. Figure 1 additionally indicates that contextual elements which have driven the changed nature of commerce can be classified as being in one of two layered (and related) categories: technological advance and hyper-competition which has brought into being distinctively 21st century management and marketing-related phenomena (including contemporary marketing strategies which use social media). Insofar as evolved technology is concerned, philosophers have viewed the substance of relevant change as essentially a matter of elaborated platforms and greater degrees of component modularity. Technological advance is the first layer of contextual change (as expressed in the Venn-diagram embedded in Figure 1). The second set of contextual elements are concerned with a changed stance vis-à-vis management and marketing theory. For example,

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<sup>18</sup> Contribution theory (Anthony, 1965) is the idea that unit contribution (defined as a unit’s price less its variable cost) can be multiplied by a specified volume of output and subtracted from a total fixed-cost (within a relevant range). The resultant value will be a measure of profit. The formula for this concept is  $I=(UR-UVC)*X-TFC$ , where I=income, UR=unit revenue, UVC=unit variable cost, X= production (and sales) volume, and TFC=total fixed cost (within a relevant range). To calculate a break-even volume using these variables, one must divide fixed costs by unit contribution using the formula:  $BEV=TFC/(UR-UVC)$ .

elaborated platforms and greater degrees of modularity are inevitably governed by the new rules of information exchange laid-out by Shapiro and Varian (1998, 2013) which incorporate elaborated constructs from classical economics such as the idea of two-sided markets. In these circumstances, notions such as network externality – the idea that the worth of a device increases in diminishing increments as a function of how many other devices it is connected to – take on special import for managers and marketers. In this regard, what initially appears as essentially a byproduct of an expanded network becomes one of an array of new “strategy decision-making dials.” Other controls on the modern marketer’s digital age console are derived from (previously defined) notions such as user disutility sensitivity (eg Chen, Ni and Yu, (2019)), a tendency towards user engagement/reciprocity (Marder et al., 2019), devaluation (eg Brendl and al. (2008)) and the FOMO (fear of missing-out) effect (eg Hodkinson, (2019)).

The meaning and implications of the term “free” for current industries that also existed before the Internet have not substantially changed. This unaltered state is perhaps somewhat predictable because, as mentioned, the industries themselves have remained. However, due especially to elaboration of platforms and modularity (eg Fang, (2002); Warnick, (2001)) modified principles of exchange and distinctive management and marketing-related phenomena that have arisen from technological change, the new idiosyncratic digital age sectors typically use somewhat similar versions of the first two “free” strategies (running-out-of-time and pusher-strategy). However, they often also adopt greatly elaborated versions of the third and fourth identified approaches (loss-leader and razor-and-blade).

As noted, digital age industries tend to have shorter life-cycles than industries in the industrial age. Such sectors often provide new technology for fulfilling a function previously handled in a different way. These interrelated characteristics — shorter life-cycles and newer technologies replacing older ones to do essentially the same task — entail that the time-running out strategy requires increased monitoring to be successfully applied. The case of music sales illustrates these points, particularly with respect to product half-life or what strategic management and marketing literature often refers to as market cycle speed (Robinson & Min, 2002) and intensity of competition (Derfus et al., 2008). Vinyl records first became available to consumers in 1877 (Chailley, 1975). Approximately a century later, in the 1970s, audiotapes partially replaced records, and audio compact discs (CD) largely supplanted vinyl records in the mid-1980s (Taruskin, 2006). By contrast, in recent times, downloadable digital files largely superseded CDs within two to three decades. Hence, the product lifecycle of CDs as a consumer good — approximately 25 years — has been much shorter than the longevity of vinyl records.

As offering life-cycles shorten, pusher-strategy free trials become more important, especially if later offerings — such as presently annual smartphone upgrades — provide little additional marginal utility. Those concerned with crafting business strategy in fast-cycle markets adopt such a stance when they prioritize exploitation over exploration (Adner & Levinthal, 2008; J. Williams, 1998). Furthermore, free trials in most digital age sectors are easy and inexpensive to establish. For example, in the contemporary milieu, it is relatively straightforward to give limited “free” access to downloadable software because such a “gift” typically involves no substantial variable cost component for a provider.

In contrast to the relatively moderate adaptations observed with the time-running-out and pusher-freemium strategies, the loss leader and razor/blade strategies have been substantially elaborated in the digital age. As noted in Figure 2, these latter two approaches have metamorphosed into something quite different from their late-term industrial incarnation. In its purist form, the loss-leader protocol originally entailed giving away an item of genuine worth in the expectation of increasing the probability of selling another offering of greater value. The approach required that the freely given element had utility for the receiver. The soda and candybar example embodies this principle; the vendor gives the soda in the hope that the receiver will buy the (more expensive) candy-bar. In such a case, if the consumer does not buy the candy-bar, the soda still has in-use value, as it can be drunk. Depending on the behaviour of fixed and variable costs, the vendor may take a loss. The soda scenario is now contrasted with the case of a smartphone. Smartphones, offered by wireless telecom providers seemingly for free (e.g., Abolfazli, Sanaei, Gani, Xia, & Yang, (2014); Lee, Lee, & Feick, (2001)), often have limited utility without usage contracts and downloadable software. The same is true for certain gaming and music apps. Of course, such limited initial utility may be perceived by the customer being “gifted” the smartphone. On the other hand, it is also possible, perhaps even likely, that the same end-user does not have this initial awareness.

Insofar as the razor and blade business model is concerned, an item is freely given that has no obvious utility without the addition of another element, which must be purchased (Noble & Gruca, 1999; Teece, 2000). The key notion here is “no obvious utility”; the point being that a client receiving a free item generally engages in an exchange of proprietary rights on the basis that it is clear to them that they will need to make additional purchases. Modern examples of such offerings include inkjet printers, which require cartridges, and smartphones, which require wireless voice and data service connections. Hence, the razor-and-blade business model has changed when applied to such distinctively digital age industries.

Elaboration of platforms and modularity has ushered in a category of offerings that create — by either design or accident — marketing-related advantages (formalized with generic digital age strategies – and vocabulary - that are noted in Figure 1 as existing in the second layer of context). However, for consumers, the same form of technological advance with its associated vendor strategy implications produces confusion. These complementary and coexisting states – advantage for the vendor and confusion for the customer - center on the idea of “free.” For illustrative purposes, the case of smartphones is used to highlight the contingencies of this situation. It is noteworthy however that other examples could have been used, for instance gaming or music apps, etc. A smartphone is a handheld computer allowing its user to undertake myriad tasks through interacting with a keypad and small digital screen (PhoneScoop, 2015). The majority of functions that smartphones do — in both theory and practice — are made possible through wireless connections between the device itself and remote infrastructure such as satellites, servers and networked computers (Y. H. Kim et al., 2013; Sager, 2012). In some respects a smartphone seems like its predecessor, a mobile phone. To the naïve observer, it may even resemble — in both form and function — an industrial-age, fixed-line, telephone handset device. Such similarity appears because each category of offering is approximately the same size, has some form of keypad, and possesses — as its most salient feature — the capability to make phone calls. However, the smartphone differs from earlier offerings in at least three functional respects. First, a smartphone performs many more tasks than antecedent devices (although myriad of its functions may be untapped by its users) (A. M. Gould & Desjardins, 2015a; Y. Park & Chen, 2007). Second, because smartphones do multiple tasks, many of them highly valued by their users, they are typically associated with complex usage contracts that may or may not be transparent at the time of purchase (Fido, 2015; Gould & Desjardins, 2015a; Rogers Communications, 2015). By contrast, during the late industrial age, fixed-line telephone users typically had good awareness that, after their initial acquisition of a handset device, there would be a connection fee, then a fixed prescribed amount for local calls, and a prescribed but timed amount for long-distance calls (Coe, 1995, p. 5). It was therefore straightforward to accurately predict the phone bill. For early mobile phone users this kind of planning was also possible; although perhaps with less accuracy because those devices, by virtue of not being associated with a single location, blurred the boundary between local and long-distance calling (Gould & Desjardins, 2015a; 2015b). Third, not only do smartphones do many things, the costing methodology for a large number of their functions is more complex than the methodology previously associated with either fixed-line or mobile phones. One need only think of accessing the Internet via smartphone in a plan expensed by bytes of data where it may require for instance 0.15MB to download one text-based page but 15MB to download a one-minute long HD video.

Wireless telecommunications providers, at least in the US, appear to be somewhat sensitive to consumer concerns about costing smartphone services. Several industry players have implemented billing simplification strategies. In these new billing forms, there are fewer packages at higher yet more predictable prices. The intention is to give customers a fixed price deal on an expanded range of calling and data download services. Hence, notwithstanding a greater overall fee, there is an implicit promise of a reduced per-unit price. In summary therefore, in spite of the marketing copy, in such cases the overall cost to consumers rises because of the higher cost of the smartphones, the increased rate of obsolescence of each successive generation of phones, and the increased incentives (both in difficulty and price) against purchasing an unlocked phone without some form of contract. These arrangements create a state where the “free” phone becomes a perpetual and potentially escalating expense.

As noted, a smartphone and fixed-line handset telephone from the industrial age have some superficial similarity and each type of device is called a “phone”. This appearance of sameness gives rise to new ways that vendors deploy notions of free. A means of understanding one element of the substantive difference between each type of gadget is to consider each’s costing methodology. According to a US consumer electronics distributor RadioShack catalog of the era, in 1980 a high-end cordless telephone with a push-button handset (Duofone ET-300) cost 219.95 USD, which would be approximately 640 USD in 2016 (using an inflation index calculator). If a user obtained the handset for “free” and made, for example, two local calls per day at a rate of 40 cents per call in contemporary terms, the remote communication utility would cost approximately 24 USD per month. If the cost of the handset had been factored into an overall consumer payment and amortized over five years, the total impost for the utility would have been 34.66 USD per month. These straightforward calculations, by virtue of their intuitiveness, created a state where handsets had demonstrable and obvious value. In contrast, modern era smartphones — the devices themselves — are difficult, perhaps near impossible, for a consumer to value. In fact, as Gould and Desjardins (2015a), Park and Han (2013) and Ross (2012) have pointed out, being given a smartphone — for reduced cost or for free — could easily result in a net loss (on two fronts) for a consumer. They may, for example, receive little or no utility from the device and also have to pay various and often-unforeseeable monthly fees. The iPhone series illustrates this point. Such devices are essentially useless in the moments following being taken out of their box. They begin to achieve their purpose upon being powered-up and when the new owner, having agreed to a contract, accesses the Internet, connects to a network provider, downloads third-party software and transfers contacts and other relevant data from the previous smartphone owner/vendor. These undertakings are non-trivial. They take up to hours or days and/or may require additional visits to “experts” at a telco outlet. In such circumstances, it is possible for someone with a new iPhone to be in a position where the device is costing them without delivering utility.

Smartphones are sometimes offered for free or a seemingly very low price (e.g., Fido, (2015); Rogers Communications, (2012)). Without usage contracts and activation fees, they have limited functionality. As noted, such an approach could be interpreted in some circumstances as a loss-leader strategy. For example, a loss-leader scenario would occur when, as is sometimes the case, a telco firm offers genuine functionality for free on the basis that users understand, a-priori, that they are receiving a cut-down offering and would perhaps become interested in buying additional upgrade features. On the other hand, the razor and blade business model is also often applied in the telco sector but, courtesy of elaborated platforms and modularity, in a more disingenuous way than previously. A principal reason for such duplicity has been the superficial resemblance of today's smartphones to previous mobile or cordless phones. Furthermore, as offering lifecycles become shorter, it is not necessarily clear to consumers, particularly for late adopters, that a smartphone is more of a handheld computer with calling functionality than primarily and essentially a telephone-type device.

A smartphone is analogous to a razor and its usage contracts are analogous to blades. Yet a lack of clarity defines a key difference between application of the razor and blade strategy in the industrial and digital ages. Although a smartphone corresponds somewhat to a razor in need of a blade, unlike with a razor handle it may be unclear that something is missing (Gould & Desjardins, 2015a). This lack of transparency has implications for notions of free. Indeed, the emergent strategy introduces new forms of guile and duplicity into what it means to receive something for nothing. It places the receiver in a situation where — having obtained an offering for limited upfront cost — they must discover either that they cannot use it without buying additional elements or, in the worst case (for the consumer), that the more ethereal elements of the item (contracts, insurance, etc) will impose on them an unforeseen impost.

There is a rising generation of smartphone users, including existing early adopters, who have become habituated to their devices (Falaki et al., 2010) and inured to complex cost structures and high prices. Such a combination of functional savviness and high price inoculation has paradoxically led to increased competition at the highfeature end of the smartphone market and the gradual erosion of the “dumb-phone” market. As a consequence, each product line has moved up a level of functional sophistication as smartphone manufacturers such as Apple, Samsung, Huawei, HTC and LG — and to lesser extents Sony, Microsoft and Blackberry — resist commoditization of their products. The slickly-designed, multifeature, high-end smartphones constitute the lure, dangled before consumers for low-cost or free to engage them in still relatively complex contracts which they neither fully comprehend nor control. For consumers, the devices themselves as well as their pricing structures are not easily understood. Pre-paid plans mean constantly monitoring usage in order to avoid running



out of credit. By contrast, post-paid annual or bi-annual contracts may involve high and fluctuating monthly fees in circumstances where consumers do not use features for which they have paid and run up charges for unexpected overages on their most frequent types of calling, texting and data usages. These phenomena have been documented by Gould and Desjardins (2015a; 2015b).

In a different but yet related manner, Google acquired Android and began offering the Android mobile operating system to smartphone vendors and application developers for “free” as part of the Open Handset Alliance and Open Source Project (Open Handset Alliance, 2008). For over a decade, this model has famously contrasted with the Apple costly and closed iOS mobile operating system. Since the turn of the millennia, Google and Apple have both been highly profitable firms yet the innovation and dissemination levels of Android have been arguably higher as the Android operating system — and hence the Google information systems colossus — has now impacted, seemingly for free, the lives and communications of millions of consumers. In tandem with such success, smartphones themselves, and their associated contracts, are increasing in price.

To reiterate, smartphones and software services such as gaming and music apps are considered here as exemplars. Luo (2008) argues that they have characteristics in common with other digital age offerings. In particular, modern personal finance products, including securitized investments, have similar relevant features. These derive from collections of resources not tangible or transparent to users. Each such contemporary offering has no real equivalent in the industrial age and, in a technical sense, exists in the modern era because of the ubiquity of the Internet. However, when viewed in more conceptual terms, such offerings are a consequence of elaboration in platform technologies and modularity and the ensuing application of Shapiro and Varian’s (1998, 2013) new/modified rules of economic exchange and vendor strategy and marketing protocols documented (and earlier described) in Figure 1.

#### *Discussion and Conclusion: Free as a Corporate Strategy Level*

In the digital age the idea of giving something away for free is a central strategic concern for the distinctively new industries. This has been interpreted in this essay as upgrading the use of “free” from (often) a mere tactical after-thought to a genuine strategy lever. Hence, within the digital age sectors, the rationale for providing an

offering gratis is simultaneously more complex (in an analytic sense) and more disingenuous. This phenomenon has strategic and ethical consequences. Digital age offerings typically have shorter lifecycles than their industrial-epoch equivalents (to the extent that it is possible to identify equivalents). As a result, closer monitoring of the “time-running-out” and “pusher-freemium” strategies becomes necessary. The iPhone regular and S series upgrades, released by Apple approximately annually, demonstrate the point. When a superseded smartphone has massively diminished value and new models are launched once per year, heavily discounting the new devices (while recycling the old) becomes an exercise in strategic planning with no industrial-era equivalent.

If it is appropriate to view certain free strategies — such as “time running out” and “pusher freemium” — as having changed incrementally within digital age industries, then it is equally true that “loss leader” and “razor-and-blade” models have undergone radical transformation within these same sectors. Under the influence of increasingly sophisticated modularity and platform technologies and governed largely by Shapiro and Varian (1998, 2013) modified rules, those producing and distributing certain contemporary offerings have created conditions where they know much more about the costing methodologies associated with the “free” items than do consumers. Such knowledge asymmetry means that transacting parties perceive the “free” (or disproportionately low cost) items differently; providers are enticing the consumers into costly, renewable contracts, while consumers enjoy leading-edge, albeit ephemeral, technology and bragging rights.

In previous eras, although there have been mostly economic-and accounting-based conceptions about when it makes sense to provide items for free, there has not been a strategy-related contingency view of free; when and when not to provide items for free in a multi-firm competitive arena. This essay has viewed this omission through the prism of history. It has argued that there had not needed to be a contingency strategy-related conception of ‘free’ until the arrival of the digital age. In earlier epochs, exchanging items without demanding payment was largely irrelevant to competitive positioning and hence a marginal strategic consideration. A key reason that giving something freely was formerly not part of strategic planning was that offerings in the earlier epochs had more limited modularity and were supported by less elaborated platforms than is currently the case. Hence, in the past, offerings were not typically bought as a series of transactions — smartphones and contracts — or in a pyramidal structure in which the payments of the few subsidized the takings of the many — for instance, Adobe, LinkedIn, and Android. In circumstances of growing information asymmetry bred by increased platform elaboration and modularity, the idea of giving one element of an offering away without anticipation of payment takes on new strategic relevance. Moreover, vendors have increasingly manipulated information asymmetries

and elements of offerings to entice and retain digital-era consumers, who — in true pusher/freemium fashion — have become increasingly dependent on the offerings.

Researchers such as Spulber (2007) have made the point that globalization heralds the ultimate form of market saturation. On the way to such saturation, strategic inducements — of the variety that seek to make customers renew contracts or switch allegiances — have become more important as worldwide infiltration and usage of, for instance, consumer electronics increases. This article has shown that greater market permeation entails enhanced vendor sophistication and complexity in thinking about how free should be applied. Indeed, free is now a fully-fledged strategic lever, whereas before it existed in the realm of a tactic and, as such, was merely a matter of tinkering. Such a shift comes with the longer-term prospect that vendors who take full advantage of “free” as a strategy will be perceived as misleading at best or unscrupulous and unethical at worst. There are some implications of all of this. For example, contemporary managers should be circumspect in the way they deploy free inducements. They should remember that information asymmetry tends to be an ephemeral state, as consumers grow in sophistication. Those charged with the development of conceptual frameworks for reconciling when different strategies should be applied are presented in the contemporary world — courtesy mostly of platforms and modularity — with a new set of variables to ponder. This point has not gone unnoticed by those revising conceptions of digital age strategy (eg Gould and Desjardins, 2015).

Aside from being about notions of strategy and ethics, this essay’s conceptualization has implications for scholars of management history. The “free” gift is an old idea with murky origins. However, in the digital age as physical and virtual realities blend, the idea of getting something for nothing has not gone away. Indeed, the practice is evolving and requires more analytic attention, particularly on the part of the buyer in a commercial exchange. For the seller, the old notion of “free” is providing new possibilities. As such it has come of age as a genuine competitive strategy lever.

Table 5 Additional Marketing-Related Literature Focusing on Free and Incorporated in the narrative/argument of Article

Article	Theme Key message/ Key idea
Aguiar, L. (2017). Let the music play? Free streaming and its effects on digital music consumption. <i>Information Economics and Policy</i> , 41, 1-14.	This body of work argues that digital age offerings are multifaceted. They are typically purchased over the internet in either limited or elaborated forms. Such offerings, when implicitly compared with their industrial-age equivalent forms (to the extent that such comparison can be undertaken), have salient elements which can be more readily freely provided. Hence, this body of work argues that free "is potentially more strategic" in that it provides more choices for vendors to structure what they are selling so as to appeal to circumscribed market segments.
Chen, Y., Ni, J., & Yu, D. (2019). Application developers' product offering strategies in multi-platform markets. <i>European Journal of Operational Research</i> , 273(1), 320-333.	
Jim Hamill, (1997) "The Internet and international marketing", <i>International Marketing Review</i> , Vol. 14 Issue: 5, pp.300-323.	
Shang, G., Pekgün, P., Ferguson, M., & Galbreth, M. (2017). How much do online consumers really value free product returns? Evidence from eBay. <i>Journal of Operations Management</i> , 53, 45-62.	
Spanyol, T. (2014). 'Free' claims in apps and games: More regulator action. <i>Journal of Direct, Data and Digital Marketing Practice</i> , 16(2), 129-131.	
Brown, S. (2004). Free gift inside!?: Forget the customer. Develop marketease. John Wiley & Sons.	
Jung, E. Y., Baik, C., & Lee, J. D. (2012). Product survival analysis for the App Store. <i>Marketing Letters</i> , 23(4), 929-941.	
Koukova, N. T., Srivastava, J., & Steul-Fischer, M. (2012). The effect of shipping fee structure on consumers' online evaluations and choice. <i>Journal of the Academy of Marketing Science</i> , 40(6), 759-770.	
Burke, R. R. (2002). Technology and the customer interface: what consumers want in the physical and virtual store. <i>Journal of the Academy of Marketing Science</i> , 30(4), 411-432.	
Mao, W. (2016). Sometimes "fee" is better than "free": token promotional pricing and consumer reactions to price promotion offering product upgrades. <i>Journal of Retailing</i> , 92(2), 173-184.	
Chen, H., Duan, W., & Zhou, W. (2017). The interplay between free sampling and word of mouth in the online software market. <i>Decision Support Systems</i> , 95, 82-90.	
Laffont, J. J., Rey, P., & Tirole, J. (1998). Network competition: II. Price discrimination. <i>The RAND Journal of Economics</i> , 38-56.	
Rao, A. R. (2013). How and why is price perceived: a commentary on Cheng and Monroe. <i>AMS review</i> , 3(3), 146-150.	
Weisstein, F. L., Monroe, K. B., & Kukar-Kinney, M. (2013). Effects of price framing on consumers' perceptions of online dynamic pricing practices. <i>Journal of the Academy of Marketing Science</i> , 41(5), 501-514.	
Adhikari, A. (2016). Pay What You Want: Willingness to Pay Under No, Part, and Full Information of Cost of Product. In <i>Looking Forward, Looking Back: Drawing on the Past to Shape the Future of Marketing</i> (pp. 891-891). Springer, Cham.	
Marder, B., Gattig, D., Collins, E., Pitt, L., Kietzmann, J., & Erz, A. (2019). The Avatar's new clothes: Understanding why players purchase non-functional items in free-to-play games. <i>Computers in Human Behavior</i> , 91, 72-83.	
Lee, S., & Yi, Y. (2017). "Seize the Deal, or Return It Losing Your Free Gift": The Effect of a Gift-With-Purchase Promotion on Product Return Intention. <i>Psychology &amp; Marketing</i> , 34(3), 249-263.	
Liu, T. C., Cheng, T., & Ni, F. Y. (2011). How consumers respond to the behavior of missing a free gift promotion: Inaction inertia effect on products offered as free gifts. <i>The Journal of social psychology</i> , 151(3), 361-381.	
Wible, A. (2011). It's all on sale: Marketing ethics and the perpetually fooled. <i>Journal of business ethics</i> , 99(1), 17-21.	
Cheng, L. L., & Monroe, K. B. (2013). An appraisal of behavioral price research (part 1): price as a physical stimulus. <i>AMS review</i> , 3(3), 103-129.	
Nicolau, J. L. (2012). Battle royal: Zero-price effect vs relative vs referent thinking. <i>Marketing Letters</i> , 23(3), 661-669.	
Kempf, D. S., Laczniak, R. N., & Smith, R. E. (2006). The effects of gender on processing advertising and product trial information. <i>Marketing Letters</i> , 17(1), 5-16.	
Wu, C. C., Chen, Y. J., & Cho, Y. J. (2013). Nested network effects in online free games with accessory selling. <i>Journal of Interactive Marketing</i> , 27(3), 158-171.	This literature concerns the role of 'free' offerings in establishing and elaborating the network effect (network externalities). The network effects is the idea that the value-worth of individual (networked) offerings increases as the size of the network increases.
Katz, M. L., & Shapiro, C. (1985). Network externalities, competition, and compatibility. <i>The American economic review</i> , 75(3), 424-440.	
Zan Zhang, Guofang Nan, Minqiang Li & Yong Tan (2016) Duopoly Pricing Strategy for Information Products with Premium Service: Free Product or Bundling?, <i>Journal of Management Information Systems</i> , 33:1, 260-295	
He, T., Kuksov, D., & Narasimhan, C. (2017). Free in-network pricing as an entry-deterrence strategy. <i>Quantitative Marketing and Economics</i> , 15(3), 279-303.	
Heiko Gebauer, Thomas Friedli, (2005) "Behavioral implications of the transition process from products to services", <i>Journal of Business &amp; Industrial Marketing</i> , Vol. 20 Issue: 2, pp.70-78	
Papies, D., Eggers, F., & Wlömert, N. (2011). Music for free? How free ad-funded downloads affect consumer choice. <i>Journal of the Academy of Marketing Science</i> , 39(5), 777-794.	
Fruchter, G. E., Gerstner, E., & Dobson, P. W. (2011). Fee or free? How much to add on for an add-on. <i>Marketing Letters</i> , 22(1), 65-78.	
Jing, B., & Zhang, Z. J. (2011). Product line competition and price promotions. <i>Quantitative Marketing and Economics</i> , 9(3), 275.	
Varadarajan, P. R., & Yadav, M. S. (2002). Marketing strategy and the internet: an organizing framework. <i>Journal of the Academy of Marketing Science</i> , 30(4), 296-312.	
Kumar, V., & Reinartz, W. (2016). Creating enduring customer value. <i>Journal of Marketing</i> , 80(6), 36-68.	
Helm, R., Mark, A., & Bley, S. (2009). The effect of free product premiums on attitudes and buying intention for durable goods: moderating effects of value and product premium fit in the dual mediation model. In <i>European retail research</i> (pp. 21-45). Gabler Verlag, Wiesbaden.	
Doligalski, T. (2015). Influence of the Internet on Value to Customer. In <i>Internet-Based Customer Value Management</i> (pp. 25-80). Springer, Cham.	This literature concerns how 'free' has potential to be used with guile and duplicity, particularly in the digital age. It focuses in particular on how consumers are sometimes manipulated into becoming agents for a vendor through 'free' inducements.
Cabral, L. (2012). Lock in and switch: Asymmetric information and new product diffusion. <i>Quantitative Marketing and Economics</i> , 10(3), 375-392.	

# Chapitre 4 Cantilevering the Malaise: Confusopoly in the 21st Century Employment Relationship

## 4.1 Résumé

La déqualification des employés par la division du travail a constitué une critique de la façon dont la main-d'œuvre était gérée dans les économies de marché capitalistes tout au long du XXe siècle, un genre de critique qui s'est cristallisé dans le livre de Braverman, *Labour and Monopoly Capital*. À l'ère du numérique, de nouvelles industries ont vu le jour. Dans cet article, la notion de *confusopoly* est élargie pour englober la gestion du travail. Cette étude s'appuie sur les résultats des groupes de discussion des fournisseurs de l'industrie des télécommunications pour mettre en évidence cinq thèmes qui soutiennent l'affirmation selon laquelle la *confusopoly* n'est pas simplement une caractéristique de la relation entreprise-client dans les secteurs de l'ère numérique. Dans ces secteurs, le terme décrit plutôt un aspect de la relation de travail moderne. Cette interprétation est conforme à l'observation selon laquelle la classe moyenne de la société occidentale est en train de disparaître, car ses arrivés récents constituent des désavantages pour obtenir un avantage concurrentiel dans de multiples domaines, notamment lors de la négociation des achats ainsi que des conditions de leur emploi.

**Mot-clés:** ère numérique, confusopoly, déqualification

## 4.2 Abstract

Employee deskilling through division of labour formed a key critique of the way workforces were managed in capitalist market economies throughout the 20th century, a genre of criticism crystalized in Braverman's Labour and Monopoly Capital. In the digital age, new, epoch-distinctive, industries have emerged. In this article, the construct of confusopoly is broadened to embrace labour management. This study draws on telco industry vendor focus-group results to highlight five themes that support the claim that confusopoly is not merely a feature of the firm-client relationship in digital age sectors. Rather, in such industries, the term aptly describes an aspect of the modern employment relationship. This interpretation is consistent with the observation that Western society's middle class is disappearing as its recent arrivals are disadvantages in gaining competitive advantage across multiple domains, specifically when negotiating purchases as well as the terms of their employment.

**Keywords:** digital age, confusopoly, deskilling

## *Introduction*

Worker deskilling through division of labour formed much of the substance of critiques of the way workforces are managed in capitalist market economies throughout the 20th century (Braverman, 1998; Jacobs et al., 2004; Osterman, 1994, 2006). In recent times, this genre of criticism is perhaps best crystallised in Harry Braverman's *Labour and Monopoly Capital* (Braverman, 1998) but, as any Marxist-orientated scholar will appreciate, in fact has a longer history (Brenner, 1977; Marx, 1867; Marx & Paul, 1928; Rothstein, 1990). In essence, the central tenet of the deskilling thesis is the contention that, when a production process is organised so that workers are required to do simple tasks, they become interchangeable and thus further denuded of, an already unequal, bargaining power (Braverman, 1998). This kind of critique of the capitalist mode of production is really a denunciation of the options that capitalism affords managers. As such, it represents a charge that managers can, and often do, adopt labour-use strategies that are exploitative or unethical (Braverman, 1998; Brenner, 1977; Marx & Paul, 1928). In this sense, Braverman's contribution can be seen as grafting on to the original Marxist framework the notion that, within the context of a production mode that is inherently psychologically alienating and economically disadvantageous to key actors in the creation process (i.e. the workers), employers also have choices. As any cursory perusal of strategic management literature suggests, it is the possibility of choice that forms the substance of management strategy (Akan et al., 2006; Banker et al., 2014; E. Bowman et al., 2002; Chandler, 1962). More formally stated, the crafting of strategy is the identification and rationale appraisal of options with the goal being to advance one's material circumstances (Chandler, 1962; Gould & Desjardins, 2015b; Marcus, 2010).

Strategy is a multifaceted affair. Insofar as the world of business and commerce is concerned, authors have examined ways it can be disaggregated (Moore, 1997; Olson et al., 2005; Pettigrew et al., 2001). For example, notions of corporate strategy are often seen as overarching in nature (E. H. Bowman & Helfat, 2001). Walmart pursues a low cost/generalist strategy. Rolls Royce a differentiation/niche strategy. These big-picture orientations establish the *raison d'être* of such firms, otherwise viewed as their role within an industry context (Gould & Desjardins, 2015b; Mintzberg, 1987; Porter, 1979, 1980). Underpinning this kind of overall stance, there is widespread consensus that firms produce subordinate/ancillary strategies that are supportive and somewhat specialised in nature. In this sense, terms such as "labour-use" strategy, "sales and marketing" strategy, "information technology" strategy, "financing" strategy and "procurement" strategy are expressions that often become associated with individual elements of an organisational structure (E. H. Bowman & Helfat, 2001; Pettigrew et al., 2001). It is widespread orthodoxy that, largely for reasons of efficiency, a firm's suite of strategies should be aligned (Gould & Desjardins, 2015a; Olson et al., 2005; Pettigrew et al., 2001).

In the digital age, for purposes of exposition, roughly the period from the advent and widespread uptake of the Internet (Berners-Lee, 2000), new and unambiguously epoch-distinctive, industries have emerged on the corporate landscape (Gould & Desjardins, 2015b). In key respects, such new sectors have challenged generic industrial-age conceptions of strategy (eg Gould and Desjardins,(2015b)). Furthermore, at a functionally specific level, the new industries have produced a novel menu of options for profit maximisation (E. H. Bowman & Helfat, 2001; Gould & Desjardins, 2015a; Hossain & Kathuria, 2004). Consider, for example, the term “confusopoly”. This word was originally coined in a somewhat whimsical way by Dilbert to describe a distinctively contemporary phenomenon whereby several firms band together to create befuddlement for customers concerning what they should be purchasing (Adams, 1998). There exists in literature various perspectives about the extent to which this occurs and the industries that are the biggest culprits (Marcus, 2010; Pettigrew et al., 2001). Whatever the case, a few conclusions seem reasonable. First, the business of, for example, buying a smart phone – at least insofar as this exercise can be compared to its industrial-age equivalent of buying a rotary-dial telephone requires substantial analysis on the part of the purchaser and is associated with consequential industry-level information asymmetry (Gould & Desjardins, 2015a). Second, confusopoly seems prime-facie to have something to do with the way offerings for digital-age industries are presented to consumers. As such, the term is applied narrowly, as a sales and marketing matter (Kalaycı, 2016; Kasper et al., 2010). Third, more likely by design than accident, the term – confusopoly - embodies exploitation. In this latter sense, it entails that a group of more powerful parties (an industry) have used their superior analytic resources to place a subjugated agent with whom they transact (an individual consumer) in a position of economic disadvantage (Kasper et al., 2010). An example of this would be the hapless consumer having to choose an appropriate smartphone plan and subsequently finding that they misanalysed their usage profile and found themselves billed for services they did not need or use (Gould & Desjardins, 2015a; Kasper et al., 2010).

In this article, I propose that the term confusopoly has broader strategic import than that pertaining solely to sales and marketing within digital age industries. Indeed, the term can be “cantilevered” horizontally to embrace another domain of strategy options; those concerned with labour management. Using focus group-derived data taken from telecommunication-sector sales vendors, I show that the way that these employees are dealt with by their employer(s) has key points of correspondence with the way they are trained (and required) to sell their wares to an unwitting public, described above using the disparaging term “confusopoly”. Hence, the argument of this article can be summed-up with a single proposition: Dilbert’s confusopoly (Adams, 1998) is pervasive in distinctively digital-age sectors of modern economies, effecting, at a minimum, elements of sales and marketing



strategy as well as labour-use strategies. As such, criticisms of the approach – although based on denunciations of the customer/firm relationship – are mostly also applicable to the employment relationship.

The structure of this work is a conventional one for articles reporting research findings. First, a review of literature that canvases relevant perspectives of the employment relationship is undertaken. This review creates context for the argument being advanced. As a part of the review of relevant literature, it is argued that the term “confusopoly”, a term imported from strategy related literature, is potentially a construct that impacts employment relation scholarship. Second, the methodology of this study is presented, a method – for reasons to be defended – relies on focus groups. The third section presents the study’s results and discussion. Findings are presented as a series of five related themes that (together) form the substance of what is being argued. Fourth, a conclusion, with implications for findings, is presented.

### *Literature Review*

A perennial analytic concern of pluralist-orientated employment relations scholars is how can the institution of the employment relationship endure in spite of systemic elements of employer/employee interest misalignment (Degiuli & Kollmeyer, 2007; Gould & Desjardins, 2014; Ikeler, 2016; Marchington & Parker, 1990; McLoughlin & Gourlay, 1992; J Purcell, 1986). In the industrial age, roughly speaking the pre-Internet era, analysts examining this matter mostly adopted one of several research paradigms. For example, to shed light on the problem, scholars have used variants of the Fox and post-Fox framework (eg Purcell and Sisson, (1983); Deaton, (1985); Purcell, (1986); Purcell, (1987); Sisson, (1989); Marchington and Parker, (1990); McLoughlin and Gourlay, (1992); Storey and Bacon, (1993); Belanger and Edwards, (2007)); ideas based on conceptions of a dual labor market theory (eg Doeringer & Piore (1985) and Jacoby (1979)), international comparative literature (eg Dore, (1983)); strategic management literature focusing on high performance work teams through mutual gains bargaining theory (eg Osterman, (1994, 2006)); varieties of capitalism literature (eg Hall & Soskice, (2001), Gould, et al, (2014)), and labor control/labour-process theory (eg. Braverman, (1998); Burawoy, (1982); Degiuli and Krollmeyer, (2007); Cressey and McInnes, (1980)). More recently, several of these conceptions have been augmented. For example, one such revision agenda addresses how elapsed time will interact with key consequential variables. Such effort has been done through conceptualising time itself, as in chronology, as deterministic (eg Gould, (2010); Gould and Desjardins, (2014)), or various proxies for time, including conceptions of cyclical economic fluctuation (Ramsay, 1977).

With the emergence of new employment forms (mostly brought about under the influence of technology), industrial-age understandings of misaligned employer/employee interests have been tested and found wanting (Dixon, 1999; Hirsch, 2014; Lawrence et al., 2017; Marucci-Wellman, 2018). One reason for this concerns the changing nature of the object of analytic interest. In straightforward terms, in the contemporary world the employment relationship itself is often harder to see and/or more abstracted than was previously so (Cunningham-Parmeter, 2016). The cases of Uber, and firms such as Skip the dishes etc are illustrative in that, in each of these instances, it is not clear who counts as an employer and employee. Compounding the problem of a more obscure object of analytic interest is the fact that the problem itself is becoming more urgent. Specifically, modern scholars whose analytic preoccupation is Taylorist-forms of deskilling as manifested in the 21st century, have chartered the rise of distinctively digital-age “bad jobs” (Jaehrling et al., 2016; Kalleberg et al., 2000a; Kalleberg, 2018; Rubery et al., 2018). Although the gravity of this problem is increasing, the construct itself – bad jobs - is not new. Indeed, it has its theoretical roots in Marxism in the 19th century (Brenner, 1977; Marx, 1867; Marx & Paul, 1928; Rothstein, 1990), and, more recently, the writings of Braverman (1998), Jacoby (1979) and Kalleberg (2000, 2018) in the 20th. However, as an analytic point, although the expression “bad job” is common in contemporary scholarship, when viewed through the lens of history, the construct is not so much about non-standard jobs but rather certain standard jobs (Kalleberg, 2000; Kalleberg et al., 2000b; Lawrence et al., 2017; Rubery et al., 2018). By contrast, the modern notion of “bad jobs” is a circumscribed category of fringe-work that is especially exploitative.

The deskilling thesis, particularly as instantiated in the writing of Braverman’s *Labour and Monopoly Capital* (Braverman, 1998), has a narrative which unfolds as follows: deskilling is an employer agenda that leads to subjugation of a workforce and, as its goal, enhanced control of that labour force (Braverman, 1998; Jacoby, 1979). Another way to view such a strategy is to consider it as the conscious reduction or elimination of the distinction between the capital and labour business input elements. In practice, a key part of this merging is to reduce worker downtime, in much the same way as one interested in efficiency seeks to deploy a machine 24 hours a day (Derksen, 2014).

The deskilling genre, although in recent decades held out as a critique of capitalism (Braverman, 1998; Ikeler, 2016; Jacoby, 1979), in fact draws much of its inspiration from seminal advocates of market economies, for example Adam Smith (Smith, 1957; Smith & Copley, 1995). Specifically, Smith –working in the 19th century and when trying to make sense of the emerging industrial Western world - proposed that, the more a manufacturing process is conceived of as a series of simple and discreet tasks each done by one person, the greater will be its

resulting productivity (Smith, 1957). Smith's concern here was to understand the elemental aspects of a manufacturing process, largely based on the assumption that efficient output in the context of unsaturated markets is beneficial for myriad parties. Thus, acting as a philosopher (and advocate for the new capitalist system) as opposed to a strategist, he was somewhat neutral on the competitive consequences for individual firms of what he was proposing (Smith, 1957).

Coming from another – still largely optimistic - perspective of post-industrial revolution society was Emile Durkheim who, with his industrialisation thesis, offered a view of technology's impacts that was simultaneously homogenising and self-correcting (Bryant, 1985; Lukes, 1973). Like Smith, Durkheim had an ultimately sanguine view of division of labour and job specialisation (Bryant, 1985; Merton, 1934). Also, like Smith, Durkheim was less concerned with strategy, à la how individual players within a sector can secure for themselves competitive advantage, and more concerned with philosophy (Bryant, 1985; J. Cohen, 1975). This view, later embraced and further developed by mid-20th century theorists such as Clark Kerr, was based on the notion that the splitting of a production process into its elemental components arises ultimately from two influences (Kerr et al., 1960; Kerr & Munitz, 1998). Specifically, as a society industrialises, moving from mechanistic to organic forms of solidarity, a tendency towards specialisation, à la division of labour, is initially dysfunctional in that issues such as status and occupation become unduly salient influences in the lived experiences of its individual members (Kerr et al., 1960). However, industrialisation itself is an ephemeral developmental step. Ultimately, when organic solidarity – or widespread realisation that individuals within the new order are interdependent – displaces mechanistic solidarity, division of labour and other forms of inter-individual differentiation (status, etc), become reconciled within a broader context of overall social betterment (Kerr, 1964; Kerr et al., 1960; Kerr & Munitz, 1998).

Unlike Smith and Durkheim, Braverman's view of job specialisation leaves no room for employee upside. Indeed he (Braverman), focusing his analytic attention on misaligned employer and employee interests, viewed the matter as, although perhaps advancing a narrow partisan agenda (i.e. that of the employer), in the end always exploitative and certainly not of widespread benefit (Braverman, 1998). For Braverman, a capitalist who splits a job into its elemental components and assigns each of these to individuals, takes greater control over key aspects of the lives of such individuals (Braverman, 1998). The capitalist does this though rendering his workers readily substitutable (Elwell, 2011). Along the way, he receives other benefits. For example, he creates a workforce that is divorced from the creation process. For such workers, this heightens a sense of alienation from the production mode that sustains – and constrains – them. However, for the capitalist, alienation due to deskilling is associated with worker dumbing-down and ensuing erosion of confidence/assertiveness

(Braverman, 1998; Kalleberg, 2018; Kalleberg et al., 2000b). The logic is as follows: those with narrow involvement in an overall process have limited understanding of that process; those with limited understanding are stripped of confidence; those stripped of confidence are weakened negotiating opponents; weakened negotiation opponents receive worse outcomes for themselves in a zero-sum arena; those receiving worse outcomes for themselves cede to their opponents the spoils. It elsewhere noted that the wage-effort bargain, as instantiated in the industrial-age employment relationship, is a zero-sum arena (Gould & Desjardins, 2015b; Gould & Lokrou, 2018; Meegan, 2010; Zhu, 1992).

### *Precarious Employment in the 21<sup>st</sup> Century*

For present purposes, and consistent with the view of the International Labour Organization (ACTRAV, 2011), precarious employment refers broadly to an inadequacy of rights and protection at work. Scholars characterize precarious workers as those whose employment forms are insecure and uncertain, that offer only limited access to decent wages and social security, and that provide only inadequate legal protection and rights of participation (Bosch, 2004; Kalleberg, 2018; Rubery et al., 2018; Supiot et al., 2001). Consistent with the aforementioned operational definition of the construct, the insecurity that qualify precarious workers are mainly due to their non-specific skills they offer to the labour market (Curtin et al., 2016; Kalleberg et al., 2000b; Nelken & Hunter, 2006). The form and incidence of precarious work varies among countries but, in most cases, is better revealed using multiple criteria pertaining to worker relative disadvantage (International Labour Organization, 2016) Precariousness may be associated with one or more conditions: the UK, for example, has witnessed increasing shares of low wage employment, subcontracted work, variable and non guaranteed hours and low paid and dependent self employment (Rubery et al., 2018). According to Kalleberg (2018), the causes for the erosion of the collective bargaining or dismissal protection are due to globalization, the expansion of the service sector and the ensuing demands for flexibility, technological change and the widening of the gap between low- and high-skill workers.

In the digital age within Western economies, precarious work forms are unambiguously on the rise, a phenomenon observed by both sociologists (Curtin et al., 2016; Jaehrling et al., 2016; Marucci-Wellman, 2018; Rubery et al., 2018) and economists (Cohen, 2015; Lambert & Herod, 2016; G. Morgan & Nelligan, 2018; Nelken & Hunter, 2006). For example, in comparing six countries, Kalleberg (2018) concludes that there is a worldwide increase in precarious employment, which leads to precarious living conditions and a decline in subjective well-being. Similarly, Rubery and al (2018) conclude that precarious work is the new norm in the 21<sup>st</sup> century.

Concomitantly, in countries such as the United States and the United Kingdom, industrial-age institutions which had been accruing since the industrial revolution and which were intended mainly to enhance employee bargaining power, have been rendered less relevant (and in many cases, indeed, eroded) in the 21<sup>st</sup> century (Kalleberg et al., 2000b; Nelken & Hunter, 2006). For example, standard employment relationship protective rights, such as coverage by collective bargaining or dismissal protection, have now been weakened to the point that the differences between a permanent full-time job from which a worker can be dismissed at any time and a fixed-term contract have become fluid (Cohen, 2015; Kalleberg, 2018; Rubery et al., 2018). In these circumstances, employers are well incentivised to diminish the relative size of their core and increase that of their peripheral workforce.

Whilst industrial sociology literature has mostly focused on how Western-style market economies adversely effect the lives and well being of those who contribute their labour as an input to production, the emergence of distinctively digital age industries, such as modern telecommunications, has been associated with new views of corporate and business-level strategy (Al Raee & Rajasekar, 2013; A. M. Gould & Desjardins, 2015a, 2015b; Hossain & Kathuria, 2004; Masse & Beaudry, 2014). One such new approach has nothing to do with labour management but rather concerns the widespread exploitation of information asymmetry in the way retailers deal with their customers (a matter to be further discussed) (A. M. Gould & Desjardins, 2015a). However, there is a paucity of literature exploring the link between the way vendors treat customers and the way those same vendors, when they take on the role of employers, treat their employees. It is somewhat axiomatic that both kinds of relationships involve strategy considerations for the firm (Banker et al., 2014; E. Bowman et al., 2002; Mintzberg, 1987; Pettigrew et al., 2001).

The *portmanteau* word “confusopoly” was coined to describe, in essence, new elements of the retail customer experience when interacting with vendors in industries whose principal product is internet-enabled offerings including, for example, cell phones, tablet devices, and sectors where value being added is somewhat less tangible, such as personal finance and online dating, etc. Initially illustrated in the comic Dilbert (Adams, 1998), the economist Richard Cordray (2014), when describing large financial institutions, later elevated the construct to a serious status. When referring to too many service options in circumstances where customers are ill-equipped to analyse their usage requirements. Specifically, Corday (2014) describes the phenomenon as:

*There's actually an economic term for this; it's called "Confusopoly." If [the sellers] can confuse the consumer enough then the consumers won't necessarily know what choice they're making, and they can be talked into just about anything.*

The substance of this approach embodies something of industry-level collusion. Specifically, when firms in the same sector offer roughly equivalent, but nonetheless functionally complex offerings, rather than competing on conventional dimensions such as price and desirable attributes, the block of entities act in concert to confuse the consumer such that they misanalyse their requirements. An example of *confusopoly* is in the modern telecommunication consumer sector, whose principal offering is smartphones. In this industry, there abounds myriad price plans based on combinations of available minutes, text messaging capabilities, Internet bandwidth, music option, etc. Such a suite of options often renders comparisons problematic (A. M. Gould & Desjardins, 2015a).

As a portmanteau term, *confusopoly* embraces, in a somewhat delimited way, two elemental constructs. First, in certain kinds of new economic transactions, one party in the exchange has a negotiating advantage concerning what is being provided by virtue of both the data they possess and their capacity to analyse such data (Kalaycı, 2016; Patterson, 2017; Siciliani, 2013). This is the confusion element. It is instantiated in cases where a confident vendor uses a technical analysis of a hapless consumer's smartphone usage patterns to convince them that they should switch to a more expensive plan. Another manifestation is an industry arranging itself so that its players provide offerings, the relative advantages of which cannot be well compared; once again, as often occurs when buying smartphone plans. The second element of "confusopoly" concerns the monopoly element (Patterson, 2017). The notion embodied here is that consumers, despite perhaps having awareness that they are at an analytic disadvantage, are compelled to continue with an exchange. It is noteworthy that the monopoly element is somewhat obscure and certainly departs from the term's neo-classical economic roots. For example, a monopoly – in the sense that the word is being used in *confusopoly* – may exist in circumstance where an industry structure is better described as an "oligopoly" (Kalaycı, 2016; Siciliani, 2013) in the sense that it is comprised of a group of firms that, although existing as separate commercial entities, act in concert insofar as consumers are concerned. When done illegally this strategy is often described as "collusion" (Leitch & Motion, 2003) and when done legally, "cooperation" (Yandle, 1998). For example, a digital age industry (group of firms) may each deemphasise their own existence but rather, at least insofar as marketing and imaging is concerned, foreground products they are each selling, an *iPhone* for instance.

In the digital age, confusopoly has been used to characterise the relationship that vendors have with their (generally retail) clients (Kasper et al., 2010; Patterson, 2017; Siciliani, 2013). The term has not been used in other contexts. In particular, it has not been used to characterise the nature of the employment relationship that exists in digital age industries. In this article, I propose that such an omission represents an unduly restrictive use of the term. I prosecute my case though using focus group data to establish that the two aforementioned applications of confusopoly (i.e. its use to describe a dimension of the firm-client relationship and to describe a dimension of the employment relationship) are, insofar as corporate strategy is concerned, similar, in fact near identical. At the heart of this conception is the notion that certain workers in distinctively digital age sectors (eg vendors within the telecommunications industry) are not in a position to analyse their current economic and lifestyle circumstances to secure for themselves an optimum employment arrangement. Perhaps even more importantly, the same vendors are even less well equipped to analyse their future prospects as industry employees. In such a vacuum, employers control the narrative and craft it to suit their interests; similarly, to that which occurs when the same employer (now in the role of a vendor) dominates deliberations concerning a hapless client's smartphone requirements (A. M. Gould & Desjardins, 2015a). The key idea here concerns narrative, the story to be told. In taking control of the storyline, the employer activates one/several of circumscribed options/stories. In other words, they choose the plot. It is noteworthy that scenarios are circumscribed visions of the future and require both detail and justification for their constituent elements (Cunningham-Parmeter, 2016; Kuehn & Corrigan, 2013b). However, they do not necessarily require that an interlocutor (the would-be worker in this case) understand all their facets. For present purposes, this latter point concerning poor understanding is what counts because, as is often the case when buying a smartphone, an interlocutor does not want to seem foolish or naïve. In short, the employer introduces, on the capitalist side of the bargaining table, a beefed-up emphasis on complexity, especially when compared to traditional workplace bargaining that occurs in a context constrained by industrial-age labor market institutions such as unions, works councils, arbitration, etc. In this study these notions will be further explored through analysing what telecommunications employees/vendors say about their interactions with their employer(s).

In summary therefore, in this article the case is made that restriction of usage of the term confusopoly is unduly limiting. More specifically, it will be argued that the idea is limited in the sense that it is endemic to the digital era only but non-limited in the sense that, it is somewhat generic within that era. Indeed, in digital age industries, confusopoly is aptly applied to different kinds of market-mediated relationships; for example, the relationship between the firm, acting as a vendor, and the customer, as well the firm, acting as an employer, and the employee.

## *Methodology*

This section presents an overview of this study's procedure and associated rationale.

### *Focus groups with telco-industry outlet-based vendors.*

This study draws on telco-industry outlet-based vendor focus-group results for its data. Two 90-minute focus groups were held in Quebec City. There were six former retail telco salespeople in each meeting and hence 12 individual contributors across the two sessions. The author of this article who, for several years managed telecommunications outlets in Canadian shopping malls recruited these participants as a convenience sample however took care to ensure that more than two of Quebec's seven teleco firms were represented (creating a sense of industry representation as opposed to firm-only representation). Each recruited focus group participant had a minimum of six months experience working in industry retail outlets.

Consistent with the recommendations of authors such as Yin (2017) and Silverman (2007, 2013), three strategies were used to avoid concerns such as demand characteristics and other systematic sources of error that may have biased focus-group findings. First, the purpose of the study was deliberately kept vague. The facilitator (this article's author) began the session by saying "we are not sure about what it is like to work in a telecommunications outlet and want to start an exploration of this issue with a discussion of how you interact with your employer and what they generally expect from you". Second, *post-hoc* questionnaires were administered which asked questions addressing whether participants were aware of the purpose of the focus groups and/or if they felt at ease discussing the way they do their job and their relationship with their employer. Third, there was *a-priori* development and pretesting of focus-group thought-starter questions.

Focus groups used the same format. Contributors were asked unstructured/opened-ended questions about how they interact with their employer, what is expected of them when it comes to making sales, and how they are dealt with when they fail to meet performance targets or otherwise run afoul of their outlet manager. By default, they were invited to give basic responses and then to elaborate. During the sessions, those who were not responding directly to questions were asked to add-to, modify and/or clarify points being made by primary contributors. Questions that were posed to focus group participants included:



- I. What things are you told to do to make your firm successful? Do you implement corporate sales/marketing policy or do you modify it? Please speak about this issue.
- II. Does your employer offer you any kind of training? If so, how, when and where does this happen?
- III. Are there aspects of your employer's approach that you find to be dishonest? Have you ever felt misled by your employer? Have they told you things that were not quite true? Have you ever felt they have made things overly complicated just so you can't understand them?
- IV. Is your current job in the telecommunications industry going to lead to a career in that industry for you?
- V. How would you describe your working conditions? What do you like the most about your job? What do you dislike the most about your job?
- VI. What are the most frequent criticisms you personally receive from your manager? What are the things your manager has praised you about or appears to like about the way you do your job?
- VII. How does pay work for outlet vendors in the telecommunications industry? If I were starting as a vendor, what you advise me to do to maximise my pay?
- VIII. Can you describe what a typical working day is like for you?
- IX. How would you describe your relationship with your outlet manager and more senior managers within your firm? Would you say you guys see eye-to-eye on most things?

The dialogue provided by focus group participants was recorded on audiotape, transcribed and subsequently presented to two research assistants for interpretation. The assistants were given broad instructions. They were invited to create superordinate categories (themes) and – if called upon – to explain the process they used for creating such themes. The researcher subsequently examined the themes created by the assistants and wrote them-up formally.

### *Rationale for the study's design*

This study seeks primarily to ascertain the way telecommunications employers in Canada interact with their workforce to make sales. Hence, its goal is to delineate the key elements of the industry's labour management strategy and establish these as the answer to the study's research question which is: how do Canadian telecommunications sector employers use their workforce to maximise their profitability? Assuming that vendor focus group participants can be made to feel at ease about disclosing how they perceive the way they are required to go about making sales and curtailing costs, the most straightforward way of addressing this question is to ask such participants directly about these matters (recommended by Marshall and Rossman (2015)). To avoid the possibility of data (quote)-mining and/or a tendency to favour evidence which confirms pre-existing hypotheses/prejudices, independent – and separate – “analysts”, as needed, were used to identify themes emerging from vendor focus groups.

### *Results and Discussion*

#### 1. The Promise of a Traditional Career Path but without Traditional Career Path Remuneration

*«They convinced me that becoming a manager will be great. I ended up returning to my regular sales job once I realised my new pay would not be so great. »*

High vendor turnover in the retail sector is endemic in the retail sector and an enduring strategic concern bedeviling senior managers. In certain industries like telecommunications, it is often especially difficult to persuade salespeople to take-on outlet management roles. Seasoned vendors often believe, with some justification, that selling is a surer path to better wages than climbing an organisational hierarchy. However, recent recruits are typically less aware of this matter. It appears that senior management see an opportunity to exploit such naivety. They will target a ‘prospect’ – that is a newly-hired or younger vendor (typically some with less than two years of experience) who has achieved super-normal sales revenue and offer them an entry-level outlet management role. The inexperienced salesperson is in effect being set-up to be seduced by such a purportedly great opportunity. They are told, or otherwise led to believe, that it is associated with prestige in the firm and the prospect of a career-path. Implicit in such a message is the potential for enhanced remuneration.

With the telecommunications sector, outlet manager remuneration is not easily analysed, or at least not easily predicted. When a vendor first becomes a manager, they are expected to keep making sales but will no longer

receive commissions. The idea is that they must be role-models for the workforce; demonstrating, as leaders, how to do the job. As an industry standard, they will typically gain a percentage of the store total sales revenue if they surpass their current quarterly quota. Their first assignments will often be in poorly performing outlets, those with low sales quota. This can be financially attractive for the newly-minted supervisor as it places them in circumstances where it will be relatively easy to better previous commercial performance. Senior managers will explicitly draw the new supervisor's attention to this opportunity. They will point out that exceeding a previous target will be relatively easy and use a variety of visual aids (graphs and historical data) to convince the novice their new role is lucrative. In so doing, they will deemphasise the ephemeral nature of such an expected bounty. Indeed, it is an industry standard that a super-normal percentage of outlet sales revenue returning to frontline managers as a remuneration fillip becomes incrementally harder to obtain as a lower-performing outlets regresses towards a firm-wide mean. A combination of related factors ensnares the new supervisor to continue in their role. Such elements variously include their initial inability to analyse the time-horizon of a prospective remuneration profile, initial enthusiasm, and a heightened desire on the part of young people in particular to be consequential.

In circumstances where an outlet-manager loses their "overall-bonus" remuneration component, circumstances that are inevitable as the regression towards-the-mean phenomenon plays-out, the manager faces two – somewhat bleak and unexpected – options. First, they can stay in their current role, with a greatly diminished, or non-existent, ongoing prospect of an enhanced "overall-bonus" remuneration component. Those who take this option invariably cling to the non-pecuniary residual alleged prestige of their job to rationalise their decision but, at the same time, are often compelled to recapture their more financially lucrative salad period through putting undue pressure on their workforce to make sales. The second option available to outlet managers facing limited prospects of an "overall bonus" percentage is to be reinstated in a non-managerial sales role. However, most firms in the industry often have internal fine-print style policies which render such voluntary career moves either difficult or near impossible. The rationale for such policies is often along the lines of senior executives consider that the peers of a downgraded outlet manager will be disrespectful or otherwise abusive if their former boss is to be reinstated as a rank-and-file vendor. Hence, a store manager often has little choice but to part ways with their current employer and work for a competitor.

## 2. Lack of Transparency in Remuneration Arrangements and Potential for Employer Malfeasance

*«... I asked my supervisor if I could see the report of my commissions and she told me: No, I don't have it with me but don't worry you can trust me. »*

In the telecommunication industry, vendors are paid a fixed per-hour wage and receive bonuses in the form of sales commissions. Commission rates vary depending on factors including the product sold, the contract-term for a service (monthly, 1 year or 2 years) and cross selling (eg. an accessory sold with a cellphone). Commission rates vary in size from, for example, between 2\$ for the sale of a regular accessory, up to 65-80\$ for the sale of an expensive package (multiples services under contract). Because fixed hourly wages rates are mostly at the minimum wage, vendors require commissions to sustain a basic standard of living. For the employer, payment of a minimum wage is not only efficient (at least in the short term) but allows a certain functional labour flexibility in that it enables employers to redeploy vendors to other duties including, for example, cleaning-related tasks.

An ongoing problem for vendors is determining how much commission they are entitled for a given period. Typically, they will be paid a commission but will often have difficulty knowing if these fillips in fact represents an actual entitlement. Such a lack of transparency and ensuing inability to calculate non-fixed components of their salary is due to several factors including cancelled sales, lack of dissemination of knowledge about what a commission should actually be and, transaction-related data not immediately being posted, etc. By contrast, employers typically claim that there exists pay-related transparency for vendors. They will point out that, within their industry, there is no widespread evidence of wage-theft or fraud and apparently have no qualms about inviting their employees to "find and report errors" if they think they been short-changed. Such an employer stance does not address the problem of wage opaqueness but rather sets-up conditions whereby the syndrome endures.

For vendors in the telecommunication sector, there are four reasons why the non-fixed elements of their variable pay are near impossible to calculate. First, commission structures are complex. For example, focus group participants indicated that internal firm policy documents create up to 90 combinations of possible outcomes across a suite of offerings. At the point of sale there is no system in place to automate and make obvious to the vendor what a commission will be. Hence, vendors themselves must carry out the tedious task manually of monitoring commissions. Second, commissions are not paid contiguously with sales. Specifically, firms mostly

have a fortnightly pay-cycle but any bonus earned within a given cycle will not be remitted within that cycle. The official reason for such a delay is the need to avoid clawback, that is, avoid complications arising when a customer returns a product for a refund within 30 days following its purchase. In practice, the delay between a sale and payment of a commission can be up to two months. This interval put the onus on vendors to retain accurate records and themselves be doing regular reconciliations. Third, there are administrative policies that prevent vendors from verifying the accuracy of their commissions. Such policies are often presented by the employer as a white knight for higher ethical standards in relation to dealings with customers. For example, if a vendor is refused a commission because a customer returns the product, outlet-management systems typically allow for an agent of the firm to log-in to that customer's account and check their transaction history. However, most firms have a policy that agents of the firm should not be able to access customer data without their approval. In other words, the vendor is not able to check if the reason they are being denied a commission is real. The fourth reason why the verification of commissions for vendors is challenging concerns the fact that they are typically busy when they are at work and are obliged to attend to customer needs and, of course, make sales. Due to the aforementioned presence of policies that restrict easy access by vendors to management information systems, including customer account databases, for practical purposes, the sales-person who wants to keep a running tab of their commissions typically must informally access corporate data without authorisation and/or in a way that is at odds with stated policy. Sometimes such vendors tactics are cumbersome and give only indirect insight into likely commissions. For example, vendors can typically only access a phone's serial number and not purchase details. Such "off-the-grid" activity can only be carried out within busy outlet environments because relevant firm management information networks are point of sale systems (POS) and hence only accessible onsite. It is also the case that vendors must be officially "at work" (logged-in, etc) to have access to relevant systems. Hence, counter verification of sales commissions requires vendors to divide their work time between official duties that pertain critically to making sales and unofficial auditing-related tasks. In this regard, it is noteworthy that, within the industry, resource allocation that is not mission-critical invariably prompts a rebuke from outlet managers. In the specific case, an example was given of a manager who said, «*stop looking at past sales and go get a new one !*».

3. Industry Specific Labor flexibility and, as a Consequence, Industry Specific Employee Disadvantage

*« They told me it would be great for my career here to replace in others stores... but then I realized I would never see the money, so I stopped. I got screwed »*

Within the retail telecommunications sector managers, often at short notice, are obliged to find replacements for vendors who do not come to work due to illness or other generic “no-show” reasons. In Canada, there is also an industry-specific problem within the telecommunications retail-sales sector, chronic under-supply of vendors. For example, within the district of the participant of our focus group, vendors indicate that 7 stores out of 13 are understaffed. From these 7 stores, 4 are in a critical position as demonstrated with this quote: *« There is a store close-by where two people have to each work more than 65 hours per week because they can't get people to work there ».*

Vendor-sharing as a response to unanticipated employee “no-shows” typically occurs within a district and, as such, is a top-down process coordinated by an area-level manager. It is associated with some idiosyncratic principles that invariably mean that those who are to be “shared” often gets short-changed. A vendor who is earmarked to be redeployed will typically get a few days notice that they will not be required to report for duty at an outlet other than where they usually work. In extreme cases, redeployment of this kind may be communicated to the vendor with only hours notice. The vendor receives no compensation if they are redeployed in such a way. Indeed, in most cases of short-term (and short-notice) redeployment vendors are temporarily assigned to an outlet that is further away than their base and, hence one – the travel to which – will incur additional expense. One female vendor attempted to deal with this problem through telling falsely telling her manager that her car was not operative and that it would not be practicable to take the bus. She said: *« I was tired being a replacement in a store that was difficult to get to and costing me money to get to. So, I told my boss that my car wasn't working. I knew that the bus wasn't an option to get to that store. I preferred to loose this shift rather than trying to get to that store ».*

As a top-down process, vendor sharing is very much a strategy to enhance a firm's financial performance and does not well accommodate employee development imperatives. For example, it is founded on the principle that vendors from low-profitability outlets do not get to replace those from better-performing outlets. The rationale here is that poor-performing vendors (or vendors from poor performing outlets) will not hold their own well at

higher echelons. However, such reasoning also means that vendors from relatively under-performing outlets are not given development opportunities (or the chance to earn better commissions) and their peers from more profitable outlets can only ever be finically disadvantaged as a consequence of redeployment.

Vendor switching has an outlet-level advantage for managers who compete in internal labour markets to make a good impression. Specifically, outlet managers incur a cost when they make a new hire, the only impost they can control. If they are able to benefit from district-level “without-notice” redeployment they are incentivised to avoid hiring costs. Moreover, it permits store managers to impose stricter punishment to recalcitrant employee. A district-level active policy of redeployment also makes the implicit threat of disciplinary action against vendors (suspensions, etc) credible. In particular, outlet managers are more prone to use suspensions as a disciplinary measure in circumstances where they know they can replace the stood-down employee. Indeed, it is common within the sector for vendors to be told that they are replacing a peer in another outlet who has been suspended for several days. For example, one focus group participant said:

*« So it has been two days that I was replacing at this place. I was displeased because this store is making less sales than where I used to work. When I asked where was the one I was replacing, they told me they suspend him; I don't know the reason why ».*

As is typically the case with policies that disadvantage the subdominant party in the employment relationship (employees), managers in the Canadian telecommunications sector have a developed a discourse in order to implement their redeployment strategy. For example, they may disingenuously suggest that, while they cannot in the short-term offer monetary compensation for short-term redeployment, the employer will look favourably on a willingness to move between outlets and, in some non-specified way, reward such commitment at a non-specific future point. Such a future benefit could come in the form of a vague commitment to additional recompense, advancement in the firm or a bonus of some other kind. According to the employees/vendors in the focus group, these kinds of ambiguous benefits rarely or never materialise with one participant noting that *« After maybe a dozen times when I had to be a replacement in other stores, I asked my regional manager if I can get any compensation for having to move around so much. He told me that Christmas was coming and “we won't forget you”. It was all crap, I got nothing ».* On the same point (vague employer suggestions of reward for a willingness to participate in redeployment), another focus group participant said, in reference to a conversation between himself and his district management, that he believed he had been misled about being paid gas money. Although, he was prepared to accept that such a payment might have been rolled-in to his overall commission,

this was not obvious to him. He said: « They told me I'll be paid for my gas this month. When I received my paycheck, nothing was showing like they said. I asked my boss and he told me that he added the amount on my total commission. Since commissions are so variable, there is no way I can verify if that was true ».

#### 4. After Hours Training Presented as Being in Employee Interests

*«At first, they asked us to stay after work for a meeting. When we asked if we are going to get paid for that hour, they told us that the meeting will help us get more sales and therefore, will paid itself. »*

In the course of a reference period of weeks or months, telecommunication-sector outlet vendors will typically have multiple meetings outside of their allotted working hours, those hours that they are contractually obliged to be at an outlet. In a sense, such meetings are mandatory in that, if vendors refuse to attend, they will be admonished, suspended or perhaps fired. Such sessions are often held for reasons which may include to explain new policies, issue warnings about a specific vendor's behavior or general behaviour that is deemed unacceptable, or for training purposes.

In Canadian jurisdictions, it is typically a legislative requirement that, within most industries, employee-meeting time is counted, in one way or another, as paid time. For example, according to the Quebec Labour Code (2019), mandatory meetings held in the retail sector must be considered as hours worked and paid accordingly. If an employee who is to attend such a meeting is not scheduled to work on the day of the meeting and thus has to be called-in, a minimum of 3 hours salary must be paid to that employee. However, the fact remains, that within the telecommunications sector, vendors attending meetings held outside of work hours are not necessarily correctly remunerated for their participation and, in some cases, may not be paid at all.

Outlet managers are reluctant to approve appropriate compensation for out-of-hours vendor participation in meetings. The pseudo-rationale (often implicit) for this kind of employer stance is that such expense does not have a direct association with increased sales and therefore is illegitimate. In practice, managers have evolved



several ways to curtail out-of-hours employee payment. These include exploiting ignorance on the part of vendors concerning their pay entitlement. For example, employers are mostly aware that, in the telecommunication industry, most vendors are young and largely unaware of employment-related rights. In our focus group, 9 of the 12 participants were below 25 years old, and one participant was 29 years old. The majority of participants indicated that were not formally made aware of provincial laws governing their work-entitlements. A large majority of them relied on their outlet manager to informally assist them in this regard. In some cases, employees who were aware of the law pertaining to their pay-entitlement and confronted their manager were told they would be paid their full entitlement but discouraged from talking further about the matter, especially to their colleagues. In one case, a vendor was spoken to sternly about the issue and told to keep their mouth shut. A relevant quote here is: « *I told them I knew it was illegal since I my mom is a lawyer. They [Management team] told me they will pay my hours, but I had to keep it shut to the other employees.* ».

The second method used by telco-employers to circumvent paying their vendors out-of-hours meeting entitlements pertains to the narrative they invoke to describe, not just their business, but also the nature of their role in society. For example, when a meeting is about either the presentation of a new product or pursuant to a training-related initiative, managers will often point-out that attendance at such a meeting should be viewed by the vendor as an investment in their future. A relevant quote here is from a focus group participant who said: « *At first, they asked us to stay after work for a meeting. When we asked if we are going to get paid for that hour, they told us that the meeting will help us get more sales and therefore, will pay for itself* ».

A third strategy that telco-sector managers sometimes use to avoid their payment obligations for out-of-hours vendor meetings concerns task apportionment of minimum payment periods. For example, in one case, a manager acknowledged to a vendor that they accept that they must pay them a minimum of three hours for a meeting that was to take no more than one hour. However, the same manager also said that they would make the vendor stay in the outlet for the remaining two hours to do unpleasant duties such as cleaning the toilets. A relevant quote here is what a participant reported about his manager at the end of a meeting : « *So he [the manager] told us that if we wanted to be paid for three hours, even if the meeting only took 1 hour, we would have to clean the store and that he will make us scrub the toilet and the microwave in the backstore for the remaining time.* »

5. Additional Employee Benefits Exist but are Killed by a Thousand Qualifications

*« Our store won the prize. But when we saw all those “#!%\$ing” conditions and boxes to tick, we knew we would never get anything and decided to never participate in the challenge again. »*

Within the telecommunications industry, senior firm managers will sometimes create a sales-related challenge that entails either inter-outlet, inter-vendor or inter-district rivalry and the prospect of a “winning” something of value. Where the dynamic is between outlets, a winner outlet may receive a cash prize that is purportedly to be shared amongst vendors. According to data obtained in this project, it appears that it is an industry practice to make these kinds of incentives difficult to obtain and perhaps even entirely illusory. Such an impediment is not obvious during the period when the competition is underway and thus ultimately places participants in circumstances where they feel duped or misled. Examples of how an employer can withhold “won” money are as follows. First, the winning team is informed that – yes the prize is certainly there and ready to be collected – but it cannot be dispersed to vendors as individual cash payments. Rather, it has to be taken in the form of access to a team-building ‘bonding’ activity, for example bowling or attendance at a theme park. In this kind of case (and to add insult to injury), the team-building activity will invariably have associated conditions, meaning that, in practice, it can never happen. Specifically, it may require that all outlet vendors are present which is impractical since the approved bonding activity(s) are not available during when an outlet is closed. Furthermore, even before the event is slated to occur, there is a requirement that each member of a large and diverse team approve the exercise. This requirement may entail that, up to 25 vendors of different ages, interest-profiles and background all agree, for example, that bowling would be fun and are available to participate at a prescribed time. To implement such a strategy, certain attractive and more easily accessible generic activities, for example eating at a restaurant, are a-priori, deemed by the employer to be unsuitable, as demonstrated by a participant who said *« Since all the vendors in my store are so diversified – I mean, I still go to school and my colleague has two kids – we decided it would be best to just have a dinner with the team. It would have been short and sweet. When my supervisor asked [senior management], he told us that the prize can’t be used for a dinner. They bullshi\*ted us – we were originally told, or at least led to believe that going to a restaurant would be OK. »*

To create a further impediment to “won” money actually being dispersed, it is industry standard for such earmarked resources to be difficult to actually access. In this regard, winning outlet managers, in the event that a bonding activity actually occurs, the outlet manager will have to pay for it themselves, collect all receipts and

submit a reimbursement request, whilst not knowing if such a request will be disallowed on a technicality. It is noteworthy also that outlet managers have high level of turnover.

In another example of employer-sponsored inter-vendor rivalry, there was to be offered a smartwatch to the vendor who sold the greatest number of SAMSUNG phones within a specified two-month period. It soon appeared that one vendor, in particular, was making many more sales than their peers, such that overall sales were no-longer being bolstered by the competition. At this point, the employer changed a key element of the competition. Indeed, from that point onwards, instead of just measuring sales to determine a winner, the next strategy was to say to the group that each relevant transaction would attract a voucher, which was akin to a raffle ticket for the smartwatch. This example is summarized by one participant who said: *« I was so pissed! I really wanted to win this prize, so I put in a really big effort. After three weeks, I was ahead of the others in my store. Then, my manager told me they changed the rules of the contest so that I would not have a better chance of winning than the others. When I told him [the manager] it was unfair, he told me to stop whining and be a team-player. »*

### *Conclusion*

The emergence of distinctively digital-age sectors of commerce has been associated with rising information asymmetry in these same sectors. It is somewhat non-contentious that Internet-enabled devices that are marketed as life changing and infinitely customisable are also those that are costly but, more particularly, the costs of which are hard to analyse (at least for the consumer). In these circumstances, consumers enter into a relationship with a vendor that will give them ongoing access to a suite of services that are tailored-made. They typically pay for such utility – not through a one-off upfront transaction - but through receiving recurrent monthly bills that will usually be of varying and unpredictable size. It appears that there is an element of firm collusion (or at least cooperation) in this endeavour. This phenomenon has been described as confusopoly, a term that started as a flippant reference to contemporary marketing duplicity but has now been at least partially embraced within serious literature. It is striking that firms, as noted largely acting collusively, invoke such an approach to product development and costing as a strategy option. In this sense, such a stance is not incidental or merely serendipitous.

In this study, it has been shown that confusopoly – all that it entails as a matter of strategy – is not merely a feature of the firm-client relationship in digital age sectors. Rather, in such industries, the term aptly describes a key dimension of the employment relationship. Such an interpretation is consequential. It is broadly consistent with conjecture that Western society's middle class is disappearing as its recent arrivals are unable to continue to secure for themselves competitive advantage in multiple domains; including those concerning making purchase decisions and to negotiating terms and conditions of digital-age industry employment.

When Emile Durkheim took an optimistic view of modernity's trajectory and laid out a narrative concerning how technology would enhance the lives of people living in Western countries, he created a genre of literature, picked up by subsequent theorists such as Clark Kerr, which broadly ushered in late 20th century debate about whether economic convergence would be whole or partial. The underlying theme of this epoch was that technology was broadly beneficial and therefore would, roughly speaking, exert a homogenising influence. There was no suggestion that it would be discriminatory in its effects, certainly not so that it exacerbated class/economic inequality. This project has demonstrated that, although technology may not be directly applicable to negotiating terms and conditions of employment, within digital age industries, technology affords a strategy of confusopoly in dealing with customers. This creates an executive mindset concerning the nature of competitive advantage; a mindset that is brought to bear on other areas of a firm where strategy application is relevant, employment relations being one such domain. What this suggests is that the convergence debate represents a strawman view of the trajectory of market economies. Certainly, technology provides across the board benefits. However, when these benefits are manifest in a context of pre-existing economic inequality, they are likely to fuel an exacerbation of such inequality.

# Conclusion

This paper has sought to establish the strategic implications of digital age complexity for three kinds of actors: those who craft and implement business strategy; consumers; and those in the labor market including employees. This work has produced peer-reviewed scholarly articles in mainstream academic journals. In this section, four key findings from the project will be presented and explored.

## **1. Complexity, when seen through the prism of strategy, aids in understanding competitive advantage in digital age industries**

The study of competitive strategy became trendy in the Western world around the 1980s when business schools and private sector executives were tasked with finding generic principles for obtaining long-term advantages and producing customized action plans. The primary goal of these plans was inevitably a consideration derived from the neo-classical idea of profit maximization. Of these theoretical models, Michael Porter's competitive advantage framework is considered by many researchers to be the canonical work of strategy in the industrial age. Indeed, Michael Porter's blueprint became a standard for classifying how commercially orientated entities gain competitive advantage. In his original work, Porter (1979) identified four generic approaches that are defined by two axes, the target market and the type of advantage being pursued. The options arising from this template are: low-cost leadership (i.e. appeal to a broad spectrum of customers based on being the overall low-cost provider of an offering), broad differentiation (i.e. distinguishing an offering in a way that will appeal to the majority of prospective buyers), best-cost provider (i.e. incorporating elements of low-cost leadership and a broad differentiation to give customers the best price for a differentiated product), focused niching based on low-cost (i.e. singling-out a narrow buyer segment and providing those customers a desired product at a lower cost than rivals) and, focused niching based on differentiation (i.e. singling-out a narrow buyer segment by giving such customers a desired product that meets their tastes and preferences better than a competitor). In order to obtain a competitive advantage, multiple aspects of a firm's structure and activities must work according to the strategy. Hence, human resources management, the technology used, the supply chain, sales and marketing must, each in their own way, embrace the overall strategy.

Porter stipulates that three conditions must be present for his blueprint to be activated. First, where consumers manifest differing preferences, competing entities should choose a strategy that has not already been taken by

a rival. Second, a firm cannot be simultaneously in two quadrants of the framework. In other words, a firm's management group cannot pursue two generic strategies at the same time. Third, if two or more firms are pursuing the same strategy (i.e. are simultaneously present in the same quadrant), *caeteris paribus*, the firm pursuing the purest applications of the strategy will be the one that survives. The others will either cease to exist or be forced to pursue a new strategy in the industry. A contemporary example of this is the attempt by the retailer Target to offer roughly the same array of offerings as Wal-Mart in Canada - hence a low-cost provider for a broad spectrum of consumers. As stated earlier in this work, the CEO of Target noted that his firm couldn't keep up with transportation costs, distribution costs, fuels costs and wages, all of these were already kept at a minimum by Wal-Mart. Hence, the failure of Target within its first year of existence in Canada is largely due to it being unable to match Wal-Mart in the cost-cutting stakes.

In the digital age, many scholars have raised concerns that Porter's model will work in all cases given the presence of three conditions is simplistic and doesn't even have face validity (Miller, 1992; Morrison & Roth, 1992; Spender, 1992; Brastad & Jarl Borch, 2003; Alpan & Aytakin, 2002; K. S. L. Lee et al., 2001). For example, in the telecommunication sector, some providers seem to successfully use the same strategy. In the Canadian telco. sector Rogers Communications and Telus Corporation exist in the same quadrant, and therefore using the same strategy. However, according to Porter's prescription, this should not be the case. Because of this, attempts of revision have been made. Notwithstanding these efforts, Porter's conception of strategy has survived into the 21st century as a dominant management theory paradigm.

The notion of grafting a third axis to Michael Porter's original conception, as presented in chapter one, is an attempt to make the model more relevant to digital age firms. Specifically, it addresses the problem of coping with the simultaneous presence of multiples firms of an industry within a single quadrant. The grafting process was done following consideration of alternative ways to incorporate a generic view of complexity into Porter's original framework. For example, the first iteration of the model entertained the possibility of extending the offering advantage axis to incorporate two more nominal categories; high complexity and low complexity. I rejected the resulting framework because it could not embrace Porter's aforementioned second condition – that an entity's strategic orientation cannot be simultaneously in two quadrants. The current iteration offered in the first chapter of this work presents the third axis solution as a way of addressing this problem. This approaches as three advantages within the Canadian telco sector. First, new entrants to the industry such as ChatR and Wind mobile, can be simultaneously low-cost and niche as long as one is low complexity and the other is high complexity. Hence, consistent with Porter's original conception, and with the present paper's reframing, they

would have positioned themselves in this way to take advantage of unoccupied strategic terrain. Second, no two firms' strategic orientations are able to be simultaneously present in one space of the blueprint. Third, the model presented in the first chapter is able to incorporate every Canadian Telco firm in each of its spaces. This advantage overcome the criticisms of Porter's original conception when applied to digital age industries.

The point of the first chapter has been to propose and defend an amended view of Porter's generic strategies. The new model has implications for both managers and consumers. From a planning perspective, managers who are charged with choosing a course of action for their firm should be able to apply the cube framework using the same protocols that they would have adopted in the industrial age, when only two axes defined their choices. Specifically, as far as possible and other things being equal, they should avoid competing in a space that is already occupied by another player; conceptualise the cube as consisting of eight sub-spaces that are either growing or contracting as a function of a dynamic market; and – as per the advice offered in industrial-age textbooks - continue to align sub-strategies and elements of organisational culture with an overarching commitment to a three-dimensional orientation. As for consumers, it raises the prospect that ever-increasing levels of technical sophistication - or, at least user/interface - are not inevitable. Indeed, it may be that as a complex offering emerges, an equivalently straightforward one will follow in its wake. These kinds of phenomena had their parallel in the industrial age. However, perhaps in that earlier era, the patterns seemed more intuitive; for example, it was always clear that there were perfectly adequate alternative modes of transport to a luxury car like a Roll-Royce (niche/differentiation on Porter's original grid).

## **2. In the digital age, complexity has economic advantage for firms and disingenuousness consequences for consumers**

As presented and defended in this work, digital age industries have arisen as a result of two influences: increasing sophistication with platform technologies and their associated potential for enhanced modularity; and, a market-orientated policy orientation which has seen capital move from the public to the private sector. The new spheres of commercial activity have generic features. First, their offerings are more towards service in the service/product mix. Second, they free consumers from the one-infrastructure/one-function principle. Third, they are replenished more regularly, thus sharpening the distinction between early adopters and late-majority consumers. Fourth, they seem to be associated with a new kind of corporate strategy.

My thesis has focused on the digital age telco sector however its conclusions are able to apply to the competitive orientation of other similar recently emerged industries. For example, results may be able to be the competitive generalized to sectors including: personal finance (credit card and mortgage-related offerings); text and entertainment-based media (post-modern music, movie and print-media industries and their derivatives such as audiobooks); modular electronic offerings (for example, buying a personal computer which, in practice, is the purchase of hardware and software and their associated contracts); and Internet-based bundled offerings (for example, one-stop-shop holiday packages).

As mentioned in the first chapter, the primary objective of this thesis is to argue that complexity has become a strategic lever for firms in the digital age. A second objective of this work is to detail how managers are operationalizing complexity in their firms to gain economic advantage in their relationship with their customers. To elaborate on this second objective, theories on platforms and modularity have been used. Specifically, results presented in chapter two of this thesis indicate that platform providers (eg. Android smartphones from Google and iPhone from Apple) may – in addition to considering how cool, interesting and/or useful an offering may be from a consumer perspective - also consider whether it has potential to create costing-related complexity that can be transferred to end users (consumers). In deciding whether to host a specific application, a platform provider may consider the likelihood a consumer will underestimate the cost of obtaining it and using the offering as well as issues of offering attractiveness.



Results from chapter two suggest two possibilities; each of which are compatible with Schilling's (2000) conception of modularity. First, modularity may serve to simultaneously deliver expected offerings to a heterogeneous market and be a vendor strategy for creating corporate value through influencing consumers to misanalyse their needs. Second, modularity is exclusively a means for placing customers in a position where they misanalyse their user requirements. According to Petruzzellis (2000) vendors should educate the market; with the goal being to generally make consumers more technically savvy and increasing their overall satisfaction. However the findings presented in this thesis imply that the industry may have its greatest chance of maximal profit when all customers misanalyse their needs and have to pay more but – for whatever reason (perhaps embarrassment, perhaps wanting to be part of the in-crowd/ be cool, etc) – do not speak about their malaise and/or continue to endure it. The goal of the new approach is to produce firm wealth for commercial entities through creating confusion and ambiguity for a retail consumer. This latter perspective says that, although modularity may appear to provide offering heterogeneity, it has – in fact – emerged in the digital age as a complex form of deception involving the coordination of several marketing-related elements. Such a hypothesis portrays telco consumers as being convinced by their industry that they require devices with multiple functions (a push-related view) as opposed to portraying them as being the most important driver of innovation (a pull-related view).

In a commercial environment where complexity is used to gain competitive advantage, end-user self-analysis is near impossible and miscalculation mostly inevitable. However, the new approach of profit maximisation seeks to normalise customer misanalysis by making end-user overpayment the rule rather than the exception. Hence, unlike their predecessor in the industrial age, digital age firms support a strategy of disingenuousness. The client is established as requiring a customised offering to cope with modernity. However, if a client gets an analysis wrong (which they invariably do), it must be their fault because they are unintelligent, and/or a 21st century luddite. Results from chapter two of this thesis show that in this environment complaints are rare; slowed down because consumers fear that they will be perceived as either dumb and/or unable to evaluate their needs like everyone else. Moreover, vendors have increasingly manipulated information asymmetries and elements of offerings to entice and retain digital-era consumers, who — in true pusher/freemium fashion — have become increasingly dependent on the offerings. Researchers such as Spulber (2007) have made the point that globalization heralds the ultimate form of market saturation. On the way to such saturation, strategic inducements — of the variety that seek to make customers renew contracts or switch allegiances — have become more important as worldwide infiltration and usage of, for instance, consumer electronics increases.

**3. In the digital age, marketing terms from the industrial age are still being used, but with new significances and consequences.**

During the industrial age the idea of receiving something for free was an established although somewhat marginal aspect of commercial life. In this former era, an offering could be freely given because it was (1) nearing its expiration date, (2) being offered to whet customer appetite, (3) serving as a loss leader; or (4) pursuant to the razor and blade business model. However, in the digital age the idea of giving something away for free is a central strategic concern for the distinctively new industries. Under the influence of increasingly sophisticated modularity and platform technologies and governed largely by Shapiro and Varian's (1998, 2013) modified rules, those producing and distributing certain contemporary offerings have created conditions where they know much more about the costing methodologies associated with the "free" items than do consumers. As demonstrated in the second and third chapter of this thesis, vendors have increasingly manipulated information asymmetries and elements of offerings to entice and retain digital-era consumers, who have become increasingly dependent on the offerings. For example, it is hard for a contemporary consumer to live without their smartphone. While being used on a daily basis for an array of tasks (eg. email, text-messaging, gaming, web browsing, etc.), the most tangible thing for a consumer in their commercial relationship with their provider is their handset. Therefore, being invited to change their device for free – or at a low cost – seems to be a good deal from the consumer's point of view. However, knowledge asymmetry means that transacting parties perceive the "free" (or disproportionately low cost) items differently; providers are enticing the consumers into costly, renewable contracts, while consumers enjoy leading-edge, albeit ephemeral, technology and bragging rights.

In previous eras, although there have been mostly economic-and accounting-based conceptions about when it makes sense to provide items for free, there has not been a strategy related contingency view of free; when and when not to provide items for free in a multi-firm competitive arena. In the industrial age, exchanging items without demanding payment was largely irrelevant to competitive positioning and hence a marginal strategic consideration. A key reason that giving something freely was formerly not part of strategic planning was that offerings in the earlier epochs had more limited modularity and were supported by less elaborated platforms than is currently the case. Hence, in the past, offerings were not typically bought as a series of transactions — smartphones and contracts — or in a pyramidal structure in which the payments of the few formed the takings of the many — for instance, Adobe, LinkedIn, and Android. In circumstances of growing information asymmetry

made possible by increased platform elaboration and modularity, the idea of giving one element of an offering away without anticipation of payment takes on new strategic relevance.

Free, in the digital age, is now a fully-fledged strategic lever, whereas before it existed in the realm of a tactic and, as such, was merely a matter of tinkering. In the digital age, as physical and virtual realities blend, the idea of getting something for nothing has not gone away. Such a shift comes with the longer-term prospect that vendors who take full advantage of “free” as a strategy will be perceived as misleading at best or unscrupulous and unethical at worst. This has been interpreted in this thesis as upgrading the use of “free” from a mere tactical after-thought to a genuine strategic lever. Hence, within the digital age sectors, the rationale for providing an offering free of charge is simultaneously more complex and more disingenuous. This phenomenon has strategic and ethical consequences. This thesis demonstrates that there had not needed to be a contingency strategy-related conception of “free” until the arrival of the digital age. While certain industrial age free strategies — such as “time running out” and “pusher freemium”— have changed incrementally within digital age industries, other strategies such as the “loss leader” and “razor-and-blade” models have undergone radical transformation within the same era. The results from chapter two and three have to straightforward implications. First, contemporary managers should be circumspect in the way they deploy free inducements. They should remember that information asymmetry tends to be an ephemeral state, as consumers grow in sophistication. Second, those charged with the development of conceptual frameworks for reconciling when different strategies should be applied in the digital era have new variables to incorporate in their planning. These new variables arise mostly because of elaboration of platform technologies and enhance modularity.

#### **4. Employers use on their workforce those complexity-related strategies that they use on their consumers**

Throughout this thesis it has been argued that, the emergence of distinctively digital age sectors of commerce has been associated with rising information asymmetry in these same sectors. Digital age industries have arisen as a result of two influences: increasing sophistication with platform technologies and their associated potential for enhanced modularity; and, a market-orientated policy orientation which has seen capital move from the public to the private sector. It is somewhat non-contentious that Internet-enabled devices that are marketed as life changing and infinitely customisable are also those that are costly but, more particularly, the costs of which are hard to analyse (at least for the consumer). More specifically, the second chapter of this thesis details on how modularity is a means of placing customers in a position where they misanalyse their user requirements. This perspective proposes that modularity has emerged in the digital age as a complex form of deception involving the coordination of several marketing-related elements. In these circumstances, consumers enter into a relationship with a vendor that will give them ongoing access to a suit of services that are tailored-made. They typically pay for such utility – not through a one-off upfront transaction - but through receiving recurrent monthly bills that will usually be of varying and unpredictable amounts. It appears that there is an element of firm collusion (or at least cooperation) in this endeavour. This phenomenon has been described as confusopoly, a term that started as a flippant reference to contemporary marketing duplicity but has now been at least partially embraced within serious literature.

This thesis demonstrates that confusopoly is not merely a feature of the firm-client relationship in digital age sectors. Rather, in such industries, the term aptly describes a key dimension of the employment relationship. Initially, the portmanteau word confusopoly was coined to describe new elements of the retail customer experience when interacting with vendors in industries whose principal product is internet-enabled offerings including, for example, cell phones, tablet devices, and sectors where value being added is somewhat less tangible, such as personal finance and online dating, etc. Detailed in chapter four of this paper, the employment relation in the digital age has been analyzed via the deskilling thesis, particularly as instantiated in the writing of Braverman's *Labour and Monopoly Capital* (Braverman, 1998). According to the author, deskilling is an employer agenda that leads to the control of a workforce and enhanced control of that labour force (Braverman, 1998; Jacoby, 1979). Another way to view such a strategy is to consider it as the conscious reduction or elimination of the distinction between capital and labour business input elements. In other words, capitalist try to reduce the downtime of a worker, in much the same way as they attempt to deploy a machine 24 hours a day (Derksen, 2014).

The results of the research focusing on the employment relationship in the digital age in the Canadian telecommunication industry presented in chapter four demonstrates a trend by the employer to mislead their employee in order to gain economic advantage and control over them. This misleading is exacerbated by the unfair ratio of information held and used by the employer versus the employee. As demonstrated in the fourth chapter, the salespeople who participated in the focus groups of this research reported the widespread use of a set of narratives that are used to gain compliance. This set of narratives include those concerning the promise of career path and those concerning the imperative to do unpaid hours of works. Moreover, results presented in chapter four indicate a tendency for senior management to establish human resources management system that are unduly complex. For example, in relation to remuneration for vendors, commission structures are especially complex. Furthermore, while data regarding a sale (or refund) are available for the employer, vendors cannot easily access such data and therefore cannot determine if they are receiving commissions they deserve. The presence of confusion and duplicity is key in each of the five narratives presented in chapter four. Moreover, results from this research indicates that the aforementioned behavior is not incidental and occurs across the industry. Hence, confusopoly seems to embrace a diffuse phenomenon including employment relations elements.

## Limitations and Future Research

Substantial dissertations inevitably contain limitations. These may be either conceptual or technical in nature. This work is no exception. However, in the current case, several shortcomings are also opportunities because they represent future research projects. In this section I explore three limitations of my dissertation.

First, the theoretical model presented in the first chapter of this work, which includes the complexity dimension as a strategy lever in the digital age industries has two potential shortcomings. Specifically, it was tested and refined in only one sector, telecommunications. However, it is presented as generic and thus broadened applicable to digital age industries. Such a form of argumentation, inductive reasoning, is standard in social science but known to be weaker in its explanatory power than, say, deductive reasoning. Inductive reasoning is subject to certain logical fallacies. Certain of these, such as a “No black Swan” are potentially corrosive in the current project because it was being the scope of the project to adequately demonstrate that telecommunications is like other comparable sectors in all relevant consequential ways. A further opportunity exists to establish that other digital age sectors are indeed similar enough to telecommunications to support a case for inductive reasoning. Specifically, we propose that researchers focus their attention on the personal finance industry (credit cards, mortgages, etc.) as well as the online entertainment industry (video games, online music, etc.).

The model proposed in the first chapter is also present due to the methodology used to create it. Indeed, Chapter 1 does not use an in-depth analysis of companies' strategic planning documents to formulate the proposed model, but rather relied on analysis of publicly available planning related documents which were not easily able to be reconciled with Michael Porter's grid. However, I do not view the methodology employed as a limitation unless - and until - a critic challenges the assertions made about the generic strategies being pursued. In early 2020, almost five years after its publication, the article presented in Chapter 1 has been cited more than 20 times without such a criticism being raised. The model has been used in writings on the aviation (Komutanont & Pires, 2016), finance (Plessis & Gulwa, 2016), and the real estate industry (Alfaraj, 2019).

In telecommunications, the model was used to reconcile firms' strategic orientations in this distinctively digital age industry (Možný et al., 2018). Indeed, the model has now been taken up in the literature to examine industry structure within other national contexts such as Albania (Gjoni, 2019) and Brazil (Denes dos Santos Carstens et al., 2016). I have reviewed all instances where the work has been cited and have found in all cases that the

central ideas contain in the model have been applied as opposed to critique. At the time of writing, Professor Gould and I are in the process of analysing survey data concerning Canada telco firms' strategic orientations. Our plan is to publish an article which provides robust empirical support for our model in order to head-off criticisms that is associated with inductive reasoning.

The second limitation concerns material discuss in chapter two of this dissertation. The problem here is that the ideas that were used to defend the generic model of corporate strategy - concepts addressing modularity and platform technologies – are concepts from the realm of philosophy and were not intended to have strategic import. I have dealt with this problem through being explicit about it. In other words, where a concept was intended to be descriptive rather than about planning, I have said this and made it clear that I intend to use the concept in a new way.

A third limitation of this work concerns the methodologies I have used to develop chapters two and four. In each of these cases, I mostly used focus groups to obtain data. As essentially an exemplar of an ethnographic technique focus groups, embody the trade-off depicted in figure 4 on page 48 of this document (see (Bhattacharjee, 2012)). Specifically, they wield results that are somewhat generalizable but of limited capacity to explain in a causal sense. It is noteworthy that all methodologies embody such a trade-off. In my defence, I point out that because I am using inductive reasoning, to make my case about the generic model I am presenting of digital age industries, that it is appropriate to lean towards a technique which preferences the creation of generalizable findings.

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# **Appendix A : A Canadian Telecommunication vendor's survey**

## **A New Management Perspective: Bending the Arc Toward Michael Porter's Competitive Advantage in the Post-industrial sector**

### **Présentation du chercheur**

Cette recherche est réalisée dans le cadre du projet de doctorat de Guillaume Desjardins, dirigé par Anthony M. Gould, du département de Relations Industrielles à l'Université Laval.

Avant d'accepter de participer à ce projet de recherche, veuillez prendre le temps de lire et de comprendre les renseignements qui suivent. Ce document vous explique le but de ce projet de recherche, ses procédures, avantages, risques et inconvénients. Nous vous invitons à poser toutes les questions que vous jugerez utiles à la personne qui vous présente ce document.

### **Nature de l'étude**

La recherche a pour but d'étudier le comportement de l'industrie des télécommunications au Canada, ses perspectives, ainsi que ses répercussions sur les travailleurs qui y œuvrent.

### **Déroulement de la participation**

Votre participation à cette recherche consiste à répondre à un questionnaire à choix multiples, d'une durée d'environ 12 minutes, qui portera sur les éléments suivants:

- éléments d'information sur les répondants et sur leur milieu;
- éléments sur les attitudes générales;
- Les différentes politiques et positionnement stratégique;
- La relation d'emploi ;
- L'industrie des télécommunications au Canada en générale.

### **Avantages, risques ou inconvénients possibles liés à votre participation, (compensation, le cas échéant)**

Le fait de participer à cette recherche vous offre une occasion de réfléchir et de donner votre avis en toute confidentialité, sur ce que vous pensez de votre

entreprise, de votre relation d'emploi et de l'industrie en général dans laquelle vous œuvrez.

À notre connaissance, aucun inconvénient, mise à part votre précieux temps, n'est à rapporter.

### **Participation volontaire et droit de retrait**

Vous êtes libre de participer à ce projet de recherche. Vous pouvez aussi mettre fin à votre participation sans conséquence négative ou préjudice et sans avoir à justifier votre décision. Si vous décidez de mettre fin à votre participation, il est important d'en prévenir le chercheur dont les coordonnées sont incluses dans ce document. Tous les renseignements personnels vous concernant seront alors détruits.

### **Confidentialité et gestion des données**

Les mesures suivantes seront appliquées pour assurer la confidentialité des renseignements fournis par les participants:

- les noms des participants ne paraîtront dans aucun rapport;
- les divers documents de la recherche seront codifiés et seul le chercheur aura accès à la liste des noms et des codes;
- les résultats individuels des participants ne seront jamais communiqués;
- les matériaux de la recherche, incluant les données et les enregistrements, seront conservés (ex : lieu, matériel sous clé ou données sur ordinateur protégés par un mot de passe). Ils seront détruits cinq ans après la fin de la recherche, soit en janvier 2020;
- la recherche fera l'objet de publications dans des revues scientifiques, et aucun participant ne pourra y être identifié ;
- un court résumé des résultats de la recherche sera expédié aux participants qui en feront la demande en indiquant l'adresse où ils aimeraient recevoir le document, juste après l'espace prévu pour leur signature.

Dans un souci de protection, le ministère de la Santé et des Services sociaux demande à tous les comités d'éthique désignés d'exiger que le chercheur conserve, pendant au moins un an après la fin du projet, la liste des participants de la recherche ainsi que leurs coordonnées, de manière à ce que, en cas de nécessité, ceux-ci puissent être rejoints rapidement.

Il y a 24 questions dans ce questionnaire.

## Section 1 – Démographique

### 1.1 Quel est votre sexe? \*

Veillez sélectionner une seule des propositions suivantes :

- Féminin
- Masculin

### 1.2 Quel est votre âge? \*

Veillez sélectionner une réponse ci-dessous

Veillez sélectionner une seule des propositions suivantes :

- Moins de 18 ans
- Entre 18 et 20 ans
- Entre 21 et 23 ans
- Entre 24 et 26 ans
- Entre 27 et 29 ans
- Entre 30 et 32 ans
- Entre 33 et 35 ans
- Plus de 36 ans

### 1.3 Quel est votre ethnicité? \*

Veillez sélectionner une réponse ci-dessous

Veillez sélectionner une seule des propositions suivantes :

- Caucasien (blanc)
- Afro-Américain
- Asiatique
- Hispanique
- Autre

### 1.4 Quel est votre situation familiale? \*

Veillez sélectionner une réponse ci-dessous

Veillez sélectionner une seule des propositions suivantes :

- Célibataire SANS enfant à charge

- Célibataire AVEC enfant à charge
- En couple SANS enfant à charge
- En couple AVEC enfant à charge
- Autre

## 1.5 Quel énoncé correspond le mieux à votre niveau d'éducation le plus élevé? \*

Veillez sélectionner une réponse ci-dessous

Veillez sélectionner une seule des propositions suivantes :

- Secondaire non complété
- Secondaire complété
- CEGEP ou diplôme d'étude professionnel en cours d'obtention
- Diplôme d'étude professionnel complété
- CEGEP complété
- Formation universitaire en cours d'obtention
- Diplôme universitaire obtenue
- Aucun de ces choix

## 1.6 Quel est votre situation d'emploi actuel? \*

Veillez sélectionner une réponse ci-dessous

Veillez sélectionner une seule des propositions suivantes :

- Temps-plein
- Temps partiel
- Ne sais pas

## 1.7 Depuis combien de temps travaillez-vous pour votre employeur actuel? \*

Veillez sélectionner une réponse ci-dessous

Veillez sélectionner une seule des propositions suivantes :

- Moins d'un mois
- Plus qu'un mois mais moins de 6 mois
- Plus de 6 mois mais moins qu'un 1 an
- Plus de 1 an mais moins de 2 ans
- Plus de 2 ans mais moins de 5 ans
- Plus de 5 ans

## 1.8 Quel est votre poste actuel au sein de votre entreprise? \*

Veillez sélectionner une réponse ci-dessous

Veillez sélectionner une seule des propositions suivantes :

- Stagiaire
- Employé(e)
- Assistant Gérant
- Gérant

## 1.9 Quel est votre salaire annuel brut? \*

Veillez sélectionner une réponse ci-dessous

Veillez sélectionner une seule des propositions suivantes :

- Moins de 15 000\$
- Plus de 15 001\$ mais moins de 18 000\$
- Plus de 18 001\$ mais moins de 21 000\$
- Plus de 21 001\$ mais moins de 24 000\$
- Plus de 24 001\$ mais moins de 27 000\$
- Plus de 27 001\$ mais moins de 30 000\$
- Plus de 30 001\$ mais moins de 33 000\$
- Plus de 33 001\$ mais moins de 35 000\$
- Plus de 35 001\$ mais moins de 38 000\$
- Plus de 38 001\$ mais moins de 41 000\$
- Plus de 41 001\$

## 1.10 Combien d'années d'ancienneté en vente et/ou service au détail détenez-vous en incluant votre emploi actuel? \*

Veillez sélectionner une réponse ci-dessous

Veillez sélectionner une seule des propositions suivantes :

- Moins d'un mois
- Plus d'un mois mais moins de 6 mois
- Plus de 7 mois mais moins d'un 1 an
- Plus de 1 an mais moins de 2 ans
- Plus de 2 ans mais moins de 5 ans
- Plus de 5 ans mais moins de 7 ans
- Plus de 7 ans

### 1.11 Quel est votre employeur actuel? \*

Veillez sélectionner une réponse ci-dessous

Veillez sélectionner une seule des propositions suivantes :

- Bell
- Telus
- Vidéotron
- Rogers
- Virgin
- Koodo
- Fido
- Autre

### 1.12 Avez-vous déjà travaillé pour un autre joueur dans l'industrie des télécommunications canadienne? \*

Veillez sélectionner une réponse ci-dessous

Veillez sélectionner une seule des propositions suivantes :

- Oui
- Non

## Section 2 - Les Affirmations

**Identifiez jusqu'à quel point vous êtes en accord avec les propositions suivantes : \***

Choisissez la réponse appropriée pour chaque élément :

	Tout à fait en désaccord	Plutôt en désaccord	Neutre/ Pas d'opinion	Plutôt en accord	Tout à fait en accord
2.1 Je pense travailler encore dans l'industrie des télécommunications dans 5 ans.					
2.2 Je reçois une formation claire et précise sur comment mon entreprise veut que je vende leur produits et services.					
2.3 L'entreprise me demande de suivre une démarche spécifique et fixe lors de mon processus de vente.					
2.4 Il existe une procédure claire sur ce qu'on attend de mon rendement.					



	Tout à fait en désaccord	Plutôt en désaccord	Neutre/ Pas d'opinion	Plutôt en accord	Tout à fait en accord
<b>2.5 Il existe une procédure claire sur les mesures disciplinaires lors d'un manquement de la part d'un employé.</b>					
<b>2.6 L'entreprise m'offre des trucs et astuces pour m'aider à atteindre mes objectifs de vente.</b>					
<b>2.7 Mon entreprise favorise la présentation de plusieurs forfaits comme solution au client.</b>					
<b>2.8 Mon entreprise favorise la vente croisée (notez : une vente croisée signifie ici la vente de un ou plusieurs produits ayant un lien ou non avec l'arrivée du client en magasin).</b>					
<b>2.9 Je sens de la pression de la part de mon employeur pour conclure une vente.</b>					
<b>2.10 Mon entreprise se démarque positivement de ses concurrents par sa satisfaction à la clientèle</b>					

	Tout à fait en désaccord	Plutôt en désaccord	Neutre/ Pas d'opinion	Plutôt en accord	Tout à fait en accord
<b>2.11 Mon entreprise se démarque de ses concurrents par sa haute technologie.</b>					
<b>2.12 Mon entreprise se démarque de ses concurrents par son approche vulgarisée envers la clientèle.</b>					
<b>2.13 Mon entreprise se démarque de ses concurrents par sa grande variété de produits offerts à la clientèle.</b>					
<b>2.14 Les produits et services que mon entreprise vend s'adresse principalement à n'importe quel utilisateur de cellulaire.</b>					
<b>2.15 Les produits et services que mon entreprise vend s'adresse principalement à une catégorie de gens en particulier (ex. les jeunes, les personnes âgées, les gens qui aime le dernier cri).</b>					
<b>2.16 Comparativement aux compétiteurs dans le domaine des télécommunications, je juge</b>					

	Tout à fait en désaccord	Plutôt en désaccord	Neutre/ Pas d'opinion	Plutôt en accord	Tout à fait en accord
que mon entreprise offre plus de possibilité et de flexibilité dans les services et options pour le client.					
2.17 Pour bien faire mon travail, je dois parfois mentir à mon employeur.					
2.18 Comparativement aux compétiteurs dans le domaine des télécommunications, je juge que mon entreprise est flexible dans les produits/service qu'elle offre.					
2.19 Comparativement aux compétiteurs dans le domaine des télécommunications, je juge que les produits et services de mon entreprise sont simples à comprendre.					
2.20 Pour atteindre les exigences que mon entreprise me demande je dois parfois volontairement ne pas parler de certains coûts qui seraient pertinents pour mon client.					

	Tout à fait en désaccord	Plutôt en désaccord	Neutre/ Pas d'opinion	Plutôt en accord	Tout à fait en accord
2.21 Je dois parfois détourner certaines informations au client afin d'atteindre les objectifs exigés par l'entreprise (exemple : mes quotas).					
2.22 Je dois parfois détourner des informations pertinentes au client afin d'avoir une rémunération acceptable.					
2.23 Pour performer comme vendeur(se) dans l'industrie des télécommunications au Canada, il faut parfois détourner l'information que l'on donne à la clientèle.					
2.24 Je n'ai jamais volontairement omis de transmettre de l'information pertinente à un client pour conclure une vente.					
2.25 Certains clients me mentionnent que c'est compliqué de comprendre les produits et/ou services que mon entreprise offre.					

	Tout à fait en désaccord	Plutôt en désaccord	Neutre/ Pas d'opinion	Plutôt en accord	Tout à fait en accord
<b>2.26 Mon entreprise ne sanctionne pas la transmission de mauvaises informations qu'un représentant dirait à un client si ceci conduit à une vente.</b>					
<b>2.27 Lorsqu'un client vient en magasin, je tente de lui proposer d'autres produits/services pour lesquels il ne s'était pas déplacé initialement (aussi appelé add-on, vente caché ou vente supplémentaire)</b>					
<b>2.28 Les clients mentionnent souvent que les produits et services que nous vendons sont faciles à comprendre.</b>					
<b>2.29 Mon entreprise détient un code de conduite vis-à-vis le comportement à adopter face aux interactions avec un client</b>					

## Section 2 - Les Affirmations (2)

**Identifiez jusqu'à quel point vous êtes en accord avec les propositions suivantes : \***

Choisissez la réponse appropriée pour chaque élément :

	Tout à fait en désaccord	Plutôt en désaccord	Neutre/Pas d'opinion	Plutôt en accord	Tout à fait en accord
2.30 Je me fais souvent répéter par mon entreprise l'importance de notre code d'éthique					
2.31 Je vois souvent des clients quitter mon entreprise vers une autre dû à une insatisfaction du service. (notez : l'insatisfaction n'est pas nécessairement due à vous)					
2.32 Je vois souvent des clients venir faire affaire avec mon entreprise car ils ont entendu de bonnes choses quant à la satisfaction à la clientèle que nous offrons.					

	Tout à fait en désaccord	Plutôt en désaccord	Neutre/Pas d'opinion	Plutôt en accord	Tout à fait en accord
2.33 Je trouve que souvent, mon entreprise ne me donne pas tous les outils pour bien aider ou conseiller le client.					
2.34 Souvent, j'apprends l'apparition ou la disparition d'une promotion en même temps que le client.					
2.35 Souvent, j'ai vendu un produit ou une promotion à un client alors que celle-ci était expirée sans que je le sache moi-même.					
2.36 En général, je suis heureux de travailler pour mon entreprise.					
2.37 En général, je suis heureux de travailler dans l'industrie des télécommunications au Canada.					
2.38 Je trouve que c'est facile, pour moi, de comprendre les options et services					

	Tout à fait en désaccord	Plutôt en désaccord	Neutre/Pas d'opinion	Plutôt en accord	Tout à fait en accord
possibles dans l'industrie des télécommunications au Canada.					
2.39 Je trouve que faire mon travail est stressant					
2.40 J'aime faire mon travail					
2.41 Je trouve que faire mon travail est satisfaisant					
2.42 Pour bien faire mon travail, je dois parfois agir contraire à mes standards d'éthiques personnelles.					
2.43 Pour bien faire mon travail, je dois parfois mentir au client.					
2.44 Le travail de vendeur dans l'industrie des télécommunications au Canada n'est pas fait pour les gens trop honnêtes.					



	Tout à fait en désaccord	Plutôt en désaccord	Neutre/Pas d'opinion	Plutôt en accord	Tout à fait en accord
2.45 Pour être un bon vendeur (faire beaucoup de ventes) dans l'industrie des télécommunications, il faut parfois omettre volontairement de donner certaines informations aux clients					
2.46 Mon superviseur immédiat m'indique clairement ce qu'il attend de moi.					
2.47 Mes supérieurs ont plus tendance à offrir de la rétroaction (feed-back) sur mes réussites plutôt que sur mes échecs.					
2.48 Mes supérieurs instaurent des objectifs de performances réalistes pour moi.					
2.49 En général, je rencontre les objectifs de performance instaurés par mes supérieurs.					
2.50 De manière générale, je suis satisfait de l'équipe de gestion en magasin.					

	<b>Tout à fait en désaccord</b>	<b>Plutôt en désaccord</b>	<b>Neutre/Pas d'opinion</b>	<b>Plutôt en accord</b>	<b>Tout à fait en accord</b>
<b>2.51 Pour bien faire mon travail, je dois parfois mentir à mes collègues.</b>					
<b>2.52 De manière générale, je suis satisfait de mon emploi actuel.</b>					
<b>2.53 Mon entreprise ne sanctionne pas le fait de cacher certaines informations afin de conclure une vente.</b>					
<b>2.54 On me dit que je ferais un bon comédien</b>					
<b>2.55 Quelqu'un qui s'investit trop dans une relation personnelle finira tôt ou tard par le regretter</b>					

## Le visage de l'Industrie

3.1 D'après votre **expérience personnelle**, lequel de ces trois énoncés correspond le mieux aux entreprises de télécommunications canadiennes suivantes :

A : L'entreprise détient une ou plusieurs avantages concurrentiels (exemple: la qualité de son réseau, la qualité de son service à la clientèle, etc) qui lui permet de se démarquer de ses concurrents

B : L'entreprise ne détient aucun avantage concurrentiel mise à part le prix le plus bas comparativement à ses concurrents

C : Ne sais pas

**Notez, une seule réponse par entreprise est permise**

**Bell: \***

Veillez sélectionner une réponse ci-dessous  
Veillez sélectionner une seule des propositions suivantes :

- A
- B
- C

## Telus: \*

Veillez sélectionner une réponse ci-dessous

Veillez sélectionner une seule des propositions suivantes :

- A
- B
- C

## Videotron: \*

Veillez sélectionner une réponse ci-dessous

Veillez sélectionner une seule des propositions suivantes :

- A
- B
- C

## Rogers: \*

Veillez sélectionner une réponse ci-dessous

Veillez sélectionner une seule des propositions suivantes :

- A
- B
- C

## Virgin: \*

Veillez sélectionner une réponse ci-dessous

Veillez sélectionner une seule des propositions suivantes :

- A
- B
- C

Koodo: \*

Veillez sélectionner une réponse ci-dessous  
Veillez sélectionner une seule des propositions suivantes :

- A
- B
- C

Fido: \*

Veillez sélectionner une réponse ci-dessous  
Veillez sélectionner une seule des propositions suivantes :

- A
- B
- C

## Points ouverts

Quelles sont les items les plus pertinents pour la vente d'un téléphone intelligent? Choisissez seulement cinq éléments et mettez-les en ordre d'importance selon vous ( 1 étant le plus important ).

Vos réponses doivent être différentes, et vous devez les classer dans l'ordre.

Veillez sélectionner 5 réponses maximum

Numérotez chaque case dans l'ordre de vos préférences de 1 à 22

Veillez cocher au plus 5 élément(s)

- Le prix
- L'option de proposer un dispositif qui peut faire de nombreuses tâches
- L'option d'avoir un dispositif qui est facile à utiliser pour le client
- L'apparence physique du vendeur
- La qualité du service
- Les promotions actuelles pour le client
- Le temps d'attente pour être servi
- La réputation de l'entreprise pour laquelle vous travaillez
- Réseau cellulaire de haute qualité
- Offrir de la formation gratuite pour le client
- La connaissance du personnel sur le produit vendu
- Le fait que le client a déjà d'autres services chez votre entreprise
- Être capable de masquer les informations liées aux coûts pour compléter la vente
- Être dans une entreprise qui vous donnera les bons outils pour aider un client
- Avoir la possibilité de vendre des multiples services / options pour le client
- Avoir des politiques claires pour le client
- Être capable de comprendre les besoins du client
- Être capable de flirter (dynamique homme-femme) avec le client
- L'importance qu'accorde l'entreprise à l'environnement
- Réputation éthique de la compagnie

## Commentaires

**Indiquez ici toutes informations que vous jugez pertinentes au sujet du questionnaire. (facultatif)**

Veillez écrire votre réponse ici :

**Commentaires sur votre participation. (facultatif)**

Veillez écrire votre réponse ici :

### **Renseignements supplémentaires**

Si vous avez des questions sur la recherche ou sur les implications de votre participation, veuillez communiquer avec le chercheur principal, Guillaume Desjardins, au numéro de téléphone suivant : ██████████, ou à l'adresse courriel suivante : [guillaume.desjardins.1@ulaval.ca](mailto:guillaume.desjardins.1@ulaval.ca).

### **Remerciements**

Votre collaboration est précieuse pour nous permettre de réaliser cette étude et nous vous remercions d'y participer.

## **Plaintes ou critiques**

Toute plainte ou critique sur ce projet de recherche pourra être adressée au Bureau de l'Ombudsman de l'Université Laval :

Pavillon Alphonse-Desjardins, bureau 3320

2325, rue de l'Université

Université Laval

Québec (Québec) G1V 0A6

Renseignements - Secrétariat : (418) 656-3081

Ligne sans frais : 1-866-323-2271

Courriel : [info@ombudsman.ulaval.ca](mailto:info@ombudsman.ulaval.ca)

Envoyer votre questionnaire.

Merci d'avoir complété ce questionnaire.



# Appendix B : The first Apparition of the Term Confusopoly



Source : Adams, Scott (1997). Dilbert Future, The (First ed.). United Feature Syndicate. p. 159.

## Appendix C : Survey's item, construct, variable, literature and Reference

Item	Construct	Variable	Literature	
On me dit que je ferais un bon comédien	Employee's propension to lie	Machiavellian scale	(Kessler et al., 2010; W. T. Ross & Robertson, 2000)	
Quelqu'un qui s'investit trop dans une relation personnelle finira tôt ou tard par le regretter			(W. T. Ross & Robertson, 2000)	
Le travail de vendeur dans l'industrie des télécommunications au Canada n'est pas fait pour les gens trop honnêtes.	Employee's conceptualization of telecom. Industry	Employee's conceptualization of ethical behavior in the industry	(Lagace et al., 1991; W. T. Ross & Robertson, 2000)	
Pour être un bon vendeur (faire beaucoup de ventes) dans l'industrie des télécommunications, il faut parfois omettre volontairement de donner certaines informations aux clients			(W. T. Ross & Robertson, 2000; Wotruba, 1990)	
Pour performer comme vendeur(se) dans l'industrie des télécommunications au Canada, il faut parfois détourner l'information que l'on donne à la clientèle.			(W. T. Ross & Robertson, 2000; Wotruba, 1990)	
Je trouve que c'est facile, pour moi, de comprendre les options et services possibles dans l'industrie des télécommunications au Canada.			Employee's conceptualization of informal complexity in the industry	(Berry, 1983; LEVITT, 1983; Lovelock, 1983)
D'après votre expérience personnelle, lequel de ces trois énoncés correspond le mieux aux entreprises de télécommunications canadiennes suivantes			Employee's conceptualization of the telecom. Landscape	(M.-F. Chen & Mau, 2009; Kennedy et al., 2001)

Je pense travailler encore dans l'industrie des télécommunications dans 5 ans.	Employee's satisfaction	Employee's satisfaction concerning the telecom. industry	(Sharma & Singh, 2011; Spicer & Cederström, 2015)
En général, je suis heureux de travailler dans l'industrie des télécommunications au Canada.			(Sharma & Singh, 2011; Spicer & Cederström, 2015)
En général, je suis heureux de travailler pour mon entreprise.			(Erez & Judge, 1994; Sharma & Singh, 2011; Spicer & Cederström, 2015)
De manière générale, je suis satisfait de l'équipe de gestion en magasin.		(Erez & Judge, 1994; Sharma & Singh, 2011; Spicer & Cederström, 2015)	
De manière générale, je suis satisfait de mon emploi actuel.		(Erez & Judge, 1994)	
Je trouve que faire mon travail est stressant		Employee's satisfaction concerning his work	(Rutherford et al., 2012; Sharma & Singh, 2011; Shiau et al., 2006)
J'aime faire mon travail			(Erez & Judge, 1994; Rutherford et al., 2012; Sharma & Singh, 2011; Spicer & Cederström, 2015)
Je trouve que faire mon travail est satisfaisant	(Erez & Judge, 1994; Rutherford et al., 2012; Sharma & Singh, 2011; Spicer & Cederström, 2015)		
Je dois parfois détourner certaines informations au client afin d'atteindre les objectifs exigés par l'entreprise (exemple : mes quotas).	Employee's practices and behaviors	Employee's behavior according to employer's constraint	(Fleming & Zyglidopoulos, 2008; Shulman, 2011;

			Zyglidopoulos et al., 2009)
Je dois parfois détourner des informations pertinentes au client afin d'avoir une rémunération acceptable.			(Bellizzi & Hite, 1989; Kurland, 1991; Wotruba, 1990)
Pour atteindre les exigences que mon entreprise me demande, je dois parfois volontairement ne pas parler de certains coûts qui seraient pertinents pour mon client.			(Fleming & Zyglidopoulos, 2008; Shulman, 2011; Zyglidopoulos et al., 2009)
Souvent, j'ai vendu un produit ou une promotion à un client alors que celle-ci était expirée sans que je le sache moi-même.			(Gove & Boyd, 2006; Sias, 2005)
Pour bien faire mon travail, je dois parfois agir contraire à mes standards d'éthiques personnelles.			(M.-F. Chen & Mau, 2009)
En général, je rencontre les objectifs de performance instaurés par mes supérieurs.		Employee's efficiency	(Fleming & Zyglidopoulos, 2008; Shulman, 2011; Zyglidopoulos et al., 2009)
Pour bien faire mon travail, je dois parfois mentir à mes collègues.		Employee's propention to lie (Machavalian scale)	(Hegarty & Sims, 1978; Snyder, 1974)
Pour bien faire mon travail, je dois parfois mentir à mon employeur.			(Hegarty & Sims, 1978; Snyder, 1974)
Pour bien faire mon travail, je dois parfois mentir au client.			(Hegarty & Sims, 1978; Snyder, 1974)
Je n'ai jamais volontairement omis de transmettre de l'information pertinente à un client pour conclure une vente.		Employee's truefulness	(Grover, 1993)

Mon entreprise se démarque de ses concurrents par sa haute technologie.	Strategic positioning	Competitive advantage	(Al Rae & Rajasekar, 2013; Bloch, 1986; Cernusca et al., 2012)
Mon entreprise se démarque positivement de ses concurrents par sa satisfaction à la clientèle			(Alhemoud, 2010)
Mon entreprise se démarque de ses concurrents par sa grande variété de produits offerts à la clientèle.			(Bejou et al., 1994; Devlin et al., 1995; Reddy & Czepiel, 1999)
Je vois souvent des clients quitter mon entreprise vers une autre due à une insatisfaction du service. (Notez : l'insatisfaction n'est pas nécessairement due à vous).			(Grönroos, 1984; R. Morgan & Hunt, 1994)
Je vois souvent des clients venir faire affaire avec mon entreprise, car ils ont entendu de bonnes choses quant à la satisfaction à la clientèle que nous offrons.			(Grönroos, 1984; R. Morgan & Hunt, 1994)
Les produits et services que mon entreprise vend s'adressent principalement à n'importe quel utilisateur de cellulaire.	Market scope		(Berggren & Laestadius, 2003; Jennings & Lumpkin, 1992; Morschett et al., 2006)
Les produits et services que mon entreprise vend s'adressent principalement à une catégorie de gens en particulier (ex. les jeunes, les personnes âgées, les gens qui aime le dernier cri).			(Berggren & Laestadius, 2003; Jennings & Lumpkin, 1992; Morschett et al., 2006)
Mon entreprise se démarque de ses concurrents par son approche vulgarisée envers la clientèle.		Informational complexity	(Bejou et al., 1994; Devlin et al., 1995; Reddy & Czepiel, 1999)

Les clients mentionnent souvent que les produits et services que nous vendons sont faciles à comprendre.			(Bejou et al., 1994; Devlin et al., 1995; Reddy & Czepiel, 1999)
Comparativement aux concurrents dans le domaine des télécommunications, je juge que les produits et services de mon entreprise sont simples à comprendre.			(Bejou et al., 1994; Devlin et al., 1995; Reddy & Czepiel, 1999)
Certains clients me mentionnent que c'est compliqué de comprendre les produits et/ou services que mon entreprise offre.			(Bejou et al., 1994; Devlin et al., 1995; Reddy & Czepiel, 1999; Skinner, 2003)
Comparativement aux concurrents dans le domaine des télécommunications, je juge que mon entreprise offre plus de possibilités et de flexibilité dans les services et options pour le client.		Intangibility complexity	(S.-C. Chang et al., 2003; Dellaert & Stremersch, 2005; Stacey & Stacey, 2000)
Comparativement aux concurrents dans le domaine des télécommunications, je juge que mon entreprise est flexible dans les produits/service qu'elle offre.			(Archpru Akaka et al., 2013; Dellaert & Stremersch, 2005)
Mon entreprise favorise la présentation de plusieurs forfaits comme solution au client.			(Archpru Akaka et al., 2013; McGlone & Knapp, 2009)
Mon entreprise favorise la vente croisée (notez : une vente croisée signifie ici la vente d'un ou plusieurs produits ayant un lien ou non avec l'arrivée du client en magasin).			(Galbraith, 1967; McGlone & Knapp, 2009)

Lorsqu'un client vient en magasin, je tente de lui proposer d'autres produits/services pour lesquels il ne s'était pas déplacé initialement (aussi appelé add-on, vente cachée ou vente supplémentaire).			(Heller et al., 2009; McGlone & Knapp, 2009)
Je reçois une formation claire et précise sur comment mon entreprise veut que je vende leurs produits et services.	Firm's policies	Salesperson's autonomy and regulation	(Hunt & Chonko, 1984; Sparks, 1994)
L'entreprise me demande de suivre une démarche spécifique et fixe lors de mon processus de vente.			(Gable et al., 1992; Sparks, 1994)
Il existe une procédure claire sur ce qu'on attend de mon rendement.			(Anteby, 2008; Dubinsky et al., 1986; Sparks, 1994)
Il existe une procédure claire sur les mesures disciplinaires lors d'un manquement de la part d'un employé.			(Anteby, 2008; Gable et al., 1992; Sparks, 1994)
L'entreprise m'offre des trucs et astuces pour m'aider à atteindre mes objectifs de vente.			(Dubinsky et al., 1986; Hunt & Chonko, 1984; Sparks, 1994)
Mon superviseur immédiat m'indique clairement ce qu'il attend de moi.			(Hunt & Chonko, 1984; Sparks, 1994)
Mon entreprise ne sanctionne pas la transmission de mauvaises informations qu'un représentant dirait à un client si ceci conduit à une vente.			(Anteby, 2008; Dubinsky et al., 1986)
Mon entreprise détient un code de conduite vis-à-vis le comportement à			Firm's ethical presence

adopter face aux interactions avec un client.			
Je me fais souvent répéter par mon entreprise l'importance de notre code d'éthique.			(Falkenberg & Herremans, 1995)
Mes supérieurs ont plus tendance à offrir de la rétroaction (feed-back) sur mes réussites plutôt que sur mes échecs.		Firm's management (pressure)	(Fleming & Zyglidopoulos, 2008; Shore & Tetrick, 1991; Shulman, 2011; Zyglidopoulos et al., 2009)
Mes supérieurs instaurent des objectifs de performances réalistes pour moi.			(Fleming & Zyglidopoulos, 2008; Shulman, 2011; Zyglidopoulos et al., 2009)
Je sens de la pression de la part de mon employeur pour conclure une vente.			(Fleming & Zyglidopoulos, 2008; McGlone & Knapp, 2009; Shulman, 2011; Zyglidopoulos et al., 2009)
Je trouve que souvent, mon entreprise ne me donne pas tous les outils pour bien aider ou conseiller le client.		Employer-employee communication	(Agabu Phiri & Mkhize, 2017; Johlke & Duhan, 2001; Kang & Hyun, 2012; Rutherford et al., 2012)
Souvent, j'apprends l'apparition ou la disparition d'une promotion en même temps que le client.			



## Appendix D : Summary of Reviewers’ Comments for A Spring-clean of Michael Porter’s Attic: the Canadian Telecommunications Sector as an Exemplar of Refurbished Generic Strategy

No	Query	Author reply
1	AQ1: Please provide publisher location for the following reference: Albrecht, 1990; Bartol <i>et al.</i> , 2005; Cooke, 2003; Hopkinson <i>et al.</i> , 2006; Jones <i>et al.</i> , 2002; Prahalad and Krishnan, 2008; Thompson and Strickland, 1998; Williams, 2006; Wright-Mills, 2000.	<p>Albrecht, K. (1990). <i>Service America!: Doing Business in the New Economy</i>. Warner Books New-York.</p> <p>Bartol, K., Margaret, T., Graham, M., and David, M. (2005). <i>Management: A Pacific Rim Focus (4e ed.)</i>. McGraw-Hill: New-York.</p> <p>Cooke, S., D. (2003). Information Technology Workers in the Digital Economy, in <i>Digital Economy 2003: Economics and Statistics Administration, Department of Commerce of United States</i>: Washington</p> <p>Hopkinson, N., Hague, R., and Dickens, P. (2006). <i>Rapid Manufacturing: An Industrial Revolution for the Digital Age</i>. John Wiley &amp; Sons: New-York.</p> <p>Jones, C., Moore-Chick, D., and Woolley, J. (2002). Not all Today’s Students are Tech-Savy. <i>Economic and Social Research Council</i>, Swindon: 5p.</p>

		<p>Prahalad, C., K. and Krishnan, M., S. (2008) <i>The New Age of Innovation: Driving Cocreated Value Through Global Networks</i>. McGraw Hill Professional: New-York.</p> <p>Thompson, A., and Strickland, A. J. (1998). <i>Reading in Strategic Management</i>. Irwin/McGraw-Hill: New-York.</p> <p>Williams, C. (2006). <i>Management</i>. South-Western Cengage Learning: Michigan.</p> <p>Wright-Mills, C. (2000). <i>The Sociological Imagination</i>. Oxford University Press: Oxford.</p>
2	<p>AQ2: Please provide volume and issue number for the following reference: Goldsmith, 1995; Porter, 2008; Zanelli, 2011.</p>	<p>Goldsmith, C. (1995). British Airway's New CEO Envisions a Marriage of Travel and Amusement. <i>Wall Street Journal</i>, edition of the 6<sup>th</sup> of November, p. B7.</p> <p>Porter, M. E. (2008). The Five Competitive Force that Shape Strategy. <i>Harvard Business Review</i>, January, Issue 1(1): pp. 27-41</p>

		Zanelli, L. (2011). Unconventional Online Marketing Tactics, <i>Fyrian</i> , edition of February: Issue 1: p1-5.
3	AQ3: Please provide publisher and location for the following reference: Spender, 1993.	Spender, J. C. (1993). Business Policy and Strategy: an Occasion for Despair, a Retreat to Disciplinary Specialization, or for new Excitement?. <i>Academy Of Management Best Papers Proceedings</i> . Academy of Management: Texas. p.42

## Appendix E : Summary of Reviewers' Comments for Smart for whom? Cost ambiguity as Corporate strategy in the 21st century telco sector

Reviewers comments (organized thematically)	Summary of major/ key problem(s) identified by three anonymous reviewers	Focused advice(s) from editor on how to proceed	Consequences for the article (in light of author(s) reactions)
<p>Missing reference(s) to e-commerce literature – such as Laudon &amp; Laudon, or Turban (#1)<sup>19</sup></p> <p>Touches on many topics – but not sufficient depth on any. Suggest linking the discussion of form and functions with the discussion of strategy in practice literature (#2)<sup>20</sup></p> <p>Many of the statements in the paper are unsupported assertions- makes it difficult to take the paper seriously as academic research (examples given in the literature review with recommended references) (#2).</p> <ul style="list-style-type: none"> <li>- ‘‘Smartphone device requirements and are disinclined to discuss with their clients the cost implications of likely use requirements’’ (p.1)</li> <li>- ‘‘For those with responsibility for selling technology-enabled products- for example venders within the pre-internet consumer electronics industry- the task was simultaneously easy and uninteresting because a device required little explanation, few usage instructions and almost no costing analysis’’ (p.2)</li> <li>- ‘‘Industrial-age technology was mostly based on the principle of one infrastructure/one function’’ (p.3)</li> </ul>	<p><b><u>MajC1: Literature</u></b></p> <p>The work has not sufficiently emphasised/reviewed scholarly literature and/or does not adequately canvass/explore theoretical framework(s). These problems-issues have consequences for the reference(s) -strategy in practice lit -marketing-based lit (eg product ambiguity) -Platform technologies/general</p>	<p><b><u>Direction(s) principally pertaining to literature review</u></b></p> <p>1. I suggest that you look at the issue in terms of the interaction between (1) modern technology characteristics such as modularity, multi-functionality etc., (2) telcom vendor policies and (3) user characteristics. I further suggest you evaluate your outcome variables in terms of ‘‘negative’’</p>	<p>Work in progress</p>

<sup>19</sup> Refers to comment(s) /criticism(s) made by the first anonymous reviewer

<sup>20</sup> Refers to comment(s) /criticism(s) made by the second anonymous reviewer

Reviewers comments (organized thematically)	Summary of major/ key problem(s) identified by three anonymous reviewers	Focused advice(s) from editor on how to proceed	Consequences for the article (in light of author(s) reactions)
<p>Over reliance on the one infrastructure-one - function conception (#2)</p> <p>Include reference to marketing-based literature addressing product ambiguity (relevant citations provided) (#2)</p> <p>Research questions are not “well motivated.” Why are they important? Why should they be answered? What are their implications for firms and individuals? (#2)</p> <p>Article makes assumptions on the higher complexity of today’s products. The point of change (1992) may be a straw man (#3)<sup>21</sup></p> <p>Better specify how the research question(s) arise from consideration of theory (#3)</p> <p>Use relevant academic theory fit to (or to create??) the research question (#3)</p> <p>You should use non-scientific material “exceptionally” in the introduction but not in your theory section. You should also make sure that you are citing relevant material (#3)</p> <p>The authors use a variety of vaguely defined terms (eg cool factor; one-stop-shops; ambiguity; hyper complex; things) that do not help in understanding the research question of the paper. The authors should specify clearly what they mean with those terms and why are they relevant/ how they are used possibly using extant theory (#3)</p> <p>The introduction should build the argument as the <i>raison d’etre</i> of the article, clearly and simple (#3)</p>	<p>purpose technologies/modularity</p>	<p>consequences for the user. Such paper would then be positioned as trying to understand how technology characteristics interacting with vendor policies result in negative consequences for the user.</p> <p>2. Accordingly, devote more time un your literature review to 1,2 and 3 and less to general descriptions of technology in the post-industrial age.</p> <p>7. I would suggest that you reference recent papers based on qualitatively analyzed studies at IT&amp;P and other journals, for</p>	

<sup>21</sup> Refers to comment(s) /criticism(s) made by the third anonymous reviewer

Reviewers comments (organized thematically)	Summary of major/ key problem(s) identified by three anonymous reviewers	Focused advice(s) from editor on how to proceed	Consequences for the article (in light of author(s) reactions)
		how to structure your paper overall and as well as the individual sections.	
<p>Research questions are not “well motivated.” Why are they important? Why should they be answered? What are their implications for firms and individuals? (#2)</p>	<p><b><u>MajC2: Research Question</u></b> Identifying a research question that arises naturally from a gap in scholarly (academic) literature</p>		Work in progress
<p>Include some references - literature in the method section (#1)</p> <p>How is data analysed? (#1)</p> <p>Better justification of the chosen method and approach (#1)</p> <p>Please give more detail on how the data were analysed (#1)</p> <p>Include a section (in the method section) on reliability and validity (#1)</p> <p>Why are focus groups used (#2)</p> <p>What criteria were used to influence various (classification-related) decisions) (#2)</p> <p>What remedies were used to handle potential biases (such as the fact that one of the authors works in the industry (#2)</p> <p>How were focus groups conducted-data recorded-analysed (#2)</p>	<p><b><u>MajC3: Method/Analysis/Transformation of Data (output) into information</u></b> Problem(s) with the method Lack of details about how data/results are analyzed</p>	<p><b><u>Direction(s) directly pertaining to methodology</u></b></p> <p>3. Your research design should be able to collect data on 1, 2 and 3 above, along with outcomes for users. In this context, I believe that data should be collected</p>	Work in progress

Reviewers comments (organized thematically)	Summary of major/ key problem(s) identified by three anonymous reviewers	Focused advice(s) from editor on how to proceed	Consequences for the article (in light of author(s) reactions)
<p>Was thematic analysis used-coding issues –inter-rater reliability – kappa –coding (#2)</p> <p>Analysis section is missing – moves straight from methods to results section. Show what has been done and why (#2)</p> <p>Results are mostly about practices – no indication is given for what they may mean about conceptualisation or theory building (#2)</p> <p>Problems with reporting of vender data (#3)</p> <p>Justify why the focus group was a good choice; how was it carried out; how was the data collected; how was the data analysed; any coding schemes used (#3)</p> <p>Should justify why it was not necessary to do similar focus groups with customers (#3)</p> <p>Article fails to show how the results (five tactics) come about in view of the questions asked to focus-group participants (#3)? Do they have sub-categories (#3)? Where is your data (#3)? Is there any statement that could support your conclusion (#3)?</p> <p>Article fails to show how the results (five tactics) come about in view of the questions asked to focus-group participants (#3)? Do they have sub-categories (#3)? Where is your data (#3)? Is there any statement that could support your conclusion (#3)?</p>	<p>Lack of technical detail(s) about focus groups</p>	<p>from users to address their point of view and thus fully inform the research question.</p> <p>4. Results: At present, there is no link between data and results. Assuming you undertake the previous steps, your data analysis would need to show (a) aspect of 1, 2 and 3 and (b) how they interact to result in negative impacts for the user.</p>	
<p>Readdress the three research questions in the conclusion. Have they been answered? (#1)</p> <p>Results do not show a connection to data or theory (#2)</p>	<p><b><u>MajC4: Link(s) Between Results and Theory</u></b></p>	<p><b><u>Direction(s) directly pertaining to discussion and conclusion</u></b></p>	<p>Work in progress</p>

Reviewers comments (organized thematically)	Summary of major/ key problem(s) identified by three anonymous reviewers	Focused advice(s) from editor on how to proceed	Consequences for the article (in light of author(s) reactions)
	Better link results- findings to theory		
There are some dogmatic claims in the conclusion (examples given). These should be either modified or discussed in more detail in the previous section (#1)	<b><u>MajC5: Problem(s) with Conclusion</u></b>	5. Contribution: You would need to specify the theoretical contributions of your research and identify implications for (1) smartphone designers, (2) telecom vendors and (3) users.	
Many topics are left hanging and should be revisited in the discussion (#2).			
You conclude that technology has a nomadic nature. But you do not ask the panel about technology. So, how can you conclude this? (#3)			
The article does not address the “so-what” test. It must engage with the reader (#3).			



## Appendix F : Summary of Reviewers’ Comments for Sizzle without the Sausage: The Emerging Strategic Implications of Receiving a Free Offering in the Digital Age

Recommendation	Authors reactions	Actions taken
<b>Editor recommendation</b>		
1.1 To bring the ideas to the present day, I would add that perhaps game apps might be a good example of "free." (editor)	An important suggestion. We view game apps as belonging in the same class as certain music as well as other kinds of apps (eg. Educational, etc) – in the sense that their functionality is modular and therefore able to be delivered as ‘free-sub-elements’ of an overall offering.	Recommendation taken and such contemporary examples are used to support relevant points.
<b>Reviewer 1 recommendations</b>		
2.1 Try to be more concise and direct in your ideas and arguments; eliminate material that is not directly relevant and make the relevance of the rest more obvious. (rev1)	We concede this point. Our tendency was to include too much material based on the contribution of 3 authors with diverse methodological and theoretical backgrounds. Upon rereading the work, we perceive a need for more focus and clarity.	Substantial further pruning. We showed the work to several of our colleagues who provided fresh insight into focal versus peripheral content and suggestions for editing.
2.2 BTW: 'postmodernism' as a philosophical era started in about 1970. The internet has nothing to do with its advent, even if it makes some of its manifestations more apparent. (rev1)	Some focal literature distinguishes the post-industrial age from the industrial age. It is this distinction we are interested in the article.	We have omitted the 2 references to post-modernism and replaced it with a reference to our focal distinction – and

		used literature to defend such a conceptualization of recent history. <i>Note: post-modernist is used 2 times at page 5 of the article, referring 1 author (Rose) at page 31.</i>
2.3 I am not sure why 'swiffers' requiring fluids are examples of digital products (page 18). (rev1)	We concede that this is a weak example of the point we are making	Replaced with a distinctively digital age example
2.4 'ANAL CONUNDRUM' (page 24): I suppose this is a typo. (rev1)	Embarrassing typo	fixed
2.5 Page 24: who is supposed to do the 'closer monitoring'? (rev1)	This idea is poorly express – largely because ‘closer monitoring’ is the subject of a passive sentence without a subject. We wanted to say that managers should more closely monitor application of the time-running-out and pusher-freemium strategies as part of their strategic planning effort.	Relevant wording has been changed and road tested with colleagues.
2.6 The first part of the paper (that dedicated to the transition from the industrial to the digital age) is the weakest. (...), what we have here is (to me at least) a rather long, unnecessary and confused discussion, mostly unrelated to what comes after. If the whole purpose of this first section is to introduce and justify Figure 1 (which is interesting in its own right), then it can be pruned to about one page. (rev1)	Such pruning (related to point 2.1) is necessary (upon further examination)	Better focus has been achieved for text concerning Figure 1

<p>2.7 Besides, while references are in general welcome, they must remain relevant and used only when appropriate. To take only two examples, Is it really necessary to adduce two references to stating that MS Windows is an operating system (before being a graphical interface, btw)? That mobile telephony operators hand out mobile phone for 'free' with subscriptions? Conversely, the claim about Arab States (page 12) needs to be referenced and developed.</p> <p>(rev1)</p>	<p>We take the point about over-referencing somewhat obvious/benign statements. We also believe – upon reflection- that the point about Arab States is problematic because it is not a especially germane to the argument. (see criticism 2.1)</p>	<p>Appropriate action taken to make these adjustments.</p>
<p>2.8 There are also contradictions (ex, page 8, where Schilling's perspective is said not to be the source of strategic advice, yet has planning implications with special strategic utility). These issues are minor in themselves but detract to the flow of the argument.</p> <p>(rev1)</p>	<p>We don't view these statements as contradictory. Schilling's view is akin to Darwin's view of evolution by natural selection – which is not in and of itself "strategic". When others take this view and use/manipulate it for a prescribed end they are <u>then</u> being strategic. We concede that we should better communicate the nuances of this discussion.</p>	<p>Action taken in the light of reviewer's feedback</p>
<p>2.9 More problematic is the apparent contradiction that there is between offering examples (such as the razor and the blades) of 'free' in the industrial age and stating page 25 and in the conclusion, that 'free' in the industrial age was only an after-thought. That 'free' has a different meaning and is associated with different marketing or strategic management approaches in the digital age as compared to the industrial age is (after your discussion) relatively clear; that 'free' was not used strategically at all during the industrial age is not clear at all, however;</p>	<p>We concede that there is a minor/moderate conceptual inconsistency in several of the ideas that have been used to build the argument of this article's argument. The key point – which does require a more detailed explanation - is that the notion of 'free' has evolved to become more sophisticated in the digital age. In this sense, it can now be described as a lever of business strategy whereas in the industrial age such conceptualisation was more problematic.</p>	<p>More - and more focused- explanation required and undertaken</p>

in fact, the article provides evidence that it was. (rev1)		
2.10 The paper does not offer (or if it does, these are implicit and indirect) clear research implications. This is a weakness, but one that should be easily addressed. (rev1)	Agreed	A short discussion of this matter is now included
2.11 As a general comment, this paper is too long and not always focused on the (interesting) points it tries to make. The text goes on for 26 pages (excluding notes and references), i.e. about 9,000 words. In my view, this is at least a third too long. I would recommend removing much of the first part and revising the text of the discussion to what is directly relevant. Even the introduction is too long and includes examples or considerations better placed later in the argument. (rev1)	We agree – more focusing – <i>à la</i> point 2.1 will go a long way towards addressing this concern	Action taken in light of reviewer's feedback
2.12 Please also use such words as 'may', 'might' (modal verbs), 'potentially' and 'possibly' very sparingly. Any sentence with these terms (and other of comparable meaning) is unfalsifiable and therefore has no empirical meaning. (rev1)	Point taken. Somewhat unorthodox recommendation re the conventions of language use however an interesting and worthwhile suggestion	Action taken to replace modal verbs with more definitive/confident verb forms.
2.13 Please avoid using subjective or evaluative terms like 'massively', 'important', 'should be viewed' etc. (rev1)	Agreed – although in our defense we don't find many examples of these stylistic annoyances	Action taken as part of the editing/pruning agenda described in point 2.1
<b>Reviewer 2 recommendations</b>		

<p>3.1 The paper is Far from original (rev2)</p>	<p>We are concern about this criticism. We strongly disagree that the work is not original and have gone to some length to mount a relevant defense. Specifically, we searched for instanced of the word ‘free’ on the emeraldinsight database, the google scholar database and several other relevant databases maintain by the libraries of larges North American universities. Quite simply, we find no article that is remotely similar to the one we are writing. Indeed, we stand by our claim that our essay is absolutely original – and breaks new ground as a contribution to understanding the forces which shape modernity and contemporary strategic management. However, we believe that reviewer 2 has alerted us to the need to better emphasise that a key strength of this essay is that it is original.</p>	<p>We have incorporated a more sophisticated literature review of previous work which addressed ‘free’ – indicating that such previous work has nothing to do with the argument we are making (please refer to the augmentation which on page 16). Upon request, we can provide a comprehensive analysis (in a table format) of articles that have used expression such as ‘free’, ‘free offering’, ‘free marketing’ and indicate why such articles are entirely dissimilar to ours.</p>
<p>3.2 No relevant literature is missed(rev2)</p>	<p>See response to point 3.1</p>	<p>A more comprehensive discussion of why this work is original appears on page 17.</p>
<p>3.3 It is an essay with well known examples (rev2)</p>	<p>Some of the examples may be well known however they are used to support points (and an overall narrative) which is entirely – and defensively – original.</p>	<p>No action taken in light of this criticism</p>

3.4 There is no added value(rev2)	See reaction(s) to 3.1 and 3.2	See action taken to point 3.1 and 3.2
3.5 <i>Are these implications consistent with the findings and conclusions of the paper?:</i> No relevant suggestions are provided(rev2)	See reaction(s) to 3.1 and 3.2	See action taken to point 3.1 and 3.2
3.6 It is well written, but the manuscript is not making any new contribution. Based on my knowledge of Information Economics and Platform Theory I don't see any new insights. (rev2)	See reaction(s) to 3.1 and 3.2	See action taken to point 3.1 and 3.2

# Truncated Glossary

Administrators: Administrators lays down the fundamental framework of a firm, within which the management of the firm functionality. The nature of administration is bureaucratic. It is a broader term as it involves forecasting, planning, organizing and decision-making functions at the highest level of the firm.

Confusopoly: When an industry as the opportunity to be more complex than it needed to be, the idea of confusopoly may appear as a practical way to gain economic advantage by blurring the rationality of the potential consumer.

Efficiency: Efficiency is the measurable ability to avoid wasting materials, energy, efforts, money, and time in doing something or in producing a desired result. It is a measure of the extent to which input is well used for an intended task or function (output). It often specifically comprises the capability of a specific application of effort to produce a specific outcome with a minimum amount or quantity of waste, expense, or unnecessary effort.

Firm: Profit-orientated entity that exists in a capitalist market economy-generally in an industry structure where there one more than one supplier is present (oligopoly or perfect competition)

Multinational enterprise: A multinational enterprises or worldwide enterprise is a firm which owns or controls production of goods or services in at least one country other than its home country.

Organization: An organization is an entity comprising multiple people, such as an institution or an association, that has a particular purpose and that follow roughly the same rules.

Strategic management: Strategic management involves the formulation and implementation of the major goals and initiatives taken by a firm's top management, based on consideration of resources and an assessment of the internal and external environments in which the firm operates. Strategic management provides overall direction to a firm and involves specifying the firm's objectives, developing policies and plans to achieve those objectives, and then allocating resources to implement the plans.

Strategic planning: Strategic planning is a firm's process of defining its strategy, or direction, and making decisions on allocating its resources to pursue this strategy.

Strategic thinking: Strategic thinking is defined as a mental process applied by an individual in the context of achieving success in a game or other endeavor. When applied in an organizational process, strategic thinking involves the generation and application of unique business insights and opportunities intended to create competitive advantage for a firm.