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Digital Entrepreneurship

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Abstract

As more companies start doing digital business – whether by selling their products online, by selling digital wares, or both – the question of how starting a digital venture differs from starting a traditional venture grows more important. We present a framework of digital entrepreneurship that includes a typology of new digital ventures, the characteristics of each type of new digital venture, and a discussion of how those characteristics shape the critical success factors of each type of venture. Specific issues addressed include digital or virtual products and services, digital or virtual workplaces and the effects of relying on computer-mediated communication, the changing role of market orientation across the different types of new ventures, and the instant globalization effect.

Introduction

More and more companies have started doing digital business – whether by selling their products online, by selling digital wares, or both. As this trend continues, the question of how starting a digital venture differs from starting a traditional venture grows more important. Entrepreneurs and managers who are contemplating starting a digital venture need to understand the opportunities, pitfalls and hazards of digital entrepreneurship, how these opportunities and hazards differ from those associated with traditional entrepreneurship, and how the opportunities and hazards of digital entrepreneurship relate to their particular digital venture. Scholars likewise need a framework of digital entrepreneurship that includes a typology of new digital ventures, the characteristics of each type of new digital venture, and a discussion of how those characteristics shape the critical success factors of each type of venture. The current research is preliminary, but it provides a framework and a theoretical basis for understanding the phenomenon of digital entrepreneurship.

One major factor that can differ between digital entrepreneurship and traditional entrepreneurship is the product, whether it be a good or a service. A new venture that sells digital goods or services is pursuing a form of entrepreneurship that is at least mildly digital, and faces significant differences in how its market will respond (e.g., piracy of digital goods vs. theft of non-digital ones), as the recording industry has learned. The ramifications of having digital products do not seem to have been intuitively obvious, and as the music and movie industries continue to adapt to the digital marketplace, understanding how digital entrepreneurship works will become more and more important to established industries as well as to practitioners and scholars of entrepreneurship.

Another factor that may cause critical differences between how digital and traditional ventures work is the workplace itself. When goods and services can be digitized, the need to have physically collocated work teams is dramatically reduced. In order to better control costs, many digital ventures may exist in “virtual” forms in which computer-mediated communication (CMC) is the primary or only means of communication within the organization, between the organization and key external stakeholders (e.g., suppliers and customers), or both (DeSanctis and Monge, 1999). While understanding and properly managing CMC is of growing importance in all modern businesses, CMC is integral to such “virtual” ventures. Understanding how this reliance on CMC affects digital entrepreneurship may deepen our understanding of both digital and traditional entrepreneurship.

Market orientation, an organization-wide focus on tracking and responding to customer needs and competitor behavior, (Slater & Narver, 1995; Narver & Slater, 1990; Kohli & Jaworski, 1990; Deshpande & Webster, 1989) is important to most organizations, but it may prove even more important in the context of digital entrepreneurship. Far too often, new companies with perfectly acceptable goods or services fail to stay in business because they paid insufficient attention to the market. In the context of digital entrepreneurship, this phenomenon may be particularly common because of the necessary emphasis on technology. Once the principals of a new digital venture have mastered the technology needed to operate their business – no small task – they may feel that they know what they need to know in order to be successful, disregarding the principles of market orientation, which in turn is likely to lead to the failure of the new venture.

Each of these factors is discussed in detail as we develop our framework for digital entrepreneurship below. In the next section, we define digital entrepreneurship as a subcategory

of entrepreneurship, and present a typology of new digital ventures into which any example of digital entrepreneurship can be categorized. We then explore some of the issues facing digital entrepreneurs, both in general and within the different types of digital entrepreneurship. We conclude with a discussion of how these factors shape the recipes for success for each type of digital entrepreneur.

Entrepreneurship and Digital Entrepreneurship

The critical characteristics and aspects of the entrepreneurial process have been identified and clarified in earlier literature (Kuratko and Hodgetts, 2004; Cunningham and Lischeron, 1991; Timmons and Spinelli, 2005). Entrepreneurship involves recognizing and seizing opportunities, transforming those opportunities into marketable goods or services, adding value through time and resources, assuming risk, and realizing rewards. Entrepreneurial activities may occur in a variety of settings, including new and old ventures, non-profit institutions, and the public sector. In short, new value creation is the defining characteristic of entrepreneurship.

Digital entrepreneurship is a subcategory of entrepreneurship in which some or all of what would be physical in a traditional organization has been digitized. Thus, digital entrepreneurship implies entrepreneurial activities associated with some degree of digital goods or services, or with other forms of digital activity. Given the rapid rise of digital activities among all firms, it seems likely that digital entrepreneurship will become more and more common, suggesting a need for a deeper understanding of this phenomenon.

To better understand digital entrepreneurship, a typology must be developed to distinguish the degree of digitalization that pervades any business environment. A beginning

point for such a typology should explore the potential of digitalization within the activities, processes, boundaries, and relationships associated with the firm—in other words the firm’s value chain. The degree of business digitalization may be derived through: i.) the digital nature of a firm’s good or service, ii.) the digital distribution potential of a good or service, iii.) the potential digital interactions with key external stakeholders within the value chain, and iv.) the digital potential of virtual internal activities associated with a firm’s operation. We will examine each of these before turning to digital entrepreneurship *per se*.

The digital nature of a firm’s good or service represents an essential aspect defining the digital environment. The emergence (and boom and bust cycles) of new internet businesses is a well documented social and business phenomena. New service businesses that range from content rich websites/portals, to search engines, to auction houses, to advertising, have demonstrated huge growth in the past decade. Entirely new digital media-related industries have emerged by integrating traditional advertising and communications with graphic design, information technology, and the web. Digitalized products have also witnessed phenomenal growth during that same period. Traditional entertainment products (such as video programming and music) have moved from analog to digitalized formats, shifting multi-billion dollar industries to the new digital domain. The mainstay of digital product markets, software, has contributed to the digital environment through enabling activities that foster greater digitalization and the sheer size of a rapidly growing billion dollar industry. Some emerging software markets, such as video gaming, have sales comparable to the worldwide film industry.

The digital distribution potential of a good or service also represents a factor defining the digital environment. All digital products, such as software, video programming, and music, etc. may be distributed electronically. Firms providing these products may develop business models

that intentionally block electronic distribution of their products to limit pirating or confound competitors, but the potential of digital distribution fundamentally impacts their activities, markets and competitive abilities. A vast assortment of traditional products may also be distributed through electronic means. As noted above, entirely new digital service companies, such as eBay and Amazon.com, have emerged that enable consumers and businesses (pure plays) to purchase and sell traditional products digitally. Other traditional product companies, such as Barnes and Noble, employ digital distribution methods as one of many sales and marketing venues. While all digital services by definition are distributed electronically (e.g. Yahoo, Google, etc.), segments of traditional services such as management and telecommunications consulting are being increasingly distributed through digital means. Companies that once exclusively required face-to-face contact are now employing digital means to deliver their services.

The potential for companies to digitally interact with key external stakeholders also serves as a factor defining the digital environment. The MIS, marketing, strategy, and management literatures observe the importance of internet marketing and sales. They also note the importance of such activities as customer management relationship (CMR) facilitated by digital means. Specific companies and industries employ varying degrees of digital communications to foster relationship with their suppliers and customers. Such interaction may speed the delivery of information, communications, and ultimately knowledge that dramatically alters the nature of a firm's activity.

Finally, the digital potential for virtual internal activities associated with a firm's operations serves as a factor defining the digital environment. The digital revolution alters the relationship between geographic proximity and work. No longer is it necessary for employees

and team members to reside in the same location to develop goods and services or to perform essential internal functions. As the companies move to more digital organizational structures and models the potential to specialize and disburse increase. As the potential and practice of virtual teams and digital commuting activities increase, the nature of a firm's activities alter.

These four elements serve as a means to define the degree of digitalization associated with specific firms and industries. Thus, digital entrepreneurship implies entrepreneurship, or new value creation, involving digital goods or services, digital distribution, a digital workplace, a digital marketplace, or some combination of these. This entrepreneurial activity relies on information technology to create, market, distribute, transform or (in the case of digital services) perform the product. While information technology is associated with many organizations' productivity, business performance, and customer values (Barua, Kriebel, and Mukhopadhyay, 1995; Hitt and Brynjolfsson, 1996), it serves as the basic infrastructure in digital entrepreneurship. Without information technology, digital entrepreneurs would be unable to deliver their products or services, and in some cases the product or service itself could not exist without information technology. Digital entrepreneurship thus exists on the cusp of two disciplines: management (particularly entrepreneurship) and information systems. In what follows we draw on both literatures to develop our understanding of digital entrepreneurship. Based upon the above typology of digital business environments, digital entrepreneurship may be loosely employed into three categories. The first category, *mild digital entrepreneurship*, involves venturing into the digital economy as a supplement to more traditional venues. The second, *moderate digital entrepreneurship*, involves a significant focus on digital products, digital delivery, or other digital components of the business. Moderate digital entrepreneurship could not exist without the digital infrastructure. The third, *extreme digital entrepreneurship*,

exists when the entire venture, including production, the goods or services themselves, advertising, distribution, and the customers, all are digital. New ventures into the digital arena, selling digital products and services, transforming existing digital goods, and possibly even conducting transactions in digital currency – these are the companies on the edge in a time when all entrepreneurs are becoming more digital. And for these ventures, entrepreneurship is a very different proposition from that faced by their more traditional counterparts.

The distinctions among the three types of digital entrepreneurship will be explored in the following discussion of what distinguishes digital entrepreneurship from traditional entrepreneurship from the perspectives of *ease of entry*, *ease of manufacturing and storing*, *ease of distribution in the digital marketplace*, *digital workplace*, *digital product*, and *digital service*.

Ease of entry

Compared to starting a new venture in the non-digital arena, it is easy to become a digital entrepreneur. For example, the time required to create a website that sells existing products is comparatively short. Also, existing companies like eBay provide any individual with internet access opportunities to create a small business venture in a single day. Because it can be so easy, however, many entries exhibit appallingly low quality and poor customer service making it hard for the quality digital entrepreneurs to succeed. Interestingly, it is mild digital entrepreneurship that seems most likely to suffer from this phenomenon, as the more extreme cases may actually require more effort. The requirement of increased effort may serve to weed out those potential entrants who lack the commitment to follow through. It may also motivate entrepreneurs whose success depends entirely on the digital economy to properly assess the market and to shape their enterprises appropriately. In cases of extreme digital entrepreneurship, the concept is sufficiently

new that the majority of such ventures are managed by players in the existing milieu who are sufficiently well-versed in both the technology and the marketplace as to have a relatively easy time entering the market. As time passes, this situation is unlikely to remain stable. Just as companies from eBay to Amazon to Century Martial Arts (a wholesale supplier of martial arts supplies which creates online presences for its retailers) have evolved means of helping mild digital entrepreneurs start their ventures, so have companies such as Linden Labs and eBay (again) found ways to help moderate and extreme entrepreneurs set up shop by enabling and encouraging new ventures that trade in digital products in digital marketplaces. As the latter form of entrepreneurship becomes more common, more services and infrastructure will evolve to support them – which will in itself represent further digital entrepreneurship.

Ease of manufacturing and storing

An online purveyor of traditional goods or services may reap little benefit in terms of ease of manufacture or of storage. However, ventures that center on digital products may enjoy considerable benefits in these two areas, which for traditional ventures are typically cost-intensive. While the digital product must still be created in a process that may be extremely expensive, the same is true of any new product. Once the product is ready to be offered, however, no physical plants or machinery are needed to produce it, nor are warehouses needed to store it. This makes “just in time” production effortless, makes the concept of inventory almost meaningless, and saves the digital entrepreneur a variety of costs associated with these traditional processes. Moderate and extreme digital entrepreneurship enjoy a huge benefit here as compared to traditional and mild digital entrepreneurship.

Ease of distribution in the digital marketplace

Digital business allows products to be sent around the world quickly and cheaply. Evans and Wurster (2000) refer to this property as the “reach” of the Internet. In the past, customers were forced to rely on their local merchants to bring remote goods to their areas. Today, the internet makes available the same huge assortment of products and services to everyone on the planet with an internet connection. For digital products like music or software, the distribution of a product becomes essentially instantaneous and free. This again provides a significant benefit to moderate and extreme digital entrepreneurs, but here the benefits are not limited to them – even mild digital entrepreneurs can reap similar benefits.

With the introduction of a web site, the venture has instantly gone global. This instant globalization effect gives the company access to customers and suppliers worldwide. Because this effect is no longer new, companies such as FedEx and UPS have taken advantage of the existence of these instantly global companies. Few entrepreneurs now fail to realize that, if they are efficient, their physical goods can be delivered almost anywhere in the world within twenty-four hours of when the order was placed. Though the digital medium is only partly incorporated into their business model, and though the process works less well with traditional services than with goods, mild digital entrepreneurs can distribute their products worldwide with greater ease than can their traditional counterparts.

There are problems associated with the instant globalization phenomenon. Digital entrepreneurs can begin doing business internationally without significantly more trouble than if they had started doing business domestically. This has the benefit of allowing the digital entrepreneur the chance to address a worldwide demand that may not be sufficiently concentrated to support a local business. On the other hand, this also means that digital

entrepreneurs face global competition from the moment they put up their websites. Managing this competition effectively may be something of a challenge, particularly for entrepreneurs who do not have extensive strategic or entrepreneurial experience.

The digital marketplace also expects businesses to operate “24-7”. Automation can handle much of the demands this places on a new venture, but the incessant demands of the marketplace can fray the soul of an unprepared digital entrepreneur.

Digital workplace

The reach of the Internet also allows digital entrepreneurs to take advantage of potential employees and partnerships all over the globe without forcing anyone to relocate. Global virtual teams can offer considerable benefits to the digital entrepreneur, making it easier to locate and hire talent, harnessing cultural diversity, improving resource utilization, and increasing flexibility and responsiveness (Duarte and Snyder, 1999; Lipnack and Stamps, 1997; Townsend, DeMarie and Hendrickson, 1998). However, there is a potential cost as well. Managing virtual teams presents challenges very different from those experienced by normal managers (Cramton, 2002; Kayworth and Leidner, 2000), and digital entrepreneurs who take advantage of the digital workplace should be aware of these challenges. Though these benefits and challenges apply most to the extreme digital entrepreneur whose communications with employees, suppliers, and customers take place mainly through CMC, they seem relevant to almost every digital entrepreneur.

Digital product

Having a digital product provides advantages beyond the ease of manufacturing, storing, and shipping. The product can be modified easily, to the point where incremental innovation can be done almost seamlessly and even radical changes can be made without seriously disrupting the process by which the product is marketed, produced, and sold. Thus, digital entrepreneurs introducing a new product may find that they have escaped the confines of the Utterback-Abernathy model which suggests that process innovation occurs after a dominant design has emerged and product innovation has started to fall off (Abernathy and Utterback, 1978); process innovation may precede product innovation instead of following it, or the two may no longer be temporally related at all. This advantage is limited to the moderate and the extreme digital entrepreneurs, since by definition the mild and traditional entrepreneurs do not deal in digital products.

Digital service

Offering services in the digital realm is a big business growing bigger. From a technical standpoint some of these services may amount to nothing more than toggling a few bits in a computer. To the customer, however, the service may be much more, and considerable profits can be made when the cost of the service is minimal and the value to the customer is high. The trick, from the perspective of the digital entrepreneur, is to ensure that the actual service provided is worth the price they charge. This, as with services offered in the non-digital realm, is likely to revolve more around the style with which the service is rendered than it is the substance of what is provided. Such illustrates the importance of market orientation – without paying attention to the desires of the customers, to what the competition is doing to satisfy those demands and steal the customers, and to how to outperform the competition and steal its

customers, the digital entrepreneur will swiftly be out-modified by the competition and die. The greater stability of the playing field in traditional and mild digital arenas may allow established ventures, including relatively new ones, to rest on their laurels rather than constantly reorienting themselves. Not so for companies offering new digital services – largely extreme digital entrepreneurs. Such players must never lose touch with their customers for even a short period of time, or they run the risk of losing them forever. Because market orientation is thus even more important in digital entrepreneurship than in other settings, we discuss it in greater detail below.

The Problem of Virtuality

A tremendous challenge for digital entrepreneurs, especially those that deal in digital goods is piracy. The 2006 Business Software Alliance/IDC Global Software Piracy Study shows that the world wide piracy rate reached 35% and losses from software piracy exceeded 34 Billion US dollars. Eastern Europe had the highest piracy rate at 69%, and has had the highest piracy rate in every study since 1994. The problem is similar in the music business. The value of illegally pirated music has been estimated at US\$4.6 billion globally (1.5 billion units), the equivalent in size to the entire legal markets of the UK, Netherlands and Spain combined (IFPI 2005 Commercial Piracy Report). While the aforementioned ease of transmission and production (after receiving a transmission) makes piracy possible for digital goods and services, a potentially more difficult problem is that attitude of consumers about the nature of digital goods:

“Many individuals see nothing wrong with downloading an occasional song or even an entire CD off the Internet, despite the fact it is illegal under recently enacted federal legislation.” –Recording Industry Association of America Website

Academic studies, too, show that consumer attitudes toward digital products, like music files, are inherently different from traditional products. For example, Siegfried and colleagues (2004) surveyed over two hundred students at two schools. Their results indicate that the students’ attitudes about downloading music are not significantly impacted by whether or not the artist gives permission. The study showed similar attitudes about pirating commercial software. Digital entrepreneurs thus face not only the traditional challenges with customers, but new cultural norms that can create serious problems for a nascent business. The perception that virtual goods (and property rights associated with them) are not as “serious” as physical ones also impacts the entrepreneurs themselves.

One of the biggest challenges facing extreme digital entrepreneurs is that, while the money may be real, the rest of the business may be largely or entirely digital. To participants in such a venture, the entire company may seem like a game. Employees and even the digital entrepreneurs themselves may feel that they are playing at operating a virtual company rather than actually operating a real company. The dividing line between virtual and real in the digital realm may be fuzzy, but the contrast between real commitment and virtual commitment is clear. While many non-digital ventures may have failed because of a lack of commitment, commitment to a new virtual company may be even harder to develop than would be commitment to a venture where the operation had a physical presence and physical interaction among employees and with customers.

The Role of Market Orientation in Digital Entrepreneurship

As discussed above, market orientation is particularly important to digital entrepreneurs, and a number of issues related to market orientation differ between digital and traditional entrepreneurs. These include the importance of being market oriented in general, the importance of managing relationships in a digital context, managing visibility, and understanding the importance and nature of digital value. Each of these will be discussed in turn.

Central to the success of a new digital venture is market orientation. The more extreme the digital aspect of the venture, the more important becomes market orientation. Focusing on customer needs has long been the mantra of the marketing profession (Piercy, 2002). Given the highly competitive and rapidly evolving marketplace of the digital entrepreneur, it is essential that digital entrepreneurs focus on customer and other stakeholder needs.

To be market oriented, digital entrepreneurs need to systematically assess and profile people's perceptions (including those of their customers, employees and suppliers) of how well their companies are performing (Narver and Slater, 1990; Kohli and Jaworski, 1990). This assessment should go beyond issues of profit to focus on how well the company is satisfying those stakeholders upon whom the future profit of the company rests. In the digital arena, this might involve a range of techniques and venues not available to more traditional businesses such as internal and external electronic communities, digital customer relationship management techniques and systems, and monitoring virtual value chains.

One increasingly popular tool available to the digital entrepreneur is electronic communities that permit the rapid exchange of innovative ideas between customers and the

organization (Kozinets, 2002). This fast-paced market research tool can allow even mildly digital entrepreneurs to hear the voice of the customer clearly and immediately (Kozinets, 1998). More, it allows the digital entrepreneur to have a conversation with the voice of the customer, almost in real-time, which would be prohibitively expensive to all but the most well-funded traditional entrepreneur.

An internal community, for sufficiently large organizations, or active employee participation in an external community (for any new venture) may provide the venture with a means of involving all its employees in the success of the organization, an important part of market orientation and also of a related concept from the management literature, strategic intent (Hamel and Prahalad, 1989).

Similarly, digital entrepreneurs need to constantly monitor and analyze the actions of suppliers and direct and indirect competitors. The volatility of a digital product or service often leads to seismic changes to the means by which we compete electronically and the digital entrepreneur has to be highly responsive to changes in the competitive landscape. Teece and Anderson (1984) introduced the concept of punctuated equilibrium to the management literature, but what the moderate to extreme digital entrepreneur faces appears to resemble continual punctuation with minimal equilibrium. Only constant vigilance will allow competitors in this setting to succeed. Thus, the successful new digital venture will be led by individuals who are extremely sensitive to stakeholder needs, especially recognizing their role in helping the company deliver outstanding customer service to the end user. This often involves the relentless rejuvenation and innovation of marketing programs aimed at these partners (Christopher et al, 1994).

Though not formally part of the generally accepted definitions of market orientation (CITES, 1991), relationship marketing is integral to the successful pursuit of market orientation, particularly in digital entrepreneurship. Relationship marketing has been defined as, “attracting, maintaining and, in multi-service organizations, enhancing customer relationships.” (Berry, 1983, p.25). The relevance of relationship marketing to successful implementation or market orientation is thus clear – it applies in particular to the customers, but can apply equally to all stakeholders. Moreover, contemporary approaches to relationship marketing suggest, “relationship marketing is marketing seen as relationships, networks and interactions.” (Gummesson 1997, p.5). Nowhere does the competitive landscape illustrate the essential relationship between market orientation and relationship marketing more clearly than in the digital landscape.

Key to successful relationship marketing strategies is the relationship with customers and key stakeholders (Gummesson, 1994). The electronic community discussed above illustrates this point. Offering a customer-accessible electronic community has proven to be an effective way to expedite the communication process of successful digital enterprise (Kozinets, 1998). The use of community-based discussion forums enable speed of thought innovation to take place. They assist in the collaboration of partners in organizations large and small (Kozinets 1999) and enable the digital entrepreneur to better understand the totality of the digital marketplace (including competing offerings and customer perceptions). More thoroughly digital entrepreneurs may take this a step further by taking advantage of the increasingly popular approach of merging legacy systems and customer relationship management programs to meet the market’s demand for highly customized products and services. The “market of one” in which each customer receives a customized product (Peppers and Rogers, 1996) is especially

meaningful to digital entrepreneurs given their market orientation and this poses a number of challenges when customer numbers grow. Key to the success of any relationship management process is putting the customer truly at the heart of one's electronic strategy (Payne and Frow, 2005), and there are a variety of customer relationship management (CRM) software packages available to do just that.

Market orientation also implies reaching out to the market. In the digital marketplace where, as mentioned above, digital entrepreneurs of variable quality litter the landscape, it is particularly important that the digital entrepreneur's response to current market conditions include getting the market's attention. Visibility in the marketplace is at least as important as a fundamentally good service or product offering to differentiation and success. Without high visibility the organization restricts its marketing efforts to existing customers and word of mouth for developing new prospects. When competing globally for customer attention with millions of other entrepreneurs, the digital entrepreneur's visibility concerns may be significantly greater than those of a traditional entrepreneur with a physical presence.

We do not mean to imply that visibility is less important for traditional entrepreneurs – merely that attaining visibility is a greater problem for digital entrepreneurs. As such, tools such as effective search engine optimization and sites designed to be friendly to search engines are critical to their success (Hanson, 2004). Visibility also involves the use of non-traditional marketing activities. Presence in the mindset of the customer, as represented in blogs and electronic community postings, are two common examples (Kozinets, 2002). Guerilla marketing tactics (low-budget campaigns using non-traditional venues to increase word-of-mouth advertising) are often associated with the most enterprising of digital leaders (Levinson, 1998). Finally, visibility is often best represented in highly responsive customer service situations that

go above and beyond the considered norm, to truly delight the customer in an outstanding experience. These experiences are often the nucleus of a word of mouth marketing campaign that provides all the benefits of a low-cost high-impact high-trust marketing channel from which digital entrepreneurs can spread messages about their organizations. The ease of disseminating information in the digital arena makes these approaches easily accessible and extremely effective for digital entrepreneurs.

Finally, we turn to the concept of the virtual value chain to complete the application of market orientation to the situation of the digital entrepreneur. Understanding the benefits of a virtual value chain is key to delivering outstanding service to customers (Rayport and Sviokla, 1999). A virtual value chain is the electronically-enabled series of value-added activities connecting the company's supply side with its demand side. Key to understanding this is the digital entrepreneur's ability to map these processes and identify value added potential at each stage.

The benefits of a well-defined virtual value chain are manifold. In clearly defining the virtual value chain, digital entrepreneurs enable a higher degree of visibility of processes so that end products and services can be tracked more effectively, leading in turn to more effective results for the customer. A clearly defined virtual value chain also facilitates mirroring capabilities of supplanting physical activities (such as research and development activities that have traditionally been time and location dependent) with their virtual counterparts. Finally, clearly defining the virtual value chain enables the digital entrepreneur to deliver enhanced customer relationships that not only improve upon existing activities, but identify new value propositions from existing customer information.

Thus, market orientation is a key driver of success in digital entrepreneurship, even more so than in traditional entrepreneurship. We have outlined several specific ways in which digital entrepreneurs can use market orientation to improve the odds of success. But fundamental to all applications of market orientation is successful communication, which in the digital marketplace means CMC. Communicating largely or entirely by means of CMC and working in virtual teams offers a set of opportunities and challenges to the digital entrepreneur that do not apply to the traditional entrepreneur. We address these in the following section.

Cultural Diversity, Computer-Mediated Communication (CMC), and Virtual Teams

In extreme digital entrepreneurship, members of the startup team may be chosen for reasons other than their physical locations. This allows the team to assign work to the best people in a global labor pool, and it may allow the digital venture to take advantage of cultural diversity to bring many perspectives to bear on the problems faced by the organization, and there is evidence to suggest that in the long run a more diverse team will outperform less diverse competitors (Earley and Mosakowski, 2000, Hamel and Prahalad, 1994). However, cultural diversity requires additional managerial attention as it introduces diverse expectations and reactions to events and failing to consider these differences may lead to potential misunderstandings and conflicts (Gudykunst, 1998; Gudykunst and Ting-Toomey, 1988), and challenge the effectiveness of the new venture. This risk is heightened for digital entrepreneurs, most dramatically for extreme digital entrepreneurs, as CMC – lacking the richness of face-to-face communication (Daft and Lengel, 1986) – presents further challenges for digital

entrepreneurs in interpreting others' messages and actions that are guided by different cultural backgrounds (Gudykunst, 1998; Gudykunst and Ting-Toomey, 1988, Hofstede, 1980).

However, by acknowledging and working with potential cultural differences, digital entrepreneurs may be able to better handle the problems associated with cultural diversity (Gudykunst, 1998). Digital entrepreneurs working with customers, suppliers, or employees in other cultures may find Geert Hofstede's classification of national cultures useful (Hofstede, 1980; <http://www.geert-hofstede.com>), particularly if they have not previously encountered people from the other culture. His distinction between individualistic and collectivistic cultures is one of the more useful and relevant dimensions of his classification.

Individualistic (Individual) vs. Collectivistic (Group)

When facing conflicts in individual and group interests, an *individualist* is more likely to put higher priority on self-interests and those of their immediate family, while a *collectivist* is more likely to put the needs of his/her group ahead of his/her own (Hofstede, 1980; 1983; 1993). Members of individualistic cultures normally view one as a unique entity and value one's initiatives and achievements. They believe that a person is what he/she does. In contrast, members of collectivistic cultures value group affiliations and group achievements. They believe that nurturing relationships with care and concern is important and they often expect reciprocal attitude from other members of their group.

According to Hofstede's study, individuals who are from Australia, Austria, Canada (excluding Quebec), Denmark, Finland, Germany, Great Britain, Ireland, New Zealand, Norway, Switzerland, or the United States are typically *individualistic*. Individuals from Brazil, Catalonia, China, France, India, Indonesia, Italy, Macedonia, Pakistan, Philippines, Quebec,

Singapore, Spain, or Vietnam are typically *collectivistic*. Digital entrepreneurs who disregard these differences may well find their enterprises spiralling into misunderstanding, recrimination, and destruction.

One way in which people from these cultures differ is in their approach to communication. Individualistic and collectivistic cultures have quite distinct communication styles (Hall, 1976; Gudykunst & Ting-Toomey, 1988). These different communication styles of team members may lead to misunderstandings. Specifically, individualists are more direct and value honesty and openness while collectivists are more used to indirect communication in order to “save others’ faces” and to preserve group harmony (Gudykunst & Ting-Toomey, 1988).

Direct communication involves using *explicit* words in expressing ideas and revealing true intentions. For example, when a North American father is disappointed about his son failing to complete his chore, he may say “Son, I’m disappointed that you forgot to take out the trash today”. *Indirect communication*, on the other hand, uses *implicit and ambiguous words* and tries to conceal true intentions. Therefore, communicators need to refer to the surrounding context to understand the true meaning of the messages. In a similar scenario stated above, a Chinese father may say “It’s disappointing when people forget to complete their chores”. Without considering the context, the Chinese son may not know that his father is referring to him in his comment. The potential for misunderstandings between people using the two styles is considerable. However, a digital entrepreneur who recognizes these different styles can work with a diverse group by learning to correctly interpret both communication styles.

Another difference between individualistic and collectivistic cultures is the preferred approach to conflict management. Conflicts can occur in any relationship, but members of a digital venture from different cultures will deal with conflicts differently (Ting-Toomey, 1988).

Individualists prefer to use direct approach in handling conflict such as direct demands, control and solution oriented. In addition, due to their beliefs in individual uniqueness, individualists tend to separate conflict issues from the persons involved. In individualist cultures, you may see people arguing heatedly about a task issue this minute and having pleasant conversations on an unrelated subject the next minute. Collectivists, however, tend to integrate the conflict issues and the persons who create the issues. Therefore, a poorly handled conflict may affect collectivists' personal relationships. To better deal with the delicacies in a conflicting situation, collectivists often prefer using more indirect approaches than would individualists – approaches such as conflict avoidance or indirect requests. These issues can be handled by the digital entrepreneur by paying attention to the cultural backgrounds of different internal and external stakeholders, by remembering and recognizing these differences, and by acting upon them as appropriate. More specifically, entrepreneurs working with people from diverse backgrounds are advised to:

- Remember that collectivists value relationships, reciprocal care and concern, in-group identity and in-group goals. Try to express more care and concern when dealing with them.
- Remember that individualists value individuals' initiatives and achievements more than benevolence. Try to exhibit your ability in handling a given task when collaborating with them.
- Avoid making the assumption that everything is stated explicitly. Try to look for meanings behind the text and seek for team members' confirmation or clarification.
- When giving negative comments to collectivists, try to avoid using direct response such as "This work is not acceptable. You need to redo it ASAP" to allow them to save face.

- Maintain face for collectivists in public and recognize that they may need a third party to mediate conflicts.
- Try to manage conflicts when they arise rather than avoid them.

But digital entrepreneurs face an additional challenge beyond that of simply having more opportunities to work with people of diverse cultures. Moderate and extreme digital entrepreneurs may find themselves working almost exclusively with people from other countries – and doing so entirely over a computer. With employees far away and possibly in multiple time zones, coordinating them, particularly in the context of a new venture, may be problematic for the digital entrepreneur. Teams that rely on CMC as their main communication means, generally due to a lack of physical proximity, face challenges in communication and collaboration.

Some common issues that may dog digital new ventures include a lack of communication cues, an uneven distribution of information, lapses in communication, and uncertainties about the meaning of silence (Cramton, 2002).

The physical dispersion among virtual team members and the limited “bandwidth” in the CMC environment may hinder the ability of team members to pick up less obvious contextual communication cues, leaving them to rely on their own assumptions when interpreting others’ messages and reacting to others’ actions (or lack of actions). Misunderstandings or emotional conflicts are a likely result.

Uneven distribution of information is another major contributor to misunderstanding and emotional conflicts. Human and technical errors due to the use of ICT in communications may contribute to GVT members’ false assumption that everyone in the team has the same information even though it may not be the case.

Lapses in communication may also be cause for misunderstanding. Different speeds of electronic transmission among locations may cause synchronous chats seem disordered and interfere with effective team communication. Also, due to different accessibilities to the Internet at different locations, some members may not able to provide as frequent responses as others. Without considering these possibilities, the lapses in communications may cause negative impressions of incompetence and low commitment. A related issue is uncertainty about the meaning of silence.

Silence has many meanings: I agree, I strongly disagree, I am indifferent, I am on holiday, or I am unable to communicate due to technical problems. Due to the dispersion of team members and the asynchronous communications among team members, ambiguous silence is more of an issue in dispersed teams relying on digital communication, both because of its increased frequency and because of the increased difficulty of interpreting it in the digital setting. This uncertainty about the meaning of silence in CMC may significant impair effective team communication and collaboration.

Digital entrepreneurs can attempt to resolve these issues by asking team members to:

- Explicitly state in advance any constraints such as internet accessibility, scheduling issues, holidays in their countries, time zone differences, or plans to be away from work for any other reason. The digital entrepreneur should then explicitly acknowledge team members' offers of information regarding their constraints.
- Ensure that all information is shared with all members of the team.
- Avoid making assumptions about other team members' actions, but instead seek clarification and confirmation from them directly.

- Provide timely responses to show their presence. Even a simple “Agree” or “I have received your e-mail”, may help the team maintain a more meaningful communication flow. The digital entrepreneur should try to establish communication rules such as how often one should check e-mails and the team discussion forum or the need to inform the team about potential absences.
- Recognize and fulfill assigned roles and responsibilities. The digital entrepreneur, with the cooperation of the team members, should define roles and role-associated responsibilities early in the team formation. Team members will then clearly recognize their responsibilities, which will help the team clarify differences in expectations.
- Provide encouragement and support for other team members. The digital entrepreneur needs to mould the disparate and far-flung members of the new digital venture into a coherent team. One way of doing this is to encourage non-task-related friendly interaction among the team members.

Conclusion

In this paper, we have identified a typology of digital entrepreneurship that encompasses three levels of digitization – mild, moderate, and extreme. The differences between digital and traditional entrepreneurship have been addressed, as have the differences among the three types of digital entrepreneurship. In exploring these differences, we have identified three major issues that separate the digital from the traditional entrepreneur: the problems of virtuality, the greater need for market orientation, and the importance of properly handling cultural diversity and computer-mediated communication. We provide practical advice for the practicing digital

entrepreneur as well as offering a number of potential future directions for researchers interested in the phenomenon of digital entrepreneurship.

Perhaps the most serious limitation of the current work is that it is entirely theoretical, drawing on existing work to extend our understanding of the new digital entrepreneurship phenomenon. Future work may draw on this paper to identify entrepreneurial ventures that fit each of the three profiles described and to collect data that may corroborate or challenge the assertions made here.

Several such assertions seem worth investigating further. For example, we predict that extreme digital entrepreneurship, though currently a new and poorly supported approach to business, will become more common and, as it does, more thoroughly supported by traditional mechanisms. Whether this occurs and, if so, how, would be an interesting question to address.

However the more immediate contribution of this paper is that it introduces a new mode of thinking about the internet and about digital ventures. Digital entrepreneurship is no longer the exclusive purview of technophiles serving the needs of other technophiles. In extreme digital entrepreneurship, the games are no longer just games. As with professional sports in decades past, the games are becoming businesses, and the successful businesses will become big businesses. Digital entrepreneurship, particularly extreme digital entrepreneurship, may be new, but it is here to stay.

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