

# DESTABILIZING DIGITAL BUSINESS STRATEGY THROUGH COMPETING-COMPLEMENTARITY OF SOCIAL MEDIA

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## Abstract

*This study presents the unique dichotomous role of social media, which we conceptualise as its competing-complementarity. Using the competing-complementarity phenomenon as a guiding lens, we explore the fusion of social media and business functions as core elements of a digital business strategy of a firm. The phenomenon shows a dual impact. Complementarity explains how digital technologies and business functions are synchronised and form the digital business strategy while competing shows how the digital business strategy is susceptible to destabilization. In the process, we describe 8 unique characteristics of a complementing social media and 4 characteristics of a competing social media, through which we derive two key triggers of competing-complementarity (1) key external trends, and (2) key organisational transferals. The conceptual idea of competing-complementarity driving digital business strategy as well as its destabilization is illustrated through the technology S-Curve, which also shows the evolutionary nature of digital business strategies driven by digital technologies. This represents a strong theoretical view of technological progression in a firm. When key organizational shifts and external trends impact social media, it reflects both, positive and negative outcomes.*

*Keywords: Digital Business Strategy, S-Curve, Competing-Complementarity, Social Media*

# 1 INTRODUCTION

Historically, information technology (IT) strategy has always been pegged as a functional-level strategy requiring it to be aligned with the business strategy of the firm. Within this myopic view business strategy has always dictated and directed IT strategy (Bharadwaj et al. 2013). However, present-day digital technologies (e.g. social media), viewed as amalgamations of communication, information, computing and connectivity technologies (Bharadwaj et al. 2013; Oestreicher-Singer & Zalmanson 2013) are changing this relationship. Digital technologies are increasingly fused with products, services and business functions to enhance the functionality of business activities and firm performance. This in turn is challenging the conservative wisdom of the design and execution of competitive business strategies and their alignment with IT strategies (Woodard et al. 2013). Although the notion of “fusion view of IS” (El Sawy 2003) is not entirely new, the reality of embedding digital technologies in the product and service offerings of a firm is fairly recent (Woodard et al. 2013). This has resulted in merging social relationships and digital networking (i.e. using social media and other enterprise networking applications) in both, the consumer and the business enterprise space (Susarla et al. 2011). Thus, digital technologies have become vital to the development and delivery of products and services such that they are becoming the core of the product or service itself (Dhar & Sundararajan 2007). As a consequence of the centrality and ubiquity of digital technologies in business and social activities, business models and strategies that enjoyed long periods of stability in the past, now face continuous challenges. In this scenario, the ability of the firm to positively respond to the transformations induced by digital technologies is likely to determine its success rather than the operational or organizational excellence of the firm confined to a secure, stable or strategic business model (Dhar & Sundararajan 2007). Extant literature on digital business strategy is rather unclear about the exact role of digital technologies and how they transform incumbent strategy (both IT and business) into a digital business strategy. This study focuses on a unique phenomenon of social media, we term as *competing-complementarity*, which provides a new guiding lens for studying how a digital business strategy evolves and potentially destabilizes when firms using social media for complementing their business functions start experiencing its negative impacts.

We observe that firms cannot easily innovate, produce or imitate technologically savvy products and applications, and conduct research and testing similar to high-impact technology companies such as Apple or Google. Hence, to leverage the benefits of digital technologies, firms revamp their traditional IT strategies by fusing digital technologies and business functions into an all-encompassing digital business strategy (Bharadwaj et al. 2013). Thus, the rapid digitization of business processes, customer relationships, marketing programs and services in an global hypercompetitive environment makes it imperative to investigate how digital technologies deeply influence business strategies (Mithas et al. 2013). In this paper, we introduce two business scenarios: (1) impact of social media on news organisations, and (2) impact of social media related communication apps on mobile service providers for understanding how social media and mobile technologies impact the traditional business models of firms and drive to form as well as destabilize a digital business strategy.

Social media and mobile computing have infiltrated the workplace and the social corridors of people’s lives thereby becoming a part of their daily routines and business processes. In the workplace, social media is often synchronised with the business functions forming a unified fabric in the organisation. Such fusion is rather fluid and dynamic given the ubiquity and rapid innovative power of social media suggesting that the digital business strategy is in a state of flux. Social media is effervescent and largely ordained for individuals than organisations, empowering users with relatively low levels of technological sophistication to use digital technologies with relatively ease. This in turn suggests constant changes in user behaviours when using the technologies. Observable impacts depict massive manifestation of individual engagement with these technologies that include constant social interactions, creative content creation, continuous dissemination and collaboration of information, and

collective bargaining and decision-making (Oestreicher-Singer & Zalmanson 2013). We explore this uptake of digital technologies on the technology S-curve to show how they impact the business strategy of a firm. This represents a strong theoretical view of technological progression in a firm (Christensen 1992). The S-curve also represents the domination of digital technologies on incumbent technologies and their relative payoffs (Schilling & Esmundo 2009).

This conceptual paper brings fresh ideas and understanding to the evolution and progression of digital business strategy. Our study is based on the premise of the dichotomous role of social technologies (e.g. social media and mobile computing technology) complementing and competing with business firms. It also builds on past studies on disruptive innovation of mobile communication apps (Palekar et al. 2013) and also cautions firms on the negative impacts of digital technologies. Besides, it also creates awareness of the diverse roles that digital technologies can take, much of which may not be evident when firms adopt and start using such technologies. This paper is structured as follows: In the next section, we present a brief overview of digital business strategy. We then present two business scenarios to understand the dichotomous role of social media (this will inform readers the newness of our study) and how it impacts the depicted business settings. In the sections following, we describe the competing-complementarity phenomenon and their characteristics and then present a conceptual discussion on how they impact digital business strategy and show the evolution of digital business strategy on the technology S-curve. We conclude by discussing implications and limitations.

## **2 DIGITAL BUSINESS STRATEGY – A BRIEF OVERVIEW**

Researchers have defined a digital business strategy in myriad ways. For example, Woodard et al (2013) describes it as a “pattern of deliberate competitive actions” of firms that compete by offering digitally enabled products or services. Bharadwaj et al (2013) refers it as an “organizational strategy formulated and executed by leveraging digital resources to create differential value.” A more holistic view offered by Mithas et al (2013) depicts digital business strategy as the “extent to which firms will engage in any category of IT activity.” In much of the diverse descriptions, the underlying idea is (1) digital business strategy goes beyond the conventional boundaries of strategizing IT with relation to business goals (2) it encapsulates and recognizes the firm’s digital resources in a wider “ecosystem” (Markus & Loebbecke 2013) consisting of vendors, distributors and business partners that are engaged in creating and delivering a firm’s products and services, and (3) it creates “differential business value by leveraging competitive advantage and strategic differentiation” rather than through the firm’s “standard efficiency and productivity metrics” (Bharadwaj et al. 2013). Several studies over the past decades have researched the emerging role of IT alignment, but through a rather constricted view of IT strategy that is aligned with the firm’s chosen business strategy. Those studies have emphasized the growing importance of IT strategy in shaping business activities and trends in business processes, internal information systems, IT outsourcing, and business value of IT, among others (Chan & Reich 2007; Henderson & Venkatraman 1993; Sabherwal et al. 2001; Venkatraman & Zaheer 1990). The dotcom boom and the Internet brought huge improvements in communication, information and connectivity technologies, which began reshaping the traditional business strategies making them cross-functional, highly distributed and modular. As a result, new connectivity protocols (e.g. HTML) enabled work processes and communications to transcend geographical boundaries and time (Banker et al. 2011; Sambamurthy et al. 2003) making the entanglement of digital technologies in products and services difficult to segregate. Thus, IT has become a forerunner in contemplating the business strategy of a firm including enabling dynamic capabilities to counter turbulent environments (Pavlou & El Sawy 2010). Much of the present day research and directions for future work are based on four key themes put forth by Bharadwaj et al (2013) viz. the scope, speed, sources and scale of digital business strategy. Some of the present-day research collectively examine the convergence of IS and strategy studies under the overarching umbrella of digital business strategy. For example, Grover & Kohli (2013) focus on micro IT applications and propose that a firm’s digital business strategy must balance its system (i.e. software, processes) and information visibility to appropriate value from such applications. Keen and Williams (2013) identify general factors that determine digital business

strategy success in two highly innovative but polar companies. In sharp contrast to the mentioned studies, we take a new approach and instead use the competing-complementarity phenomenon of social media as a guiding lens to explain how digital business strategies are formed and how they become turbulent and unstable. To understand competing-complementarity of social media, we first introduce two business scenarios.

### 3 THE BUSINESS SCENARIO

The two business scenarios depicted below present an inimitable environment for understanding competing-complementarity because social media has significantly complemented yet disrupted the mentioned industries (Aral et al. 2013). This presents a good opportunity for understanding how a digital business strategy is potentially destabilised by a competing social media.

#### **Scenario 1: The News Company (Media Industry)**

In this scenario, social media has made newsworthy information highly participatory, social and partisan (Gupta & Brooks 2013) based on its inherent attributes (refer table 1). The news company's incumbent technology is not able to mimic, imitate or offer affordances similar to social media resulting in dwindling readership (Palekar & Sedera 2012).

<b>Social Media Attributes</b>	<b>Description</b>	<b>Literature</b>
Collaborative communications	One-many, many-many communications. Allows dynamic user participation and information sharing	(Glynn et al. 2012)
Global accessibility	Publicly available on 24/7 basis. No territorial constraints. Content delivery is instantaneous	(Vuori 2012)
Selectivity Control	Users generate content. They control and discretely select, utilize or consume services and create networks	(Thelwall et al. 2012)
Portability	Content tied to fixed designated devices such as T.V, books, newspapers is available, accessible, and distributable through digital spaces and digital devices (e.g. smartphones)	(Park et al. 2009)

Table 1. Social Media Attributes

Sensing the dynamic attributes and interoperability of social media, the news company starts engaging with social media to complement its own functions of news creation (i.e. sourcing newsworthy information on social media) and news delivery (i.e. using the social media platform to deliver news). It starts a Facebook page and a Twitter newsfeed. Note: Through this complementing notion, we observe the fusion of social technology into the business strategy of the news company. Such fusion is relatively swift, comes at a low cost and is immediately available to the company without high capital investment. In the process, the firm simultaneously continues operating its existing products, functions, processes and technologies. Through the complementarity that social media offers, the news company forecasts that its engagement with social media would (1) increase its readership by delivering news to the masses, which is not possible through its traditional delivery platform (e.g. its newspaper and news website), and (2) attract the masses on social media and allure them to return to its traditional news delivery platforms. However, over a short span of time, the news company observes that there is no significant increase in readership on their traditional news platforms although there is some upward movement in the number of individuals reading, posting comments and liking news on their Facebook page, and reading and re-tweeting news on Twitter. However, a significant spike in readership on its social media offerings and traditional news platforms is intermittently evidenced whenever a major news event unfolds (e.g. terrorist attack, celebrity deaths). Otherwise, the news company observes that (1) its readership on its traditional platforms is stagnant or shows signs of decline, and (2) people increasingly use social media for consuming news amongst other activities, but that is not benefitting the news company. Some of the reasons attributed to this are (1) availability of wide choices for consuming news on social media (2) social influence of the masses - such as following tweets or

Facebook pages of celebrities, friends, groups or private social networks (3) ability to create news and control information that one wants and when one wants it, and (4) connecting with people and stories that interests them and not necessarily be fed news that the news company wants to tell. This has created a dilemmatic state for the news company where its digital business strategy based on the complementing role of social media is not producing the expected results. Yet, in the bargain, its engagement with social media is strengthening the competing potential of social media as a superior platform for newsworthy information. This is because mass user bases that create networks, generate content and share information through the networks contribute to the success of social media. The digital business strategy of the news company is looking unstable and the news company is discussing ways to increase its customer base, content and profitability. Note: the competing potential of social media has destabilized the news company's digital business strategy.

### **Scenario 2: The Mobile Service Provider (Mobile and Telecommunication Industry)**

In this scenario, mobile communication applications or apps have become one of the most downloaded utilities on communication devices such as smartphones and tablet computers (Atapattu & Sedera 2014; Liu et al. 2012). Mobile communication apps allow users to communicate and share information at reduced costs to the users. In a bid to complement the existing mobile business model where phone calls and short messaging services (SMS) are charged to subscribers, the mobile service provider offers top rated communication apps such as Facebook, Twitter, Skype and LinkedIn free of costs to subscribers. By doing so, the mobile service provider aims to increase the number of subscribers by bundling in free communication apps. Note: a complementing situation has triggered the mobile service provider to fuse social technology applications into its business model. However, within a span of time, the mobile service provider finds that subscribers are using more of the free apps for communicating and information sharing and less of phone calls and SMSs. Besides, there is no significant increase in the number of subscribers other than when the free apps were first introduced. This has created a dilemmatic stage for the mobile service provider, as the mobile communication apps show strong competing potential by making the incumbent technology (i.e. phone calls, SMSs) less important and stagnant. The mobile service provider re-evaluates the firm's digital business strategy and offers phone calls and SMSs free of costs while offering a subscription-based data package plan for using mobile communication apps. Note: the competing potential of social mobile communication apps resulted in destabilizing the original digital business strategy and re-creating a new strategy and business plan.

## **4 COMPETING-COMPLEMENTARITY OF SOCIAL MEDIA**

The two business scenarios in the earlier section evidence the powerful dichotomous role of social media, which complements and competes with business firms. This is crucial in explicating what exactly those roles constitute including their attributes and evolving mechanisms. Social media has profoundly radicalized communications, information accessibility and operational capabilities of firms (Vuori 2012). The rapid proliferation of social media has evoked mixed responses from firms such as (1) indulging in exploitative innovation for ensuring competitiveness or immediate survival by building on existing knowledge and extending prevailing services. For example, firms such as Delta Airlines and the Commonwealth Bank of Australia offer flight reservations and check-in services, and money transfers and payment services respectively through Facebook, or (2) pursuing explorative innovation by developing or engaging with new knowledge, products or services for future opportunities (Jansen et al. 2006; Lee et al. 2003). For example, more than 200,000 companies worldwide use Yammer to engage and connect their employees in a 'single social experience'<sup>1</sup> for cohesive communications, information sharing, collaborative efforts and collective decision-making. Organisations began engaging with social media as an influential single communicating platform

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<sup>1</sup> <https://about.yammer.com/who-we-are/>

<sup>2</sup> <http://www.economicshelp.org/micro-economic-essays/marketfailure/public-goods/>

(Pentina & Tarafdar 2014) that provided dynamic competences such as networking capabilities, ubiquitous accessibility and distinct services (e.g. creating, sharing or tagging content) hitherto unseen in any previous electronic media. In the process, social media *complemented* the organisations by enhancing their existing processes and internal functions, triggering new business models and solutions, and enabling product, service and process innovations. We conceptualise this complementing role of social media through its dynamic competences that support existing organisational functions to create greater value than if each were operating independently. The functional capabilities of social media revolve around (1) the utilities it offers such as creating “digital profiles”, initiating “relational ties”, conducting and controlling “search and privacy” settings, and reflecting “network transparency” (Kane et al. 2014), and (2) opportunistic activities such as creating, disseminating and sharing information in real time, discretionary control over communicating and collaborating content (Turban et al. 2011) and exercising selectivity in how and when social media should be used (Yuan 2011). Based on our understanding of the core competences of social media and Milgrom and Roberts’ (1995) study of complementarities in the manufacturing industry, we define complementarity of social media as its complementing functional role that increases or adds value to a firms’ existing service, process or function.

Beyond the descriptive affordances of a complementing social media and its normative value associated with benefits, emerging research sheds new light on its unique and rather paradoxical role. For example, Pentina & Tarafdar’s (2014) study exploring the influence of social media in contemporary news consumption finds that on the one hand social media exposes users to increasingly high information overloads, while on the other helps the same users deal with it through “socially-mediated information selection and organization.” Aral et al’s (2013) seminal paper on social media and business transformation endorses the transformative power of social media benefitting organisations yet cautions that such power is also “disrupting entire industries” such as publishing and news and redefining others such as retail. Countering the role of the Internet as a blessing for companies, Porter (2001) argues that the paradoxical side of the Internet lies in the benefits it provides but which also makes it difficult for companies to capture them. Social media is built on the technological platform of the Internet (Kaplan & Haenlein 2010) and displays similar dynamics. For example, a study by Kwak et al (2010) exploring Twitter functionality finds that it deviates from known social networking characteristics and shows strong affinity of becoming a news medium. This signifies that Twitter potentially competes with news organisations. These findings are rather intriguing because for instance, news firms began engaging with social media in a bid to accrue benefits through the complementarity it offers. But, mass user engagement, voluminous content creation, economies of scale and the affordances of social media have contributed in building its competing potential as a superior platform against the same news firms that seek its complementarity. We define this *competing* potential of social media as its innate superior capability of (1) influencing mass users that contribute to its evolution and value (2) offering an affordable, low cost and interactive medium for conveying and converging information (Dennis et al. 2008), and (3) aiding viral cascades of information, i.e. the ability to diffuse information instantaneously across large user networks (Goel et al. 2012).

We term the paradoxical role of social media described above as its *competing-complementarity*. Based on the two business scenario’s mentioned in section 3 of this paper and calls by IS scholars for exploring and theorizing social media phenomenon beyond its nomological descriptions and empirical validations (Kane et al. 2014; Urquhart & Vaast 2012), we elucidate the characteristics of a competing and complementing social media. These characteristics depict why (i) business firms seek social media complementarity and (ii) social media potentially competes with the same firms that seek its complementarity. The fundamental premise of a competing and complementing social media is based on three core elements: (i) universal applicability based on general-purpose use (ii) low technological entry barrier, which encompasses built-in digital capabilities making it an off-the-shelf plug-and-play application, and (iii) low capital investment for using it.

**Characteristics of a Complementing Social Media:** We elucidate the characteristics of a complementing social media based on the idea of public goods<sup>2</sup> in economics (Ostrom & Ostrom 1999), the technology-acceptance model (Davis 1989), network theory (Borgatti & Halgin 2011), social media affordances (Majchrzak et al. 2013), relationship marketing, which adapts the concept of symbiosis from the biological sciences (Worthington & Horne 1998), Teece's (1986) notion of complementary assets<sup>3</sup> and Rosemann et al's (2011) conceptualization of social media<sup>4</sup> as digital complementary assets.

**Coproduction:** The typical relationship between a consumer and a producer in a contemporary business scenario is one of exchange where the consumer does not contribute to the production, quality of goods and services offered by a vendor. Coproduction conveys a participatory attitude wherein citizens can directly participate in propagating the welfare of the state (McGinnis 1999). For example, in democratic states, law enforcement authorities encourage community members to self-govern their neighbourhoods by monitoring and reporting suspicious activities. In the case of social media, coproduction in the form of producing, delivering and consuming news on social media form an important requisite input for accentuating high use. This is rather unique because business firms use social media to complement its services and products in a bid to attract customers. Yet, individuals with the willingness to engage also use social media for similar purposes. For example, news firms use social media to deliver news. However, people also create, deliver or share news on social media (e.g. Tweeting) through witnessing of live events, analysing global and local issues and providing commentary based on their expertise or reputation in areas such as politics, entertainment, sports or commerce. This is also closely tied to the concept of *polycentrism* (Batjargal et al. 2013; Cervero & Wu 1997), which involves a large number of interlocking and interacting interests and considerations. In social media, mass users, both individuals and organisations generally undertake all functions that the service offers such as content creation, collaboration, sharing, delivery and consumption.

**Persistence:** Users perceive, assimilate and engage with social media based on its perceived affordances rather than a set of unchangeable built-in capabilities and features (Vaast & Kaganer 2013). Adapting Gibson's (1977) concept of affordances, where user perceptions of objects play a stronger role in deciding how one may wish to use the objects, we posit that firms and individuals seek to engage with a complementing social media because the created and published content is permanently accessible. Such content is easily stored, shared and accessed for long periods of time. Such continuance of information visibility and availability is termed as social media's affordance of "persistence" (Vaast & Kaganer 2013). News firms prefer communications, information and discussions related to their products and services to have "long-lasting traces" (Vaast & Kaganer 2013) where the shelf-life of such content has no expiry date. In a complementing social media, anonymity is rare, as news firms indulge in self-disclosure in a bid to attract mass users.

**Inexpensiveness:** A complementing social media shows cost affordability, both, to organisations and individuals in equal measure. As such, there is no cost imposed on news firms nor do they in turn impose a cost on individuals for consuming or sharing content they offer. Considering high frequency of social media use, the inexpensiveness associated with its use (beyond standard communication and Internet connection costs) is a serious consideration for news firms to engage with social media. Thus, social media does not have any substantial "price-based constraints that excludes any users" (Rosemann et al. 2011). Such an attribute is rather unique as there are no known similar pricing models for the creation and consumption of content between producers and consumers. The exception is the freemium model (Anderson 2010; Cheng & Tang 2010), where a standard level of service is offered free of costs to promote the service and build critical consumer mass, and later premium priced value-added services are offered. Thus, inexpensiveness consists of two elements: (1) providing a

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<sup>2</sup> <http://www.economicshelp.org/micro-economic-essays/marketfailure/public-goods/>

<sup>3</sup> Tangible goods and/or services that have IP attributes and are perceived to be alike by all stakeholders

<sup>4</sup> Rosemann et al (2011) refer to social media networks such as Facebook, Twitter as large digital service providers

service where the incremental cost for use is close to zero, and (2) low dependence on direct revenues from users, as costs are recovered through advertisements or alternate commercial activities.

***Mutualistic symbiosis:*** The literal meaning of symbiosis is two species living together in a close and long-term interaction or relationship while mutualism refers to a specific type of symbiosis where both species benefit from the interaction<sup>5</sup>. In the context of our study a highly synergistic relationship is observed between news firms, mobile service providers and social media. Users engage with social media or news related mobile apps due to its ubiquitous, utilitarian and social effectiveness in fostering social ties, communicating and disseminating information to others (Gupta & Brooks 2013). News firms seek to capture audiences, communicate with readers and deliver information, as a result of the various complementing attributes of social media. On the other hand, social media depends on users to create networks and content and publicly share and make it visible to others (Hanna et al. 2011; Kaplan & Haenlein 2010). Higher number of users tends to increase the influence and reach of social media. Thus, we observe a sphere of symbiotic relationship where the influence of users and social media on each other creates strong mutual benefits. News firms use social media to promote themselves, communicate with stakeholders and co-create new alliances, networks and social interacting elements. Such engagement contributes to the evolution of social media itself (Aral et al. 2013). While mutualistic symbiosis is commonly observed in the biological diversity of living organisms, such a relationship is rather atypical and unseen in technological innovation with the exception of social media. For instance, when products using the MP3 audio coding format for digital audio were introduced in the market, they never complemented or substituted incumbent CD formats or products, as sometimes falsely inferred. Rather, audio products created competition between type of products, their producers and sellers. MP3 technology providers and product manufacturers never complemented those that offered CDs. This signifies that CD manufacturers or sellers never used MP3 to accrue any benefits for CDs. In the same light, we reason that television, as a new news medium in the 1950s never complemented a firm producing newspapers. Rather, the two mediums (i.e. TV and newspaper) displaced each other on the basis of their product niches. In comparison, the mutualistic symbiosis between social media and its users, especially organisations seeking gains from its complementarity is rare and vastly different from competitive dynamics and displacement analogies. This is because when news firms began exploiting social media to market, innovate or enhance their products or services, they ensured that such action would not disturb the core functioning of their existing products or services. For example, CNN uses Twitter to deliver news, access potential new audiences and attract them to their website or TV channel. In doing so, social media complements CNN in delivering news without disturbing CNN's news deliveries through its television channel.

***Inclusivity:*** Social media is available to all without having to enter into any contractual agreements except accepting the terms and conditions of use. Anyone with an Internet connection can consume the service without any constraints (Rosemann et al. 2011). Users can exit the service or cease consumption at their own discretion, which is available 24/7 and does not place any technical barriers to exclude any user. It can be accessed from any Internet-enabled digital device (e.g. smartphones). The only exception is third-party intervention such as governments of non-democratic states that intentionally control, block or restrict access. Recognizing the importance of Internet in advocating free speech and expression, the United Nations Human Rights Council has declared free and full access to the Internet a basic human right<sup>6</sup>, which provides a strong premise for a complementing social media based on the notion of public goods (Rosemann et al. 2011; Teece 1986).

***Non-Rivalry:*** This denotes that consuming social media services does not reduce any amount of the service for others (Rosemann et al. 2011). Users do not compete against each other for its use, as social media is available 24/7 for all. For example, a user can upload, download, share or create news content without impacting others using the service for similar purposes. Users can follow or create tweets without fearing that activities would hit a predefined limit on Twitter and be terminated.

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<sup>5</sup> <http://study.com/academy/lesson/symbiotic-relationships-mutualism-commensalism-amensalism.html>

<sup>6</sup> <http://www.nydailynews.com/blogs/pageviews/adding-online-bandwagon-declares-internet-access-human-blog-entry-1.1638741>

Likewise, tweeting does not constrict the microblogging space or reduce the tweeting time of others. Such a non-competing aspect complements news firms, as any number of users can connect, access information and interact with stakeholders instantly (Glynn et al. 2012). For example, a user on LinkedIn can engage with the service for as long as he/she desires without worrying about how many more are using or may want to use the same service. The scalability of social media where voluminous content (e.g. videos, photos, text and music) is stored and secured through large databases and servers or cloud-based infrastructures ensures the continuous availability of the service to all. Such a complementing attribute denotes unlimited creation of information, its fluent delivery and its eventual consumption, without worrying about storing and processing the information for any individual.

***Versatility:*** Large social networking applications like Facebook are generally branded successful due to their apparent ease of use defined in the technology-acceptance model (Davis 1989; Venkatesh et al. 2003). Moore and Benbasat (1991) define ease of use as the “degree to which an innovation is perceived as being difficult to use.” Social media, in general, is characterized by its apparent ease of use functionality, which is largely intuitive. This is evident in the large uptake of engagement from mass users across wide demographics such as age, gender, geographical location, academic levels and familiarity with technology. In order to facilitate easy usability of services and its consumption, social media follows some of the principles of service-oriented-architecture such as (i) abstraction (ii) messaging, and (iii) composability (Rosemann et al. 2011). Abstraction refers to the core design principle on which a social media application is based (Rosemann et al. 2011). For example, users of Twitter do not have to comprehend how tweets are delivered or understand the mechanisms of uploading or downloading information. Messaging denotes a well-defined structure for interacting with users, which streamlines the manner of information consumption (Rosemann et al. 2011). For example, Twitter provides 140 characters for microblogging, which reduces the complexity and information consumption choices. This is useful to news firms that wish to broadcast or deliver short messages such as for instance breaking news. In addition, it also reduces formatting applications before the information is delivered. Composability denotes simple and easy efforts for creating new properties by bundling multiple social media applications. While this changes the environment of the application, it does not impact the user of the composite service (Bianco et al. 2011). For example, a news firm can integrate YouTube videos on its Facebook face to visually complement newsworthy information or service standards. These complementing attributes combine and apposite new features and meanings to digital social environments. Interestingly, innovators of social media applications may not have intentionally designed how interactions should take place. Rather, unanticipated patterns of human interactions with digital artefacts and the affordances they provide result in complementing forms of use.

***Positive Network Effects:*** Network effects dramatically influence consumer demand (Aral et al. 2013). This triggers other users to consume the services, which in turn increases the value of the network. Network effect or network externality is the effect a user of a service or product has on the value of that product to other people. For example, high number of users of a news firm’s Facebook page projects high value of the news firm on Facebook to others. This associates the quality of their Facebook page positively with the number of users, which reflects positive network effects for the news firm. Positive externalities driven by consumer demand contribute to the value proposition of social media (Rosemann et al. 2011). People on social media endorse or advocate products and services in addition to consuming them. They voice their critiques, experiences and demands thereby significantly impacting the performance of brands and companies. For example, web bloggers, microbloggers, posters in forums, wikis, consumer products websites and social networking individual’s influence others thereby driving or winding down demand. Positive network effects are extremely vital for news firms and mobile service providers, as they help in identifying and understanding how consumers perceive their products or services.

**Characteristics of a competing social media:** A complementing social media raises pertinent questions such as whether is it truly a digital public good, as firms do require paying for its corporate use (e.g. LinkedIn, Yammer), and if social media is not entirely free and open to all users, then does that make its non-rivalry disposition misleading? We address these issues by extrapolating the

characteristics of a competing social media. We draw on Porter's (2001) and (2008) work on competitive forces shaping strategy and businesses on the Internet to expound our conceptualization. We also adapt the concept of symbiotic relationships from the biological sciences (Worthington & Horne 1998) to guide our understanding. Social media provides a fast, cheap and convenient way for creating, sharing, consuming and collaborating information, which traditional news businesses cannot do. According to Porter (2001), sustainable competitive advantage is achievable by either operating at a lower cost or imposing a premium service and price or both. Such an advantage is attainable by being operationally more effective than competitors and doing things differently from those of rivals. Similar to the Internet, social media was not created to compete against any specific businesses. Rather, its ubiquitous and pervasive characteristics and mass users creating and sharing information influence each other. They impact businesses such as news firms constricted by high costs of communications, information gathering, and business transactions processing (Porter 2001).

***Operational Effectiveness:*** Operational effectiveness implies doing things similar to those of competitors but doing them better (Porter 2001). Accruing competitive advantage can take numerous forms such as operating on better technologies or having a more effectual management structure. The operational effectiveness of social media is observed, for example, through its strong capabilities of creating, exchanging and collaborating information instantaneously in real-time. Social media companies (e.g. Twitter Inc.) themselves operate in an highly nascent and embryonic industry where there is belligerent experimentation for attracting and retaining users (Santos & Eisenhardt 2009), chronic development of technology, products and services, co-development and testing of new technologies, novel products and services (Gnyawali et al. 2010), and aggressive value co-creation through partnerships and strategic alliances for building quality applications and services (Gnyawali et al. 2010). Traditional news firms find the rapid pace of development difficult to implicate in where IT development, adoption and implementation have longer lifecycles and complex arduous processes (Gnyawali et al. 2010). Therefore, these news firms cannot cope with, innovate or easily imitate what social media does. So they converge on social media for leveraging its advantages and in doing so, make social media highly valuable and competitive.

***Strategic Positioning:*** This implies doing things differently compared to competitors (Porter 2001). It is achieved by (i) delivering unique services (e.g. messaging through Facebook) that add greater value to existing services (ii) offering different features (e.g. likes or timeline on Facebook), and (iii) offering an array of services (e.g. Facebook offers media, networking services). By strategically positioning applications and services, social media has acquired exponential growth in terms of users, which is then leveraged for attracting advertisers and other firms wishing to market their services. As a test example, a 2012 Dow Jones report<sup>7</sup> states that Facebook is preparing to aggregate job postings from third parties. This makes Facebook a potential competitor of professional networks such as LinkedIn as well as online and offline job recruiters in an estimated \$4.3 billion online job-recruitment industry. Similarly, news firms could face a disastrous fate, if social media began offering or aggregating a broad suite of news and informational services on a subscription based model.

***Complementing:*** Complementarity arises when the combined value of two products is greater than the sum of each "product's value in isolation" (Porter 2001). Complements play a key role in triggering demand for a firm's product and services (Porter 2001). Higher dependency on a complementing product or service can make the firm providing it highly competitive to its rivals. For example, social media complements news firms in sourcing and delivering news (Palekar & Sedera 2013). So, greater reliance on Facebook and Twitter for news creates a greater demand for its use. Other business entities and individual users also create, source, deliver and share news and information through social media. This complementing attribute of social media backed by the masses creating, collaborating and sharing information boosts its competitive potential to generate and broadcast news (e.g. YouTube). Here, we posit that the non-excludability characteristic of social media complementarity limits free consumption

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<sup>7</sup> <http://www.pcmag.com/article2/0,2817,2406920,00.asp>

to a specific threshold. Thereafter, it potentially imposes charges for using services (e.g. LinkedIn). Anderson (2010) investigating pricing models states that products and services offered free to customers are often strategies for attracting users and ‘upselling some of them to a premium level.’ His model widely referred as ‘freemium’ can be applied to digital products and services such as social media for understanding the role of complementarity in competitive actions.

***Amensalism:*** Adapted from the biological sciences amensalism refers to an association of two different species where one remains relatively unaffected while the other is destroyed, constrained or repressed. Two mechanisms drive this association (1) competition, in which the stronger of the two survive, and (2) antibiosis, wherein a chemical secretion kills or damages one while the other remain unaffected<sup>8</sup>. Such symbiotic relationship is observed in the association between social media and news firms. In this scenario, the relative advantage of social media observed through its inherent media characteristics of global accessibility, portability, social connectivity, selectivity and control (refer Table 1), economies of scale such as low cost of engagement and the massive influence of the masses combine to make social media highly competitive to traditional firms such as publishing and news companies. Therefore, even though news firm benefits from the complementarity offered by social media, such symbiotic association has an overall negative impact on the news firm evidenced by declining readership, loss of advertising revenues and insufficient content generation.

## **5 COMPETING-COMPLEMENTARITY AND DIGITAL BUSINESS STRATEGY**

Based our business scenarios and understanding of the competing-complementarity phenomenon, we now describe key triggers of the competing-complementarity phenomenon. We observe that the fusion of IT and business strategy is driven by the complementarity of social media. This is triggered by three key organizational transferals: (1) limitations of traditional business models (2) limited trans-functional role of IT, and (3) increased familiarity with IT (Bharadwaj et al. 2013). Retrospectively, the destabilization of digital business strategy is driven by the competing potential of social media. This is triggered by three key external trends: (1) Influence of the masses (2) Economies of scale – price/performance of IT, and (3) decentralized control and ownership. Refer Figure 1. News organizations engage with social media to complement their business functions of news sourcing and delivery while mobile service providers offer social communication apps to complement their subscription model. In both instances, this happens due to major shifts within the organisation in relation to (1) limitations of traditional business models. For instance, the subscription-based business models of news firms producing and selling newspapers have limited readership based on their local or territorial reach. Thus, any new technology that enhances readership is more than likely to limit the firm’s incumbent business model including its scope and scale making it imperative to adopt the new technology and fuse it with existing products and processes (2) limited trans-functional role of IT. In the traditional business model of news firms, IT strategy is functionally aligned to the business strategy and needs of the firm. For example, the function of news delivery requires a different technology (i.e. broadcasting), which is different from the technology required for creating content (i.e. publishing and editing system). In contrast, social media seamlessly integrates both functions, and (3) increased familiarity with IT. Social media or social communication mobile apps are easy to use. The client-interface and usability is intuitively designed for use and is less cumbersome than the manual-based instructions of legacy systems. Thus, through the complementing engagement, we observe the fusion of technology and business functions translate into digital business strategy. On the other hand, the influence of the masses in creating news, attracting mass followers and forming large social networks denotes a deep shift from traditional news platforms to social media for consuming news. In addition, social media offers greater economies of scale in such that it is a low to

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<sup>8</sup> <http://www.britannica.com/EBchecked/topic/19211/amensalism>

no cost medium for news and communications. It offers greater functionalities and affordances as a one-stop information system for creating, sharing, and collaborating information as well as creating and engaging with social ties and relationships. For example, celebrities and persons of repute such as politicians, CEOs can directly engage with their stakeholders and fans and vice versa. Social media also provides control and ownership on creating, sharing and accessing information whenever one wants, to all its users. This aggressive competing potential of social media tends to disrupt and decrease the expected benefits that traditional news companies envisioned they would achieve when they began engaging with social media. This destabilizes the fusion between digital technologies and business strategy that began with the complementarity of social media.

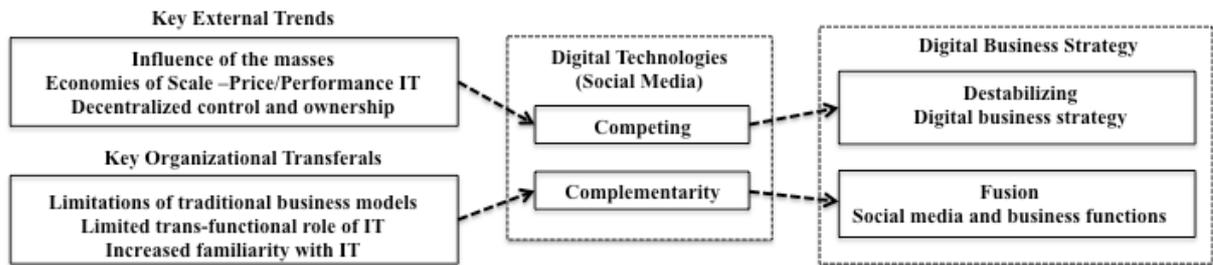


Figure 1. Conceptual model. Impact of competing-complementarity on digital business strategy

The impact of the competing and complementing role of social media on digital business strategy is not instant or simultaneous. Rather, news firms start engaging with social media to accrue benefits from the complementarity it provides. The intensity of key external trends determines the degree of competing potential of social media. If, for instance the intensity of key external trends is high (e.g. mass users discussing a high-impacting global event such as a terrorist attack), then users are more likely to use social media for sharing, discussing and informing others rather than the news firm's tweet or traditional news platforms. The underlining point is that social media as a technology inherently has a competing potential that may not be visible at the forefront. Hence, firms need to exercise caution when strategizing their digital business strategy options because as conceptually depicted, a social technology can quickly turn against the firm using it and destabilize its digital business strategy. The formation and destabilization of a digital business strategy is illustrated on a technology S-curve (refer Figure 2). Using the S-curve, we plot (A) the incumbent technology where business strategy dictates the IT alignment (B) when a new technology emerges, the news firm or mobile service provider adopts the technology and fuses it with existing products or functions creating a digital business strategy while also maintaining its existing technology and products (C) in time, due to high impact of key external trends, the new technology starts negatively impacting the news firm or the business model of mobile service providers and destabilizes the digital business strategy leading to (D) a new digital business strategy.

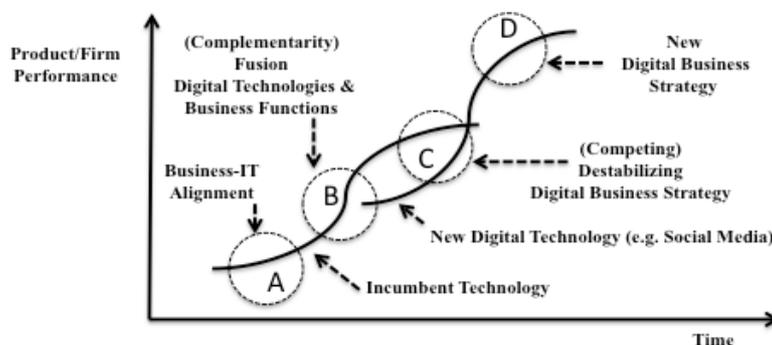


Figure 2. Competing-Complementarity and Digital Business Strategy on the Technology S-Curve

## 6 CONCLUSIONS, IMPLICATIONS, LIMITATIONS

This study set out to explore the fusion of social technologies and business functions through the lens of the dichotomous role of social media, one that complements organizations while the other competes with the same organisations that seek its complementarity. Traditionally, firms aligned their IT strategy to their business strategy to improve performance, boost productivity and increase benefits to customers. However, in the present-day socio-technology environment, functional level IT strategies are challenged into redundancy by ubiquitous digital technologies such as social media and mobile technologies. So, firms fuse digital technologies directly with products, services, functions and processes to leverage and create differential value. This synchronization between digital technologies and business products or functions is broadly referred as digital business strategy. These technologies are highly ubiquitous and empower users with relatively low technological sophistication and experience to use them with ease and self-intuitiveness. Social media reflects dichotomous roles, one complements and benefits firms and the other competes with the same firm that seek its complementarity. This paradoxical role of social media is conceptualised in this study and analysed to understand its impacts on the digital business strategy of firms. We presented two business scenarios to show how the mentioned business firms “connect, immerse and fuse” (El Sawy 2003) social media in their business functions and models to improve performance. The detailed descriptive characteristics of a competing and complementing social media informed us how these roles drive the formation as well as destabilization of a digital business strategy. The competing role of social media drives the destabilization of the firm’s digital business strategy while complementing fuses digital technologies and business function into a digital business strategy. In turn, we also extracted key triggers of a complementing and competing social media and conceptually illustrated the formation and destabilization of a digital business strategy using the technology S-Curve. This study shows that digital technologies can reflect different roles when external and organisational conditions become conducive for engagement and those roles have different impacts on the digital business strategy of firms. Our study represents a fresh idea for understanding digital business strategy destabilization from the perspective of social technologies that ironically also drive their formation.

*Implications:* Based on the understanding of social media dynamics and emerging studies in IS on digital business strategy, this study showed how the dichotomous roles of social media (viz. competing-complementarity) impact business firms and create two completely disparate repercussions to a firm’s business strategy. Understanding these elements is crucial in examining the tenacity of digital business strategy over time. Generally, most firms embark on social media to enhance communications and business performance without necessarily associating them back to their core IT infrastructure. This is risky, as the firm could abandon its existing IT and business strategy without much foresight and knowledge of the impacts of social technologies. These can adversely affect the firm’s survival and success. This study informs firms on how digital technologies can make and break business environments and infrastructures and influence new patterns of technology adoption and coordination with its stakeholders. It also exposes IS researchers to consider different perspectives of technology attributes and their impacts when undertaking related studies. In doing so, it expands the body of knowledge under the ‘Social Media and Business Impact’ track of this conference.

*Limitations:* This is a conceptual paper based on our observations, understanding and knowledge from previous IS studies on business and IT strategy. Hence, empirical validation is required to support our ideas on the role of social media augmenting and disrupting the digital business strategy of firms. In addition, this study takes into account only social technologies as drivers of the evolving nature of digital business strategy. Firms could adopt other technologies or undertake other IT initiatives if their engagement with social media shows symptoms of destabilizing their digital business strategy. As in other research undertakings, it is not possible to account for the unobserved characteristics of social media that could potentially influence our conceptual knowledge on its impacts on business firms. Although it is our understanding that the competing-complementarity is a unique phenomenon of social media, it may not be the only phenomenon and other social technologies may reflect hitherto unknown properties.

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