SOCIAL SCIENCES & HUMANITIES

Factors Influencing the Digital Business Strategy

Singh, G., Gaur, L. and Agarwal, M.*

Amity International Business School, Amity University, Noida, Uttar Pradesh, India

ABSTRACT

As the interplay of information technology with businesses evolve, it becomes increasingly important to understand the factors that influence the strategies that businesses adopt, especially in the realm of Digital Technologies. While the concept of digital technologies started with four pillars, namely Social Media, Mobility, Analytics and Cloud, it has expanded to include the revolutions taking place in the Internet of Things, Machine Learning, Augmented Reality, Artificial Intelligence and Cognitive Technologies. While the authors do not attempt to analyse each of these technologies individually, this paper aims to identify and understand the factors (technological and non-technological) which could impact the Digital Business Strategy (DBS) of an organisation. It reviews research papers, articles and examines opinions and views of selected organisations on this topic. This is in order to provide a comprehensive picture that would likely to appeal to academicians and practitioners.

Keywords: Capabilities and culture, digital business strategy, digital technologies, five forces model, influencing factors

INTRODUCTION

Information technology, in particular digital technology, has always influenced how organisations manage themselves and compete in the marketplace. The term 'Digital Business Strategy' has different meaning to different people and organisations. Researchers and practitioners agree that the digital business strategy is neither about only technology nor about only other business elements. As would become clear in the literature review section, organisations gain competitive advantages through technology adoption and such adoptions are influenced by the industry. Researchers have created

models which can assist an organisation in adopting a digital business strategy and the advantages that can be derived from such comprehensive approaches. Attempts have been made to view digital business strategy in light of the acclaimed Five Forces model propounded by Michael Porter. Researchers have shown the pitfalls that lie in the digital journey of an organisation.

While reviewing the multifarious elements of the digital business strategy, the authors have attempted to consolidate all the aspects to serve as a comprehensive reference material.

The Digital Business Strategy

Depending on its appetite and the environmental realities, an organisation may decide to adopt additional initiatives or take up large scale transformational/disruptive approaches. A "bolt-on" digital strategy means that the company is simply opening new digital channels to give customers additional ways to connect to the company. Alternatively, a full-scale "digital transformation" strategy entails redesigning the entire business model to take advantage of digital opportunities ("digital transformation of business,"). In the latter case, organisations transform themselves completely (at times reinvent) to exploit the opportunities that are offered by Digital Technologies. Digital strategies are invariably top-driven. Senior leaders as well as other employees are seen as 'Digitally Fluent' which means that they are not necessarily technologists but they do understand how these technologies

will impact the future of the organisation. Leaders will have the responsibility to decide whether the organisation will tread on the path of bolt-on or digital transformation.

McKinsey suggests that digital business strategists need to focus on three questions to identify the right strategy:

1. Where are the most interesting digital opportunities and threats?

2. How quickly and on what scale is the digital disruption likely to occur?

3. What are the best ways to embrace these opportunities proactively and to reallocate resources away from the biggest threats?

Answering these questions is not easy. The first question necessitates a sound understanding of the available and emerging technologies and the opportunities and threats these are likely to present (refer Figure 1) in the short, medium and long terms. Organisations will have to assess the degree of disruption such technological evolutions would create and when they are likely to occur. It is quite easy for an organisation (even and industry) to be caught off-guard while carrying out this assessment. An example of this is the sudden decline in the usage of short messaging service (SMS) of telecommunications companies which had had a sizable contribution from their SMS technology but which eroded once the instant messaging over the top (OTT) services was introduced. The telecommunications industry failed in assessing the impact of this new technological development. Only

after the organization has taken cognisance of such technological advancements would it be able to draw up a comprehensive response which could either be tactical, strategic or a combination of both. 'Digital Business Strategy: Toward A Next Generation Of Insights' (Bharadwaj, Sawy, Pavlou, & Venkatraman, 2013) addresses the scope, speed, scale and sources of value creation for a digital strategy. Scope deals with extent of integration between IT and business strategies, how the strategy exploits the existing ecosystem, products and services; Speed deals with how quickly the organisation is able to put the digital capabilities to use; Scale addresses the width and the depth of the strategy by enumerating

the stakeholders that are involved; Sources of value creation aims at measuring the effectiveness of strategy by capturing the areas of business benefits.

Once the right strategy has been developed, the organisation needs to develop the right capabilities to execute that strategy. A study by Mckinsey found that the highest performing organisations had built capabilities around:

1. Data powered decision making
2. Connectivity between brands and customers
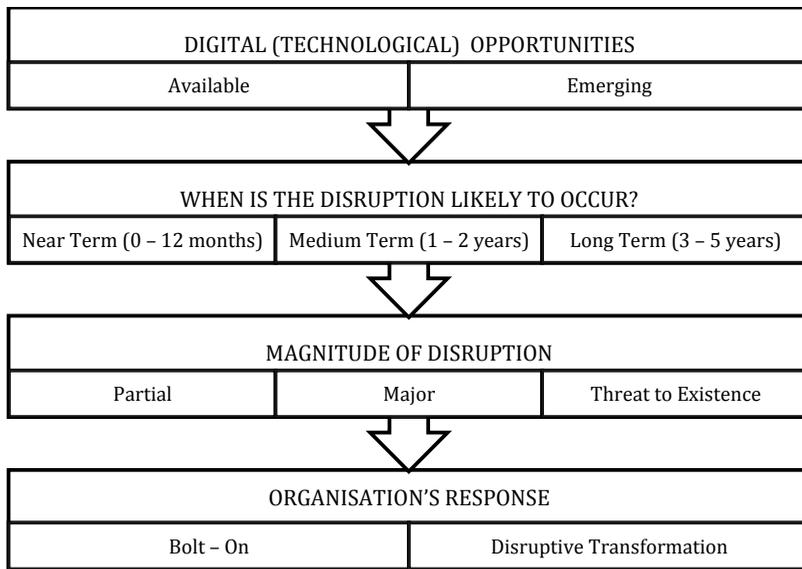3. Process automation
4. Two Speed IT

DIGITAL (TECHNOLOGICAL) OPPORTUNITIES

Available	Emerging

WHEN IS THE DISRUPTION LIKELY TO OCCUR?

Near Term (0 – 12 months)	Medium Term (1 – 2 years)	Long Term (3 – 5 years)

MAGNITUDE OF DISRUPTION

Partial	Major	Threat to Existence

ORGANISATION'S RESPONSE

Bolt – On	Disruptive Transformation

Figure 1. Questions to ask before arriving at digital business strategy

The article 'How DBS Bank Pursued a Digital Business Strategy'(Soh, 2016) showed how DBS Bank adopted a digital

business strategy in response to the threats and opportunities that it faced. This paper recommends that organisations build

capabilities in the areas of *Leadership, Digital Operations, Customer Needs* and *Innovation* (refer Figure 2) in order to pursue a successful digital business strategy.

The DBS Bank realised that the pursuit of a digital business strategy is neither a project, nor the responsibility of any specific department but a core philosophy that pervades the entire organisation. DBS' digital journey also emphasises on the need to have a scalable and agile digital infrastructure which allows the organisation to be responsive to the needs of its customer. Along with the need for technology agility comes need to have processes which facilitate swift operations. This is a corroboration of the point nos. 3 and 4 brought out by Mckinsey.

Digital strategy also needs to leverage on the abundant data that is being created by DBS' digital platforms for better customer experiences. DBS launched various products as an outcome of the insights from such data analytics and focus on customer experience. This is exactly what Mckinsey had suggested through point nos. 1 and 2.

In short, DBS' endeavours in the digital strategy highlighted the need for continuous exploration of the dynamic digital landscape. Developments in the FinTech space are posing serious threats to the existing financial institutions. Additionally, developments in the smartphones technology have had disastrous effects on organisations which could not see it coming and arrogantly clung on to their existing offerings. New organisations across the globe have gained prominence and the incumbent stalwarts have faded into history within a period of two to three years. In both cases, disrupters are the organisations that were not in either of these industries.

In their article 'Digital Business Strategies and the Duality of IT'(Mithas, Agarwal, & Courtney, 2012), the authors emphasise the critical role technology plays in defining the digital business strategy of an organisation. Information Technology can enable both disruption and sustained innovation in addition to providing opportunities to reshape the market/industry at a fundamental level. Coupled with these two facets are the dimensions of technology offering sources of competitive advantage, helping in reduction of transaction costs and creating uncertainties. Practitioners need to decide the role they want the technology to play in the digital strategy of their organisation.

According to Mckinsey, finally, it's the culture (refer Figure 2) of the organisation that decides the degree of success the organisation is likely to have in its journey of digital business strategy. Although organisational culture is a 'soft' element and many a times overlooked by organisations in their enthusiasm to embark upon the digital journey, it has the power to make or break their digital business strategy (Kiron & Buckley, 2015). Key components of organisational culture are:

1. Cooperation and collaboration:

   An organisation's digital initiative calls for a culture in which functions and teams are willing to cooperate and collaborate with each

other. Since no individual, team or function is likely to have complete knowledge, it is important that the organisation's culture nurtures sharing and collaboration. The team members would be able to draw upon individual capabilities and emerge successful. A culture which would create competitive situations among them would risk the success of the initiative.

2. The freedom to take risks:

Individuals associated with the digital journey should be free from 'fear of failure'. Due to new technologies, digital initiatives have a greater probability of failing compared with tried and tested options. Members of the organisation should be encouraged to take risks so that digital innovation is promoted.

3. A willingness to experiment:

Certain components of a digital journey would be pioneering and may not have been tried elsewhere. Organisations which experiment are usually able to make path breaking progress vis-à-vis their competitors. Thus, in order to gain a competitive advantage, the organisation should foster a culture which encourages experiments and trials.

4. The ability to learn from failures as well as successes:
A successful organisation is one which learns from its successes and failures. Since the very nature of digital journey is fraught with challenges, there are bound to be wins and losses. An organisation which takes both in its stride and improves on the basis of such lessons is the one that wins in the marketplace.
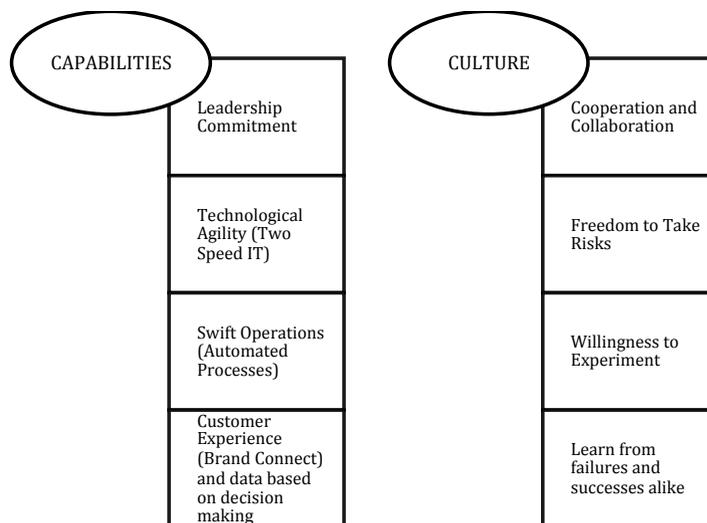

Figure 2. Capabilities and culture for success of Digital Business Strategy

The section below discusses Michael Porter's Five Forces Framework in the context of digital technologies.

METHODS

Michael Porter's Five Forces Strategic Framework

The five forces are:

1. The threat of substitute products or services
2. The threat of established rivals
3. The threat of new entrants
4. The bargaining power of suppliers
5. The bargaining power of customers

These five forces in the context of overall business strategy are important. As highlighted previously, disruptions take place easily in the technological space. The SMS and erstwhile 'feature phones' (mobile phones with keypads and small screens) have lost ground to instant messaging and smart phones. Another emerging threat (although not in the very near term) is from companies which offer mobile applications based taxi services. With the availability of ride hailing apps, consumers may be forced to rethink the need to own cars. If a self-driven taxi (being experimented by Uber) becomes a success, customers may not need to own cars. While the automobile companies will continue to exist (to sell cars to the taxi company), their sales could plunge significantly.

An established organisation has the resources and capabilities to invest in disruptive digital technologies but face the prospects of competition from their rivals. ; for instance, a pizza company providing options on the e-commerce platforms or exploring options to deliver through drones could create a completely different model which can affect the prospects of other organisations.

The telecommunications industry in India faces significant threat from Voice over Long Term Evolution (VOLTE) technology which is a form of VoIP (Voice over IP). This has become possible only because of the digital ecosystem that has evolved around mobile telephony. This development has the potential to redefine the way telecommunications operators charge their customers.

Availability of online portals and social media has provided the bargaining power to customers and suppliers. While suppliers are no longer dependent on just a handful of customers in a limited geographical area, the latter now have the power to greatly influence how they are serviced by organisations.

A digital business strategist needs to weigh in all these factors while charting out the digital journey for his/her organisation.

RESULTS

Effect of Competition on Digital Business Strategy

Since competition from rival organisations is considered key threat, Porter and Heppelmann in their article titled "How Smart, Connected Products Are Transforming Competition" in Harvard Business Review discussed the ways in

which organisations compete for customers (E-magazine, n.d.). Smart and connected products are forcing decision makers to confront a new set of strategic choices about everything from how to create value to how to structure relationships with business partners. Smart and connected products are those in which the computing power is embedded in the product itself. They consist of the following:

1. Physical Components: Mechanical and electrical parts of the product, e.g., engines, batteries

2. Smart Components: sensors, microprocessors, embedded operating system etc. For example, antilock braking system

3. Connectivity Components: ports, antennae and protocols that allow communication in the product.

In their research paper 'How A Firm's Competitive Environment And Digital Strategic Posture Influence Digital Business Strategy'(Mithas, Tafti, & Mitchell, 2013), the authors discuss how an organisation's industry and environment impact its digital business strategy. The authors focus on the digital strategic posture of an organisation which is defined as the difference in firm's IT activity relative to the industry average of the competitors. An organisation with lower investments in IT compared with the industry average has a low digital strategic posture and vice versa. Such strategic posture creates either divergent or convergent pressure on the organisation's digital business strategy. This paper argues

the case of IT being central to the digital business strategy contrasted to the view that IT is a function level strategy that should be aligned to the overall business strategy. Authors define the environment as 'Industry Turbulence', 'Industry Concentration' and 'Industry Growth'. In a turbulent industry, competition results from innovations or by the entry of new players who have the potential to dislodge the incumbent organisation. A concentrated industry is characterised by fewer organisations which have similar knowledge and are able to imitate each other. When the growth in the industry is high, competition among the incumbents tends to be less intense and while entrants take up some market share the performance of incumbents is superior.

Findings indicate that greater industry turbulence has a divergent impact on the strategic posture of the organisation. It means that in a highly turbulent industry, organisations tend to outdo their competition in terms of the investments they make in technology. When the industry concentration is high, organisations tend to converge to the industry norm while deciding on the technology related investments. In a high growth industry, organisations tend to converge towards the industry norm and do not differentiate much since the demand is growing and there is not much incentive to make significantly different investments.

Value Offerings of the Digital Business Strategy

'Assessing Value Creation and Value Capture in Digital Business Ecosystems'

(Sharma, Pereira, Ramasubbu, Tan, & Tschang, 2010), suggests a framework which can be used to assess the value created through the digital business strategy. This is coupled with the caveats highlighted by Grover and Kohli to arrive at the value assessment. The acronym for framework is ADVISOR:

- *Adoption by customers:* It refers to the maturity level of the customers and whether or not the digital offerings being contemplated upon by the organisation will be embraced by the customers. Myntra, one of the large e-retailers in the India, had decided to withdraw its website based platform with a view that all customers would purchase only through mobile applications. To their disappointment, they realised that not all customers have moved to 'mobile only' platform and the company suffered a drop in profit in the process.

- *Disruptive innovation:* disruptive innovation takes place when an organisation decides to cannibalise its own products or services in favour of new offerings which are likely to be game changers. Not many examples exist in which the existing companies would have taken such a disruptive approach. Most disruptions happen outside the organisation when a new player enters, in turn forcing the existing organisations to toe the line.

- Value proposition: Aims at understanding the reasons why customers would be willing to pay a certain price. Value proposition tries to arrive at the 'price – perceived value' equilibrium. Customers subscribe to Netflix vis-à-vis spending in the movie hall as they perceive value in it.

- *Interface:* The ease of use, convenience, look and feel, intuitiveness etc. make a customer's experience pleasurable or frustrating. Amazon knows this all too well and ensures that its website and mobile application interfaces leave a lasting impression on the customers, pulling them again and again.

- *Service Platform:* This relates to the digital infrastructure (network, hardware, software) that has been set up by an organisation to provide a delightful experience to the customers.

- *Organizing model:* This element relates to the eco system outside of the organisation. How the organisation's partners will develop their own processes and digital capabilities in delivering the goods and services to the end customer will define the value being delivered throughout the chain. This is a critical element and highlights the fact that a digital strategy is not about actions within the organisation but also outside of it.

- *Revenue or cost sharing:* Any enterprise with economic interests in mind would always keep an eye on the revenue and cost elements. Same goes for the digital strategy deployment. Any digital strategy will have to be weighed against the costs it is likely to bring in which should be, in turn, be covered by the additional revenue that it is likely to generate. Most of the brick and mortar companies which are creating a presence in the online world weigh the incremental costs versus the incremental revenue.

DISCUSSION

Word of Caution

In the essay 'Revealing Your Hand: Caveats in Implementing Digital Business Strategy'(Grover & Kohli, 2013), the authors reveal the organisation's digital strategy to the outside world and have sounded caution. Organisations tend to implement a set of

Table 1
Framework of Digital Business Strategy Factors

Organization's Environment	Factors	Nuances	DBS Continuum	Visibility to competition
	Opportunities	Whether a given digital technology is already available for deployment or is it still emerging	Bolt On	Multiple Small, short term initiatives that weave in the overall long term digital strategy. Can be easily replicated by competition
	How quickly is the disruption likely to take place	How soon would this technological disruption be felt by the organization; within the next 12 months, 1 to 2 years, or 3 to 5 years	Scope / Scale	
Technological	Magnitude of disruption	Whether the impact of technology be only to only one area of the organization, multiple areas or can it become a threat to organizations existence	Speed	
	Technological Designs and Platforms	Design of customer interfaces (ease of use, convenience, look and feel), robustness of technology infrastructure	Sources Of Value Creation	
Internal	Capabilities	Commitment of leadership, swift digital operations, data based decisions, customer experience and agility in technology deliveries		Large, 'Big Bang' Initiatives which may be difficult for the competition to replicate
	Culture	Cooperation and collaboration, freedom to experiment and take risks and derive learning from failures and successes	Disruptive Transformation	

Table 1 *(continue)*

	Economic Model	Cost – Benefit analysis of the digital technology deployment	
	Industry/ Competition	Whether is industry is turbulent, concentrated or growing and is the competitions' digital investments are in line or ahead of the industry	Proprietary vs. open innovation
	Suppliers	Are the suppliers using digital opportunities effectively to improve their bargaining position or are they able to explore new customers thereby reducing dependencies	
External	Customers	Are the customers in a position to influence the services and products; are they no longer dependent on only few organizations to cater to their needs; are they more aware of the options	
	Entrants	Are the new entrants bringing in more effective usage of digital platforms thereby disrupting the industry equilibrium	
	Substitutes	Are the existing services and products under threat due to available or emerging substitutes	

small and short term digital initiatives which weave into the long-term strategy of the organisation. These small initiatives are visible to the competition, quickly replicated and the organisation runs the risk of revealing its long term digital strategy in the process. Authors sensitise the practitioners in assessing the spectrum of what is proprietary innovation and what is open. Practitioners can use the framework on software, process and information in arriving at the value that they derive by level of visibility of the digital initiatives. This framework can facilitate the organisation in managing the visibility which can erode the value that the competitors derive by playing on its own terms.

Framework of Digital Business Strategy Factors

Table 1 looks at some digital initiatives in a Digital Business Strategy. With all the factors consolidated in a structured framework, any organisation willing to undertake a digital journey and is drawing out a strategy for the same can have a comprehensive view and avoid the pitfalls that come due to oversight.

CONCLUSION

In conclusion, there are diverse elements which contribute to a successful Digital Business Strategy. The elements refer to both internal and external in addition to the technological developments. A practitioner may choose to act on some and be passive about others. However, it is wise to study all the elements carefully before making a decision.

REFERENCES

Bennis, W. (2013). Leadership in a digital world: Embracing transparency and adaptive capacity. *MIS Quarterly, 37*(2), 635-636.

Bharadwaj, A., El Sawy, O. A., Pavlou, P. A., & Venkatraman, N. V. (2013). Digital business strategy: Toward a next generation of insights. *MIS Quarterly, 37*(2), 471-482.

Chaffey, D. (2015, January 15). *Digital Strategy in 2015.* Retrieved from https://blog.davechaffey.com/2015/01/15/digital-strategy-in-2015/

CIO. (2016, September 14). *For the new CIO: Tackling the tough challenges on the digital business journey.* Retrieved from http://www.cio.com/article/3120414/leadership-management/for-the-new-cio-tackling-the-tough-challenges-on-the-digital-business-journey.html

Drnevich, P. L., & Croson, D. C. (2013). Information technology and business-level strategy: Toward an integrated theoretical perspective. *MIS Quarterly, 37*(2), 483-509.

EBSCO. (2014, December). Business Strategy Is Being Transformed for the Digital Revolution. *Trends Magazine, 140*, 1-8.

EBSCO. (2015, September). Digital Transformation of Business. *Trends Magazine, 149*, 1-16.

Grover, V., & Kohli, R. (2013). Revealing your hand: Caveats in implementing digital business strategy. *MIS Quarterly, 37*(2), 655–663.

Javed, S. (2016, February 11). *5 ways to accelerate your digital business strategy.* Retrieved from http://www.cio.com/article/3031278/leadership-management/5-ways-to-accelerate-your-digital-business-strategy.html

KKane, G. C., Palmer, D., Phillips, A. N., Kiron, D., & Buckley, N. (2015). Strategy, not technology, drives digital transformation. *MIT Sloan Management Review and Deloitte University Press, 14*, 1-25.

Lucas Jr, H. C., Agarwal, R., Clemons, E. K., El Sawy, O. A., & Weber, B. W. (2013). Impactful research on transformational information technology: An opportunity to inform new audiences. *MIS Quarterly, 37*(2), 371-382.

McDonald, M., & McManus, R. (2014). *Growth Strategies for a Digital World.* Retrieved from https://www.accenture.com/t00010101T000000__w__/ar-es/_acnmedia/Accenture/Conversion-Assets/DotCom/Documents/Global/PDF/Strategy_1/Accenture-Growth-Strategies-For-Digital-World.ashx

Mithas, S., Agarwal, R., & Courtney, H. (2012). Digital business strategies and the duality of IT. *IT Professional, 14*(5), 2-4.

Mithas, S., Tafti, A., & Mitchell, W. (2013). How a firm's competitive environment and digital strategic posture influence digital business strategy. *MIS Quarterly, 37*(2), 511-536.

Pagani, M. (2013). Digital business strategy and value creation: Framing the dynamic cycle of control points. *MIS Quarterly, 37*(2), 617-632.

Sharma, R., Pereira, F., Ramasubbu, N., Tan, M., & Tschang, F. T. (2010). Assessing value creation and value capture in digital business ecosystems. *International Journal of Information Technology, 16*(2), 1-8.

Sia, S. K., Soh, C., & Weill, P. (2016). How DBS Bank pursued a digital business strategy. *MIS Quarterly Executive, 15*(2), 105-121.

Woodard, C. J., Ramasubbu, N., Tschang, F. T., & Sambamurthy, V. (2012). Design capital and design moves: the logic of digital business strategy. *MIS Quarterly, 37*(2), 537-564.