

# Barriers and Facilitators of Degree of Digital Use: Moderating Role of Firm Size



ISBN: 978-1-943295-14-2

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*The study investigated Barriers and Facilitators of Degree of Digital Use in B2B Travel Services with Online Travel Supplier- Intermediary perspective. While past studies established the direct effects of Firm Size, this study asserts that the impact of Barriers and Facilitators on Degree of Digital Use to be evaluated with reference to contingency variable Buyer Firm Size. The paper uses multiple theoretical perspectives to develop a proposed theoretical framework, hypotheses, and conceptual model. The study developed a process-based conceptualization of the Degree of Digital Use. The study contributed to the domain of B2B digital usages distinct from digital adoption.*

**Keywords:** B2B Travel Services, Perceived Barriers & Facilitators, Degree of Digital Use, Online Travel Supplier, Retail Travel Agency

## 1. Introduction

Digital Technology is disrupting travel services distribution. The study has pointed out that Digital technology is redefining the Travel suppliers and Retail Travel Agency relationship. The advent of Digital Technologies is redefining the relative competitive advantages of travel retailers and travel suppliers in the market place. The Retail travel agencies are facing disintermediation with travel suppliers targeting customers directly online and increased competition from new intermediaries' Online Travel Agencies (OTA). Retail Travel Agencies are developing a re-intermediation strategy by building direct relationships with online travel suppliers through alliances and partnerships. (Buhalis and Licata, 2002)

Travel and Tourism services are the essential services industry in India, with a size of US\$ 71.43 billion (2016). It contributed 9.6% to GDP in Jan-Dec 2016. (IBEF Report 2017). The industry is expected to reach US\$ 111 in 2020 (CAGR 10.6%), which makes it the fastest-growing travel market, only second to China CAGR 16% (Red Seer Consulting 2010). Travel Services are the first adopters of digital commerce in India. Online travel accounts for the largest share (61% share) of the Digital commerce market in India (IAMAI-IMRB Report, 2016). Digital Travel Sales contribute 41% of Total Travel Sales. Digital Travel Sales are growing at CAGR 17.8%. (Indian Online Travel Industry Report 2015, Aranca Consulting). (Table 1). B2B segment (Corporates & SMEs) accounts for 49% of Total Travel Sales in the year 2015. (Praxis report, Livemint, 2018). However, the share of B2B Digital Travel Sales is meager. (Sila 2013).

Travel Agencies (OTA/RTA) contributes 63 % (\$5.7 Billion) of Total Digital Sales and balance 37% by Direct Travel Suppliers. (Praxis report, Livemint, 2018). Three big Online Travel Agency (OTA) – MakeMyTrip.com (48%), Yatra.com (24%) and Cleartrip.com (18%) dominate the digital travel sales. Only 10% of Digital Sales are accounted for by the Retail Travel Agency (mostly MSMEs) and Smaller OTA. (Red Seer Consulting report, 2010). IRCTC provides 14% of 37% of Direct Travel Supplier for Rail Travel Booking alone. Industry data suggests that sizeable Online Travel Agencies dominate digital Sales. Most of the Retail Travel Agencies who are MSMEs (90%) have lower digital sales. Therefore, the firm size of the retail travel agency as a factor influencing B2B digital usages, mainly retail travel agency- online travel suppliers relationship needs investigation.

**Table 1** Travel Category wise Digital Travel Sales in India, 2014

Travel Category	Digital Travel Sales (USD Billion)	% Share of the Total Digital	% Total Category Sales
Air Ticket Booking	5.1	56%	52%
Railway Ticket Booking	3.1	34%	43%
Hotel Booking	0.8	9%	10%
Bus Ticket / Car Rental/ Tours	0.1	1%	11%
<b>Total Digital Sales</b>	<b>9.1</b>	<b>100%</b>	<b>41%</b>

Source: Indian Online Travel Industry Report 2015, Aranca Consulting

The retail travel agencies are intermediaries that extend travel and tourism-related services of tour operators and direct suppliers. In the process, the suppliers' decide a portion of their revenue as commission for the agencies. Retail Travel Agencies cater to the needs of a variety of customers, both corporate and individual travelers, for business and leisure. Most travel agencies provide integrated and customized online services and offline services. The travel agency classifies its services into six categories: flight bookings, hotel bookings, tour packages, rail bookings, car rental services, and bus bookings. The study identifies that Retail Travel Agencies are using digital services. But their usages are limited to a static

website, social media pages, e-brochure, online directories, and catalog sites for information dissemination and mostly use e-mail for communication. The websites did not have functions for e-payments and e-transactions.

Thus identification of Barriers & Facilitators of Degree of Digital Use and their interaction effect with Buyer Firm Size for B2B Travel Services in Retail Travel Agency – Online Travel Suppliers relationship is a necessary investigation.

## 2. Research Gaps & Objectives

Very few studies have categorized the antecedent factors of digital usages into Barriers and Facilitators in a travel services context. (Heung, 2003; Law, Leung, & Wong, 2004; Tsai, Huang, & Lin, 2005, Thao &Swierczek, 2008; Shouk et al. 2012) and almost negligible studies in B2B Travel Services (Thao &Swierczek, 2008; Shouk et al. 2012).

Research Objective 1: Identify the determinant factors that are Barriers and Facilitators of the Degree of Digital Use in B2B Travel Services.

There is limited exploration of the effects of Firm size on the Degree of Digital Use in a B2B Context. (Wu et. al., 2003; Zhu and Kraemer 2005; Wu et. al., 2007; Bigne et. al., 2008; Ghobakhloo et. al, 2011; Ramdani et. al., 2013; Sila, 2013; Rahayu& Day, 2015; Brown &Kaewkitipong, 2009) and negligible study in B2B Travel Services (Bigne et al., 2008; Brown &Kaewkitipong, 2009).

Research Objective 2: Understand the role of Firm Size in the influence of Barriers & Facilitators on the Degree of Digital Use in B2B Travel Services.

## 3. Research Methodology

A literature review of empirical research papers for the identification of determinant factors as antecedents of Digital Usages in B2B Travel Services. Based on the negative or positive impact of the determinant factors on digital usages, it was categorized as barriers or facilitators, respectively. The identified determinant factors were also investigated in other B2B Contexts for understanding the construct, construct definition, and operationalization. Secondary research of Travel Services industry reports and 28 retail travel agency websites, social media pages, online directories, and other digital media presence were also reviewed to understand the current practices in the industry about digital usages.

## 4. Literature Review

### 4.1 Barriers & Facilitators of Digital Usages

The study revealed that a determinant factor could be a barrier or facilitators, depending on the context of the study. The setting of the study is the Retail Travel Agency- Online Travel Supplier relationship in B2B Travel Services. The following tables present a categorization of determinant factors into perceived barriers (Table 2) &perceived facilitators (Table 3) based on relevant literature outcomes.

**Table 2** Identification of Perceived Barriers of Digital Usages in B2B Travel Services

Perceived Barriers	Definition (Source)	Type of Factors	Relevant Literature
IT Infrastructure Problems	Lack of public infrastructure readiness in terms of Internet access, available, and fast Internet connections. (Thao and Swierczek, 2008)	Technological Factors	Thao and Swierczek (2008); Zhu et al. (2003);Teo et al. (2006a); Shouk et al. (2012);
Perceived Security Risk	Security Risk is a threat which creates “circumstance, condition, or event that can cause economic hardship to data or network resources that may result in destruction, disclosure, modification of data, denial of service and fraud, waste, and abuse” (Thao and Swierczek, 2008)	Technological Factors	Thao and Swierczek, (2008); Shouk et al. (2012);Kaynak et al. (2005);
Organizational IT Weakness	Obstacles such as retailer’s inability to adopt Internet Technology, limited resources including finance, skills, and knowledge creates a technology gap with suppliers. (Thao and Swierczek, 2008)	Organizational Factors	Thao and Swierczek, 2008
Lack of Critical Mass (Limited Number of Users)	The relatively large number of customers and suppliers not being online and decreasing productivity levels due to unnecessary usage. (Kaynak et al. 2005)	Environmental Factors	Shouk et al. (2012); Kaynak et al. (2005); Walczuch et al., (2000)
Legal and Regulatory Issues	The lack of government regulations and legal standards to deal with the intricacies of EC. (Thao and Swierczek, 2008)	Environmental Factors	Thao and Swierczek, 2008; Kaynak et al. (2005);
High Technology Cost	Limited resources and IT implementation costs. The four cost components are connection costs to the internet, the cost of adequate hardware/software, set-up cost, and maintenance costs. (Ghobakhloo et al., 2011).	Technology Factors	Shouk et al. (2012); Al-Qirim (2007); Ghobakhloo et al. (2011); Nath et al., 1998; Kaynak et al. (2005);
Perceived Complexity	Complexity is the difficulty perceived by adopters in adopting innovation. It refers to the degree to which an innovation is perceived relatively difficult to understand and use. (Rogers, 1983)	Technology Factors	Brown &Kaewkitipong, 2009; Shouk et. al (2012); Raymond, (2001); Rogers (1983);

Table 3 Identification of Perceived Facilitators of Digital Usages in B2B Travel Services

Perceived Facilitators	Definition (Source)	Type of Factors	Relevant Literature
Perceived Relative Advantage	The degree to which perception of innovation is that it is better than the idea it supersedes. (Rogers, 1983)	Technological Factors	Shouk et. al (2012); Thao and Swierczek, (2008); Raymond, (2001); Ghobakhloo et. al. (2011); Rahayu& Day, (2015); Ramdani et. al., (2013); Zhu et al. (2006a); Kaynak et. al. (2005)
Perceived Compatibility	The degree to which perception of innovation is consistent with existing values, past experiences, and needs of potential adopters. (Rogers, 1983)	Technological Factors	Shouk et. Al (2012); Raymond, (2001); Ghobakhloo et. al. (2011); Rahayu& Day, (2015); Ramdani et. al., (2013); Zhu et al. (2006a); Kaynak et. al. (2005);
B2B Relationship Intensity	High level of interactions involves greater collaboration and more information exchange which positively influences innovation adoption in services (Bigne et al., 2008)	Inter-Organizational Factors	Bigne et al., 2008; Alam 2002
Supplier Pressure	Supplier (Coercive) pressures are a set of formal or informal forces exerted on organizations by other organizations upon which the former organizations depend. (Dimaggio and Powell, 1983)	Environmental Factors	Bigne et. al., (2008); Raymond, (2001); Ghobakhloo et. al, (2011); Rahayu& Day, (2015); Sila, (2013);
Customer Pressure	Customers actively influence the system to change according to their requirements, allowing the supplier to adjust the system to accommodate the customer better. (Wu & Lee, 2005)	Environmental Factors	Bigne et al., (2008); Andreu et al., (2010); Wu et al., (2003); Rahayu& Day, (2015); Ghobakhloo et al., (2011);
Industry Pressure	An organization, when faced with a problem from ambiguous causes, imitates similar organizations in the industry that it perceives as more legitimate or successful. (Wu & Lee, 2005)	Environmental Factors	Andreu et. al., (2010); Brown &Kaewkitipong, 2009; Wu et al., (2003); Wu et. al. (2007); (Wu & Lee, 2005); Rahayu& Day, (2015); Sila, (2013); Ramdani et. al., (2013); Zhu and Kraemer (2005); Zhu et al. (2003); Oliveira and Martins (2009); Teo et al. (2006); Zhu et al. (2006a);
Environment Uncertainty	Environment Uncertainty (Turbulence) refers to the frequent and unpredictable market and technical changes in the industry. Market uncertainty relates to the changes in customer preferences, and technological uncertainty relates to the changes in the technology in the external environment. (Jaworski and Kohli, 1993).	Environmental Factors	Huang (2006); Shouk et al. 2012; Brown &Kaewkitipong, 2009; Jaworski and Kohli, 1993; Raymond, (2001);
Technology Partners' Influence	The influence of IT Consultant and IT service provider for expert advice, IT implementation, and training support in the absence of internal IT expertise.(Ghobakhloo et al. 2011)	Environmental Factors	Shouk et al. 2012; Raymond, (2001); Brown &Kaewkitipong, 2009; Al-Qirim (2007) and Thong (2001); Ghobakhloo (2011);
Firm Strategic Intent	Firm Strategic Intent in terms of competitive products, price, enhanced information &communication, expand distribution, improve customer relations, siege more resources, increase economies of scale, enforce customer relationship management, and strengthen customer loyalty. (modified from Huang 2006& Raymond 2001)	Organizational Factors	Huang (2006); Raymond, 2001; Brown &Kaewkitipong, 2009;
Compatible Organisational Culture	Compatible Organisational Culture is the bilateral familiarity in values, perceptions, beliefs, principles, and practices related to general business conduct. (Modified from Huang 2006; Karnali and Kurnia 2011)	Organizational Factors	Huang (2006); Stafford (1994); Karnali and Kurnia, 2011; Hofstede, 1984; Hofstede, 1997
Owner-Manager Support	The owner's and manager's involvement, motivation, perception, attitude, and values in the adoption of new technology or innovation. (modified from Huang 2006)	Individual (Managerial) Factors	Huang (2006); Shouk et al. (2012); Brown &Kaewkitipong, 2009; Al-Qirim (2007) and Thong and Yap (1995);
Owner-Manager Education	The owner's and manager's education is a reflection of its ability and knowledge to assimilate the benefits of IT implementation. (Modified from Raymond, 2001)	Individual (Managerial) Factors	Raymond, (2001); Thong and Yap (1995); Ghobakhloo (2011);
Owner-Manager Experience	The owner's and manager's experience in managing the travel services business will impact the perceived benefits/values of IT processes and systems. (Modified from Raymond, 2001)	Individual (Managerial) Factors	Raymond, (2001);

**4.2 Outcome: Degree of Digital Use**

Literature has defined Digital Usages as Usages Scope – the extent of digital use for a number of different activities in value chain such as supplier interface, customer interface, internal operations, sales & marketing, customer service (Gibbs and Kraemer, 2004); Usage Intensity – the extent of Digital Use as percentage of Total Use for different activities in value chain (Zhu and Kraemer, 2005); Digital usages as the extent of digital use of number of digital application (Grandon and Pearson, 2004; Molla and Licker, 2005b; Ghobakhloo et. al, 2011).

The study conceptualizes Digital Usages as the Degree of Digital Use. For this study, we modified the following widely used definitions of digital usages to develop our research framework.

Degree of Digital Use in Organisations defines the extent to which digital processes are being used to conduct value chain activities. The Degree of Digital Use measures the breadth of use for different value chain activities and the depth of use for each activity that is on the Internet platform. (Modified from Hart and Saunders 1998, Fichman 2000).

Exceptionally few studies have conceptualized digital usages as a process-based approach in the B2B travel services supply chain (Andreu et al., 2010; Bigne et al., 2008). The process-based method conceptualized Digital Usages in the Supplier-intermediary interface as a two-dimensional construct. The study conceptualizes the two dimensions in B2B Travel Services as lower-order digital use –Supplier Digital Communications and higher-order digital use -Supplier Digital Transactions (Andreu et al., 2010;Bigne et al., 2008).

**4.3 Moderating Effects of Buyer Firm Size**

According to Resource-Based-View (RBV) framework (Barney 1991), Organisational size is a reflection of IT capability and slack resources of the organization. (Zhu and Kraemer, 2005; Tornatzky and Fleischer, 1990). Therefore, organizational size is a determinant factor influencing digital usages. Past studies have treated Organizational size as an organizational factor (Internal factor).

Large organizations will have surplus resources, skilled employees, and experience that enables them to manage uncertainty and risk easily compared to relatively smaller organizations (MSMEs) (Levenburg et al., 2006; Yap, 1990; Sila, 2013). The ability of an organization to manage uncertainty and risk will depend on its capabilities and resources, i.e., organizational size. Organizational Size is identified as one of the best predictors of digital adoption and usages (Jeyaraj et al., 2006). Studies have empirically proved that Buyer Firm Size as a Control factor, a Facilitator, a Barrier, and a Moderator in a different B2B context. (Table 4). Firm size has been tested as a moderating factor in SME in developing countries (Sila 2013). The interactional effect of Firm size with other determinant factors is untested in the Travel Services context. Firm size as a moderator in the B2B Travel Services context is untested in both developing and developed countries context. Most of the studies have considered MSMEs as a homogeneous segment, and the impact due to variations in size within the sector needs attention. (Brown &Kaewkitipong, 2009). Thus, we can argue that larger SMEs are more likely to do digital usages compared to smaller SMEs. Therefore, the moderating effect of Firm Size needs investigation in B2B Travel Services in context for Retail Travel Agency – Online Travel Supplier relationship.

Retail Travel Agencies in India are largely MSMEs (90% of Firms), and 95% of Firms have less than 250 employees. (As per fundoodata.com web portal, March 2019). We, therefore, limit our study to MSME Retail Travel Agencies but investigate the influence of large and small firms within MSMEs on Barriers and Facilitators and B2B digital usages.

Past studies have defined Firm size in different ways. This study conceptualizes the firm size of retail travel agency in three different ways to test for the hypotheses– one as per Indian Classification (Investments in Equipment) and the other as per International Classification (Number of Employees). The three classifications are as follows

Firm Size 1: Defined as per Investments in Equipment: (Government guidelines in India for service sector MSME, 2006)

- Less than 10 Lacs (Micro-Enterprise)
- 10 Lacs to less than 2 Crores (Small Enterprise)
- 2 Crores to less than 5 Crores (Medium Enterprise)

**Table 4** Literature Review of Effects of Firm Size on B2B Digital Usages.

Determinant Factors	Effects	Type of Factors	Context	Relevant Literature
Business Size	Facilitators	Organizational Factors	SME, products & services, Iran	Ghobakhloo et al., 2011
Firm Size	Control	Organisational Factors	Travel agency, services, Spain	Bigne et. al., 2008
Firm Size	Facilitators	Organisational Factors	SME, products & services, England	Ramdani et. al., 2013
Firm Size	Control	Organizational Factors	Small Business Units, Products, US	Wu et al., 2003
Firm Size	Moderator	Organisational Factors	SME, services, Developing countries	Sila, 2013
Firm Size	Barriers	Organizational Factors	SME, Products & Services, Developed & Developing countries	Zhu and Kraemer 2005

Firm Size	Facilitators	Organizational Factors	SME, products & services, Indonesia	Rahayu& Day, 2015
Firm Size	Control	Organizational Factors	Small Business Units, Products, US	Wu et al., 2007
Firm Size	Facilitators	Organizational Factors	Travel agency, services, Thailand	Brown &Kaewkitipong, 2009;

Firm Size 2: Defined as per Number of Employees. (Travel Agency study by Brown &Kaewkitipong, 2009)

- 1-10 employees (Micro-Enterprise)
- 11-50 employees (Small Enterprise)
- 51-250 employees (Medium Enterprise)

Firm Size 3: Defined as per Number of Employees. (SME study by Zhu and Kraemer 2005)

- 1-50 employees (Micro-Enterprise)
- 51-100 employees (Small Enterprise)
- 101-250 employees (Medium Enterprise)

For the study, Micro-Enterprise & Small-Enterprise is considered in the category Small SME Firm (Small Retail Travel Agency), and Medium Enterprise forms the large SME Firm. (Large Retail Travel Agency).

### 5. Theoretical Background

Multiple theoretical perspectives from the diverse domains of Information Technology, Consumer Behaviour, Relationship Marketing, and B2B Marketing was used to develop the theoretical framework and the conceptual model. The proposed theoretical framework, with a brief explanation of the theories applied, is presented below (Figure 1):

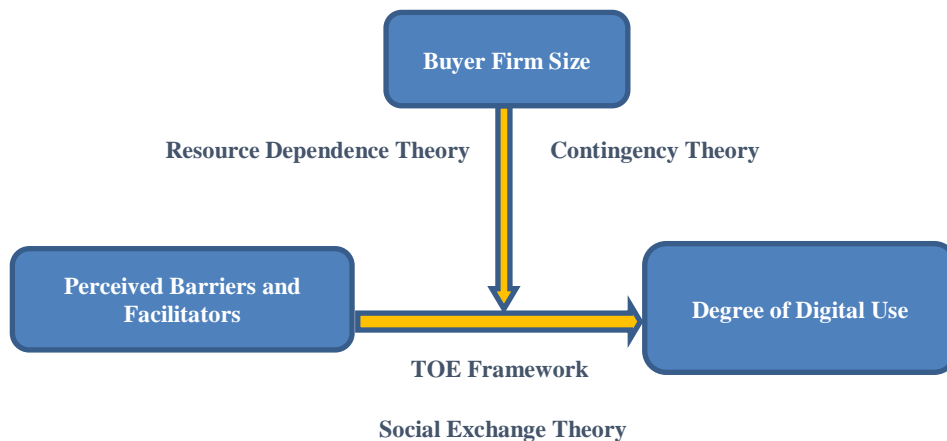


Figure 1 Proposed Theoretical Framework

1. **Social Exchange Theory: George Homans (1958); Blau (1964) and Emerson (1976):** Evaluation of outcome and motivation to comply basis Cost-Benefit while forming relationships. The theory proposes that the relationships one chooses to develop and maintain are the ones that maximize our benefits and minimizes our costs. We feel positive or negative towards a relationship basis three factors – cost-benefit analysis, comparison level, and comparison level alternatives. In the study, the combined outcome of Perceived Facilitators (Relationship Benefits) and Perceived Barriers (Relationship Cost) in comparisons to existing practices will impact Degree of Digital Use in Retail Travel Agency – Online Travel Supplier relationship.
2. **Resource Dependence Theory (Pfeffer and Salancik 2003):** According to the Resource Dependence Theory, organizations try to control the resources that are critical to them through the management of factors in the environment. Organizations either employ control (power) mechanisms or work towards coordination and cooperation in relationships with other organizations to reduce environmental uncertainty. The uncertainty may arise due to market unpredictability, other organization’s control over critical resources, or scarcity of the essential resources. In Retail Travel Agency- Online Travel Supplier relationship, retail travel agency lack internal resources to invest in IT in terms of human resources and financial resources. The agency, therefore, pursues needed resources from supply –chain partners such as Online Travel Suppliers and Technology Vendor to access and implement digital travel systems. Smaller size travel agencies will have fewer resources compared to larger size agencies and, therefore, more dependence on external partners to manage environmental uncertainties and business risk. Thus, the influence of Barriers and Facilitators on Degree of Digital Use

in B2B Travel Services is contingent upon Buyer Firm Size. Very few studies have taken a contingency view of determinant factors on B2B Digital Usages. (Sila 2013).

3. **Technological, Organisational, and Environmental Framework (TOE) (Tornatzky, Fleischer &Chakrabarti, 1990):** The theory identified three broad contexts, i.e., technological, organizational, and environmental context which have an impact on IT innovation-related decisions and the usage of technological innovations in organizations. TOE Framework is the most widely used framework in empirical research in digital adoption & usages. However, the criticism of the theory is that it explains innovation adoption for large organizations, but not for SMEs. The framework does not cover the Individual (Managerial) factor, i.e., the influence of Owner-Manager in Technology adoption and usages decision (Ghobakhloo and Tang, 2013). The model also does not include context-specific factors such as Inter-Organisational factors relevant for B2B Digital usages. (Sila, 2013).

We, therefore, modified the TOE (Technological, Organisational, and Environmental) Framework with the addition of contextual factors Inter-Organisational factors and Individual (Managerial) factors impacting B2B Digital Usages. (Table 5).

**Table 5** Barriers & Facilitators of Degree of Digital Use in B2B Travel Services

Type of Factors		Barriers	Facilitators
External Factors	Technological Factors	<ul style="list-style-type: none"> <li>IT Infrastructure Problems</li> <li>Perceived Security Risk</li> <li>High Technology Cost</li> <li>Perceived Complexity</li> </ul>	<ul style="list-style-type: none"> <li>Perceived Relative Advantage</li> <li>Perceived Compatibility</li> </ul>
	Environmental Factors	<ul style="list-style-type: none"> <li>Limited Number of Users (Lack of Critical Mass)</li> <li>Legal and Regulatory Issues</li> </ul>	<ul style="list-style-type: none"> <li>Supplier Pressure</li> <li>Customer Pressure</li> <li>Industry Pressure</li> <li>Environment Uncertainty</li> <li>Technology Partner Influence</li> </ul>
	Inter-Organizational Factors		<ul style="list-style-type: none"> <li>B2B Relationship Intensity</li> </ul>
Internal Factors	Organizational Factors	<ul style="list-style-type: none"> <li>Organizational IT Weakness</li> </ul>	<ul style="list-style-type: none"> <li>Firm Strategic Intent</li> <li>Compatible Organisational Culture</li> </ul>
	Managerial Factors		<ul style="list-style-type: none"> <li>Owner-Manager Education</li> <li>Owner-Manager Experience</li> <li>Owner-Manager Support</li> </ul>

4. **Contingency Theory (CT) (Blanton, Watson, & Moody, 1992):** The contingency theory explains that contingent variables are those that moderates the effects of organizational characteristics on the organizational performance or outcomes. The theory states that organizations are seeking to design their organizational attributes in a manner that it can handle uncertainties arising out of contingencies, and deliver outcomes/results even when there is a change in contingencies. The contingency in the context of the study is Buyer Firm size. The review uses both Indian and International classifications (a) No of employees and (b) The investment in equipment.

We have used other embedded theories that lend support to factors in the TOE Framework for the proposed conceptual model.

5. **Diffusion of Innovation Theory (DOI). (Roger 1983):** The theory of Diffusion of Innovation is a process-based theory of digital adoption and usages. The theory states that a combination of Individual characteristics, Innovation Characteristics, and Contextual Characteristics influence the innovativeness of an organization, i.e., adoption of intra-organisational systems. Rogers (1995) provides a detailed explanation of the diffusion of innovation processes among individuals as well as among organizations. The model explained five determinant factors relative advantage, compatibility, complexity, trial ability, and observability that influence the rate of adoption. (Roger, 2003).

The study for B2B Travel Services identifies Perceived Relative Advantage and Perceived Compatibility as Facilitator and Perceived Complexity as Barrier. The empirical papers review did not identify other factors Perceived Trial ability, and Perceived Observability as determinant factors in B2B Travel Services.

6. **Institutional Theory (IT) DiMaggio and Power (1983):** The theory covers factors that influence the adoption of inter-organizational systems. (IOSs). Organizations are under pressure to be isomorphic with their environment (Burt 1987). The institutional theory asserts that the institutional environment can strongly influence the development of formal structures in an organization, often more profoundly than market pressures. DiMaggio and Power (1983) identified three general mechanisms of isomorphism: coercive, mimetic, and normative pressures. Coercive (Supplier) pressure, Mimetic (Customer) pressure and Normative (Industry) pressures impacts B2B Digital Usages.
7. **Agency Theory (AT) (Eisenhardt 1989):** According to the Agency theory, organizations (Principal) are in need to align the behaviors or outcomes of the other parties (Agents) to their expectations. Contracts based on incentives manage inter-organizational relationships. In our study, we find Inter-organisational factors mentioned by Travel Agency in the context of B2B relationships. The survey of EDI Adoption & Usages Intention in B2B E-Commerce for SMEs suggests similar inter-organizational factor Supplier Trust (Sila, 2013). Travel Agency Digital Usages study in Spain identifies inter-organizational factor B2B relationship intensity (Bigne et al., 2008). Digital Usages is an innovation of continuous nature that can foster if there is a long-term orientation to the B2B relationship between buyer and supplier. (Bigne et al., 2008).
8. **Iacovou et al. Model (1995):** The theory covers inter-organizational systems (IOSs) characteristics that influence are IT adoption. It identifies three sets of factors – Perceived Benefits or Issues, Organisational Readiness or Weaknesses, and External Pressure. The model can better explain determinant factors such as IT Infrastructure Problem, Perceived Security Risk, High Technology Cost, Legal and Regulatory Issues, Organisational IT weaknesses, Technology Partner Influence, Limited Number of Users impact on B2B Digital Usages.
9. **National Culture Theory (NCT) (Hofstede 1984):** The National Culture Theory (Hofstede 1984) has stated that the six dimensions can predict the behavior of individuals in society in specific situations. (1) Individualism (versus Collectivism) refers to the extent to which people feel independent, as opposed to being interdependent as members of larger wholes; (2) Power Distance refers to the extent to which the less powerful members of organizations and institutions (like the family) accept and expect an unequal distribution of power; (3) Masculinity ( versus Femininity) is the extent to which the use of force is endorsed socially; (4) Uncertainty Avoidance explains a society's tolerance for uncertainty and ambiguity; (5) Long-term orientation (versus short-term orientation) deals with change; and(6) Indulgence ( versus Restraint)deals about the good things in life.

Hofstede subsequently extended the theory of society to a specific case of Organisations. He defined Organisational Culture as six independent dimensions of practices: process-oriented versus results-oriented, job-oriented versus employee-oriented, professional versus parochial, open systems versus closed systems, tightly-controlled versus loosely-controlled, and pragmatic versus normative. (Hofstede, 1997, Hofstede, 2011).

## 6. Conceptual Model and Hypothesis Development

### 6.1 Conceptual Model

The study integrated diverse literature and theories from subject domains Information Technology, Consumer Behaviour, B2B Marketing, and Relationship Marketing to develop an Integrated B2B Digital Usages Framework. (Figure 2).

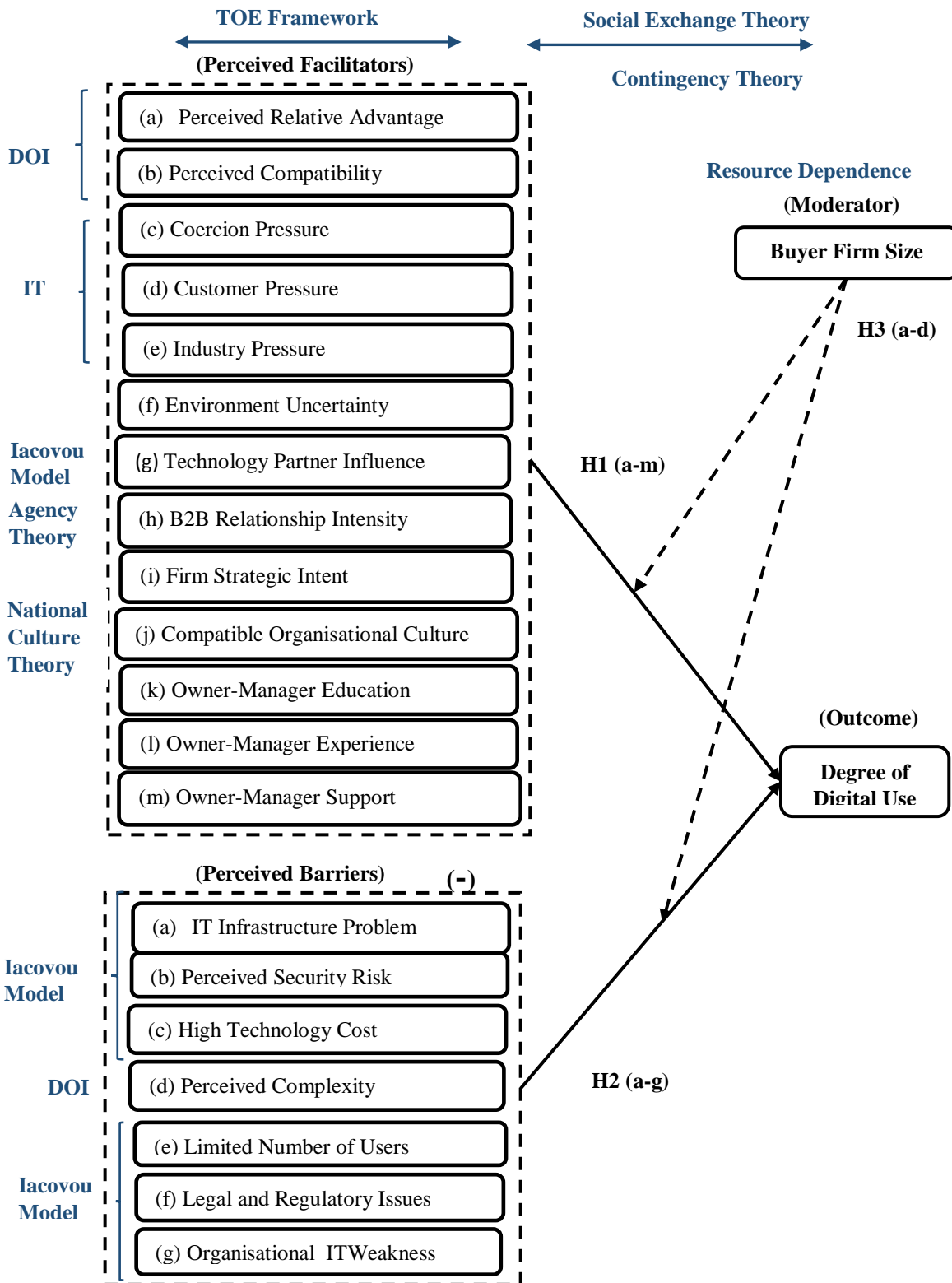


Figure 2 Conceptual Model & Theoretical Support

### 6.2 Hypotheses Development

The following research hypothesis (Table 6) is developed based on Literature Review, Industry Data Analysis, and Theoretical Framework:



Table 6 Hypotheses based on Theoretical Framework and Literature Review

H. No.	Research Hypotheses
<b>Hypothesis (Perceived Facilitators to Degree of Digital Use)</b>	
H1 (a)	Facilitator Perceived Relative Advantage has a positive influence on the Degree of Digital Use of the Retail Travel Agency.
H1 (b)	Facilitator Perceived Compatibility has a positive influence on the Degree of Digital Use of the Retail Travel Agency.
H1 (c)	Facilitator Coercion Pressure has a positive influence on the Degree of Digital Use of the Retail Travel Agency.
H1 (d)	Facilitator Customer Pressure has a positive influence on the Degree of Digital Use of the Retail Travel Agency.
H1 (e)	Facilitator Industry Pressure has a positive influence on the Degree of Digital Use of the Retail Travel Agency.
H1 (f)	Facilitator Environment Uncertainty has a positive influence on the Degree of Digital Use of the Retail Travel Agency.
H1 (g)	Facilitator Technology Partner Influence has a positive influence on the Degree of Digital Use of the Retail Travel Agency.
H1 (h)	Facilitator B2B Relationship Intensity has a positive influence on the Degree of Digital Use of the Retail Travel Agency.
H1 (i)	Facilitator Firm Strategic Intent has a positive influence on the Degree of Digital Use of the Retail Travel Agency.
H1 (j)	Facilitator Compatible Corporate Culture has a positive influence on the Degree of Digital Use of the Retail Travel Agency.
H1 (k)	Facilitator Owner-Manager Education has a positive influence on the Degree of Digital Use of the Retail Travel Agency.
H1 (l)	Facilitator Owner-Manager Experience has a positive influence on the Degree of Digital Use of the Retail Travel Agency.
H1 (m)	Facilitator Owner-Manager Support has a positive influence on the Degree of Digital Use of the Retail Travel Agency.
<b>Hypotheses (Perceived Barriers to Degree of Digital Use)</b>	
H2 (a)	Barrier IT Infrastructure Problem has a negative influence on the Degree of Digital Use of the Retail Travel Agency.
H2 (b)	Barrier Perceived Security Risk has a negative influence on the Degree of Digital Use of the Retail Travel Agency.
H2 (c)	Barrier High Technology Cost has a negative influence on the Degree of Digital Use of the Retail Travel Agency.
H2 (d)	Barrier Perceived Complexity has a negative influence on the Degree of Digital Use of the Retail Travel Agency.
H2 (e)	Barrier Limited Number of Users has a negative influence on the Degree of Digital Use of the Retail Travel Agency.
H2 (f)	Barrier Legal and Regulatory Issues has a negative influence on the Degree of Digital Use of the Retail Travel Agency.
H2 (g)	Barrier Organizational IT Weakness has a negative influence on the Degree of Digital Use of the Retail Travel Agency.
<b>Hypotheses (Moderator Firm Size to Perceived Barriers &amp; Perceived Facilitators and Degree of Digital Use)</b>	
H3 (a)	When Firm size is Large, the positive effect of the Perceived Facilitators on the Degree of Digital Use of the Travel Agency strengthens.
H3 (b)	When Firm size is Large, the negative effect of the Perceived Barriers on the Degree of Digital Use of the Travel Agency weakens.
H3 (c)	When Firm Size is Small, the positive effect of the Perceived Facilitators on the Degree of Digital Use of the Travel Agency weakens.
H3 (d)	When Firm Size is Small, the negative effect of the Perceived Barriers on the Degree of Digital Use of the Travel Agency strengthens.

## 7. Research Contributions

### 7.1 Theoretical Contributions

The conceptual study resulted in the identification of Barriers and Facilitators of digital usage in B2B Travel Services, particularly Retail Travel Agency -Online Travel Supplier perspective. The study combines diverse literature and theories from subject domains such as Information Technology, Consumer Behavior, B2B Marketing, Organizational Behavior, and Relationship Marketing to develop an Integrated B2B Digital Usages Framework. The study identifies Barriers and

Facilitators for B2B Digital Usages distinct from earlier studies on digital adoption. The study emphasizes that Firm Size is a contingency variable and conceptualizes the interactional effects of Firm Size on the influence of Barriers and Facilitators on Degree of Digital Use.

## 7.2 Managerial Contributions

Practitioners and policymaker will be able to identify key barriers and facilitators which impact digital usages distinct from digital adoption, particularly in travel intermediaries-online travel supplier relationship. The study points to contextual variables individual factors that affect digital usages different from digital adoption in MSMEs. Owners – Key Managers can focus on self-development methods to improve B2B Digital Usages. The study points to contextual variables of inter-organizational factors. The study will help online travel suppliers and travel intermediaries in working out B2B digital marketing strategies to strengthen buyer-seller relationships. Retail Travel Agency who are under threat of disintermediation in the industry as travel suppliers are directly targeting consumers who can work-out re-intermediation strategies. The study will also help MSMEs Owners-Managers in understanding key barriers and facilitators and help to develop B2B digital marketing strategies.

## 8. Limitations and Future Research Directions

The study is theoretical and conceptual. A subsequent descriptive survey will lead to conclusive outcomes. The study was conceptualized for MSMEs travel agencies and did not include large travel agencies' perspective. Therefore, the barriers and facilitators identified may be specific to MSMEs travel agencies and may not apply to all types of travel agencies. A researcher can use the conceptual study for other B2B Travel Services contexts such as retail travel agency –direct travel services provider relationships with specific travel category focus such as Air travel ticketing, hotel booking, Tours booking, Rail ticketing, or Car Rental booking. The study can include more Firm Characteristics as moderating variables such as travel product importance, travel product experience, type of business to improve its generalizability.

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