

## e-Readiness and e-Commerce Success: Firm-Level Perception from Indian Organisations

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Tier II and tier III towns in India are showing strong demand which is driving the urge of many brick and mortar company to go online. It has been reported that a sizeable population living in such cities have hefty disposable incomes thus compelling companies to explore new markets in such towns. Startup e-commerce entities are venturing into nascent and innovative business verticals like travel and tourism, fashion and accessories and consumer durable products and services. Such companies are going online by creating varied models of procurement and supply chain to cater typical Indian requirements. This paper attempts to explore the organisational e-readiness variables that might affect e-commerce success for that particular organisation. In particular, the technological resources of businesses, the governance model they put in place, and their commitment appear to be playing significant roles in affecting successful development of e-commerce and its benefits in terms of communications improvement, cost saving and market performance. The results indicate that contrary to the conventionally-accepted perception that treats environmental factors as major barriers to e-commerce in developing countries firm-specific variables appears to be the key drivers in differentiating relatively successful from less successful businesses. The implication is that business enterprises in developing countries like India that excel in these three areas are likely to achieve greater e-commerce success. However, because any sustained advantage is context-specific, the importance of other organisational and environmental contextual variables should not be ignored.

**Keywords:** Environmental factors, Firm-level evidence, Governance model, Business resources

### Introduction

The Economist Intelligence Unit has defined a country's e-readiness as a "measure of its business environment, a collection of factors that indicate how amenable a market is to Internet based opportunities". Ecommerce can be defined in a very plain and simple term as commerce conducted electronically (as on the internet). Even though the e-readiness has been defined in context to a country, here in this study we analyze the level of preparedness and extent of other enabling factors in facilitating ecommerce transactions.

Over the years there has been transformations in this segment but in essence it remains the same. Various researchers have undertaken studies to explore the factors ensuring success in this segment and have proposed various models in this respect. However, for a country like India there still exists immense scope for studying the underlying factors affecting ecommerce ventures and initiatives and particularly so when such initiatives are taken

to tier II and tier III cities of India. An area of particular interest is how companies are coping up and embracing technology and evolving sustainable business models to drive in growth.

Encouraged by the emerging trends, retailers dealing with consumer durables are not hesitant in trying out e-commerce platform, the advent of which is being hastened by an increase in internet penetration and the growing comfort levels among consumers to shop online. A Mumbai-based firm, Vijay Sales and another Chennai-based company are among those who are kick starting their ecommerce operations this year. Vijay Sales started off as a multi-brand retailer of consumer electronics in Mumbai in 1967 and has now clocked a turnover of Rs 1,250 crore in the last financial year (2011-12). It has rapidly expanded its presence outside the city to Delhi, Pune, Surat and Ahmedabad. As per the reports of a study commissioned by Vijay Sales, it is quite positive of garnering 10-15 % of its total sales through the e-commerce platform in the next couple of years.

This paper attempts to examine and explore the impact of "e-readiness" on e-commerce success through a firm-level analysis. The paper also attempts to identify the e-readiness variables that significantly discriminate between organisations

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that achieve greater e-commerce success from those that do not.

## Literature Review

The concept of e-readiness is relatively new and hence too many published literature is not available. The literature that is available provides different perspectives and basically takes the form of proponent or opponent of the use of e-readiness figures as an indices for development of information and communication technologies (ICT) in a country and thereby focusing on the parameters where a country is lacking and thus required to be aided by more support (Purcell and Toland, 2004).

Ficci (2006) opined that figures' relating to e-readiness serves as a distinct advantage to a given country since it summarises a broad set of characteristics. These data can be useful in gauging progress of ICT for a given country (Bridges.org, 2005). The e-readiness, however defined, of developing countries has attracted a lot of research and practitioner interest (Choucri et al, 2003; Molla, 2004). Some research studies points out that a minimum level of infrastructural support and enabling government policies is desirable so as to promote e-commerce which in turn can have a rippling effect in the economy of the country concerned to bring about a overall development (Larvin and Qiang, 2004).

Researchers who are proponent of these indices argue that e-readiness assessment can act as a useful reference point which would help in doing a gap analysis as to where the country/organisation stands and then have a structured process in place to take it to a level where it intends to go (CID, 2006) thus linking it policy and investment decisions. However, some limitations of the e-readiness as a measure could still be noted.

Maugis et al. (2003) questions the basic construction of the indices and went on to propose their own methodology. Some researchers (Bakry, 2005; Bridges.org, 2001) pointed out the lack of standardisation of the measures as different types of measures are adopted by different agencies. The International Telecommunication Union (ITU) drafted the Digital Opportunity Index (DOI) to lay down an internationally agreed upon indicators as benchmark. However, the adoption of these indices till date has been very limited.

Mostly of the available theory suffer from serious shortcoming in the following ways:

First, most of the e-readiness indexes takes a one-size-fits-all approach without giving due importance to the state of the economy or organisations. Also studies in developing countries focus on national-level indicators. These studies are helpful in highlighting the legal, financial, physical, social and technological infrastructure limitations that businesses in developing countries need to transcend in order to implement e-commerce. However, they have limited power in explaining how and what level of infrastructure development affects individual businesses' decisions to undertake e-commerce and the success of such endeavours.

Second, because the emphasis of these studies tends to be on producing indices and general set of requirements, the needs of specific sectors, business organizations and e-commerce applications remain largely unknown.

Third, while the notion that the e-readiness of a country affects e-commerce success is intuitively appealing, there are no empirical studies to validate such claims. In fact, as developing countries continue to address some of the infrastructure barriers; firm- and market-specific issues need proper investigation to identify the real barriers and drivers of e-commerce and its success.

Existing e-readiness are essentially meant to evaluate a country's level of preparedness and in most cases not taken from real world cases. The indices had more of a macro orientation rather than a micro orientation and thus linking to an e-commerce success or failure from the perspective of an individual firm would not be a proper approach. Molla(2004) opined that firm specific factors such as technological resources, management role and involvement and the commitment of the users involved should be given due emphasis. In other words, Molla (2004) stressed more on micro firm specific factors rather than macro level environmental factors to improve the level of e-readiness. A study by S Wang et. al (2012) focuses on the positive influences of organisational capabilities and market opportunities to improve ebusiness performance. Another study by Stephen Blyter (2012) in context to a developing economy focuses on the enabling role by government to promote ebusiness environment.

The authors studied the factors and the model proposed by Molla and Licker (2005) to explain the level of e-readiness in context to a developing economy like India. The variables along with their definition are provided in the table below:

**Table 1: Definition of Variables (Molla and Licker, 2005)**

	Variables	Description
<b>Organisational eReadiness</b>	Commitment	Reflects enough energy and support for e-commerce from all corners of an organisation and especially from the strategic apex. It refers to having a clear-cut e-commerce vision and strategy championed by top management, e-commerce leadership, and organisation-wide support of e-commerce ideas and projects.
	Human Resources	Refers to the availability (accessibility) of employees with adequate experience and exposure to information and communications technology (ICT) and other skills (such as marketing, business strategy) that are needed to adequately staff e-commerce initiatives and projects.
	Technological Resources	Refers to the ICT base of an organisation and assesses the extent of computerisation, the flexibility of existing systems, and experience with network-based applications.
	Business Resources	This covers a wide range of capabilities and most of the intangible assets of an organisation like openness of organisation wide communication, appetite for risk-taking, nurturing of existing business relationships, and seeking funding to finance e-commerce projects.
	Governance	The strategic, tactical and operational model organisations in developing countries put in place to govern their business activities and e-commerce initiatives.
<b>External eReadiness</b>	Government eReadiness	Organisations' assessment of the preparation of the nation state in terms of government commitment and the legal infrastructure to promote, support, facilitate and regulate e-commerce and its various requirements.
	Market Forces eReadiness	The assessment that an organisation's business partners such as customers and suppliers allow electronic conduct of business.
	Supporting Industries eReadiness	Refers to the assessment of the presence, development, service level and cost structure of support-giving institutions such as telecommunications, financial, trust enablers, and the IT industry, whose activities might affect the e-commerce initiatives of businesses in developing countries.
<b>eCommerce Success</b>	Success of Development	This is an assessment of whether or not e-commerce projects have been completed within budget and time.
	Cost Saving	Cost reduction in terms of operation and marketing costs including personnel, rent, order, payment processing.
	Communications Improvement	Improved internal communication and inter-organisational communication.
	Marketplace Performance	Extending firms reach, product/service differentiation, increased customer loyalty and improved customer relationship.
	Overall Satisfaction	Overall satisfaction with e-commerce applications.

The variables used by Molla and Licker (2005) have been used by the authors in this study.

## Methodology

### Survey Instrument Development

A review of the literature found very few survey instruments with measures corresponding to the e-readiness for a business enterprise in a developing economy. The researchers created few items in addition to those used by Molla and Licker to measure the constructs. Questionnaire based survey method was adopted. It has been found from the survey that some of the identified issues are applicable only for a nation as a whole and hence some issues were added and / or modified and some were deleted. The survey uses five point Likert type scales where "1" means strongly disagree and

"5" means strongly agree. The items were empirically tested and validated. The questionnaire has been provided as annexure.

### Pilot Study

Four business entrepreneur who have adapted the electronic platform and are currently successfully running their business for not less than five years pilot tested the survey. The researcher requested they identify and suggest improvements for any omission, error, or inconsistency in the survey. All of the pilot participants completed the survey in the presence of the investigator. The pilot test resulted in several small revisions to the primary instrument that included rewording of a

few items, the addition of a few demographic questions, and alterations to the instructions to make them easier to understand. No scaled item was dropped or added as a result of the pilot study.

## Data Collection

### Demographic Characteristics of Respondents

The respondents came from electronic retailers, travel and tourism service providers, online education service providers, fashion accessories, garment retailers, home furnishings retailers, books and stationery and a variety of other organisations dealing with industrial goods and e-commerce sites. The respondents were also fairly well educated with 87% having a three-year or higher college degree. They had about 8+ years of experience in their business set ups, with around 3+ years experience in electronic business platform. Their organizations employed people between 5 to 30 in their direct rolls.

### Data analysis and Results

With the objective of establishing the reliability of the data collected and that of the study, Cronbach's alpha of the items was calculated. The value was found to be 0.842 and since any value greater than .80 is considered reliable, this data set can also be considered to be reliable.

A test of normality was done on the survey data using the Kolmogorov-Smirnov statistic and the value obtained was 0.057 (greater than 0.05) and hence the sample data can be considered to be normally distributed.

The respondents were asked to rate their experience of e-commerce deployment based on certain variables such as success of development of the e-commerce for their organisation, communication success in the form of ease of

communication with its stakeholders, success of the deployment in context to the industry in which it is operating, experiencing substantial cost saving and overall satisfaction by the e-commerce initiative.

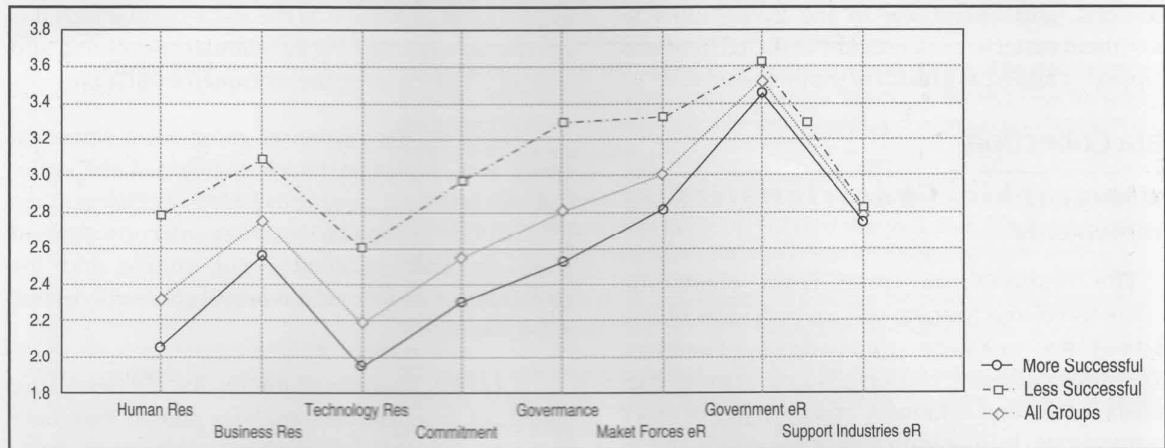
Based on the responses received, a statistical study was deployed which segregated the entire data set into two categories based on their success profile. One group of 65 business enterprise formed relatively 'more-successful' sub-sample and the remaining of 25 formed a relatively 'less-successful' sub-sample.

A careful analysis of the results obtained after statistical discriminant analysis shows that both category of the business organisations have reported improvement in their overall communication, be it in the form of internal communication or communication with their external stakeholders like suppliers, distributors. Though cost saving was one of the major drivers in adopting electronic platform for the organisations but in actuality they have reported no significant savings. Any information systems project is said to be successful if it is delivered on time and within the budgeted outlay. The organisations in question, in both the categories have experienced project delays and on the whole were not very satisfied with the overall outcome of the project rollout.

Further statistical analysis by means of cluster analysis between the two categories put forward some interesting findings. On all profile parameters, namely human resources, business resources, technology resources, commitment, governance, market forces readiness, government readiness and support industries readiness, the 'more successful' sample scores over 'less successful' sample and thus justifies the basic proposition of this paper that e-readiness of a firm has some form of influence on the outcome of e-commerce project success at the firm level.



Figure 1: Two cluster eReadiness profiling



### Cases from Tier II and Tier III Cities in India

Travel portals have been the biggest e-commerce success and by and large have been spurred by small-town India. According to a study undertaken jointly by IAMAI and IMRB, online travel is worth around Rs 25,258 crore and expected to cross Rs 37,890 crore by December 2010. This is followed by e-tailing (consumer products) at Rs 2,050 crore currently and projected to close calendar 2011 at Rs 2,700 crore.

Fashion and accessories is also being reported to sizeable market in tier II and tier III towns in India. Companies having resorted to e-commerce platform have mainly concentrated on two drivers: accessibility and pricing. The study highlights the similarity in women's aspirations is it in metros or smaller towns in India, but due to fashion access being limited in small towns, online buying options become attractive. A startup ecommerce company has signed over 100 designers for its apparel offerings, has 1.2 million members and people across 300 towns are buying designer wear through it. It also offers accessories, footwear, jewellery, watches, etc.

Homeshop18 launched an online e-commerce site. Its target group is the new generation the younger age group. The site is the catalogue for TV entity. As compared to TV, where one can only showcase one product at a time, being online, there is no limit. The site has reported that tier II and tier III towns in India has already contributing around 30% to sales online and is expected to grow with the expansion of internet access.

In competition with the likes of Homeshop18 and local retailers is Naaptol.com, which offers products ranging across mobile phones, laptops, toys, apparel, footwear and small appliances. They ship out Rs 1.5 crore worth of packages a day and their reported revenue is Rs 5 crore a month. While 55-60% of their revenues come from metro and tier I India, 25% comes from towns with airports and the remaining from even smaller towns.

A recent survey (March 2012) by the renowned Data Security firm Symantec carried out at 100 business enterprises in the small and medium scale category who have taken the ecommerce route during the last 2-3 years, reveals that such enterprises are unprepared to recover IT data in case of a disaster and have not invested sufficiently in their data backup and IT data management infrastructure. Typical problem that such organizations suffer from are power outage (74 per cent) and industrial accidents (72 per cent).

According to the 2012 SMB Disaster Preparedness Survey by Symantec, the reasons for not having a disaster recovery plan by such small and medium scale enterprises who have opted for the ecommerce route include lack of resources (42 per cent), budget constraints (21 per cent) and business priority (16 per cent) being the important ones. In some cases respondents revealed that they were not aware of the need to be prepared for disaster recovery options. The survey states that such medium-sized businesses experienced at least one natural disaster in the last 12 months. They also experienced an average of five instances of operational outage due to power failures, industrial accidents and IT system lapses. These operational outages lasted an average of 11 hours.

According to that survey report, these business units were seen adopting emerging technologies like virtualization, cloud and mobility. Fifty six per cent of the respondents were willing to adopt virtualization to improve disaster preparedness. While 62 per cent of the respondents were willing to opt for private cloud as a disaster recovery option, 60 per cent favoured public cloud. Around 55 per cent of the respondents were willing to opt for mobility as a disaster recovery solution.

## Conclusion

This study set out to explore the impact of e-readiness factors on e-commerce success of organisations in tier II and tier III cities in India. Two constructs of e-readiness organisational and external that are likely to affect e-commerce success have been identified. The study has attempted to check the acceptability of the variables used in past published literature in context to Indian firms operating from the Tier II and Tier III cities in India. The results show that the mere relying on macro level issues may not bring the desired results to these organisations that have started adopting the electronic platform in doing business. A more concentrated effort on the part of these organisations is required to bring into fore their own level of preparedness before adopting the electric platform.

The study may be criticised on some grounds relating to its sample size and external validity.

It has been an accepted practice that e-readiness indices have generally been used as a barometer to indicate the level of prepared of the infrastructure and enabling policies on the part of a given economy and not in context to a business firm in particular. The authors have traversed a different path but following same methodology to try and identify the variables which can actually determine success or failure for business firms in tier II and tier III cities in India which are increasingly embracing ecommerce to drive their business growth.

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