Motives and Benefits of B2B Electronic Marketplace Adoption: an empirical study of Indian MSMEs

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Abstract—Research in B2B Electronic Marketplaces shows that there is significant cost savings for large organizations that use internet to purchase goods and services. However there is little empirical research on benefits of adopting B2B E-marketplaces among Micro, Small and Medium Enterprises (MSMEs). On one end, it is said to provide MSMEs a chance to expand its market and eliminate intermediaries and on the other hand, MSMEs struggle to improve their visibility among millions of enterprises registered online. Easy access to large number suppliers to buyers increases competition among MSMEs. This paper analyses the data collected from 66 MSME Adopters in India to understand their motives behind registering with the B2B E-marketplaces. The paper identifies the benefits realized by MSMEs by using B2B Electronic Marketplace. The study focuses primarily on adopters of B2B e-marketplaces that are owned and run by a third party intermediary. Implications for B2B E-marketplaces that provide services to MSMEs are discussed.

Keywords—Adoption, B2B E-marketplaces, Micro, Small and Medium Enterprises, India

I. INTRODUCTION

Micro, Small and medium enterprises (MSMEs) have been an important segment in the Indian economy and policy makers because of its contribution in providing employment (59.7 million), share in national export (45-50 percent). It contributes almost 40% of the gross industrial value added in the Indian economy[1]. In India, MSMEs are defined based on their investment in plant and machinery. For firms engaged in manufacturing, they are defined as micro enterprises if the investment is less than 25 lakh rupees; small enterprises if the investment is between 25 lakhs rupees and upto 5 crores rupees and medium enterprises if the investment is between 5 to 10 crore rupees.

The small scale sector has grown rapidly over the years. As per the quick estimates of the fourth census of MSMEs, there are 26.1 million MSMEs in India. Although the sector is very vibrant in India, the sector faces several challenges with globalization. MSMEs now find vulnerable to cross-border enterprise activities which included free movement of goods, investment, strategic alliances for product development, production, sourcing and marketing. For some, the process opens new opportunities to expand and grow for others it is a threat. [2]

B2B E-marketplaces are internet based intermediaries that facilitate many MSMEs to publish their product information on the web. Several B2B E-marketplaces have emerged in Indian market that target MSMEs and provide them marketing services to reach a broader marketplace. A study conducted by Internet and Mobile Association of India (IAMAI) and estatsindia.com reveals that the adoption of B2B E-marketplace by MSMEs is in the growth stage and around 3.5 million MSMEs are using B2B E-marketplaces. The study also revealed that the adoption levels vary according to the type of industry with automotive, consumer goods and computer industries having top adoption rates of 25%-30%. Other sectors such as Pharmaceuticals, Metal, Textile, Agricultural Products, Chemicals and Telecommunications were reported to have adoption rates of 10-20% [3].

Even though there are several studies on B2B e-marketplaces benefits from purchasing perspectives, there is lack of research studies addressing the MSME adoption of B2B E-marketplace. Stockdale and Standing [4] and Archer, Wang and Kang [5] address the benefits and barriers to use of electronic marketplaces by SMEs. However, there is lack of sufficient literature on success of electronic marketplace among MSMEs in Indian context. Based on a survey of 66 MSME adopters this paper addresses this gap and analyzes the benefits of adopting B2B e-marketplaces by MSMEs in India.

II. BENEFITS OF B2B E-MARKETPLACES TO MSMEs: REVIEW OF LITERATURE

Dynamics of B2B E-marketplace has been researched since several decades. Bakos define electronic marketplaces as an inter-organizational system that allows participating buyers and sellers to exchange information about prices and product offerings [6]. Even though there are private E-marketplaces run by buyers or consortiums, in this study we focus on public E-marketplaces operated by the intermediaries. These B2B E-marketplaces offer several services to the MSMEs such as electronic catalogue, credit rating services, product promotion
and marketing solutions, transactional services such as Request for Quotation, Buy offers, Sell Offers and auctions. B2B E-marketplaces aggregate information from several sources and provide information on latest industry trends, new technologies, trade fairs etc. They also facilitate in disposing unused excess inventory, used machinery and overstocked finished goods through transaction mechanisms such as seller postings and auctions.

Some intermediaries such as Indiamart.com focus only e-marketing solutions and the actual transactions are done offline whereas few B2B E-marketplaces such as Indiamarkets.com offer transactional solutions such as auctions and reverse auctions. The B2B marketplaces also have differences in the choice of their industry and can be vertical or horizontal E-marketplaces. Vertical E-marketplaces provide their solutions targeting a specific industry such as Fibre2fashion.com in apparel and textile industry. On the other hand, Horizontal E-marketplaces offer their services to a broad range of industries [7].

Several researchers have identified value and benefits of B2B relationships. Clements’s concept of value continuum identifies four sources of value to buyers and sellers in B2B relationships. They are reduction of transaction costs, reduction of uncertainty, trust and commitment, mutual development. According to him the relationship value increases in the same order where firms focus moves from efficiency orientation to mutual development [8].

On one hand, researchers have opined that E-marketplaces are very useful for MSMEs. Some of the benefits of participating in e-marketplace for MSMEs are access to wide range of markets, greater potential for partnerships, flexibility in administration and communication, convenience in interaction with partners who have different time zones, greater access to information at a single source, ease and cost efficiency in updating product information, lower search and transaction costs and improved tailor made customer service, improved information transparency in getting competitor information, ability to enter supply chains for large companies [4]. Other benefits such as reach wider market [9]; reduce excess capacity and stock [10], cost efficiency [11], [12] are quoted in the literature. However these benefits may vary depending on the level of adoption of MSME and their commitment to use. Benefits such as flexibility in administration and communication, improved tailor made customer service would however be possible for those MSMEs that have invested considerable resources towards institutionalization of e-marketplace activities.

On the other hand, several researchers also opine that e-marketplaces tend to increase competition among MSMEs and the benefits of participating in the e-marketplace are comparatively higher to buyers. According to Bakos, Electronic marketplaces are likely to promote price competition and reduce the market power and profits of sellers. Buyers are likely to benefit from these systems in two ways: first, they may enjoy lower prices because of the increased competition among sellers; and second, they become better informed about the available products, and thus may choose sellers that better suit their needs [13]. Customers of B2B marketplaces (buyers) tend to focus on getting the best price, therefore sellers face cutthroat competition to standardize products so that they are more directly comparable to the competition’s thus diminishing the distinctiveness of the brand. B2B e-marketplaces also erode the direct relationships that sellers had with their customers [14]. With these conflicts in the literature, we derived our motivation to this research. Based on the literature review the following research questions were formulated for the study

Research question 1: What benefits have been realised by Indian MSMEs that have adopted B2B e-marketplace?

Research question 2: What are the motives for Indian MSMEs to participate in B2B e-marketplace

III. METHODOLOGY

Based on literature review and a pilot study of 20 MSMEs, eight benefits were shortlisted. These benefits were measured using five point likert scale.

To understand motives of using B2B e-marketplaces, we used motives suggested by Rask and Kragh [12]. They have categorized motives of buyers and sellers for participating in e-marketplace into four groups:

a. Exploration: Initial e-marketplace takes place on trial basis and decision to continue or discontinue participation is a direct result of actual experiences. Decisions are internally motivated.

b. Legitimacy: E-marketplace participation is motivated primarily by external drivers rooted in company’s relationships with other companies and happens as a consequence of ongoing political negotiations rather than careful planning

c. Efficiency: The decision to participate in e-marketplace is driven by internally generated wish to obtain company-specific advantages and is made as a consequence of the careful evaluation of expected outcome.

d. Positioning: Industry specific competitive conditions are the driving forces behind the decision to participate in e-marketplaces. Decisions are planned and taken with the purpose of improving the competitive position of the company.

The final survey was done in the Karnataka state of India. Karnataka is one of the vibrant industrial states in southern India with diverse industries such as Pharma, Biotechnology, Textile and Apparel, Electronics, IT, Hardware, Food and Marine, Industrial goods, defence and Automotive sector. Addresses of MSMEs were obtained from Karnataka State’s Department of Industries and Commerce. The MSMEs from manufacturing sector were only considered and MSMEs engaged in providing services have been excluded from the study. Stratified sampling method was used to select the sample from the four groups of MSMEs defined based on size of the firm (investment in plant and machinery as per the
definition of MSME in India). The official definition of MSMEs classifies firms into three groups. However, in this study, The “Small” enterprise was divided into two sub groups resulting in four groups in total. The stratas defined and the sample profile is shown in Table I. 50 MSMEs in each group (total 200) were contacted randomly. Out of 200 MSMEs contacted only 122 MSMEs agreed to participate in the survey and few MSMEs were closed/addresses were incorrect. Based on their consent to participate in the survey, data from these 122 MSMEs were collected through a structured questionnaire and personal interview. The respondents were owners/managers of MSMEs. Out of 122 MSMEs, 66 MSMEs had adopted B2B E-marketplaces and the remaining 56 MSMEs were non-adopters.

The data from these 66 MSME adopters were analysed to understand the benefits and motives of using B2B e-marketplaces by the MSMEs.

### IV. FINDINGS AND DISCUSSION

The benefits achieved by MSMEs by using B2B E-marketplaces and their mean scores are shown in the Table II. The table also shows the percentage of MSMEs that agree/disagree of achieving those benefits. The results show that MSMEs primarily agree (68%) that the E-marketplace has enabled them to improve their brand image and update product information instantly and cost effectively (44%). The motive behind the adoption of B2B E-marketplace is to have an online presence. Many MSMEs have standalone websites apart from electronic catalogues in the B2B e-marketplace websites. Among the 66 adopter MSMEs, 65% of the MSMEs also had a website. This clearly indicates that the MSMEs adopt B2B E-marketplaces primarily for marketing their products by placing their product information on multiple portals. As the switching costs for MSMEs are low, adopter MSMEs have registered in multiple B2B marketplace websites. On a average adopter MSMEs had registered with atleast two B2B e-marketplaces. MSMEs motive is primarily to have multiple presence online and promote the company and not conducting transactions. The motives were primarily exploration (62%) or legitimacy (38%) and planned decision making of use B2B e-marketplace was lacking.

### TABLE I

<table>
<thead>
<tr>
<th>Firm size</th>
<th>Number of MSMEs contacted</th>
<th>Responses received</th>
<th>Final Sample of MSMEs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Micro (&lt;25 lakhs)</td>
<td>50</td>
<td>30</td>
<td>6</td>
</tr>
<tr>
<td>Small Group1 (&gt;25 lakhs – 1 crore)</td>
<td>50</td>
<td>28</td>
<td>10</td>
</tr>
<tr>
<td>Small Group2 (&gt;1 crore - 5 crore rupees)</td>
<td>50</td>
<td>33</td>
<td>26</td>
</tr>
<tr>
<td>Medium (&gt;5 crore - 10 crore rupees)</td>
<td>50</td>
<td>31</td>
<td>24</td>
</tr>
<tr>
<td>Total</td>
<td>200</td>
<td>122</td>
<td>66</td>
</tr>
</tbody>
</table>

### TABLE II

<table>
<thead>
<tr>
<th>E-marketplace Benefits</th>
<th>Mean (Std. Deviation)</th>
<th>Percentage of MSMEs that agree*</th>
<th>Percentage of MSMEs that disagree*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enabled us to get new customers and increase sales</td>
<td>2.73 (1.144)</td>
<td>41%</td>
<td>54%</td>
</tr>
<tr>
<td>Improve brand image</td>
<td>3.46 (1.168)</td>
<td>68%</td>
<td>21%</td>
</tr>
<tr>
<td>Helped us in finding new suppliers</td>
<td>2.45 (1.383)</td>
<td>33%</td>
<td>67%</td>
</tr>
<tr>
<td>Flexibility in administration and communication</td>
<td>1.65 (.832)</td>
<td>4%</td>
<td>86%</td>
</tr>
<tr>
<td>Information on competitors at single source</td>
<td>1.77 (.891)</td>
<td>8%</td>
<td>85%</td>
</tr>
<tr>
<td>Improve customer services</td>
<td>1.62 (.873)</td>
<td>8%</td>
<td>89%</td>
</tr>
<tr>
<td>Update product information instantly and cost effectively</td>
<td>2.65 (1.504)</td>
<td>44%</td>
<td>55%</td>
</tr>
<tr>
<td>Enter supply chains of large companies</td>
<td>1.52 (.561)</td>
<td>3%</td>
<td>97%</td>
</tr>
</tbody>
</table>

* The figures of agree and disagree do not add to 100% as remaining percent of MSMEs were neutral.

The adopters were using B2B e-marketplaces at various levels and based on the classification used by Son and Benbasat [15], adopter MSMEs were classified into following stages:

- **Exploration stage**: SMEs that have registered (usually free), but not started conducting any activities online
- **Trial Stage**: Has registered and has been conducting transactions, but still evaluating the merits and demerits
- **Commitment stage**: Online marketing part of the SME strategy and planned allocation of resources to avail various services provided by the e-marketplace.

Table III shows the adoption stages of the MSMEs in the sample.

### TABLE III

<table>
<thead>
<tr>
<th>Adoption Stage</th>
<th>Number of Adopter MSMEs in the sample (N=66)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exploratory Stage</td>
<td>37</td>
</tr>
<tr>
<td>Trial Stage</td>
<td>18</td>
</tr>
<tr>
<td>Commitment Stage</td>
<td>11</td>
</tr>
</tbody>
</table>

As seen in the Table III, majority of the MSME adopters are in exploratory or trial stage and e-marketplace has still not become a part of their business. The MSMEs in India are in the experimentation stage of using B2B E-marketplace. Therefore the benefits are still not clear. Forty one percent of MSMEs have agreed that it has enabled them to get new customers and increase sales. Since E-marketplace gives lot of choice to buyers, not all MSMEs are able to convert their
enquiries into sales. The MSMEs also have to invest considerable amount of resources to undertake marketing through E-marketplaces and follow up the enquiries. As shown in annexure one, majority of the adopters belong to the Small Group 2 and Medium enterprises who are larger companies with more financial and human resources to commit to the E-marketplace activities. Thirty three percent of the MSMEs have agreed that it has helped them in finding suppliers. The MSMEs that used E-marketplace for identifying suppliers agreed that they used it to identify suppliers for indirect goods such as packaging material supplier or for a component that is not available in the local market. However none of the MSMEs used B2B e-marketplaces for identifying suppliers for their raw materials. These are sourced through trusted suppliers with whom the firm has long term relationships.

Majority of the MSMEs have disagreed with the benefits such as flexibility in administration and communication, improve customer services, information on competitors at single source, and enter supply chains of large companies.

V. MANAGERIAL IMPLICATIONS AND CONCLUSION

The findings of this study has implications for practitioners primarily e-marketplace vendors. The B2B e-marketplace service providers or so-called intermediaries have to ensure that they have large buyers use their supplier database to create value for the MSMEs. MSMEs would continue using the E-marketplace only if they have significant orders or business generated through this channel. In the first phase MSMEs may be satisfied with online presence and electronic catalogues, however with experience they would expect quantifiable results from the E-marketplace. If MSMEs perceive that they can have higher profit margins through traditional channels, they would prefer traditional intermediaries over online intermediaries. B2B marketplace vendors should move from advertising only revenue model to more result oriented revenue models based on transactions, business processes automated, additional value adding services to build trust and facilitate long term partnerships and collaboration between buyers and sellers.

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