

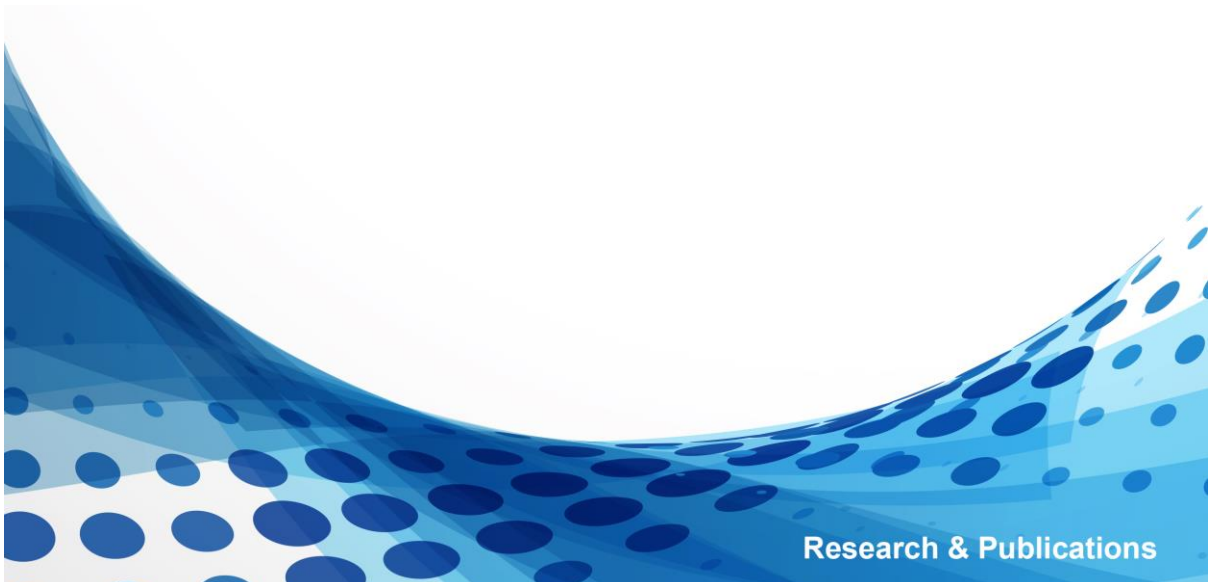


भारतीय प्रबंध संस्थान अहमदाबाद  
INDIAN INSTITUTE *of* MANAGEMENT AHMEDABAD

**IIMA**  
Working Paper

## **Small Businesses and Digital Platforms**

Nishant Chadha, Viswanath Pingali & D. Daniel Sokol



Research & Publications

# **Small Businesses and Digital Platforms**

Nishant Chadha, Viswanath Pingali & D. Daniel Sokol

**September 2023**

The main objective of the working paper series of the IIMA is to help faculty members, research staff and doctoral students to speedily share their research findings with professional colleagues and test their research findings at the pre-publication stage. IIMA is committed to maintain academic freedom. The opinion(s), view(s) and conclusion(s) expressed in the working paper are those of the authors and not that of IIMA.



## SMALL BUSINESSES AND DIGITAL PLATFORMS

“These digital platforms have provided an option for the startups to try fast and fail fast. Startups can use the data from these platforms to understand their customers and their needs. This can help the startups make necessary changes to the product/positioning to better serve customer needs.”

-- A small business owner in the food sector

### Introduction

With the emergence of digital markets, business is changing (Dushnitsky and Matusik, 2019). Small businesses are no exception, and they can extend their limited resources by leveraging several tools provided by digital platforms, such as targeted advertising, data analytics, and logistics support (Clough, Fang, Vissa and Wu, 2019). One of the features of Alibaba, for example, is its ability to create an ecosystem for small businesses to thrive (Wang, 2018). Similarly, when an entrepreneur joins Shopify’s platform using the platform’s no-code and low-code tools, they do so with fewer financial and human resources when compared to those not listed on Shopify (Dushnitsky and Stroube, 2021).

Much of the extant literature on entrepreneurship and digital platforms focuses primarily on venture capital-funded technology-driven firms.<sup>1</sup> While the value digital platforms create for small businesses is well known, at least in theory, empirical evidence that focuses extensively on how micro and small businesses utilize platforms to survive and grow needs to be studied (World Economic Forum, 2023). This paper attempts to fill this gap and ask how small businesses use digital platforms to survive and grow. We investigate how the traditional micro,

---

<sup>1</sup> The extant strategy literature differentiates between small businesses and entrepreneurship (Carland, et al., 1984).

small, and medium enterprises (MSMEs), incorporate the use of digital platforms into their strategies. Specifically, do small firms that use digital platforms show a greater tendency to expand their operations? Further, we investigate whether small businesses use single or multiple platforms for advertising and sales (single-homing vs. multi-homing). If MSMEs use multiple digital platforms, do they utilize only established platforms or the nascent ones too?

We answer these questions using survey data from across one thousand four hundred Indian businesses established between 2016 and 2022. Therefore, our survey participants are new entrants. Along with the survey, we conducted in-depth interviews with a dozen representatives of small businesses. More than 50% of our survey respondents have an annual turnover of less than INR 10 million (approximately \$125,000). Our respondents (both questionnaire and interviews) are users, not producers of technology. We find that small businesses that use digital platforms tend to have a more extensive geographic reach, including to other countries. Further, firms multihome for both functions, advertising, and sales. Interestingly, this multihoming is not restricted to established platforms; even nascent platforms garner their share of attention from small businesses.

Despite significant literature on value creation by digital platforms for businesses, many countries are pushing for digital platform regulation (Sokol and Van Alstyne 2021). The main regulatory concerns are large platforms' potential entrenched market power and ability to exact terms on complementors. Some examples are the e-commerce bill by the Government of India or the Digital Markets Act (DMA) by the European Union. For regulations such as these to be effective, it is essential to understand how regulation impacts the market and its repercussions for various players more carefully, lest there be unintended consequences from regulation on competition (Peukert, Bechtold, Batikas and Kretschmer, 2022; Jia, Jin and Wagman, 2021).

At least in the case of the DMA, researchers have expressed concerns about innovation, value creation, and value exchange (Cennamo, 2021). Some argue that these regulations may harm small players disproportionately (Sokol and Van Alstyne, 2021). Some recent literature also points out that stringent restrictions on the operations of digital platforms can adversely affect small businesses (Kricher and Foerderer, 2023). The results of this paper add to this burgeoning debate. If we observe multihoming in practice – especially on nascent platforms – the extent to which the established platforms can set terms for small businesses dissipates. Given that small businesses leverage digital platforms for expansion, it is also imperative for policymakers to weigh the costs and benefits of digital regulation more carefully.

While these results are based on a survey of small businesses in India, they are generalizable. During interviews with the small businesses, interviewees identified that one of the advantages of the platforms is developing trust between consumers and products. They added that reviews on a platform significantly help small firms establish credibility in the market. Respondents identified trust, market expansion, choice of platforms to utilize, and exporting to other countries as issues of concern. A recent global survey by Meta on the state of small and medium businesses (SMBs) across 34 countries confirms some of the paper’s results as being more broadly applicable.<sup>2</sup> The global survey shows that by using Meta platforms (Facebook and Instagram, primarily) SMBs’ performance and reach have increased.

Given this reality, it is surprising that the literature on small businesses and digital platforms has not focused enough on the strategic choices of small businesses. We contribute to this literature.

---

<sup>2</sup> <https://dataforgood.facebook.com/dfg/docs/2022-global-state-of-small-business>

## **Literature Review and Hypotheses Development**

### ***Small Firms and Digital Presence***

The literature in economics (Baumol, 1982; Baumol and Willig, 1981; Cabral and Ross, 2008) and strategy (Lieberman, Lee and Folta, 2016; Minniti, 2016) suggests that sunk costs play a significant role in the entry and expansion plans of a firm, especially in the presence of a well-established incumbent in the market. An incumbent can actively deter the entry of a new entrant if the fixed costs are sufficiently high (Tirole, 1995). Relatedly, if the sunk costs of entry were to decline, we should expect greater market entry. Therefore, with the reduced sunk costs, existing small firms should also be able to enter new geographies.

The use of digital platforms offers small firms a way to enter and expand into new markets. Specifically, the literature suggests that platforms help reduce search, replication, transportation, tracking, and verification costs for entrants (Goldfarb and Tucker, 2019), thereby reducing sunk costs.

When the market has a well-established incumbent, a small firm also faces a problem establishing the product's credibility. After all, why should a customer trust a new product when the existing producer is meeting the needs? Platforms can help in mitigating the problem of trust significantly. For instance, reviews can help ascertain the quality of the product in the minds of potential customers (Courtney, Dutta and Li, 2016), thereby lessening trust issues. Further, platforms provide mechanisms to signal a business's quality to potential buyers, especially in export markets (Jean and Kim, 2021).

How, then, do digital platforms mitigate the costs for new entrants? One way is by either reducing these upfront sunk investments or converting sunk investments into variable costs. Digital platforms - social media, digital advertising, e-commerce, payments, and logistics platforms - can alter the entry cost structure by discretizing these costs and thus converting

some of the upfront costs to variable costs. For instance, unlike traditional advertising, digital platforms allow an entrepreneur to target their advertisement to the most likely customers, increasing the likelihood of a sale (Ghose and Todri, 2016; Goldfarb, 2014). With the time spent online increasing, platform businesses have been built around monetizing this consumer presence through advertising.

Expansion of the market for small businesses need not be restricted to within the country. Some of the tools provided by digital platforms can help small businesses overcome the challenges of operating in other countries. For instance, recent research shows that international transactions on a digital platform increased significantly when the platform introduced a machine translation system (Brynjolfsson, Hui and Liu, 2019). Data generated by using the platforms and the dashboards created by them help small businesses significantly in conducting analytics, which can be invaluable in placing products effectively (Jones, Borgman and Ulosuy, 2015). Logistical support, overcoming regulatory restrictions in an alien country, etc., are some of the other reasons small businesses expand abroad using digital platforms.<sup>3</sup> In short, we expect that small businesses that use digital platforms to export more than firms that do not.

Online advertising is different from traditional forms of advertising because the underlying technology reduces the cost of targeting. Communication between online complementors is one-on-one, so online advertisers have access to pricing mechanisms that offline advertising does not. For instance, online advertisers can price advertising space at cost per thousand impressions (Zhu and Wilbur, 2011). This is not possible for physical forms of advertising. While some forms of traditional advertising, like TV advertising, are priced considering the number of viewers, these spots are limited. But with online advertising and one-to-one digital

---

<sup>3</sup> Research indicates that New Zealand firms are able to enter the Chinese market by leveraging Alibaba's network to navigate through regulations.

communications, the number of sites available for advertising is multiples of the number of users (the actual number depends on the users' online behavior). Online advertising is, thus, also discretized. Advertisers can buy advertising space in much smaller bundles (and hence cost) than traditional advertising. Similar reasoning applies to other expenses: logistics, setting up of supply chains, etc. This dynamic has implications for small businesses.

Another mechanism through which platforms could help small businesses in mitigating entry costs is through network effects (Iyer, Lee and Venkataraman, 2006). More recent studies have shown that an entrepreneur's success depends on the strategies adopted by other entrepreneurs and needs to be coordinated across and within the platforms (Srinivasan and Venkataraman, 2017). Crowdfunding is another area where coordination among businesses on the usage of platforms matters (Maula and Lukkarinen, 2022). Thus, platforms help in mitigating sunk costs, thereby facilitating expansion. We, therefore, expect more and more small firms to use digital platforms over conventional means for advertising. The discussion thus far leads us to the following two hypotheses:

**Hypothesis 1:** The smaller the firm is, the lesser is its usage of conventional channels for advertising and sales.

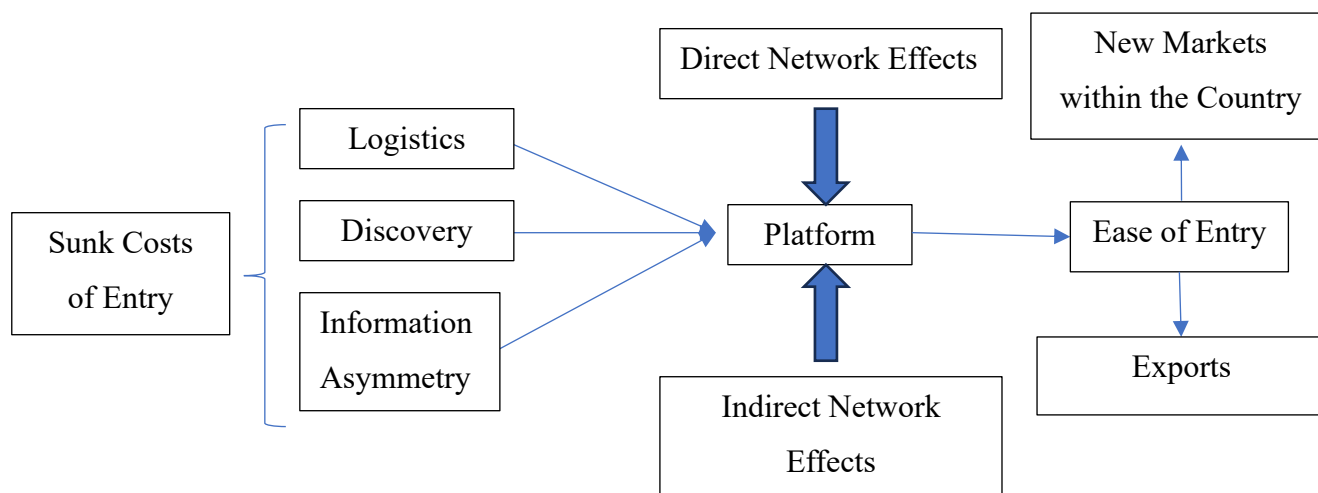
**Hypothesis 2:** There is a positive relationship between a firm's digital presence and the number of geographies it operates in, including exports.

Admittedly, other factors than being digitally present also determine the expansion/export decisions of the firms. Since our empirical strategy (described in the next section) does not allow us to control for all these factors, we only hypothesize that there is a strong positive relationship between the digital presence of the firms and their ability to operate in multiple geographies. Figure 1 illustrates Hypotheses 1 and 2.



## Tables and Figures

**Figure 1: Illustration of Hypotheses 1 and 2**



### ***Sellers and Multihoming***

Should small businesses looking to expand or enter new markets rely on a single platform or multiple platforms? Since every digital platform is unique (different user interface, listing of products, buyers they attract, etc.), small firms need to formulate different strategies to adapt and leverage the features that digital platforms provide. For every platform that a firm operates on, the firm needs to incur an additional cost to adapt to the platform's requirements. The management literature, too, has documented that the platform strategies significantly influence the strategies adopted by the firm, for instance, in price and quality setting (Rietveld and Schilling, 2020). In crowdfunding, for example, the literature has argued that experience from one platform does not necessarily lead to a better understanding of other platforms (Dushnitsky and Fitza, 2018). Since small firms are heavily budget-constrained, it is difficult for them to operate on multiple platforms.

Given the above reasoning, would it make sense for small businesses to multihome? The answer to this question could be yes if small firms are trying to determine their optimal strategy concerning which platforms they should operate on. Since newer firms do not have an

operational history of platforms in general, and any platform in particular, it is *a priori* not clear which digital platform is better for them. While some platforms facilitate customer interaction, others might allow logistics planning ease. Therefore, firms could operate on multiple platforms to determine what works best. There is a delicate tension between figuring out which platform(s) works best for small businesses and paying the additional costs for operating on each of these platforms. In other words, small businesses might be learning-by-doing. The management literature addresses learning-by-doing from managerial experience (Kempf, Manconi and Spalt, 2017) and serial entrepreneurship (Cope and Watts, 2000), but not from learning-by-doing from digital platforms.

However, the focus on learning-by-doing in the context of small firms and platforms needs to be better explored. The theoretical literature on platforms, too, shows that for multihoming to exist, it is sufficient to have product differentiation among platforms only on one side (Rochet and Tirole, 2010). Further, when there is product differentiation among platforms for buyers alone, it is the sellers that multihome, even if the platforms are similar to them (Armstrong and Wright, 2007). The management literature too argues that the platforms have a unique identity, and such unique identity, along with the size, are the differentiating factors that explain the nature of competition among the platforms. Therefore, while network effects play a significant role in the platform's survival, there are cases where the market can become contestable. These platforms create supply chains, alliances, markets, etc., which make them unique and not fully replicable. (Cennamo, 2021; Cennamo, Ozalp and Kretschmer, 2018; Li and Zhu, 2021; Jacobides, Cennamo and Gawer, 2018). The literature also classifies platforms as *meta-organizations* that differentiate themselves in several ways from the competitors through either the governance structures or strategies they adopt to attract new participants (Kretschmer, Leiponen, Schilling and Vasudeva, 2020). These studies point out the possibility of multihoming, especially by small firms, to exploit the network effects inherent to that platform.

Given this, we hypothesize that firms tend to multihome for advertising and selling their products.

There could also be differences in how small and large firms strategize regarding digital platforms (Wang & Miller, 2019). This is especially true if a large firm is an incumbent. Consider the hypothetical case where a business wants to advertise on a digital platform. A typical pricing model followed by the platform for advertising space is pay-per-click, i.e., for every click, the advertiser pays the platform a fee determined through an auction (Evans, 2009). When a small firm advertises, it expects fewer clicks compared to the incumbent, primarily because of the reputation effects. Therefore, small businesses need to bid significantly higher pay-per-click rates to win advertising space. This implies that small firms cannot spread their limited resources across too many large (popular) digital platforms. Hence, while both large and small firms operate across major digital platforms, small firms also advertise on nascent (and niche) platforms, presumably because of lower demand for advertising space on these younger platforms.

**Hypothesis 3:** Firms use multiple digital platforms, including the nascent platforms for discoverability and sales.

## **Data**

Primary data for this study comes from a survey of firms in India registered between 2016 and 2022. These firms are, therefore, young, formed at most seven years ago, and also fit the definition of startups as per the Indian government's definition. The Ministry of Corporate Affairs (MCA), Government of India, maintains a database of all the firms registered in the country, along with their contact information, location and sector of operation. Using the last two variables, we removed all the firms operating in the intermediate goods segment. A final list of about 460,000 firms was created to whom we sent a structured questionnaire with closed-

ended multiple-choice questions. The survey consists of three sets of questions – information about the firm, questions on advertising strategies, and finally, questions on sales and distribution. We pretested the questions for design, wording, and content. The average time taken to complete the survey was about four minutes.

Prior studies on survey design have documented that the length of online surveys is inversely related to the response rate, and repeat reminders help boost the response rate (Fan, 2010). Considering this, our survey was designed to elicit enough information to answer the research questions in as few survey questions as possible. Further, each firm was sent three emails reminding them to complete the survey. From a total of 460,000 emails sent (without including the reminders), we obtained 1438 responses. We outline our detailed survey methodology in the appendix, including the questionnaire.

In addition to the primary data we collected via administering the questionnaire, we conducted in-depth interviews with a dozen small business owners.<sup>4</sup> While the broad questions we discussed with these firms are the same as our questionnaire, the semi-structured nature of discussions allowed us to probe them further on specific issues, enabling us to develop a nuanced understanding of their strategies for the digital markets (Jin and Hurd 2018).

### ***Sample Description***

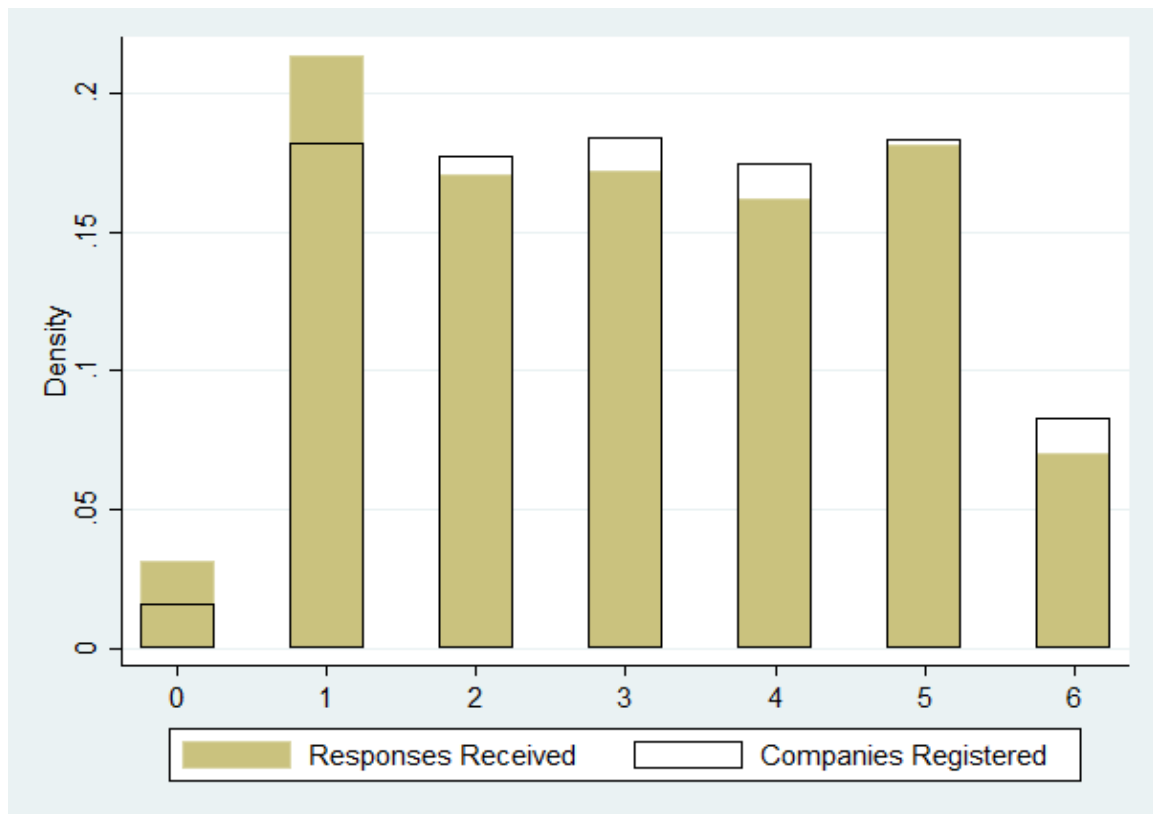
The geographical spread of our respondents was almost similar to the geographical spread of the number of emails sent in each Indian state. The correlation between the state where the firms were registered and the state from which responses to our emails were received was 0.91. Therefore, the sample is well represented geographically within India rather than concentrated regionally. Geographical representation of the population and the sample are presented in the Appendix.

---

<sup>4</sup> Mixed methods in entrepreneurship have been used earlier in the literature (Peterson and Wu, 2021).

In terms of the age of the firms, too, our sample is representative of the population. In Figure 2, we juxtapose the distribution of the age of respondents with that of the age of the entire population of firms. While the survey respondents are, on average, slightly younger than the average age of the population, the two distributions are similar. The mean age of the population and the mean age of the sample are 3.20 and 3.04, respectively. Since we did not ask for the firm's age in the questionnaire, we needed to match the firm with the MCA database using the email address the responders used to complete the survey. A few responders used a different email than the registered one; therefore, we could only use a subsample to calculate the age.

**Figure 2: Age Distribution of Population vs. Respondents**



*Sample Size: 820*

*Source: MCA database*

### *Descriptive Statistics*

Panel A of Table 1 presents the sector of operations of the survey respondents. At 57%, the service sector is the largest among the respondents. Interestingly, 11.23% of the firms report their sector of operations as direct-to-consumer (D2C), a model of selling which completely eschews traditional sales channels and relies entirely on e-retail (Schacker and Stanoevska-Slabeva, 2023). D2C can substantially reduce entry costs for firms and is one of the fastest-growing segments of the retail industry (Arora, Dahlstrom, Hazan, Khan and Khanna, 2020).

Panel B of the same table reports information on the digital presence of surveyed firms. Not all firms responded to all questions; hence, the sample size varies across indicators. About 76% of firms advertise digitally, 81.26% have a website, and 53.24% sell online through e-commerce platforms, their websites, or both. These proportions on firms present digitally are likely higher than in the population of all enterprises partly due to a response bias – firms who have a digital presence are more likely to respond to the survey – and partly due to how our sampling frame is created. We consider only registered firms in our survey. Evidence worldwide suggests that registered firms are more productive, typically larger, efficient, and run by more educated entrepreneurs (La Porta and Shleifer, 2014). India has a very low number of registered firms – 6 to 8% (Sharma, 2014). Thus, our survey responses may be biased toward firms that use digital platforms. Given that our interest in this paper is to understand the strategies adopted by entrants and young firms concerning digital platforms, the bias in responses does not confound those results. The caveat is that the findings on digital presence should not be generalized to the larger population of firms.

**Table 1: Descriptive Statistics and Sector of Operations****Panel A: Sector of Operation**

<b>Sector of operation</b>	<b>No. of responses</b>	<b>% of sample</b>
D2C channel	116	11.23
Manufacturing	187	18.1
Services	74	7.16
Retail trade	591	57.21
Wholesale trade	65	6.29
Total	1033	100

**Panel B: Digital Presence**

<b>Activity</b>	<b>Observations</b>	<b>% of sample</b>
Advertise digitally	1335	75.96
Have a website	1206	81.26
Sell online	1198	52.34

*Source: Authors' calculations*

Firms in our survey are understandably small. About 59% of the sample has a turnover of less than INR 10 million, and 82% has a turnover of less than INR 50 million.<sup>5</sup> About 23% of the firms report that they export. This is surprising given how small these firms. But, as we show later, this can partly be explained by the advertising and sales strategies they adopt. An average firm in the dataset has positive sales in 1.5 out of four regions (East, North, West, and South).

<sup>5</sup> INR 10 million is approximately USD 125,000. Similarly, INR 50 million is approximately, USD 625,000.

## Findings

### *Digital vs. Conventional Advertising*

Table 2 presents how various firms advertise – digital vs. conventional – depending on their size. We divide the respondent firms into three types: those whose annual turnover is less than INR 10 million, between INR 10 million and INR 100 million, and above INR 100 million. While all firms advertise digitally (Column 2), the propensity to advertise conventionally increases with the firm's size (Column 3). Therefore, the difference between the percentage of firms that advertise conventionally vs. digitally increases with an increase in the firm's size.

**Table 2: Small Firms prefer Digital Advertising to Conventional Advertising**

<b>Firm Size (in INR)</b>	<b>Number of Responses</b>	<b>% Advertise Digitally</b>	<b>% Advertise Conventionally</b>
Less than 10 Mil	637	79.12	55.75
> 10 Mil and < 100 Mil	319	74.61	60.00
Above 100 Mil	132	79.70	67.42

*Source: Authors' calculations*

Table 3 reports, by size, the various modes of conventional advertising (radio, television, display, newspaper, and pamphlets) firms use. The most used method is pamphlets, followed by kiosks and presence at events. The least used methods are advertising on radio and television. Firms use more of the cheaper and divisible methods. The use of all conventional advertising channels increases with firm size. The only exception is pamphlets, with no discernible pattern by firm size. Indeed, the smallest firms advertise through pamphlets marginally more than larger firms. Pamphlets are popular even with small firms, ostensibly because they are significantly cheaper than the other modes of conventional advertising. However, the problem with pamphlets is that their geographical reach is limited.



**Table 3: Different Channels of Conventional Advertising by Firm Size**

<b>Firm Size (in INR)</b>	<b>Responses</b>	<b>Radio</b>	<b>Television</b>	<b>Pamphlets</b>	<b>Newspaper</b>	<b>Physical display</b>	<b>Kiosks/Events</b>
Full sample	1090	4.95	4.40	30.64	19.90	20.10	24.04
< 10 Mil.	637	3.92	2.83	31.55	17.11	17.58	21.66
>10 Mil and <100 Mil	320	5.31	5.00	29.06	21.25	21.56	23.44
>100 Mil.	133	9.02	10.53	30.08	30.08	28.58	36.84

*Source: Authors' calculations*

We next look at various modes of digital advertising (e-commerce advertising, social media, email marketing, and performance marketing). Table 4 presents the responses to these choices. Perhaps unsurprisingly, the usage of various forms of digital advertising channels increases with firm size, except for social media. Small firms rely more on social media advertising to promote their business. As discussed below, this is perhaps because smaller firms can 'organically' push content on social media, which is attractive given their tighter budgets.

**Table 4: Various channels of digital advertising**

<b>Firm Size (in INR)</b>	<b>Responses</b>	<b>E- commerce</b>	<b>Social Media</b>	<b>E-mail Marketing</b>	<b>Performance Marketing</b>
Full sample	1077	16.53	85.14	46.05	53.20
< 10 Mil.	504	16.47	92.46	45.04	54.17
>10 Mil and <100 Mil	238	19.33	89.50	51.26	61.34
>100 Mil.	106	25.47	84.91	57.55	59.43

*Source: Authors' calculations*

### ***On the Use of Social Media***

Table 5 reports the percentage of firms using each major social media platform operating in India. Among the respondents, the number of firms that use social media to promote their business is 917. About 77% of our respondents advertise on more than one platform, with the median number of platforms used being 2.5. While most firms use Facebook and Instagram to promote, YouTube has also garnered significant responses. Additionally, these small firms also use some of the not-so-famous platforms to advertise their products. Therefore, the key finding

from this analysis is that firms multihome on social media platforms. This multihoming is not just between the large platforms but also between large and small nascent platforms. Our in-depth interviews allow us to understand why the use of social media, in general, and platforms, in particular, is so high. Smaller firms, tight on budgets, rely on organically promoting content related to their products on social media platforms. They rely on using the direct network effects on these platforms to promote their products or services. For these firms, the size and character of the direct network effects on the platform are thus essential.

**Table 5: Use of Social Media in Digital Advertising**

<b>Platform</b>	<b>% of respondents</b>
Facebook	80.37
Instagram	74.59
Twitter	23.45
YouTube	41.00
LinkedIn	20.50
WhatsApp	5.67
Other	5.13

Sample size: 917

*Source: Authors' calculations*

### ***Online Sales and Logistics***

Firms in our sample rely on both e-commerce platforms and their websites to make online sales. As discussed above, only about 53% of the firms sell online. This is partly because, while all firms need to get the word out about their products, not all have products or services that can be sold digitally. As Table 6 shows, most of those who sell online prefer their websites over e-commerce platforms. While about 55% of firms sell through their websites, only 29% are on e-commerce platforms. Among the firms that sell on e-commerce platforms, Amazon and Flipkart are the two popular choices. An interesting fact is that social media competes for the attention of small firms along with Amazon and Flipkart. A few emerging platforms too, attract these small firms' attention for online sales, just like in the case of advertisements. Again, just like in the case of advertising, there is significant multihoming in online sales. About 62% of the firms that sell online are on multiple platforms, with the median number of platforms being two and the mean being 2.3. Another thing to notice is that the firm's website is also a significant competitor to these platforms regarding sales.

**Table 6: Firms Prefer Their Websites**

		E-commerce sales	
		Yes	No
Website sales	Yes	24.36	30.86
	No	4.64	40.14

*Source: Authors' calculations*

**Table 7: Use of E-Commerce Platforms for Sales**

<b>Platform</b>	<b>% of firms using e-commerce</b>
Amazon	55.30
Flipkart	39.83
Myntra	12.32
Meesho	14.90
Social media	45.56
Others	24.36

Sample size: 349

*Source: Authors' calculations*

### ***Effects of Being Digitally Present***

While these small firms may be using digital platforms significantly, an immediate question of interest is, does being able to use digital platforms add any benefit to these small firms? We explore this question in two ways: First, we look at the total number of regions where a firm has positive sales. Given the online nature of the survey, we only queried if the firm had positive sales in each of the four regions of India – East, West, North, and South. We expect firms that advertise digitally and have online sales will sell in more regions. Second, we check whether digital presence increases the probability that a firm will export.

To check this, we run the following regression model:

$$Y_i = \beta_0 + \beta_1 \text{Digital Advertising}_i + \beta_2 \text{Online Sales}_i + \beta_3 X_i + \epsilon_i$$

Here, the index  $i$  represents the firm.  $Y_i$  is the outcome variable representing either the number of regions the firm operates in (1, 2, 3, or 4) or whether the firm exports (0 when the firm does not export, and 1 where the firm exports). *Digital Advertising* and *Online Sales* are dummy variables (1 if the firm advertises/sells online, 0 otherwise). The control variables include the

firm's turnover and the sector of operation. The parameters of interest are  $\beta_1$  and  $\beta_2$ . We should observe these two parameters as positive and significant if the online presence is effective.

The regressions above do not necessarily imply causality. For instance, there could be several firm-level characteristics that determine both the strategy to use digital platforms and develop greater geographical reach. Further, some regions may attract greater entry of small firms than others. We cannot control for those since we do not have firm-level characteristics (other than turnover and sector) or regional heterogeneity. Therefore, the coefficients need to be interpreted as a relationship between digitally present firms and their propensity to operate in broader geographies rather than saying that digital presence leads to greater geographical reach for these small firms.

The results with the number of regions as the dependent variable are presented in Table 8. Columns 1 and 2 report the point estimates of  $\beta_1$ . Column 2 adds turnover and the sector of operation as control variables. The estimates are highly statistically significant and economically meaningful. On average, firms that advertise digitally sell in 0.2 regions more than those that do not. The average number of sales regions for a firm in the data is 1.5. So, this is an increase over the mean of about 13%. Columns 3 and 4 similarly report point estimates of  $\beta_2$ . The results are qualitatively similar but numerically larger. Since turnover and sector of operation are added as control variables, our results show that even when compared to firms of the same size and sector, firms with digital presence have a larger geographical spread.

When we combine digital advertising and online sales in the regression, online sales are a stronger predictor of selling in more regions. Finally, in the last two columns, we also include an interaction of the two terms – online sales and digital advertising. This divides the data into four groups – (i) firms with online sales and digital advertising, (ii) firms with online sales but no digital advertising, (iii) firms with digital advertising but no online sales, and (iv) firms with

neither. As the results of the interaction show, the effect of digital presence increasing sales is coming from the firms in the first group – those who advertise digitally and sell online. The point estimate on the interaction term shows that digital presence increases the number of regions with positive sales by about 25%. We have used several specifications to run the regression, and the results are qualitatively similar. In the interest of space, we only report the results of simple linear regression.

**Table 8: Effect of Digital Advertising and Online Sales on the Geographical Spread of Sales**

	1	2	3	4	5	6	7	8
Dependent variable	Regions	Regions	Regions	Regions	Regions	Regions	Regions	Regions
Ads digitally	0.230*** 0.069	0.229*** 0.068			0.120* 0.072	0.115 0.071	0.00404 0.083	0.00119 0.082
Online sales			0.310*** 0.063	0.322*** 0.062	0.275*** 0.065	0.288*** 0.064	-0.064 0.140	-0.0429 0.138
Ads and sales							0.410*** -0.158	0.401*** -0.155
Turnover		0.157*** 0.035		0.161*** 0.035		0.161*** 0.035		0.160*** 0.035
Constant	1.230*** 0.058	0.960*** 0.076	1.240*** 0.040	0.956*** 0.065	1.165*** 0.060	0.886*** 0.077	1.237*** 0.066	0.957*** 0.083
Sector	YES	YES	YES	YES	YES	YES	YES	YES
Observations	1,089	1,089	1,085	1,085	1,085	1,085	1,085	1,085
R-squared	0.008	0.032	0.021	0.046	0.023	0.048	0.028	0.052

Notes: \*, \*\*, \*\*\* denote significance at 90, 95, and 99%, respectively. The dependent variable is the number of regions. Robust standard errors are displayed in red.

Table 9 presents similar results for whether the firm exports or not as a dependent variable. Given that the dependent and independent variables are dummy variables, the point estimates can be read as a change in the probability of exporting by an average firm. The estimates suggest that digital advertising or online sales increase a firm's likelihood of exporting by about 5%. These are robust to adding turnover and sector as control variables, as in columns 2 and 4. However, the results are less statistically significant than those for the total number of regions with positive sales. In the last column, for instance, the point estimate on the interaction term of digital advertising and online sales is positive, with the point estimate still around 5%. However, the standard errors are quite large. As in the case of advertising, we ran several specifications, and the results are similar. In the interest of space, we only report the results from simple linear regression.

**Table 9: Effect of Digital Advertising and Online Sales on Exports**

	1	2	3	4	5	6	7	8
Dependent variable	exports	exports	exports	exports	exports	exports	exports	exports
advert digital	0.0474 <sup>#</sup> 0.0293	0.0470 <sup>#</sup> 0.0290			0.0334 0.0314	0.0318 0.0310	0.0208 0.0373	0.02 0.0369
Turnover		0.0502*** 0.0131		0.0493*** 0.0131		0.0491*** 0.0131		0.0490*** 0.0131
sell online			0.0379 <sup>#</sup> 0.0257	0.0415 <sup>#</sup> 0.0255	0.028 0.0273	0.0321 0.0270	-0.00872 0.0619	-0.00225 0.0609
interaction							0.0444 0.0689	0.0416 0.0679
Constant	0.198*** 0.0253	0.112*** 0.0317	0.214*** 0.0183	0.127*** 0.0273	0.193*** 0.0262	0.108*** 0.0325	0.201*** 0.0288	0.115*** 0.0349
Sector	YES	YES	YES	YES	YES	YES	YES	YES
Observations	1,089	1,089	1,085	1,085	1,085	1,085	1,085	1,085
R-squared	0.002	0.017	0.002	0.016	0.003	0.017	0.003	0.017

Notes: \*, \*\*, \*\*\* denote significance at 90, 95, and 99%, respectively. # denotes significance at 85%. The dependent variable is the number of regions. Robust standard errors are displayed in red

In short, while the point estimates suggest that going digital would improve a firm's chances to export, it is not necessarily a robust result. The reason is that we only have 255 firms with positive exports in the data. When we slice this small sample into four groups (described above), each cell only has a few entries. Thus, we only find weak support for the hypothesis that digital presence increases export presence. Another possible explanation is that exports require fulfilling legal and financial obligations for which platforms cannot reduce the cost. Thus, as the table shows, size is an advantage for exports.

### **Discussion and Conclusion**

This paper hypothesizes that small firms predominantly use digital platforms rather than conventional advertising (Hypothesis 1). The results we presented in Tables 2 and 3 support this hypothesis. Barring pamphlets, the reliance on traditional advertising increases with the firm's size. Pamphlets, while being cheap, have the disadvantage of limited geographical reach. This suggests that advertising expenses play a significant role in the strategy of small firms. While large firms can afford several means of advertising, both conventional and digital, small firms increasingly rely on digital platforms for advertising. Even if most of the firms in our sample are small, a marginal increase in firm size also leads to an increase in conventional advertising. Note that, in our questionnaire, we do not differentiate between advertising meant for discovery vis-à-vis advertising meant as a persuasive tactic. However, the discussions we had with several small business owners suggest that advertisement on digital platforms by small firms is predominantly due to discovery reasons.

Since these kinds of advertisement expenditures are often sunk costs (Kessides, 1986) associated with entry and expansion to new markets, we conjecture that digital platforms would enable greater entry in the areas where the platforms serve or enable the existing small firms to diversify geographically, including internationally. While the dataset we collected does not allow us to show whether platform entry led to greater entry, we show that the firms can expand



geographically within the country and abroad (Hypotheses 2a and 2b). Even if such causality cannot be established, our results prove a strong correlation between the geography of operation and digital presence. Furthermore, when firms do both activities (online advertising and selling), the relationship is more significant, suggesting the existence of complementarity across various digital activities.

An interesting debate in management literature is between the entrepreneurial opportunity discovery approach (Klien, 2008) and the opportunity creation approach (Alvarez and Barney, 2007). The opportunity discovery approach translates to the following question: Would small businesses be able to find niche markets without digital platforms? Small businesses have served niche markets long before the emergence of digital platforms. However, as the literature thus far points out, it has become significantly cheaper for small businesses to attempt entry due to platforms (Goldfarb, 2014; Goldfarb and Tucker, 2019). Therefore, while some small businesses might have found niche customers, they would be limited by several factors, including, but not limited to, geographic proximity. In the qualitative interviews we conducted, an answer that we heard repeatedly was that these small businesses were able to locate their customers (predominantly the Indian diaspora in the US, Canada, and Europe) much more easily via social media. At the same time, digital platforms alone would have created several opportunities that would not have existed earlier. There is evidence that platforms use innovative ways – for instance, hackathons – to let entrepreneurs understand platforms better (Fang, Wu and Clough, 2020). The data we have (both quantitative and qualitative) do not allow us to discern between the two approaches. However, there is evidence to believe that the null hypothesis – digital platforms have no impact on small businesses, can be rejected.

We also hypothesize that small firms rely on multiple platforms for advertising and selling (Hypotheses 3a and 3b). Results presented in Tables 5, 6, and 7 provide evidence supporting this hypothesis. Small businesses use multiple digital platforms both for advertising and selling.

Why do small firms multihome? One reason could be that each platform is unique and helps entrepreneurs differently (Cennemo, 2021). A few small business owners we spoke to during our in-depth interviews confirmed that each small business views each platform differently. One small business owner specializing in women's health and sexual well-being said, "We have outsourced the marketing on Facebook, Instagram, Google Ads, and YouTube to a third party." Another small business owner who specializes in ethnic Indian wear for women pointed out, "[Since we are majorly imagery-driven brand], we majorly use Facebook and Instagram, which are image-based platforms, and not Google, which is more text-based."

Another reason for multihoming could be primarily a trial-and-error attempt to determine the most effective platform for them, i.e., learning-by-doing. Almost all small businesses we directly interviewed said that these platforms do not provide any training on using the platform effectively. Therefore, learning how a platform works could be costly and dynamic. One of the small business owners we spoke to said, "I started by using [Platform 1] for delivery, but soon realized that [Platform 2] is a better platform. We have been using [Platform 2] ever since." They added, "Initially (2017), we started selling on our website. However, we decided to list ourselves on the marketplace due to less sales. After six months, we started listing on [Platform X] and soon went on to list on [Platform Y] and [Platform Z]. However, soon, due to issues with margins, we decided to withdraw from [Platform X] and [Platform Y]. We still continue on [Platform Z]." In short, platforms have differentiated offerings. Because of this, even the smaller firms multihome on platforms despite the apparent tension to conserve scarce budgets so that they learn what works for them over time.

We also find that small businesses rely on established platforms, as well as nascent and niche platforms. The interviews we conducted with the small business owners, too, confirm the

same.<sup>6</sup> Significantly, these interviews also revealed that their own website is another source of sales for these small businesses. This learning-by-doing is distinct from what is traditionally discussed in the literature, where costs reduce over time. It also differs from the resolution of uncertainty about specific parameters, such as the demand function. Firms operating on platforms need to learn about their products – which consumers are most likely to buy their products, which platform helps reduce their costs, etc. They also need to learn about the platform marketplace in general and also about specific platforms. This will be especially true for firms joining newer platforms – what they offer operationally, the size and composition of their networks, which competitors are likely to join the platforms, etc. This suggests that firms joining nascent (or entrant) platforms should also be present on other larger platforms – about whose operations, network size, etc., information is readily available.

Our data on the presence of firms on social media platforms supports this hypothesis. While the proportion of firms present on non-GAFAM (Google (Alphabet); Apple; Facebook (Meta); Amazon; and Microsoft) platforms does not vary with firm size, the number of platforms such firms are present on is much higher than the average firm in the sample. The median number of social media platforms these firms are present on is five compared to two for the entire sample. The mean is 4.83 compared to 2.4. This result also generates an additional question on learning-by-doing. While small businesses learn from digital platforms, platforms, too, learn from these small businesses. This is especially true if the platforms are relatively new.

This result of multihoming and usage of nascent platforms is worth noting, considering the increasing regulatory scrutiny of platforms regarding concerns about their potential ability to exploit small businesses. In markets where multihoming is possible, it is more difficult for any

---

<sup>6</sup> A small business owner who specializes in ethnic Indian wear suggested, “[While we use platforms such as Facebook and Instagram] We have also tied up with marketplace platforms such as Nykaa Fashion, Jaypore, and Myntra. We did not list ourselves on platforms such as Amazon/Flipkart because our positioning did not fit with the platform.” [Text in parentheses added]

platform to take undue advantage of any complementor. Further, with nascent platforms getting acceptance from small firms, any exploitation by large platforms of small firms may lead to greater entry into the platform markets by the differentiated platforms, thereby providing alternatives to the small firms. Like in the previous case, are small businesses advertising on nascent platforms due to cost reasons, or are they hoping to find more appropriate customers? We are unable to answer this question.

Some recent literature on entrepreneurship suggests that given the changing nature of the industry landscape, some of the traditional assumptions and definitions of entrepreneurship, especially related to opportunity, scaling up and resource allocation, need to change (Dushnitsky and Matusik, 2019). One of the main results of our paper, the ability to expand geographically through digital platforms, validates the arguments in the literature. Entrepreneurial opportunity, and the transformative journey of an entrepreneur by themselves, are not the main themes of this paper; however, scaling up a small business is one of the focus areas. Therefore, an immediate extension of the paper is to understand whether platforms, *per se*, enhance the entry of new firms. While theoretically, it should lead to greater entry; we could not find much empirical evidence supporting the same. Another extension of our paper is to understand what aspects of a platform ecosystem enable this expansion. While network effects are a part of the story, they are not the final word (Zhu and Iansiti, 2011).

Even if our results show that digital platforms help small businesses, we do not discuss their overall welfare. Some recent studies point out that a small business entirely dependent on the platform for its existence – platform-dependent entrepreneurs (PDE) – operates significantly differently from traditional businesses (Cutolo and Kenney, 2021). While many of the small businesses in our study rely on platforms, we do not know to what extent they rely exclusively on platforms. Therefore, one of the other extensions is to understand the extent of dependence on the platforms and the strategies required to mitigate the associated risks. Finally, while we

show that small businesses multihome (Hypothesis 4) for advertising and logistics, we do not look at the incremental impact of each additional platform the small business enters. If a small business enters a complementary platform (for example, Facebook for advertising and Amazon for sales), then one would expect a more significant positive impact on the small business than if it enters a substitute platform (for example, Facebook and YouTube for advertising). This question is crucial if we need to understand the degree of entry into the platforms and to what extent network effects are effective in decision-making. Even if we collected the data on the platforms the firms use, it isn't easy to pin down the complementarities. Perhaps, future research could investigate this incremental impact.

### ***Managerial and Policy Implications***

During our qualitative interviews, a small business owner specializing in snacking products mentioned, “Yes, in FMCG space, where the entry barrier is low, it becomes necessary to understand the customer’s needs and respond to the customers. The entry barrier can be created using a good brand story... We are a digital-first brand looking to reach customers in all possible manners.” This suggests the value digital platforms create for small businesses, whether for entering the markets or advertising their products. Recent literature points out that when Google banned targeted advertising on Android for children’s games, it resulted in *game abandonment* because developers could not access advertising revenues (Kricher and Foerderer, 2023).

Further, small businesses multihome across established and emerging platforms. While our analysis is based on data collected from small businesses in India, these results are generalizable. These results have several managerial and policy implications. There is an increase in the scrutiny of platforms by regulators worldwide. However, the impact of platforms on small businesses is missing from the regulators’ cost-benefit analysis. Since there is evidence to suggest that small businesses rely on platforms for advertising and selling, not

to mention expansion, any regulation of platforms needs to consider its impact on small businesses. In this paper, we only look at the behavior of sellers. However, all the discussion on multihoming, the ability to increase the choice of consumption set, etc., may also be equally applicable to buyers. If regulation impacts small businesses, buyers also may suffer.

We find evidence that small businesses leverage digital platforms to grow. We characterize some dimensions in which small businesses utilize the presence of and benefit from digital platforms. Still, there are several ways in which this relationship between small businesses and platforms can be extended. Understanding this relationship is important not only from a practitioner's perspective but also from a policy angle. We hope that future research characterizes this relationship further.

Finally, as noted earlier, all our interviews suggested that major digital platforms need to provide training on how a small business can leverage the digital platform. While it is not the paper's focus, digital platforms can differentiate themselves by helping small business owners better utilize the platform. Learning-by-doing is not limited to small businesses alone. Even digital platforms learn from the firms using the platforms and update their platform strategies. Business newspapers are also beginning to talk about such adaptation (Bhatt, 2023). Therefore, it is also essential for the platforms to invest in educating businesses on how to leverage digital platforms better. The Shopify example we discussed initially is an excellent example in that direction. Such activity might reduce regulatory concerns and make digital platforms more attractive, especially to small businesses.

## References

- Alvarez, S. A., & Barney, J.B. (2007). Discovery and creation: Alternative theories of entrepreneurial action. *Strategic Entrepreneurship Journal*, **1**(1), 11-26.
- Peterson, A., & Wu, A. (2021). Entrepreneurial learning and strategic foresight. *Strategic Management Journal*, **42**(13), 2357-2388.
- Armstrong, M., & Wright, J. (2007). Two-sided markets, competitive bottlenecks and exclusive contracts. *Economic Theory*, **32**(2), 353-380.
- Arora, A., Dahlström, P., Hazan, E., Khan, H., & Khanna, R. (2020). Reimagining marketing in the next normal. *McKinsey*.
- Baumol, W. J., & Willig, R. D. (1981). Fixed Costs, Sunk Costs, Entry Barriers, and Sustainability of Monopoly, *Quarterly Journal of Economics*, **96**(3), 405-431.
- Baumol, W. J (1982). Contestable Markets: An Uprising in the Theory of Industry Structure. *American Economic Review*, **72**(1), 1-15.
- Bhatt, S. (2023). Amazon Ads Eating into Google, Meta's Digital Marketing Pie, *The Economic Times*, 16<sup>th</sup> August 2023, retrieved from: <https://economictimes.indiatimes.com/tech/technology/amazon-ads-equals-minus-for-google-meta-digital-marketing-reign/articleshow/102752098.cms?from=mdr> (on 16 August 2023).
- Brynjolfsson, E., Hui X., & Liu, M. (2019). Does machine translation affect international trade? Evidence from a large digital platform. *Management Science*, **65**(12), 5449-5460.
- Cabral, L. M. B, & Ross, T. W. (2008). Are sunk costs a barrier to entry?. *Journal of Economics & Management Strategy*, **17**(1), 97-112.
- Carland, J. W., Hoy, F, Boulton, W. R., & Carland, J. A. C. (1984). Differentiating entrepreneurs from small business owners: A conceptualization. *Academy of Management Review* **9**(2), 354-359.
- Cennamo, C. (2021). Competing in digital markets: A platform-based perspective. *Academy of Management Perspectives* **35**(2), 265-291.
- Cennamo, C., Ozalp, H., & Kretschmer, T. (2018). Platform architecture and quality trade-offs of multihoming complements. *Information Systems Research*, **29**(2), 461-478.
- Cennamo, C., Kretschmer, T., Constantinides, P., Alaimo, C., Santaló, J. (2023). Digital platforms regulation: An innovation-centric view of the EU's Digital Markets Act. *Journal of European Competition Law & Practice*, **14**(1), 44-51.
- Clough, D. R., Fang, T. P., Vissa, B., & Wu, A. (2019). Turning lead into gold: How do entrepreneurs mobilize resources to exploit opportunities?. *Academy of Management Annals*, **13**(1), 240-271.
- Cope, J., & Watts, G. (2000). Learning by doing—an exploration of experience, critical incidents and reflection in entrepreneurial learning. *International Journal of Entrepreneurial Behavior & Research*, **6**(3), 104-124.
- Courtney, C., Dutta, S. & Li, Y. (2017). Resolving information asymmetry: Signaling, endorsement, and crowdfunding success.” *Entrepreneurship Theory and Practice*, **41**(2), 265-290.

- Cutolo, D., & Kenney, M. (2021). Platform-dependent entrepreneurs: Power asymmetries, risks, and strategies in the platform economy. *Academy of Management Perspectives*, **35**(4), 584-605.
- Dushnitsky, G., & Stroube, B.K. (2021). Low-code entrepreneurship: Shopify and the alternative path to growth. *Journal of Business Venturing Insights*, **16**, e00251.
- Dushnitsky, G., & Matusik, S.F. (2019). A fresh look at patterns and assumptions in the field of entrepreneurship: What can we learn?. *Strategic Entrepreneurship Journal*, **13**(4), 437-447.
- Dushnitsky, Gary, & Fitza, M.A. (2018). Are we missing the platforms for the crowd? Comparing investment drivers across multiple crowdfunding platforms. *Journal of Business Venturing Insights* **10**, e00100.
- Evans, D. S. (2009). The online advertising industry: Economics, evolution, and privacy." *Journal of Economic Perspectives*, **23**(3), 37-60.
- Fan, W., & Yan, Z. (2010). Factors affecting response rates of the web survey: A systematic review. *Computers in Human Behavior*, **26**(2), 132-139.
- Fang, T. P., Wu, A., & Clough, D. R. (2021). Platform diffusion at temporary gatherings: Social coordination and ecosystem emergence. *Strategic Management Journal*, **42**(2), 233-272.
- Ghose, A., & Todri-Adamopoulos, V. (2016). Toward a digital attribution model: measuring the impact of display advertising on online consumer behavior. *MIS Quarterly*, **40**(4), 889–910.
- Goldfarb, A. (2014). What is different about online advertising?. *Review of Industrial Organization*, **44**, 115-129.
- Goldfarb, A., & Tucker, C. (2019). Digital economics. *Journal of Economic Literature*, **57**(1), 3-43.
- Hayakawa, K., Mukunoki, H., & Urata, S. (2023). Can e-commerce mitigate the negative impact of COVID-19 on international trade?. *Japanese Economic Review*, **74**(2), 215-232.
- Hui, L., Zhu, F. (2020) Information Transparency, Multihoming, and Platform Competition: A Natural Experiment in the Daily Deals Market. *Management Science*, **67**(7): 4384-4407.
- Jacobides, M. G., Cennamo, C., & Gawer, A. (2018). Towards a theory of ecosystems. *Strategic Management Journal*, **39**(8), 2255-2276.
- Jean, RJB., & Kim, D. (2021). Signalling strategies of exporters on Internet business-to-business platforms. *Journal of Management Studies*, **58**(7), 1869-1898.
- Jia, J., Jin, G. Z., & Wagman, L. (2021). The short-run effects of the general data protection regulation on technology venture investment. *Marketing Science*, **40**(4): 661-684.
- Jin, H., & Hurd, F. (2018). Exploring the impact of digital platforms on SME internationalization: New Zealand SMEs use of the Alibaba platform for Chinese market entry. *Journal of Asia-Pacific Business*, **19**(2), 72-95.
- Jones, N., Borgman, R., & Ulusoy, E. (2015). Impact of social media on small businesses. *Journal of small business and enterprise development*, **22**(4), 611-632.



- Kempf, E., Manconi, A., & Spalt, O.G. (2017). Learning by doing: The value of experience and the origins of skill for mutual fund managers. *Available at SSRN 2124896* (2017).
- Kessides, I. N. (1986). Advertising, sunk costs, and barriers to entry. *Review of Economics and Statistics*, **68**(1), 84-95.
- Khanna, T., & Palepu, K. G. (2010) *Winning in emerging markets: A road map for strategy and execution*, Harvard Business Press.
- Klein, P. G. (2008). Opportunity discovery, entrepreneurial action, and economic organization. *Strategic Entrepreneurship Journal*, **2**(3), 175-190.
- Kretschmer, T., Leiponen, A., Schilling, M., & Vasudeva, G. (2022). Platform ecosystems as meta-organizations: Implications for platform strategies. *Strategic Management Journal*, **43**(3), 405-424.
- Kircher, T., & Foerderer, J. (2023). Ban Targeted Advertising? An Empirical Investigation of the Consequences for App Development. *Management Science*.
- La Porta, R., & Shleifer, A. (2014). Informality and development. *Journal of Economic Perspectives*, **28**(3), 109-126.
- Lieberman, M.B., Lee, G. K., & Folta, T.B. (2017). Entry, exit, and the potential for resource redeployment. *Strategic Management Journal*, **38**(3), 526-544.
- Maula, M. K. VJ, & Lukkarinen, A. (2022). Attention across borders: Investor attention as a driver of cross-border equity crowdfunding investments. *Strategic Entrepreneurship Journal*, **16**(4), 699-734.
- Minniti, M. (2016). The foundational contribution to entrepreneurship research of William J. Baumol. *Strategic Entrepreneurship Journal*, **10**(2), 214-228.
- Peukert, C., Bechtold, S., Batikas, M., & Kretschmer, T. (2022). Regulatory Spillovers and Data Governance: Evidence from the GDPR. *Marketing Science*, **41**(4), 746-768.
- Rietveld, J., & Schilling, M.A. (2021). Platform competition: A systematic and interdisciplinary review of the literature. *Journal of Management*, **47**(6), 1528-1563.
- Rochet, J.C., & Tirole, J. (2006). Two-sided markets: a progress report. *RAND Journal of Economics*, **37**(3), 645-667.
- Schacker, M., & Stanoevska-Slabeva, K. (2023). A morphology of digital direct-to-consumer (D2C) models. *Procedia Computer Science*, **219**, 170-177.
- Sharma, S. (2014). Benefits of a registration policy for microenterprise performance in India. *Small Business Economics*, **42**, 153-164.
- Sokol, D. D., & Van Alstyne, M. (2021). The rising risk of platform regulation. *MIT Sloan Management Review* **62**(2), 6A-10A.
- Srinivasan, A., & Venkatraman, N. (2018). Entrepreneurship in digital platforms: A network-centric view." *Strategic Entrepreneurship Journal*, **12**(1), 54-71.
- Tirole, J. (1988). *The theory of industrial organization*. MIT press.
- Wang, R. D., & Miller, C. D. (2020). Complementors' engagement in an ecosystem: A study of publishers'e-book offerings on Amazon Kindle. *Strategic Management Journal*, **41**(1), 3-26.

World Economic Forum, (2023). How digitalization will drive the global recovery for small businesses.

Zeng, M. (2018). Alibaba and the Future of Business. *Harvard Business Review*, **96**(5), 88-96.

Zhu, F., & Iansiti, M. (2012). Entry into platform-based markets. *Strategic Management Journal*, **33**(1), 88-106.

Zhu, Y., & Wilbur, K. C. (2011). Hybrid advertising auctions. *Marketing Science* **30**(2), 249-273.

## Small Businesses and Digital Platforms

### Appendix

The Ministry of Corporate Affairs (MCA) in India administers the Companies Act and Insolvency and Bankruptcy Code, 2016, regulating businesses in the industrial and services sectors. As such, it also maintains the records of entry of companies through registration, the regulatory filings that companies have to undertake and distressed exits and reallocation of assets through the insolvency procedures.

MCA collects and provides data on the registration of companies. We use this data in the paper to create a sample frame of firms for the survey. Until 2015, data was provided on companies registered every year. However, from January 2016 onwards, MCA started providing the data as per companies registered every month. We use the monthly data since it also agrees well with the definition of a startup in India, defined as a company not over seven years old.

The data files include the Company Identification Number (CIN), company name, date of incorporation, status, category, class, description, authorised and paid-up capital, and address. However, inconsistencies were observed in column naming and data type across the data files. For example, the date of incorporation column had more than three different formats, and sometimes the data was not in a proper date format. Additionally, other columns were introduced later or used for a short period. One such column is email, which was absent in the initial months of 2016.

The data fields in the database have been described below:

CIN: Corporate Identification Number, a unique identifier assigned during registration.

Date of Incorporation: The date when the company was registered.

Status: Indicates whether the company is active or inactive.

Category: Specifies if shares or guarantees limit the company.

Class: Indicates if the company is public or private.

Authorised Capital: The maximum capital a company is authorised to raise.

Paid-up Capital: The actual amount of capital contributed by shareholders.

Description: Provides details about the activities performed by the company, similar to Group or Class descriptions in NIC code-2008.

Address: Represents the registered address of the company. However, the address format varied across the data files.

Eighty-three months of data, from January 2016 to April 2023, were merged and consolidated into a concatenated data file consisting of 19 columns. The dataset comprises 8,59,373 registered companies since January 2016, excluding four missing months from 2021 and 2023. The data show that about 40% of registered firms operate in the professional, scientific, and technical activities sectors. The manufacturing sector follows at 15%, transportation and

storage at 10%, wholesale and retail at 7%, and agriculture at 6%. Keeping to the purpose of the study, sectors related to manufacturing intermediate goods (like plant machinery) and services (like warehousing) were excluded. Forty sectors were considered, resulting in a reduced database of 459,000 firms. Email invitations to participate in the survey were sent to firms on this list, and 1438 responses were received. Table A1 gives the state-wise break-up of the population of registered firms and the responses received.

## Questionnaire

### Advertising & sales strategies of small businesses

Welcome to the survey.

Thank you for participating in our survey. Your feedback is important

1. What is your email Id?
2. Do you advertise/promote your business digitally?
  - a. Yes
  - b. No

If yes, go to Q3 and Q4

3. What channels of digital advertising do you use?
  - a. E-commerce ads [Amazon, Flipkart, Nykaa, etc.]<sup>1</sup>
  - b. Social media marketing [ex. Facebook, Instagram, Sharechat, etc.]<sup>2</sup>
  - c. Email marketing [SMS, Email, Push notification marketing]<sup>3</sup>
  - d. Performance marketing [Google, Facebook, etc.]<sup>4</sup>
4. If you use social media to advertise, please tell us which platforms you use.
  - a. Facebook
  - b. Instagram
  - c. Twitter
  - d. Youtube
  - e. Snapchat
  - f. Koo

---

<sup>1</sup> E-commerce advertising involves displaying paid messages online to encourage users to make purchases or create brand awareness. Advertisers pay for ad space, aiming to generate clicks, impressions, or awareness. Ads are triggered by keywords or other factors to appear to the targeted audience.

<https://www.mailmunch.com/blog/ecommerce-advertising-best-practices-examples>

<sup>2</sup> Social media marketing refers to leveraging social media platforms to engage with your target audience, establish your brand, boost sales, and drive traffic to your website. It entails sharing compelling content on your social media profiles, actively interacting with and responding to your followers, analysing the outcomes, and executing social media advertising campaigns. <https://buffer.com/social-media-marketing>

<sup>3</sup> Email marketing is a powerful channel for promoting products or services by utilizing email as a marketing channel. It creates awareness of latest offerings, enhances marketing automation efforts, and plays a pivotal role in lead generation, brand awareness, and customer engagement through various email campaigns. <https://mailchimp.com/marketing-glossary/email-marketing/>

<sup>4</sup> Performance marketing is a type of digital marketing campaign driven by measurable results. It primarily focuses on paid marketing campaigns and utilizes an active interactive feedback loop. Google and Meta are common platforms for running performance marketing campaigns. <https://www.shopify.com/blog/performance-marketing>

- g. MX Takatak
- h. Sharechat
- i. Moj
- j. Chingari
- k. Others (please specify)

If No, go to Q5

- 5. Why do you not advertise digitally?
  - a. Unaware of how to market digitally
  - b. Digital marketing is not practical given our user base
  - c. The commissions/expenses charged are too high
  - d. Traditional marketing is better for our product
  
- 6. What channels of traditional advertising do you use?
  - a. Do not advertise through traditional channels
  - b. Radio
  - c. Television
  - d. Physical displays [ex. Billboards]
  - e. Pamphlets
  - f. Newspapers
  - g. Kiosks/Events etc
  
- 7. Do you sell your products/services outside of India?
  - a. Yes
  - b. No
  
- 8. Do you have a website or mobile app for your company?
  - a. Yes
  - b. No

If yes in Q8, go to Q9

- 9. If you have a website/app, do you make sales through your website/app?
  - a. Yes
  - b. No
  
- 10. Do you make sales through e-commerce websites?
  - a. Yes
  - b. No

If Yes in Q10, go to Q11

- 11. Which of the following e-commerce websites do you sell through?
  - a. Amazon
  - b. Flipkart
  - c. Myntra

- d. Meesho
- e. Firstcry
- f. Nykaa
- g. Limeroad
- h. Social media (Instagram, Facebook etc.)

If No in Q10, ask Q12

12. If you are not selling through e-commerce platforms, please tell us why
- a. The commission is too high for the reach and service provided
  - b. They do not have the reach (in terms of users) that we need
  - c. Prefer own website since I have access to all sales data
  - d. Do not know how to use these platforms well
13. What is the legal name of your company?
14. What was the company's average turnover in the last three years: FY 2022-23, FY2021-22, FY2020-21?
- a. Less than one crore
  - b. Between 1 crore and five crore
  - c. Between 5 and 10 crore
  - d. More than ten crore
15. What sector of operation would best describe your company?
- a. Manufacturing
  - b. Services
  - c. Retail trade
  - d. Wholesale trade
  - e. E-commerce/D2C channel
16. Where did you have positive sales in the last year?
- a. North India
  - b. South India
  - c. West India
  - d. East India
  - e. Outside India

**Table A1: Correlation table across states**

<b>State</b>	<b>Companies registered</b>	<b>Responses received</b>
Andaman and Nicobar Islands	0.04%	0.13%
Andhra Pradesh	1.91%	2.24%
Arunachal Pradesh	0.04%	0.00%
Assam	0.73%	0.92%
Bihar	3.12%	1.72%
Chandigarh	0.41%	0.66%
Chhattisgarh	0.65%	0.53%
Dadra and Nagar Haveli; Daman and Diu	0.04%	0.13%
Delhi	11.95%	7.39%
Goa	0.33%	0.66%
Gujarat	4.67%	8.31%
Haryana	4.89%	3.56%
Himachal Pradesh	0.39%	0.66%
Jammu and Kashmir	0.49%	0.13%
Jharkhand	1.08%	0.79%
Karnataka	7.96%	13.72%
Kerala	3.71%	2.90%
Ladakh	0.01%	0.00%
Lakshadweep	0.00%	0.00%
Madhya Pradesh	2.60%	1.32%
Maharashtra	18.89%	20.71%
Manipur	0.15%	0.00%
Meghalaya	0.39%	0.13%
Mizoram	0.02%	0.13%
Nagaland	0.04%	0.13%
Odisha	1.72%	1.32%
Puducherry	3.41%	0.13%
Punjab	1.38%	0.92%
Rajasthan	0.07%	3.03%
Sikkim	0.00%	0.00%
Tamil Nadu	6.42%	7.78%
Telangana	5.82%	6.73%
Tripura	0.08%	0.00%
Uttar Pradesh	10.73%	6.60%
Uttarakhand	0.94%	0.53%
West Bengal	4.91%	6.07%

*Source: Survey data*

The correlation between the firms' and respondents' locations is 0.91.