How Selling Online Is Affecting Informal Firms in South Asia

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Abstract

Understanding how e-commerce platforms are affecting the small, informal firms that sell on them is a question of growing importance to researchers and policy makers in developing countries. This paper examines this question using data from surveys of firms selling on two e-commerce platforms in South Asia. The businesses selling on these platforms range widely in terms of size, degree of formalization, and other characteristics. However, these firms—even the micro and small ones, which tend to be informal—are from a selected group, being owned and managed by individuals who are more educated and younger than the owners and managers of more typical firms in this setting. The sellers' main reason for joining the platforms is to access more customers. Most of the sellers report an expansion of their business after joining the platforms. They also report an increase in their incentive to register their business and their visibility to tax authorities. Other, less widespread channels of impact reported by the firms include the adoption of new or improved business practices and technologies, better access to finance, and greater flexibility in balancing home and work life. In general, these reported impacts do not vary significantly by firm size or degree of formalization, suggesting that even informal, small firms that have (selectively) joined e-commerce platforms can benefit from the greater market access facilitated by the platforms. Finally, given size and age, firms that have been selling on the platform for a longer period are more likely to experience these impacts, suggesting that firms learn how to use the platform more effectively over time.

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1   Introduction

Using data collected in cooperation with two e-commerce platforms – Chaldal which operates in Bangladesh and Daraz which is present in several countries in South Asia, including Bangladesh, Nepal, Pakistan, and Sri Lanka – this paper investigates whether engagement with e-commerce is linked to increased sales and productivity gains for informal firms in South Asia.

This question is relevant for this region where a stubbornly high share of informality is a key development issue, and where the recent expansion of e-commerce is often portrayed as an opportunity to expand market access for informal firms. Excluding agriculture, three-quarters of South Asia's workers were informal around 2017, the highest share among developing regions. And, in terms of their number, the share of informal firms is even higher, reaching 99 percent in India according to data from the Annual Survey of Industries and the National Sample Survey (NSS) of Unincorporated Enterprises of 2015-16.[1] Remarkably, these shares have not changed much in the last two decades, World Bank (2020). In contrast, even if still comparatively small, the e-commerce sector has been growing rapidly. In 2015, the share of online sales in retail sales was only 1.6 percent in India and 0.7 percent in Bangladesh as compared to more than 15 percent in China and the United Kingdom.[2] However, reports in the business media and by industry associations suggest it is growing fast. For example, in 2021 e-commerce's share of retail sales in India had already reached 5 percent and is expected to expand at 20 percent annually in the next few years.The COVID-19 crisis seems to have accelerated this rise, though it remains to be seen if the momentum will be sustained: according to the e-Commerce Association of Bangladesh, total e-commerce revenues increased by 70-80 percent in the space of a few months during 2020.[3]

The expectation that the digital economy can have broad impact on development by better connecting the informal sector with markets is reflected in the e-commerce expansion plans that governments in many developing countries have recently announced.[4] These plans may produce positive results; however, hard empirical evidence on the connections between the digital economy and informality and the impact of these connections is, to date, still quite thin.

Informal firms are of many different types – ranging from economic activities run by a single self-employed person with almost no other inputs, to small businesses which exclusively employ family members, to slightly larger firms with a few external employees and some assets – and face quite distinct challenges depending on the sector and market in which they operate. However, behind this heterogeneity, informal firms share some common traits: their size tends to be small, they have limited access to credit and thus they are not capital-intensive, they experience difficulties in employing and retaining skilled workers, they have a restricted geographic reach in terms of

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[1]Informal employment includes, according to International Labour Organization (2013)'s definition, all individuals working in informal enterprises as owners, employees or contributing family members, as well as those employed in formal firms as casual or temporary workers without a formal contract. In turn, informal enterprises are unincorporated enterprises owned by households, including those consisting of a single owner-worker (the self-employed). A key characteristic of such enterprises is that there is not a clear separation between the unit of production and its owner. Since, in the region, many regulations, as well as tax obligations, apply only to firms above a certain size threshold, in this paper small firms are considered informal.

[2]Kathuria et al. (2019).

[3]www.newagebd.net/article/114200/the-growth-of-e-commerce-during-the-pandemic-in-bangladesh.

[4]Couture et al. (2021) report that the Chinese government has featured e-commerce as a means to alleviate poverty in its "No.1 Central Documents" each year since 2014. Likewise, governments in Bangladesh, the Arab Republic of Egypt, India, and Vietnam have announced investment plans to boost the digital economy (see references in Couture et al. (2021)). See also UNCTAD's new technical assistance platform, "eTrade for All: Unlocking the Potential of E-Commerce in Developing Countries" https://unctad.org/topic/ecommerce-and-digital-economy/etrade-for-all.

both input sources and output destinations, and their use of (even basic) management practices is infrequent. Whether these common traits emerge because of optimizing choices by the informal firms or are the results of entry barriers or some other forms of exclusion is an ongoing debate in the literature on informality.[5]

Whatever the ultimate cause, the expansion of the digital economy, and in particular the growth of e-commerce, has the potential to either shift the incentives behind these choices, for example to remain small, or to make the entry barriers less effective and, thus, ultimately to benefit informal firms. On the other hand, this expansion could exacerbate the gap between the formal and the informal sectors.

There are potentially four main channels through which the digital economy can positively impact informal firms: 1) reduce capital inputs; 2) reduce matching and verification costs; 3) facilitate implementation of management practices; and 4) facilitate market access. Digital technology, defined by Goldfarb and Tucker (2019) as "the representation of information in bits", affects economic activity fundamentally by reducing costs (and barriers) related to search, replication, transportation, tracking and verification. A small firm entering an e-commerce platform is potentially reaching a much larger pool of customers without the need of investing in marketing campaigns, and it can also benefit from an already established set of distribution channels.[6] The increased use and accumulation of digital information related to online economic transactions can also facilitate the adoption of management practices such as, for example, a more frequent and accurate monitoring of costs and revenues, or improved communication with employees, suppliers and clients. Management practices have been identified as a strong determinant of productivity gains even in small firms (Bloom et al. (2013, 2020)). With more online sales, small firms can more easily and transparently document income flows and these, in turn, can provide information to banks about their creditworthiness (Klapper, Miller and Hess, 2019). In general, with more visibility, the costs of verification go down and the reputation of the firm increases.

All these channels can generate positive impacts for informal firms joining the digital economy, but it is also possible that they may work in the opposite direction. Because of the increased visibility, and the higher risk of being audited by the tax authorities, some firms may avoid entering e-commerce. This is because they would not be competitive if they had to pay taxes or comply with other regulations. E-commerce platforms can be transformative, but their market power may also polarize countries' industrial structures. Through more intensive use of digital channels, more productive companies can expand their market shares and boost their productivity, but the platforms' pressure to lower prices and innovate can be unsustainable for less capable firms, which may shrink or exit the market.[7]

And even if the logistical barriers are reduced by e-commerce, some 'transactional' barriers may remain. Couture et al. (2021) defines these barriers as those related with "lack of familiarity with navigating online platforms" or "[lack of] trust of transactions that occur before inspecting the

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[5]See de Soto (1989) and Djankov et al. (2002) for examples of those who argue for an insider-outsider dualistic view of informality, and Levy (2010) and Maloney (2004) among the proponents of the incentives-choice approach. For a recent excellent survey, see Ulyssea (2020).

[6]Note that this is different from selling to standard brick and mortar supermarkets. As the case of Chaldal shows, brick and mortar supermarkets are supplied by distributors who tend to have an established set of suppliers. A small company needs to hire someone to deliver to each of the supermarkets or enter the books of a distributor. This consists of a large supply chain investment that is often out of reach for a small company. Also, a new product can be more easily visible on a virtual shelf than it would be on a normal physical shelf.

[7]World Bank (2018) provides several examples of the negative consequences of digital platforms' excessive market power. Iacovone et al. (2015) have a clear analogous example of the entry of Walmart, which polarized the Mexican retail market.

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product or without interacting with the buyers [or sellers] in person" (p.37). They refer to the challenges of connecting rural producers to e-commerce in China, but these transactional barriers are likely to be present for small informal firms in other countries and even in urban settings. In fact, in their study in China, they find that the expansion of e-commerce has had no effect on producers and the only positive effects have been for richer and younger consumers who benefited from access to lower priced goods and services. This is another example of the potential polarization from the digital economy.

In sum, it is not obvious from the existing evidence whether the rise of e-commerce increases existing gaps between incumbent larger formal firms and informal ones, or it helps 'level the playing field'.

The new empirical evidence from Chaldal and Daraz sellers' data, the two case studies in this paper, is mildly positive. As reported by the firms selling on these platforms, the main reason for joining the platform is to access more customers. Most of these sellers report an expansion in their business after joining the platform. They also report an increase in their incentive to register their business and in their visibility to tax authorities. Other, less widespread channels of impact reported by firms include the adoption of new or improved business practices and technologies, better access to finance and greater flexibility in balancing home and work life.

The businesses selling on these platforms range widely in terms of size and other characteristics, and many of them are micro, small and medium-sized. In general, the reported impacts do not vary significantly by firm size and degree of formalization, suggesting that even micro and small informal firms that have joined e-commerce platforms can benefit from the greater market access facilitated by the platforms. However, firms using e-commerce, even the small ones, are from a selected group: they are owned and managed by individuals who are more educated and younger than the owners and managers of more typical firms.

The findings on the two case studies of this paper are encouraging as they seem to tilt the balance of evidence towards a positive impact on small, informal firms. That being said, these results cannot be easily generalized given the selective use of e-commerce among firms. While many small firms are using e-commerce platforms to reach a larger consumer base, the vast majority of them are still reliant on traditional brick and mortal retailing. Potential causes of this selective adoption of e-commerce include limited access to digital infrastructure among small firms and their target customers, informational barriers to the adoption of new technologies by firms, and limited capability of firms to profit from e-commerce. Understanding these causes better will be important for designing policies to broaden the development impact of e-commerce.

The rest of the paper is organized as follows. Section 2 describes the two e-commerce platforms examined in this paper and the key descriptive characteristics of the surveyed firms, which sell on them. Sections 3 and 4 discuss the main results of the analysis of the surveys of sellers operating on Chaldal and Daraz. Section 5 discusses how the sellers are a select group of firms. Section 6 concludes the study.

2 Setting and Data

2.1 Two Digital Platform Models

Chaldal is an online grocery service operational in four cities in Bangladesh. Established in 2013, it offers 1-hour delivery on over 6,000 products. Chaldal is currently operational in 4 cities. Chaldal operates its own warehouse system in each city to guarantee timely supply to the platform. Chaldal

also operates an on-demand delivery service, GoGoBangla, which offers logistics services to small e-commerce businesses, as well as a network to connect farmers directly with retailers (the Chaldal Vegetable Network), and plans to open a direct-to-consumer pharmacy. Chaldal is expanding rapidly: as of September 2021, the platform claims it has grown by 120 percent over the last year, with some 40 million USD revenue; it has plans to enter 15 new markets and expand from 8,500 products to 30,000 by the end of 2021. See Shu (2021). for more details.

At the time of data collection (mid 2021), Chaldal had over 350 suppliers. These include large multinationals (such as Unilever), with which Chaldal has partnerships. However, Chaldal also sources goods directly from farmers and manufacturers and works with smaller-sized wholesalers. Chaldal plays an active role in identifying and selecting suppliers. To meet customer expectations, Chaldal must have certain goods in stock, as well as offering a variety of brands and price points. At the same time, warehousing goods that do not sell is costly. For that reason, Chaldal seeks suppliers for goods with high turnover, and expects suppliers to have a marketing budget and plan to ensure their goods sell. Suppliers must also provide all required licensing and certification, such as relevant licenses from the BSTI (Bangladesh Standards and Testing Institute), IRC (Import Registration Certificate), and VAT registration. Firms must deliver the goods to Chaldal's central warehouse, then wait until the goods are sold before payment. Firms must also have packaging suitable for the delivery model.

For suppliers, working with Chaldal would be similar to supplying large, modern brick-and-mortar supermarkets, even if the digital model makes it easier for consumers to search by category or brand and compare prices. However, these large brick-and-mortar supermarkets are not common in Bangladesh where most groceries are still relatively small stores with limited capacity. Chaldal's larger inventory allows it to stock newer or less established brands. Supplying firms also save on the cost of establishing distribution channels by distributing to Chaldal's central warehouse, rather than many small stores. For the smallest firms, however, licensing requirements, the need for marketing, and the need to wait until goods are sold may limit their ability to sell through Chaldal. For firms that have trouble with licensing or marketing, Chaldal's legal department can provide some advice on how to obtain the required licenses. Chaldal also offers partnership marketing to firms, which can help them advertise their product via Chaldal's website and social media accounts as well as through Google and Instagram ads.

The second platform is Daraz, an e-commerce marketplace established in 2015 which operates in Pakistan, Bangladesh, Myanmar, Nepal, and Sri Lanka. Compared to Chaldal, Daraz reaches a much larger market as it reports some 35 million customers and 100,000 vendors. As a separate part of its platform, Daraz operates online grocery stores with same-day delivery. Since 2018, Daraz has also operated its own delivery service, Daraz Express, which operates warehouses and facilitation centers and first/last mile delivery. The company estimates that 60 percent of deliveries through its site use Daraz Express.

Daraz offers multiple advantages for even very small or new businesses. The platform aims to make selling on the site accessible to anyone with a smart phone, and provides a quick, three-step online process to start a store on the platform. No office, start-up capital, or employees are needed. Daraz offers vendors short online training videos on all aspects of setting up and running an online store on the platform (Daraz University). Their sales center also provides links to Business-to-Business (B2B) providers who provide support services such as product listing write-up, site management, photography, and packaging (Daraz Vendor Support Center).

2.2 Data Collection

The sample frame for the Chaldal survey was all small and medium sized suppliers ("vendors") who had supplied goods through Chaldal in the last 3 months. The survey was implemented by computer-assisted telephone interviews (CATI), fielded in June 2021 by the Chaldal call center. The vendor list provided by Chaldal included 346 firms. However, some firms could not be reached or had closed, and 35 refused to participate. The final sample consists of 127 firms with a completed interview. Some 42 percent of interviews were conducted with the owner of the firm, 34 percent with a manager, and 51 percent with someone in the sales department.

Data on Daraz vendors was collected through an online survey, sent to vendors who had filled at least 50 orders on Daraz during the last 6 months by email. The target sample included 14,660 firms in Bangladesh, Pakistan, Nepal, Sri Lanka, of which only owners were interviewed. Data collection took place in July 2021. A total of 1,842 firms responded to at least some questions, with 1,549 continuing to the end of the questionnaire. Interviews were conducted only with firm owner/directors.

The full questionnaires used to collect data from firms supplying Daraz and Chaldal are available in Appendix A4. Given the different structures of these two e-commerce platforms, the two questionnaire are similar but not identical.

## 2.3 Descriptive Statistics: Chaldal Survey

Firms in the Chaldal sample are mostly established manufacturing or trading firms, and they range widely in size (table 1). The average firm has 749 employees, although this number is driven by a few very large firms, with 14 surveyed firms having a workforce of more than 1,000. In the sample, 36.6 percent of the firms have 1-19 employees (including the owner), 27.7 percent have 20-99 employees, and 35.7 percent have 100 or more employees (figure 1). About half of the firms in the sample (50.5 percent) have monthly sales of at least 10 million Bangladesh Taka (115,800 USD in 2021) and 11 percent have monthly sales below 500,000 Taka.

Table 1: Characteristics of sellers on Chaldal

	Mean	Standard Deviation
How many workers work at this business?	749.2	2098.38
Firm age (years)	16.5	15.13
Time on Chaldal (years)	3.2	2.58
Trader/wholesellers	0.4	0.49
Manufacturer	0.5	0.50
Farm/dairy	0.1	0.23
BA or higher education	0.8	0.36
Owns two-wheeler	0.6	0.49
Owns car	0.3	0.45
Owns phone	1.0	0.09
Owns refrigerator	1.0	0.13
Owns land	0.9	0.34
VAT reg.	.92	.27
Observations	127	

On average, the firms in the sample have been in operation for 16.5 years, with 90 percent of them having been in operation for a period between two and fifteen years. Most of them describe themselves as manufacturers (54.3 percent), while a substantial percentage are also traders or wholesalers (39.4 percent). Farms, dairy, and livestock producers make up a comparatively small share of the sample (5.5 percent).

Figure 1: Chaldal vendor size (number of employees)
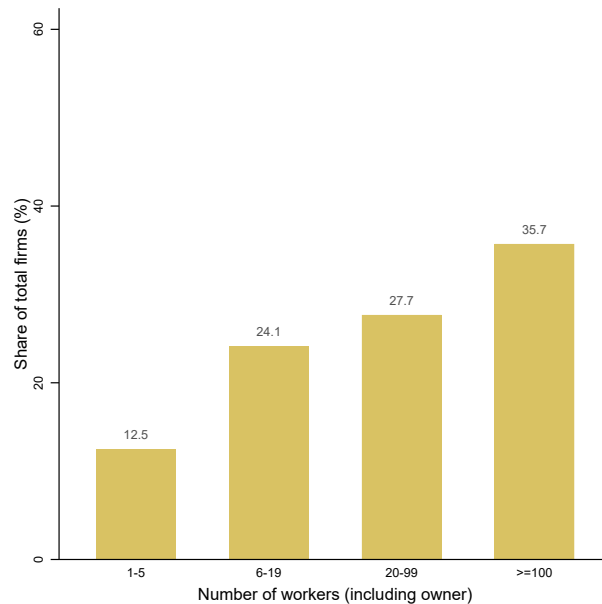
Firms supplying to Chaldal also have a high level of registration. For example, 92 percent have VAT registration.

For most of the surveyed firms, sales through Chaldal represent less than a quarter of their total sales. Among the firms, 76.7 percent say that Chaldal represents 25 percent or less of their total business sales in the last month, compared with only 9.5 who report that Chaldal represents 76-100 percent of their sales (figure 2).[8] Firms in the sample sell through a variety of outlets, including brick-and-mortar supermarkets and shops, their own physical and online stores, wholesalers and traders, and digital platforms other than Chaldal.

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[8]This might be because most firms in the sample had been in operation for some time before they began to sell through Chaldal. On average, the surveyed firms are 16 years old but have been selling on Chaldal for only 3.2 years.

Figure 2: Percent of total sales on Chaldal by firm size
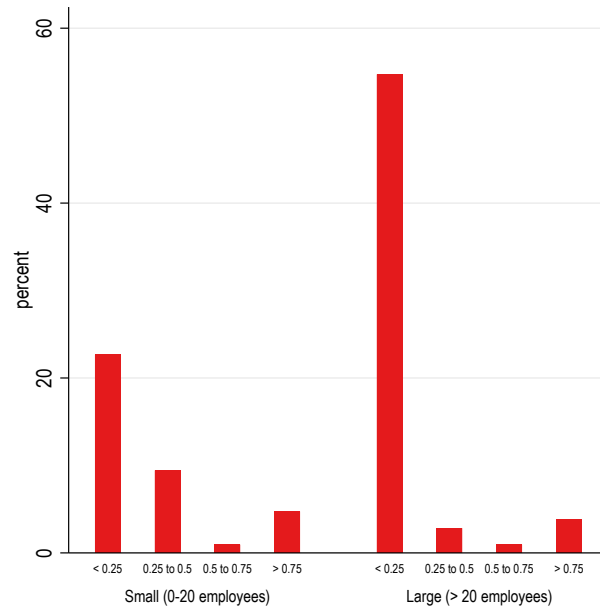
As noted earlier, survey respondents were a mix of firm owners, managers and sales managers. These respondents are on average 35 years old, and mostly male. Among the respondents, 84 percent have at least a Bachelor's degree. This is a relatively high number in the context of firms in Bangladesh, as discussed later in this paper.

2.4 Descriptive Statistics: Daraz Survey

Data from the Daraz survey highlights some similarities but also important differences from the case of Chaldal.

In terms of geographic dispersion, 41.6 percent of the Daraz vendor sample is from Pakistan, 27.7 percent from Bangladesh, 21.8 percent from Sri Lanka, and 8.8 percent from Nepal. Compared to Chaldal, firms in the Daraz sample are on average young and small in size (table 2). The average age of responding firms is 3.4 years; 51.0 percent have been operational for two years or less, and 18.5 percent have been operational a year or less (figure A.1). Firms have on average 3.5 employees (in addition to the owner). Some 86.9 percent of firms in the sample have fewer than five employees, and 14.1 percent have no employees (figure 3).

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Table 2: Characteristics of sellers on Daraz

	Mean	Standard Deviation
How many workers work at this business?	3.5	14.13
Firm age (years)	3.4	5.17
Time on Daraz (Years)	1.6	1.31
Owner's age	29.9	8.25
Owns motorcycle	0.6	0.49
Owns car	0.3	0.44
Owns refrigerator	0.8	0.37
Owns smart phone	1.0	0.13
Owns land	0.6	0.50
Registered	0.7	0.44
VAT reg.	0.3	0.44
Observations	1842	

Figure 3: Daraz vendor size (Number of employees)
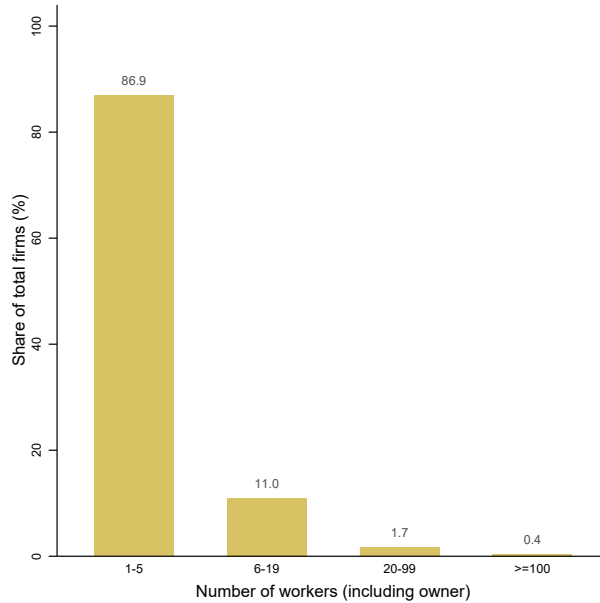
In contrast to the Chaldal vendor sample, many firms in the Daraz sample show signs of low levels of formality. Only 25.9 percent have VAT registration. [9] Among the firms, 72.7 percent operate either out of the owner's home or in a separate building on the same lot, and 43.2 percent have family involved in the business, including 15.1 percent which use other family members as unpaid workers. For many business owners the business is part time: 53.3 percent have another job

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[9]Moreover, while 56 of the Daraz sample firms are registered as sole proprietorship companies, 25.4 percent do not have a formal legal structure.

or source of income.

On average, the Daraz sample firms have been selling goods on Daraz for 2.6 years. For most firms in the sample – 69.2 percent - sales through Daraz make up 50 percent or less of their total sales (figure 4).

Figure 4: Percent of total sales on Daraz
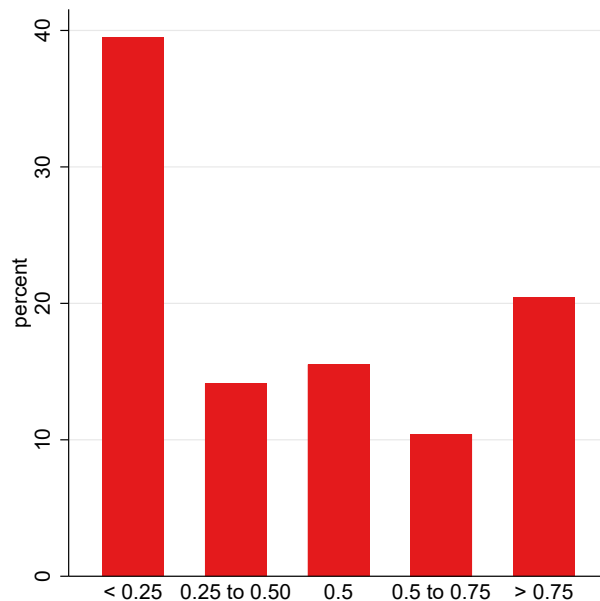
Owners of firms in the sample tend to be young, male, and tertiary educated. Some 55.3 percent are younger than 30 years old, while only 3.1 percent are 50 or older (figure A.2). Women comprise 10.7 percent of the sample. Many – 50.1 percent - have completed a vocational program, while 25.2 percent have completed a Bachelor's degree or higher (figure A.3).

3   The Impact of Joining an E-Commerce Platform

3.1   The Impact of Joining Chaldal

The survey data suggest that firms are joining e-commerce platforms such as Chaldal primarily to access a larger market. More than 90 percent of Chaldal sellers report that they joined the platform to reach more customers (figure 5). Diversifying sales outlets and achieving more steady/reliable sales are also major reasons for joining the platform. Although some sellers also joined Chaldal because it offers better terms than those found on other sales outlets, almost none joined the platform in expectation of higher prices.

Figure 5: Reasons to work with Chaldal
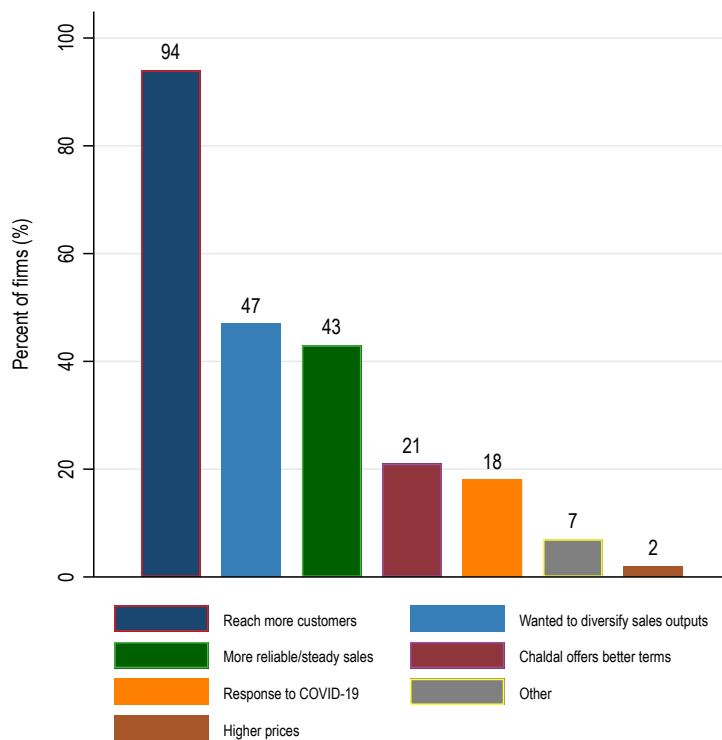
In line with their expectation that working with Chaldal would enable access to more customers, most Chaldal sellers (more than 80 percent) have experienced an increase in sales revenues after joining the platform (figure 6). Nearly 40 percent of them report hiring more workers -including skilled workers - since joining the platform. Moreover, more than 80 percent of Chaldal sellers agree or strongly agree with the statement that their business has expanded since joining the platform (figure 7).

Figure 6: Have sales and employment increased after joining Chaldal?
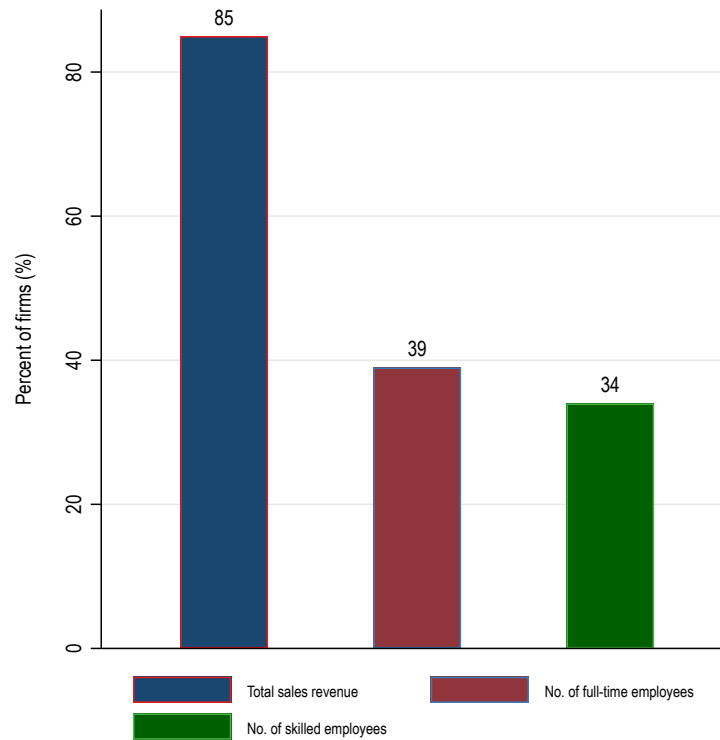
Another potential consequence of platforms such as Chaldal is the facilitating of business formalization. This could be a side-effect of the growth experienced by platform sellers, since many business licensing and tax registration requirements start to apply after firms cross certain minimum size thresholds. Moreover, selling on a platform may entail becoming more visible to tax and regulatory authorities, increasing the risk of being penalized for regulatory non-compliance. More than 85 percent of the Chaldal survey respondents strongly agree or agree with the statements that joining a platform such as Chaldal increases the incentive to formally register the business, and that it increases the likelihood of being visible to tax authorities (figure 7). Note that Chaldal requires its suppliers to comply with requisite business licenses and tax registration, and also offers advisory assistance to promote compliance among its sellers. Some 26 percent of Chaldal sellers report having changed their legal structure or registration since joining Chaldal.

Figure 7: Impacts of joining Chaldal
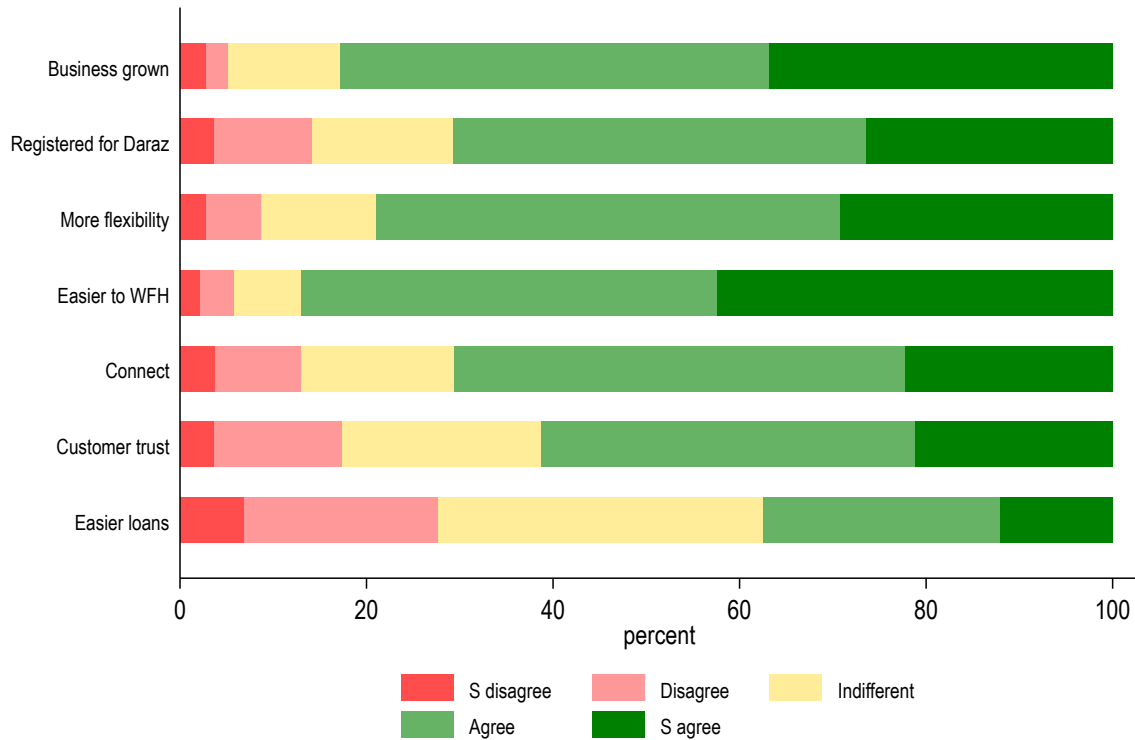
Joining an e-commerce platform may enable firms to better signal credit-worthiness to banks, improving their access to formal credit. The evidence for this hypothesis in the case of Chaldal is mixed: 33 percent of Chaldal sellers strongly agree with the statement that joining the platform has helped them get easier access to financing, but 29 percent strongly disagree with it (figure 7). The survey also asked firms if their use of bank loans increased since joining the platforms. Of the respondents, 17 percent replied in the affirmative to this question. Note that a negative reply to this question could also reflect a lack of demand for credit.

Consumer trust is another important issue for firms selling on a digital platform, particularly in settings where formal consumer protection mechanisms are weak. On the one hand, e-commerce platforms may face more consumer distrust than traditional shops because of their newness. On the other hand, e-commerce websites can build consumer trust through quality control, seller feedback mechanisms and liberal returns or refund policies. Consumer distrust issues seem to have been largely surmounted in the case of Chaldal, given that more than 80 percent of sellers strongly agree or agree with the statement that consumers trust the quality of a product sold on the platform more than they trust the quality of products sold at other shops or stores (figure 7).

Selling on a digital platform could also encourage firms to upgrade their business practices by improving their access to information on technologies and consumer preferences, and by generating the incentive to innovate in order to capture a large share of the online market. This appears to be true for a sizable fraction of Chaldal sellers, though generally not for the majority. For example,

about 46 percent of Chaldal sellers report having increased their product quality since joining the platform (figure 8). About 51 percent of them state that they have improved how they market products since joining Chaldal, and 47 percent report having upgraded inventory and logistics management.

Figure 8: Have business practices improved after joining Chaldal?
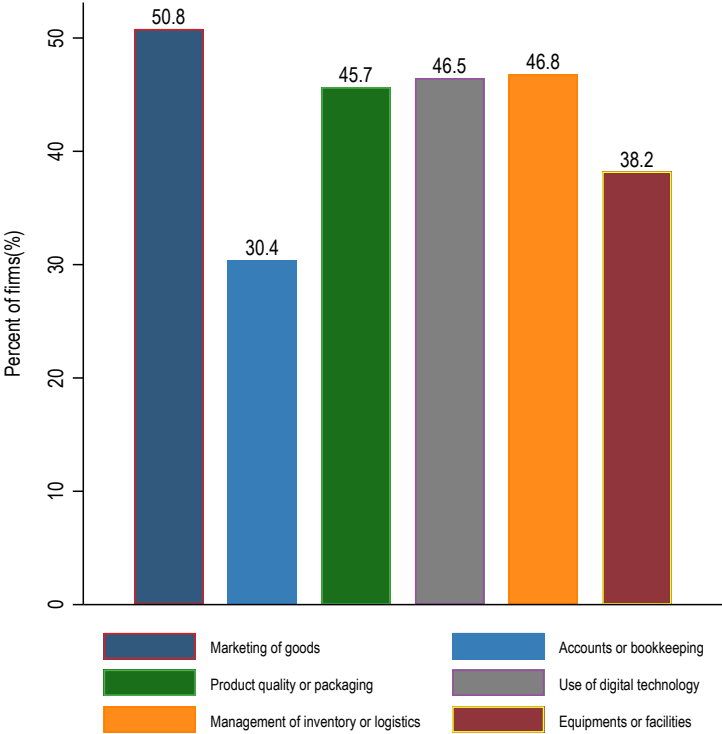
3.2 The Impact of Joining Daraz

Figure 9: Impact of joining Daraz
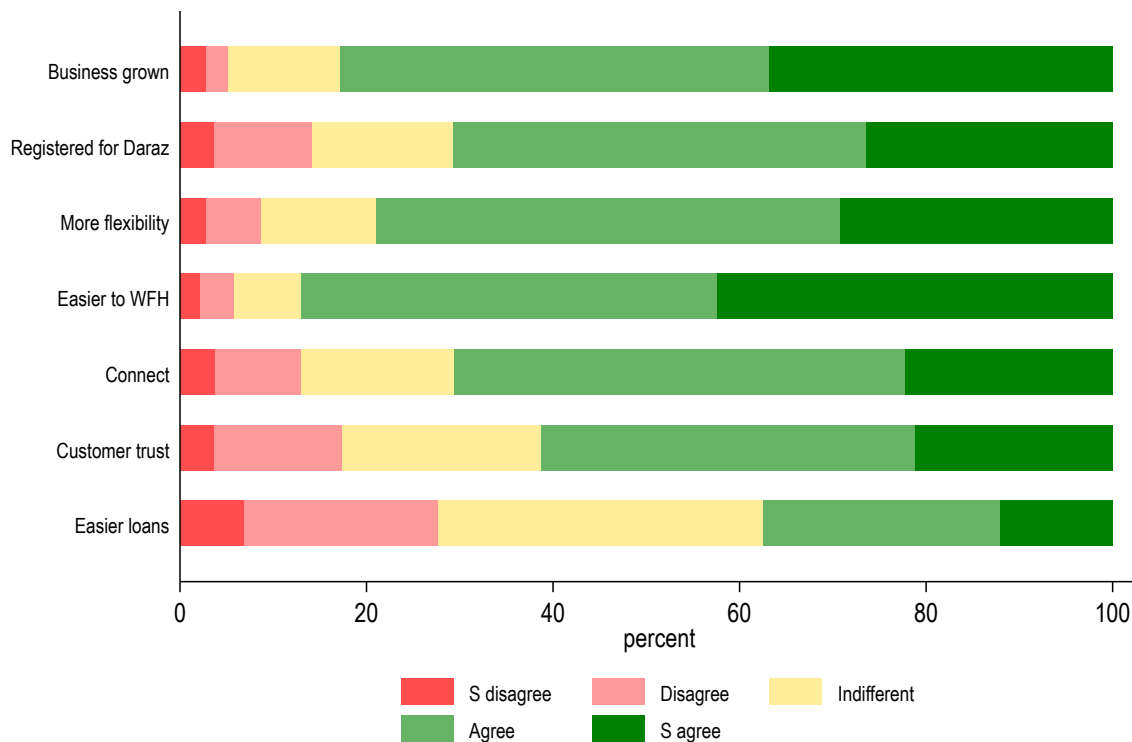
Overall, we find similar patterns when examining the data from Daraz users, although they tend to be smaller businesses on average, and are much more likely to be in sole proprietorship and informal.

Figure 9 shows that on average and across the four countries in our sample, firms on Daraz report significant benefits of participation in the Daraz e-commerce platform. A strong majority of firms respond "Agree" or "Strongly Agree" to the statements that the business has grown since joining Daraz, that they registered the business in order to use Daraz, that their work-life balance has improved since joining Daraz, that they value working from home, that they can connect with other entrepreneurs, and that they have increased consumer trust on Daraz. In addition, a significant group report that they "Agree" or "Strongly Agree" that it is easier to get loans for their business since joining Daraz.

4 Heterogeneity in the Impact of Joining E-Commerce Platforms

This section examines whether the impact of joining an e-commerce platforms depends on seller firm size and formality status. It compares the self-reported impacts of joining Chaldal and Daraz by seller size, controlling for other seller attributes. It also examines the relationship between the seller's registration status and the impact of joining Daraz. In the case of Chaldal, there is too little variation in the measured registration status of sellers to permit such comparison. Because unmeasured dimensions of formality are likely to co-vary positively with firm size, it is not easy to distinguish between the impact of size and formality.

4.1 Heterogeneity in the Impact of Joining Chaldal

The survey suggests that the impact of joining Chaldal is not different between large and small firms; i.e. firm size does not seem to matter. The difference in the share of "small" Chaldal sellers - those with 20 or fewer employees- and larger ones who report that their sales increased after joining the platform is statistically not significantly different from zero. This is also true for other self-reported outcomes such as employment increase, incentives to register, tax visibility, customer trust, access to finance and bank loans.
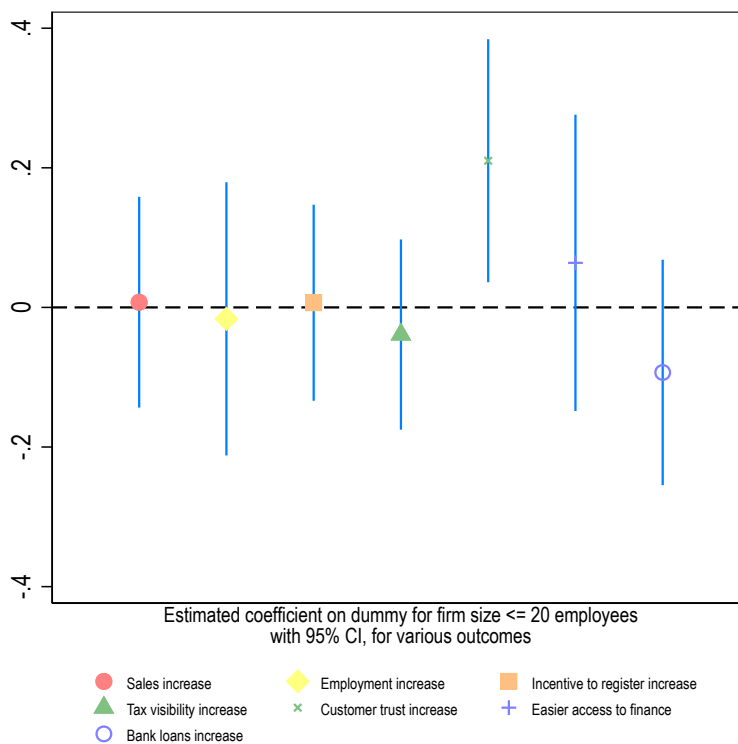
Figure 10 presents the estimated coefficients on a dummy for firm size being 20 or fewer employees, controlling for firm age and tenure on Chaldal.[10] The only outcome for which the size dummy is statistically significant is customer trust, but even this is not robust to controlling for other firm owner/manager characteristics such as education and asset ownership.[11] When using a continuous measure of firm size (the log of its total employment) instead of a binary size categorization, it appears that smaller firms are *more* likely to experience an increase in sales after joining Chaldal.[12] This sensitivity of the regression results to the way that firm size is measured could be because there is considerable size variation among Chaldal sellers with more than 20 employees.

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[10]The corresponding regression results are shown in table A.2
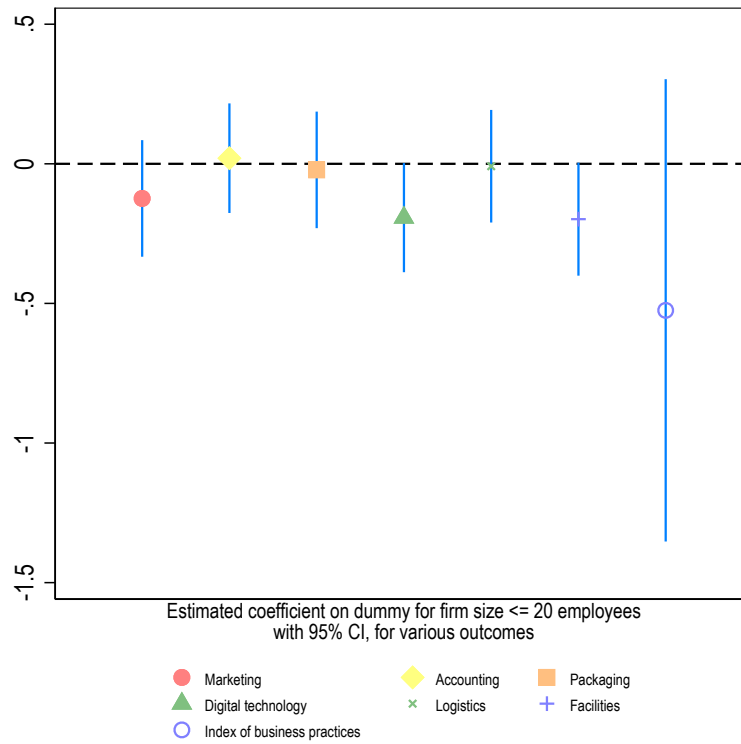[11]See table A.3
[12]See table A.7.

Figure 10: Impacts by firm size on Chaldal

Estimated coefficient on dummy for firm size <= 20 employees
with 95% CI, for various outcomes

● Sales increase ◆ Employment increase ■ Incentive to register increase
▲ Tax visibility increase × Customer trust increase + Easier access to finance
○ Bank loans increase

One dimension along which smaller Chaldal sellers appear to experience a smaller impact is the adoption of new business practices. Sellers with 20 or fewer employees are significantly less likely to report an increase in the use of digital technologies and improved or new equipment or facilities after joining the platform (figure 11). This pattern is robust to controlling for other seller attributes.[13]

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[13]The regression results are shown in tables A.4, A.5, A.6. Figure 11 corresponds to the specification in table A.5. The regression outcomes include an index of change in business practices, generated as the sum of the binary responses to the six questions regarding changes in business practices upon joining Chaldal. For example, a firm's business practices index is equal to 6 if it responds in the affirmative to all six questions: improved or new marketing methods, improved or new accounting methods, improved product quality or packaging, greater use of digital technology, improved management of inventory or logistics, and improved or new equipment or facilities.

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Figure 11: Impacts on business practices by firm size on Chaldal

Estimated coefficient on dummy for firm size <= 20 employees
with 95% CI, for various outcomes

● Marketing   ◆ Accounting   ■ Packaging
▲ Digital technology   × Logistics   + Facilities
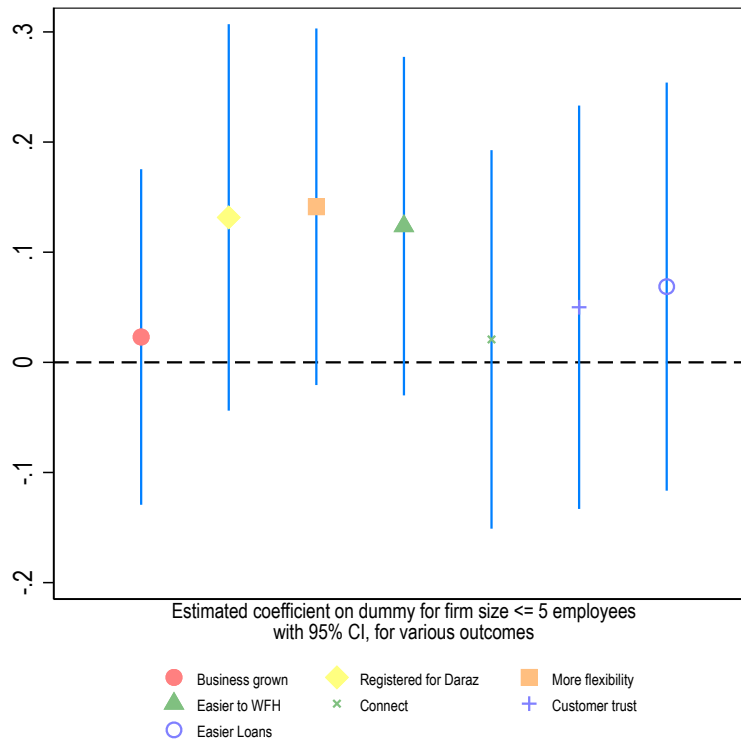○ Index of business practices

4.2   Heterogeneity in the Impact of Joining Daraz

In the case of Daraz, too, the patterns suggest that smaller firms benefit equally or potentially more from participation in the e-commerce platform. A series of regressions compare Daraz sellers with fewer than 5 employees to larger sellers.[14] After controlling for time on Daraz in years, firm age in years, and country fixed effects, the coefficient on fewer than 5 employees is marginally significant only for the outcome of more flexibility after joining Daraz (figure 12).[15] For this particular outcome, smaller firms appear to benefit more from joining Daraz.

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[14]The size threshold (5 employees) is different from that chosen in the case of Chaldal (20 employees) because of the difference in the size distribution of Chaldal and Daraz sellers. There are very few Chaldal sellers with 5 or fewer employees.

[15]The corresponding regression results for these outcomes are shown in table A.9. Table A.8 shows their raw associations with size.
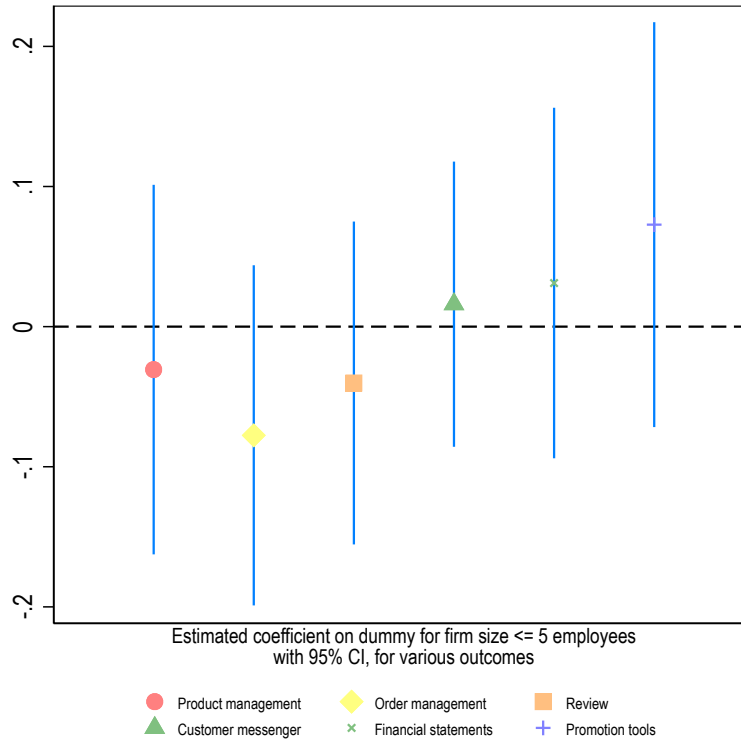
Figure 12: Impacts by firm size on Daraz

Estimated coefficient on dummy for firm size <= 5 employees
with 95% CI, for various outcomes

- ● Business grown
- ▲ Easier to WFH
- ○ Easier Loans
- ◆ Registered for Daraz
- ✕ Connect
- ■ More flexibility
- + Customer trust

There is also no evidence for differential effects of firm size on the use of Daraz features such as product management features, order management features, reviews, customer messenger, financial statements or promotion tools (figure 13). [16]

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[16]The corresponding regression results for these outcomes are shown in table A.11, while table A.10 shows their raw associations with size.
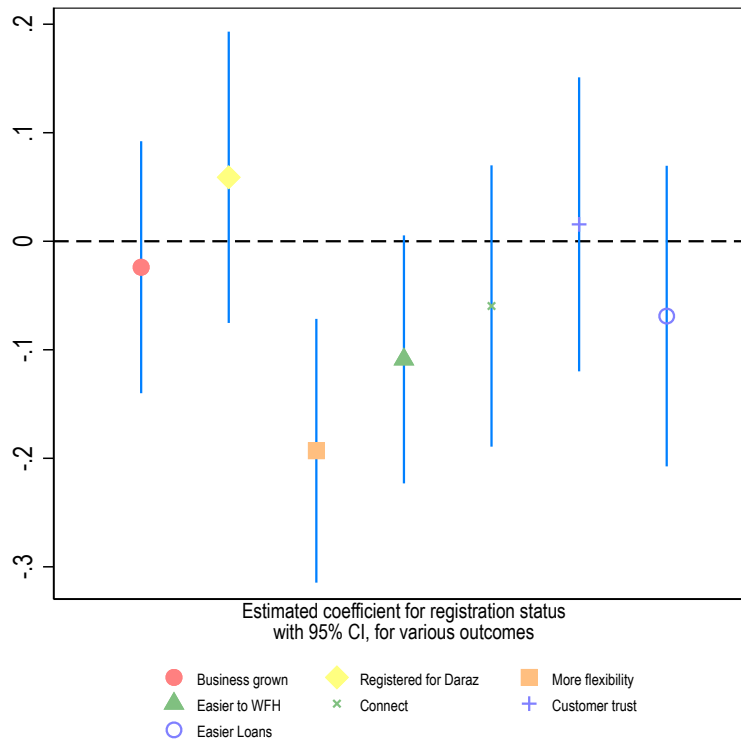
Figure 13: Use of platform features by firm size on Daraz

Estimated coefficient on dummy for firm size <= 5 employees
with 95% CI, for various outcomes

● Product management   ◆ Order management   ■ Review
▲ Customer messenger   × Financial statements   + Promotion tools

In terms of directly looking at registration status as an explanatory variable, we find that registered firms are less likely to value the flexibility and ability to work from home associated with Daraz (figure 14). Put otherwise, unregistered firms benefit more from participation in the Daraz e-commerce platform in terms of flexibility and the ability to work from home. This result is robust to the inclusion of controls for time on Daraz in years, firm age in years, and country fixed effects.[17]

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[17]The corresponding regressions are shown in table A.13, with raw associations in table A.12.

Figure 14: Impacts by registration status on Daraz

Estimated coefficient for registration status
with 95% CI, for various outcomes

- ● Business grown
- ▲ Easier to WFH
- ○ Easier Loans
- ◆ Registered for Daraz
- ✕ Connect
- ■ More flexibility
- ＋ Customer trust

4.3 Heterogeneity by Tenure: Learning on E-Commerce Platforms?

The surveys suggest that sellers who have been on the platform for a longer period of time are more likely to experience some of its impacts. Given firm size and age, an additional year of tenure on Chaldal is associated with a 6-7 percent higher probability of having expanded employment since joining the platform (figure 15). Firms that have been on a platform for more years are also more likely to report incentives to register, increase in bank loans and an improvement in business practices (figure 16).[18] These patterns suggest that firms learn how to use the platform better over time. An alternative explanation is that sellers who are unable to benefit from being on the platform selectively exit the platform.
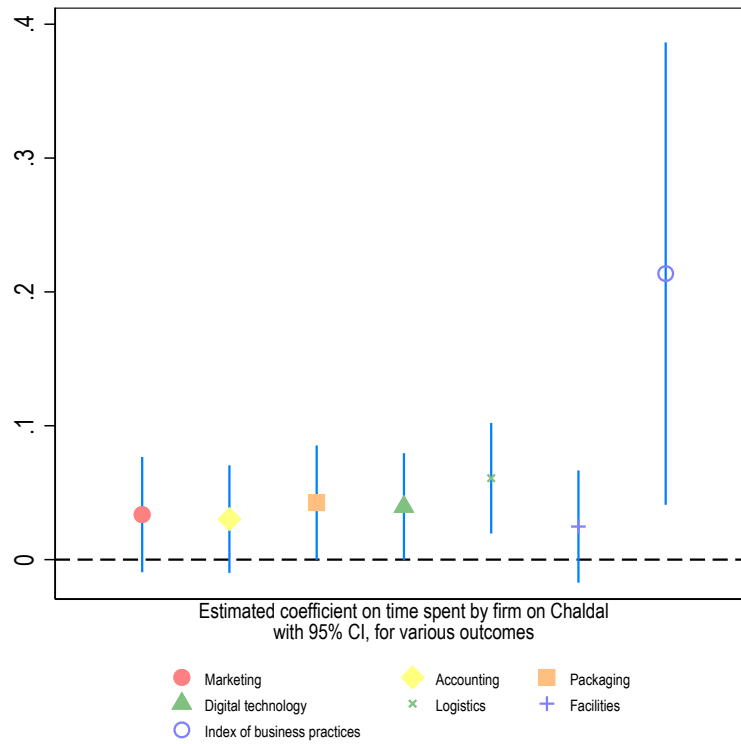
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[18]The plotted estimates of the coefficient on time spent on Chaldal are from the regressions shown in tables A.2 and A.5.

Figure 15: Impacts by time spent on Chaldal
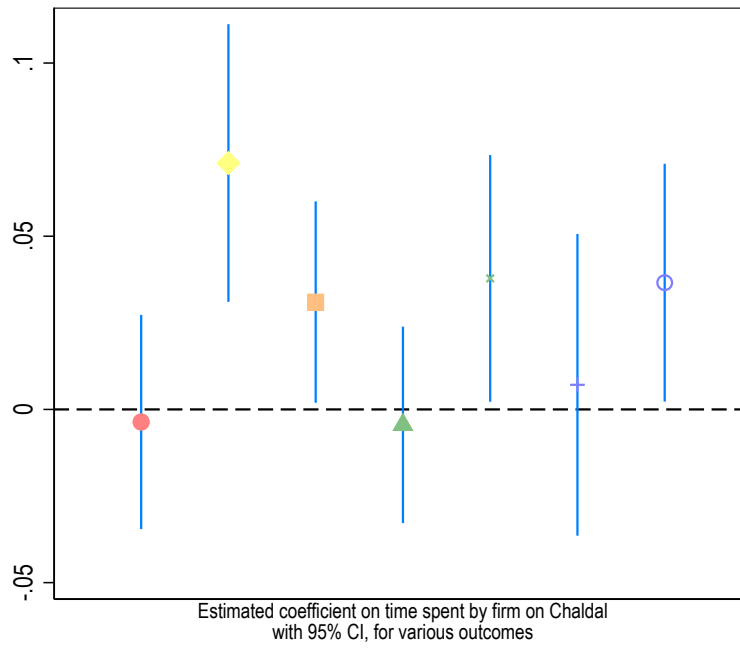
Estimated coefficient on time spent by firm on Chaldal
with 95% CI, for various outcomes

● Sales increase   ◆ Employment increase   ■ Incentive to register increase
▲ Tax visibility increase ✕ Customer trust increase   + Easier access to finance
○ Bank loans increase

Figure 16: Impacts on business practices by time spent on Chaldal

A similar association with tenure is observed in the case of Daraz. Given size and age, sellers that have spent more years on Daraz are more likely to report an increase in sales (figure 17). They are also more likely to report using Daraz features such as order management, product reviews, customer messenger, financial statements and promotion tools (figure 18).[19]

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[19]The plotted estimates of the coefficient on time spent on Daraz are from the regressions shown in tables A.9 and A.11.
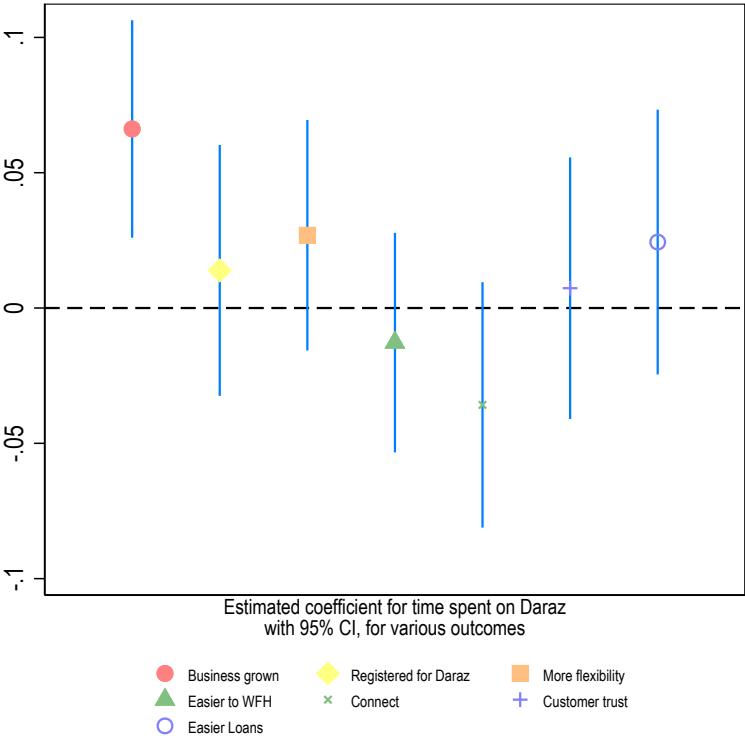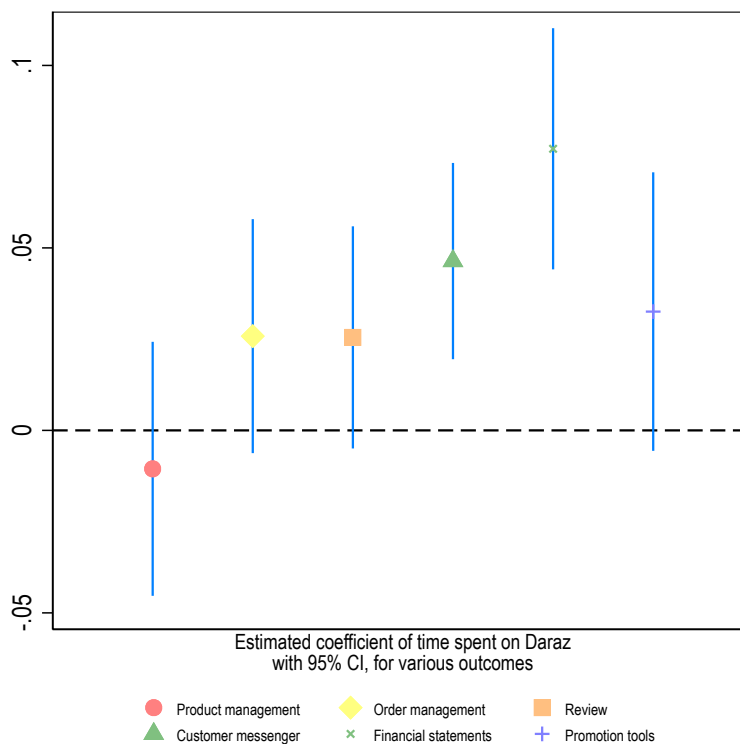
Figure 17: Impacts by time spent on Daraz

Estimated coefficient for time spent on Daraz
with 95% CI, for various outcomes

- ● Business grown
- ◆ Registered for Daraz
- ■ More flexibility
- ▲ Easier to WFH
- ✕ Connect
- ✛ Customer trust
- ○ Easier Loans

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Figure 18: Impacts by time spent on Daraz

Estimated coefficient of time spent on Daraz
with 95% CI, for various outcomes

● Product management   ◆ Order management   ■ Review
▲ Customer messenger   ✕ Financial statements   + Promotion tools

In Table A.14, we look at the impact of tenure on Daraz on registration status, as a rough test of the hypothesis that participation in digital platforms induces firms to register their businesses. We find that time on Daraz is positively correlated with business registration – that firms on Daraz are less likely to report being unincorporated – but has little impact on VAT registration. This result is robust to the inclusion of controls for firm age and country fixed effects.

5 E-commerce Sellers Are a Selected Group of Firms

The Chaldal and Daraz surveys reveal that while the firms selling on these e-commerce platforms may vary substantially in terms of size and other key characteristics, they are a selective group of firms. Specifically, their owners or senior managers have above average levels of education and are also comparatively young.

Consider the case of Chaldal. Since the average size of Chaldal sellers is quite large, it would be misleading to compare Chaldal sellers to typical small and micro firms in Bangladesh. A recent World Bank survey of small to large-sized Bangladeshi manufacturing firms provides a more useful comparison point (Gu, Nayyar and Sharma (2021)). Note that the sample of the World Bank manufacturing sector survey is tilted towards large firms, compared to the Chaldal seller sample: 86 percent of the firms in the former have more than 20 employees, compared to only 60 percent in the latter. And yet, only 54 percent of the senior managers of the firms in the Bangladesh

manufacturing sector survey have a graduate (B.A.) or higher degree, as opposed to 79 percent of the owners/managers of the businesses selling on Chaldal. More than 90 percent of the firms in the Bangladesh manufacturing sector survey are managed by the owner or their family, in comparison to 82 percent of Chaldal sellers. Thus, firms selling on Chaldal have higher levels of managerial education and a lower prevalence of family management than typical manufacturing firms in Bangladesh.

Given the small average size of Daraz sellers, a recent representative survey of family business in India may be an appropriate comparison sample for the Daraz survey.[20] In India, among family businesses with at least one hired worker, only 25 percent of the owners have tertiary (above senior secondary) education. In comparison, the majority of Daraz sellers have tertiary education. The average age of the owners of Indian family businesses is about 45 years, compared to 30 years in the case of Daraz sellers. Daraz sellers may be small, but they are a highly educated and youthful subset of small business owners in South Asia.

6   Conclusion

The quantitative case studies presented in this paper have contributed to the scant evidence base on the ways in which selling on e-commerce platforms impacts small firms in developing countries. The main channel of impact highlighted by the surveys is the greater access to product markets enabled by the reduction in transactions costs. This finding is significant in light of the growing evidence that there are important demand-side constraints to firm growth, such as the high costs of gaining initial market access (Atkin and Osman (2017)) and slowly building a customer base (Foster and Syverson (2016)). The case studies also suggest that this easing of demand-side constraints to growth increases e-commerce sellers' incentives to formalize and undertake complementary changes to business practices and technologies. Strikingly, micro and small-sized firms from the informal sector report these benefits to the same extent as do medium to large-sized formal firms.

The case study approach used in this paper has helped assess the potential mechanisms through which firms are able to reap benefits from using e-commerce platforms. But being based on the subjective reports of e-commerce sellers and lacking a control group, this approach is not suitable for causal impact evaluation. Our findings thus highlight the need for more quasi-experimental or experimental research into estimating the impacts of e-commerce on firms in developing countries.

The selective use of e-commerce by firms in South Asia is also worth stressing. This issue is not limited to e-commerce platforms. Interviews with other types of digital platforms that facilitate business to business (B2B) transactions also suggest that for a number of reasons, their usage is concentrated at the upper end of the spectrum of small firms. For example, Power2SME, a B2B platform in India that aggregates orders of raw material for small firms, requires firms to have a turnover of at least 50 million Rupees, a threshold well above the revenue of most small informal firms. This is because aggregating orders when each order size is very small is prohibitively costly even with the digital platform technology. In addition, a key reason highlighted for the lack of use of the platform is that a majority of small firms prefer to purchase their raw materials through informal networks. This would remain a (transactional) barrier even if a platform such as Power2SME were to offer subsidized logistics, delivery services and access to financing. In fact, Power2SME has an active strategy of outreach to SMEs and microenterprises: it identifies industrial belts in the country

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[20]The World Bank COVID Module of the Center for Monitoring the Indian Economy (CMIE) Consumer Pyramids Household Survey (CPHS), January-April 2021 wave.

and reaches out to their industrial cluster associations to offer them its services and support.[21]

These outreach efforts from private digital platforms signal the scope for many complementary public policy interventions ranging from improving access to digital infrastructure, efficient postal and parcel service and access to finance, to information and support campaigns to make online economic transactions more familiar and trustworthy to the informal sector. In sum, governments' backing for these complementary factors and an active approach to the regulation of the digital economy will remain important going ahead.

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[21]Power2SME outreach initiatives include: a) SME Transformation Camps which aim to empower SMEs digitally and educate SMEs on technological means to address the issues related to raw material procurement, research and innovation, taxation, working capital loans and more; b) webinars which have reached thousands of SME; and c) linking up with Wadhwani Foundation to bring to the clients of the Foundation the Sahayata Business Stability program, which provides up to 10,000 SMEs with transformational business consulting at a highly subsidized rate, equipping them with the expertise necessary to survive, stabilize, and grow in the face of market challenges.

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A Appendix

A.1 Additional Descriptive Statistics: Daraz

Figure A.1: Firm age (in years)
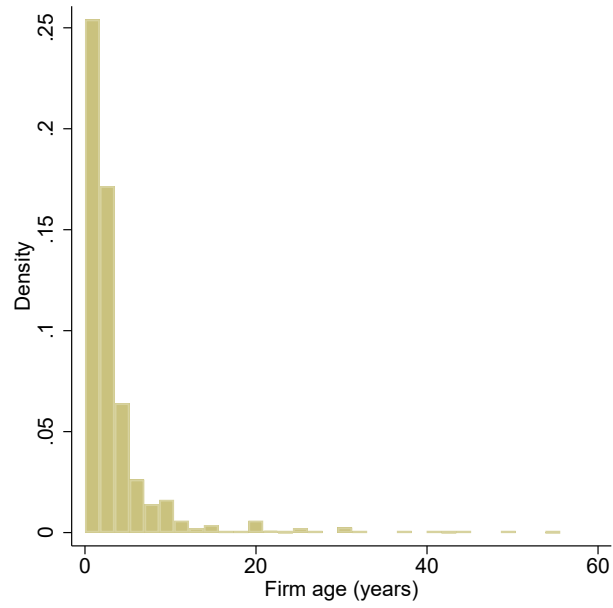
Figure A.2: Age of the owner (in years)
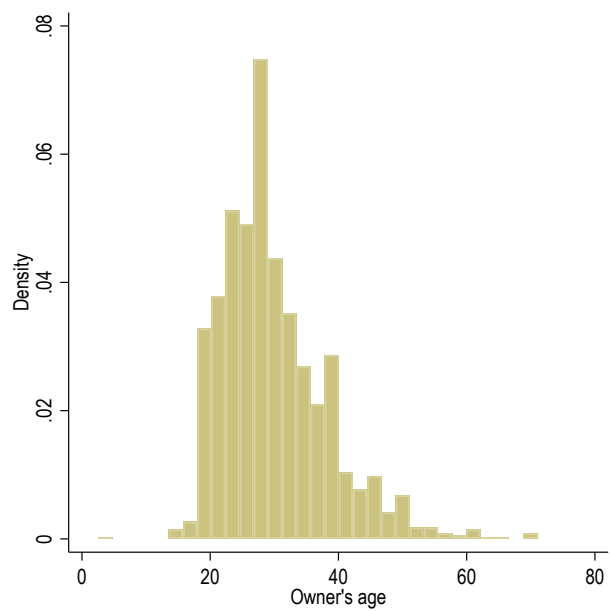
Figure A.3: Education of the owner
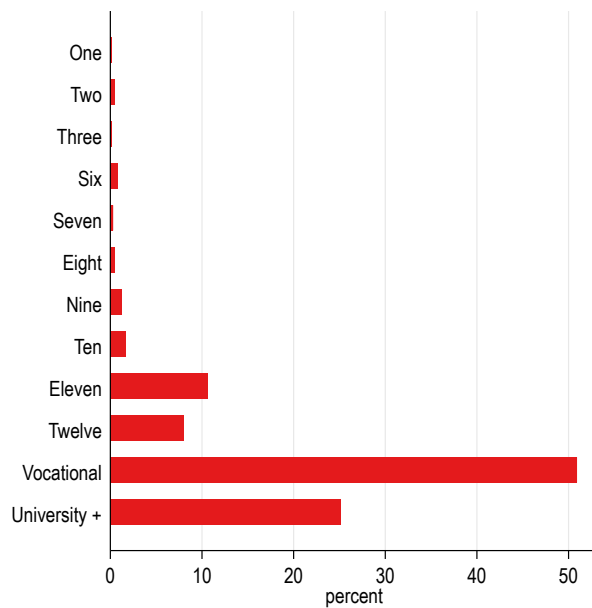
A.2 Chaldal

Table A.1: Impacts by firm size

	(1) Sales increase	(2) Employment increase	(3) Incentive to register	(4) Tax visibility	(5) Customer trust	(6) Access to finance	(7) Bank loans
≤ 20 employees	0.014 (0.071)	-0.081 (0.095)	-0.027 (0.066)	-0.057 (0.063)	0.13 (0.082)	0.012 (0.099)	-0.12 (0.077)
N	112	112	111	108	110	109	99

Note: Robust standard errors in parenthesis. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.2: Impacts by firm size

	(1) Sales increase	(2) Employment increase	(3) Incentive to register	(4) Tax visibility	(5) Customer trust	(6) Access to finance	(7) Bank loans
≤ 20 employees	0.0074	-0.016	0.0067	-0.039	0.21**	0.064	-0.093
	(0.076)	(0.099)	(0.071)	(0.069)	(0.088)	(0.11)	(0.081)
Firm age (in years)	0.00072	-0.0040	-0.0017	0.0022	0.0019	0.0026	-0.0048*
	(0.0026)	(0.0034)	(0.0024)	(0.0024)	(0.0030)	(0.0037)	(0.0028)
Time on Chaldal (years)	-0.0036	0.071***	0.031**	-0.0045	0.038**	0.0071	0.037**
	(0.016)	(0.020)	(0.015)	(0.014)	(0.018)	(0.022)	(0.017)
N	109	109	108	105	107	106	97

Note: Robust standard errors in parenthesis. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.3: Impacts by firm size

	(1) Sales increase	(2) Employment increase	(3) Incentive to register	(4) Tax visibility	(5) Customer trust	(6) Access to finance	(7) Bank loans
≤ 20 employees	-0.046	-0.0086	-0.045	-0.016	0.12	0.094	-0.086
	(0.090)	(0.12)	(0.087)	(0.081)	(0.11)	(0.13)	(0.10)
Firm age (in years)	0.00015	-0.0055	-0.0028	0.0025	0.0027	0.0016	-0.0040
	(0.0026)	(0.0036)	(0.0025)	(0.0024)	(0.0032)	(0.0038)	(0.0029)
Time on Chaldal (years)	-0.0076	0.077***	0.029*	-0.020	0.037*	0.0097	0.026
	(0.017)	(0.023)	(0.016)	(0.016)	(0.021)	(0.024)	(0.019)
Trader/wholesellers	0.063	-0.12	-0.021	-0.071	0.055	-0.099	0.067
	(0.081)	(0.11)	(0.079)	(0.074)	(0.10)	(0.12)	(0.091)
Owner or family is also manager	0.038	-0.035	0.035	0.14	0.020	0.15	0.13
	(0.097)	(0.13)	(0.093)	(0.089)	(0.12)	(0.14)	(0.10)
BA or higher education	0.12	-0.16	0.085	-0.085	0.0071	-0.12	0.071
	(0.10)	(0.14)	(0.098)	(0.092)	(0.12)	(0.15)	(0.11)
Owns twowheeler	-0.11	-0.050	0.057	-0.10	-0.14	-0.070	-0.015
	(0.078)	(0.11)	(0.076)	(0.072)	(0.097)	(0.11)	(0.086)
Owns car	-0.099	-0.11	-0.10	-0.088	-0.068	-0.23*	0.087
	(0.082)	(0.11)	(0.080)	(0.075)	(0.10)	(0.12)	(0.091)
VAT reg.	-0.048	0.020	-0.29**	0.22*	-0.11	0.091	0.055
	(0.14)	(0.19)	(0.13)	(0.12)	(0.17)	(0.19)	(0.15)
N	100	100	100	96	98	97	92

Note: Robust standard errors in parenthesis. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.4: Impact on business practices by firm size

	(1) Marketing	(2) Accounting	(3) Packaging	(4) Digital technology	(5) Logistics	(6) Facilities	(7) Business practices index
≤ 20 employees	-0.15	-0.0093	-0.071	-0.30***	-0.12	-0.23**	-0.73*
	(0.098)	(0.092)	(0.098)	(0.094)	(0.098)	(0.095)	(0.40)
N	111	111	112	112	111	109	107

Note: Robust standard errors in parenthesis. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.5: Impact on business practices by firm size

	(1) Marketing	(2) Accounting	(3) Packaging	(4) Digital technology	(5) Logistics	(6) Facilities	(7) Business practices index
$\leq$ 20 employees	-0.12	0.020	-0.022	-0.19*	-0.0087	-0.20*	-0.52
	(0.11)	(0.099)	(0.11)	(0.099)	(0.10)	(0.10)	(0.42)
Firm age (in years)	-0.0037	-0.0017	-0.0023	0.0059*	0.0023	0.00058	-0.0042
	(0.0037)	(0.0034)	(0.0036)	(0.0034)	(0.0035)	(0.0035)	(0.015)
Time on Chaldal (years)	0.034	0.030	0.043*	0.039*	0.061***	0.025	0.21**
	(0.022)	(0.020)	(0.022)	(0.020)	(0.021)	(0.021)	(0.087)
N	108	108	109	109	109	108	106

Note: Robust standard errors in parenthesis. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.6: Impact on business practices by firm size

	(1) Marketing	(2) Accounting	(3) Packaging	(4) Digital technology	(5) Logistics	(6) Facilities	(7) Business practices index
$\leq$ 20 employees	-0.0018	0.14	0.035	-0.11	0.14	-0.11	0.089
	(0.13)	(0.12)	(0.13)	(0.12)	(0.12)	(0.12)	(0.52)
Firm age (in years)	-0.0062	-0.0012	-0.0033	0.0064*	0.0016	0.00051	-0.0074
	(0.0038)	(0.0036)	(0.0038)	(0.0036)	(0.0036)	(0.0036)	(0.016)
Time on Chaldal (years)	0.055**	0.029	0.032	0.051**	0.072***	0.028	0.25**
	(0.024)	(0.023)	(0.024)	(0.023)	(0.023)	(0.023)	(0.097)
Trader/wholesellers	-0.18	-0.081	-0.017	-0.058	-0.17	-0.25**	-0.74
	(0.12)	(0.11)	(0.12)	(0.11)	(0.11)	(0.11)	(0.47)
Owner or family is also manager	-0.10	-0.073	-0.23	-0.081	0.036	0.093	-0.39
	(0.14)	(0.13)	(0.14)	(0.13)	(0.13)	(0.13)	(0.56)
BA or higher education	-0.034	0.14	0.15	-0.085	-0.18	0.024	-0.0042
	(0.14)	(0.14)	(0.15)	(0.14)	(0.14)	(0.14)	(0.59)
Owns twowheeler	0.091	-0.083	0.048	-0.049	0.038	-0.081	-0.046
	(0.11)	(0.11)	(0.11)	(0.11)	(0.11)	(0.11)	(0.45)
Owns car	0.10	0.019	-0.11	0.070	-0.084	0.18	0.20
	(0.12)	(0.11)	(0.12)	(0.11)	(0.11)	(0.11)	(0.48)
VAT reg.	0.12	0.13	0.15	0.15	0.082	-0.099	0.58
	(0.19)	(0.18)	(0.20)	(0.19)	(0.19)	(0.19)	(0.78)
N	99	99	100	100	100	100	98

Note: Robust standard errors in parenthesis. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.7: Impacts on sales and employment by firm size

	(1) Sales increased	(2) Sales increased	(3) Sales increased	(4) Employment increased	(5) Employment increased	(6) Employment increased
log Employment	-0.024	-0.037*	-0.044**	0.031	0.0053	0.018
	(0.015)	(0.020)	(0.022)	(0.021)	(0.027)	(0.031)
Firm age (years)		0.0020	0.0020		-0.0046	-0.0061
		(0.0026)	(0.0027)		(0.0035)	(0.0037)
Time on Chaldal (years)		0.011	0.0063		0.066***	0.072***
		(0.016)	(0.017)		(0.021)	(0.024)
Trader/wholesellers		-0.015	-0.015		-0.092	-0.10
		(0.077)	(0.080)		(0.10)	(0.11)
Owner or family is also manager			-0.0014			-0.021
			(0.096)			(0.13)
BA or higher education			0.15			-0.17
			(0.099)			(0.14)
Owns twowheeler			-0.12			-0.046
			(0.076)			(0.11)
Owns car			-0.092			-0.11
			(0.081)			(0.11)
vat			0.040			-0.0045
			(0.13)			(0.18)
N	112	108	100	112	108	100

Note: Robust standard errors in parenthesis. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

A.3 Daraz

Table A.8: Impacts by firm size

	(1) Business grown	(2) Registered for Daraz	(3) More flexibility	(4) Easier to WFH	(5) Connect	(6) Customer trust	(7) Easier Loans
< 5 employees	0.027	0.18**	0.16**	0.22***	0.084	0.12	0.077
	(0.074)	(0.087)	(0.078)	(0.075)	(0.084)	(0.090)	(0.090)
N	1302	1292	1298	1300	1299	1299	1294

Note: Robust standard errors in parenthesis. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.9: Impacts by firm size

	(1) Business grown	(2) Registered for Daraz	(3) More flexibility	(4) Easier to WFH	(5) Connect	(6) Customer trust	(7) Easier Loans
< 5 employees	0.023	0.13	0.14*	0.12	0.021	0.050	0.069
	(0.078)	(0.089)	(0.083)	(0.078)	(0.088)	(0.093)	(0.094)
Time on Daraz (Years)	0.066***	0.014	0.027	-0.013	-0.036	0.0073	0.024
	(0.020)	(0.024)	(0.022)	(0.021)	(0.023)	(0.025)	(0.025)
Firm age (years)	-0.0063	-0.021***	-0.0064	-0.020***	-0.015***	-0.013**	-0.0093
	(0.0052)	(0.0060)	(0.0055)	(0.0053)	(0.0059)	(0.0063)	(0.0063)
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	1291	1281	1287	1289	1288	1288	1283

Note: Robust standard errors in parenthesis. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.10: Adoption of Daraz's features by firm size

	(1) Product management	(2) Order management	(3) Reviews	(4) Customer messenger	(5) Financial statements	(6) Promotion tools
< 5 employees	-0.018	-0.093	-0.038	-0.018	0.010	0.059
	(0.064)	(0.059)	(0.056)	(0.050)	(0.062)	(0.071)
N	1301	1294	1296	1293	1296	1294

Note: Robust standard errors in parenthesis. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.11: Adoption of Daraz's features by firm size

	(1) Product management	(2) Order management	(3) Reviews	(4) Customer messenger	(5) Financial statements	(6) Promotion tools
< 5 employees	-0.031	-0.078	-0.040	0.016	0.031	0.073
	(0.067)	(0.062)	(0.059)	(0.052)	(0.064)	(0.074)
Time on Daraz (Years)	-0.011	0.026	0.025	0.046***	0.077***	0.033*
	(0.018)	(0.016)	(0.016)	(0.014)	(0.017)	(0.019)
Firm age (years)	-0.0032	0.0041	0.0016	0.0044	-0.00039	-0.0000033
	(0.0045)	(0.0041)	(0.0039)	(0.0035)	(0.0043)	(0.0049)
Constant	3.69***	3.75***	3.81***	3.82***	3.56***	3.50***
	(0.081)	(0.074)	(0.070)	(0.062)	(0.076)	(0.088)
Country FE	Yes	Yes	Yes	Yes	Yes	Yes
N	1290	1283	1285	1282	1285	1283

Note: Robust standard errors in parenthesis. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.12: Impacts by registration status

	(1) Business grown	(2) Registered for Daraz	(3) More flexibility	(4) Easier to WFH	(5) Connect	(6) Customer trust	(7) Easier Loans
Registered	0.0055	0.049	-0.19***	-0.17***	-0.039	-0.020	-0.044
	(0.057)	(0.068)	(0.059)	(0.056)	(0.064)	(0.067)	(0.068)
N	1388	1378	1387	1387	1388	1386	1382

Note: Robust standard errors in parenthesis. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.13: Impacts by registration status

	(1) Business grown	(2) Registered for Daraz	(3) More flexibility	(4) Easier to WFH	(5) Connect	(6) Customer trust	(7) Easier Loans
Registered	-0.024	0.059	-0.19***	-0.11*	-0.060	0.016	-0.069
	(0.059)	(0.068)	(0.062)	(0.058)	(0.066)	(0.069)	(0.071)
Time on Daraz (Years)	0.067***	0.0072	0.037*	0.00083	-0.028	0.016	0.018
	(0.020)	(0.023)	(0.021)	(0.020)	(0.022)	(0.023)	(0.024)
Firm age (years)	-0.0056	-0.025***	-0.0045	-0.021***	-0.015***	-0.014**	-0.012**
	(0.0049)	(0.0056)	(0.0051)	(0.0048)	(0.0055)	(0.0057)	(0.0058)
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	1376	1366	1375	1375	1376	1374	1370

Note: Robust standard errors in parenthesis. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.14: Impacts by time since joining Daraz

	(1) Registered	(2) VAT reg.
Time on Daraz (Years)	0.019**	0.0064
	(0.0091)	(0.0086)
Firm age (years)	0.010***	0.013***
	(0.0022)	(0.0022)
Country FE	Yes	Yes
N	1377	1541

Note: Robust standard errors in parenthesis. * $p <$ 0.10, ** $p < 0.05$, *** $p < 0.01$.

A.4 Questionnaires

Daraz: Survey on Informality & the Digital Economy

Introduction

Greetings! This message is from researchers at the World Bank and Harvard University, USA. We obtained your contact information from Daraz. We are contacting you in relation to a study we are conducting to learn about businesses that use e-commerce, understand why entrepreneurs decide to sell their products online and how this has affected the expansion and formal status of their business. We would like to ask you a few short questions.

Screening

q1.	Are you the owner/director of a business selling products on Daraz?	1. Yes 2. No
q2.	[IF q1=2] Can you share the email address of the owner of the business?	1. Yes, email address _____ 2. No

IF q1=1 CONTINUE WITH CONSENT

IF q1=2 END SURVEY AFTER q2 ("THANK YOU FOR YOUR TIME.")

Consent

We are researchers at the World Bank and Harvard University, USA, contacting you in relation to a study. The objective of our study is to learn about the businesses that use e-commerce, understand why entrepreneurs decide to sell their products online and how this has affected the expansion and formal status of their business. For this study, we are surveying thousands of businesses across Bangladesh, Nepal, Pakistan and Sri Lanka. The survey will take less than 15 minutes to complete.

If you agree to participate in this study, you will be entered in a lottery and have a chance to win a gift card from Daraz worth US $50. In local currencies, this is approximately equal to 4,100 Bangladeshi Taka / 5,800 Nepalese Rupees / 7,800 Pakistani Rupees / 9,200 Sri Lankan Rupees. Note that the final amount may vary slightly depending on changes to the exchange rate. If you win the lottery, you will be informed by email within four weeks of participating in the survey.

Participation is completely voluntary. You can skip any questions that you do not want to answer. Your answers will be coded and stored on a secure server only accessible to researchers, and combined with the answers of thousands of other businesses. Only overall results will be used for research.

You can contact us regarding any questions that you have about the study at akshay_dixit@hks.harvard.edu or jlee20@worldbank.org. You may also contact Harvard University's Institutional Review Board at cuhs@harvard.edu.

Do you understand the above and consent to participating in this study?
1. Yes
2. No

q3.	What is your email address?	
Please indicate to what extent you agree or disagree with the following statements.		
q4.	My business has grown because of selling on Daraz.	1. Strongly disagree 2. Disagree 3. Neither agree nor disagree 4. Agree 5. Strongly agree

q5.	Daraz has enabled me to connect with other entrepreneurs/businesses and learn from them.	1. Strongly disagree 2. Disagree 3. Neither agree nor disagree 4. Agree 5. Strongly agree
q6.	Customers are more likely to trust/rely on the quality of a product they see on Daraz, rather than at a shop or store.	1. Strongly disagree 2. Disagree 3. Neither agree nor disagree 4. Agree 5. Strongly agree
q7.	Daraz has enabled more women in my area to engage in income generating activities.	1. Strongly disagree 2. Disagree 3. Neither agree nor disagree 4. Agree 5. Strongly agree
q8.	Daraz makes it easier for me to fulfil my family responsibilities even while managing a business.	1. Strongly disagree 2. Disagree 3. Neither agree nor disagree 4. Agree 5. Strongly agree
q9.	The ability to conduct my business from home is an important reason why I choose to work for Daraz.	1. Strongly disagree 2. Disagree 3. Neither agree nor disagree 4. Agree 5. Strongly agree
q10.	Since my business started selling on Daraz, it has become easier to get loans/financing for my business.	1. Strongly disagree 2. Disagree 3. Neither agree nor disagree 4. Agree 5. Strongly agree
q11.	I registered my business with authorities mainly because I wanted to sell my products on Daraz.	1. Strongly disagree 2. Disagree 3. Neither agree nor disagree 4. Agree 5. Strongly agree
q12.	The greater access to customers offered by Daraz makes it more worthwhile for businesses to register with authorities.	1. Strongly disagree 2. Disagree 3. Neither agree nor disagree 4. Agree 5. Strongly agree
q13.	Businesses that sell through digital platforms like Daraz usually pay more in taxes those that sell through regular stores.	1. Strongly disagree 2. Disagree 3. Neither agree nor disagree 4. Agree 5. Strongly agree
q14.	Businesses selling on Daraz are more likely to be audited by tax authorities.	1. Strongly disagree 2. Disagree 3. Neither agree nor disagree 4. Agree 5. Strongly agree

Transactions on Daraz

q15.	How long ago did this business start operating?	1. Years _____ 2. Months _____
q16.	How long ago did your business begin selling products on Daraz?	1. Years _____ 2. Months _____

q17.	How many types of products does this business sell on Daraz? Please enter the number.	
q18.	What type of products does this business sell on Daraz? Please select all that apply.	1. Groceries 2. Health and beauty 3. Mother and baby 4. Pet supplies 5. Bedding and bath 6. Charity and donation 7. Furniture and décor 8. Home and living 9. Kitchen and dining 10. Laundry and cleaning 11. Media, music and books 12. Motors 13. Packaging material 14. Sports and outdoors 15. Stationery and craft 16. Tools, DIY and outdoor 17. Toys and games 18. Bags and travel 19. Fashion (clothing) 20. Fashion (watches, sunglasses, jewelry, etc.) 21. Cameras 22. Computers and laptops 23. Home appliances 24. Mobiles and tablets 25. TV, audio and video, gaming and wearables 26. Digital goods (e.g., business services, gift cards, education, financial services, etc.) 27. Special digital products (Netflix, Topup) 98. Other, specify _____
q19.	Why did you decide to sell on Daraz? Please select all that apply.	1. Access to more customers 2. Reliable/faster transactions 3. Easier to manage business online 4. Wanted to work at home 5. Liked the features offered by Daraz 6. Because of Covid-19/Could not sell to customers in person 7. Doing business online is more secure than doing business in-person 8. Could not find a job 98. Other, specify _____ 97. Don't know/I did not make the decision to sell on Daraz
q20.	Does the business also sell products through any shops or supermarkets?	1. Yes 2. No

q21.	How many types of products does this business sell through shops or supermarkets? Please enter the number.	
q22.	In the past month, what was the **total** monthly sales of your business?	
q23.	In the past month, how much of the total sales of this business was on Daraz?	1. Less than a quarter of total sales on Daraz 2. More than a quarter, but less than half 3. Exactly half of total sales 4. More than half, but less than three quarters of total sales 5. Three quarters or more of total sales
q24.	How has the COVID-19 pandemic affected the total sales of your business?	1. Sales have **decreased** a lot because of COVID-19 2. Sales have **decreased** slightly 3. COVID-19 has not affected sales 4. Sales have **increased** slightly 5. Sales have **increased** a lot

q25.	**[IF q24=4 OR q24=5]** For which products have your sales increased the most?	List of options selected in q18 98. Other, specify _____
q26.	In managing this business, how frequently do you use the following features of Daraz?	
26.1	Product upload & management	1. Never used it 2. Rarely 3. Sometimes 4. Frequently
26.2	Order management	1. Never used it 2. Rarely 3. Sometimes 4. Frequently
26.3	Business advisor	1. Never used it 2. Rarely 3. Sometimes 4. Frequently
26.4	Reviews (read & respond to customer feedback)	1. Never used it 2. Rarely 3. Sometimes 4. Frequently
26.5	Customer instant messenger	1. Never used it 2. Rarely 3. Sometimes 4. Frequently
26.6	Financial statements	1. Never used it 2. Rarely 3. Sometimes 4. Frequently
26.7	Treasure Bowls	1. Never used it 2. Rarely 3. Sometimes 4. Frequently
26.8	Promotion tools	1. Never used it 2. Rarely 3. Sometimes 4. Frequently

26.9	Store decoration	1. Never used it
		2. Rarely
		3. Sometimes
		4. Frequently
26.10	Growth center	1. Never used it
		2. Rarely
		3. Sometimes
		4. Frequently

Business characteristics

q27.	What is this business's current legal/ownership status?	1. Unincorporated/unregistered
		2. Sole proprietorship
		3. Partnership
		4. Private limited liability company
		5. Public limited liability company
		6. Government company
		7. Cooperative establishment
		8. Club/association
		96. Don't know
		98. Other, specify_____
q28.	Where is the business located?	Attached in excel sheet
q29.	Is the business located in your home, or in some other place?	1. In my home
		2. On the land where my home is located but in a separate building
		3. In a location within the same neighbourhood as my home
		4. In a location outside the neighbourhood but within the same town/village as my home
		5. In a location outside the town/village but within the same district as my home
		6. In a location outside the district
		98. Other, specify _____
q30.	Are any of your family members also involved in this business?	1. Yes
		2. No
q31.	How are your family members involved in this business? Select all that apply.	1. Business partner/co-owner
		2. Paid worker/employee
		3. Unpaid worker/helper
		98. Other, specify _____
q32.	Does this business have a separate bank account, or is it managed using your own personal bank account?	1. Business has a separate bank account
		2. Business managed using my personal bank account
q33.	How many workers work at this business?	
q34.	How many of these workers are contracted employees?	
q35.	Does this business have a VAT registration number?	1. Yes
		2. No
q36.	In addition to this business, do you perform any other income generating activities, e.g. another business or job?	1. Yes
		2. No

Respondent characteristics

q37.	What is your gender?	1. Male
		2. Female
		3. Other
q38.	What is your age (in years)?	
q39.	What is the highest class that you have passed?	0. None/Never attended school
		1. Class One
		2. Class Two
		3. Three
		4. Four
		5. Five
		6. Six
		7. Seven
		8. Eight
		9. Nine
		10. Class Ten/Secondary/Equivalent
		11. Eleven
		12. Class Twelve/Senior Secondary/Equivalent
		13. Diploma/vocational education
		14. Bachelor's/University degree or higher
q40.	What is your current marital status?	1. Single/Never Married
		2. Married
		3. Widowed
		4. Divorced

		5. Separated	
		6. Abandoned	
q41.	Do you (or does your household) own any of the following?	Motorcycle	1. Yes 2. No
		Car	1. Yes 2. No
		Refrigerator	1. Yes 2. No
		Smart phone	1. Yes 2. No
		Land or house	1. Yes 2. No

END SURVEY ("THANK YOU FOR YOUR TIME.")

Chaldal: Survey on Informality & the Digital Economy

Field	Question		Answer
id *(required)*	INTERVIEWER: ENTER RESPONDENT ID [3 DIGITS BETWEEN 000-999] *INTERVIEWER: DO NOT READ TO RESPONDENT* *Response constrained to: .>=000 and .<=999*		
id_copy *(required)*	INTERVIEWER: FOR VERIFICATION, PLEASE RE-ENTER RESPONDENT ID [3 DIGITS BETWEEN 000-999] *INTERVIEWER: DO NOT READ TO RESPONDENT* *Response constrained to: (.>=000 and .<=999) and .= ${id}*		
intro1	**Welcome to the SurveyCTO data collection form** Thank you. Please proceed.		
intro2	[READ TO RESPONDENT] Hello, my name is [NAME], I work with Chaldal's telephone center. The World Bank George Washington University are conducting a study of firms supplying goods to Chaldal. This is part of a larger study to understand how digital platforms affect small and medium size businesses. We would like to ask you some questions about about 1) how you feel Chaldal affects the businesses environment and your work; 2) this businesses' relationship with Chaldal, and 3) the size, scope, practices of the business. We would prefer to speak with the owner or a manager. The information we collect will be used only for the purposes of this study or future research on the same area. Your answers will be coded and stored on a secure server only accessible to study staff. The study team may also use information Chaldal already has for your firm. The names of businesses or individuals participating in the study will not be identified in this report or any presentations using this data. Your responses will only be reported together with those of many other respondents so your answers cannot be identified. If you would like to access the final report, you may obtain it through Chaldal. Your business's participation in the survey is voluntary. There will be no effect on your relationship with Chaldal whether you participate or not. You may skip any questions or stop the interview at any time without effect on your business, employment, or reputation. The survey will take about 20 minutes to complete. If you would like to contact the study organizers, I can give you, their contacts. Your willingness to participate in this research study is implied if you proceed.		
f. Filter Questions 1			
a1 *(required)*	[READ]: f-a1. Do you understand?	1	Yes
		0	No
a1a *(required)*	f-a1a. INTERVIEWER: RE-EXPLAIN PURPOSE OF INTERVIEW. IF RESPONDENT CANNOT UNDERSTAND, CALL SUPERVISOR OVER IF POSSIBLE [READ TO RESPONDENT]: Do you now understand? *Question relevant when: selected(${a1} , '0')*	1	Yes
		0	No
a1b *(required)*	f-a1b. INTERVIEWER - IF RESPONDENT CANNOT UNDERSTAND SOME ASPECT OF THE CONSENT: Thank you. I will talk to my supervisor to get additional information and we will contact you again. Is that OK? *Question relevant when: selected(${a1a} , '0')*	1	Yes (Respondent consents to follow-up call) --> SCHEDULE, THANK AND END INTERVIEW
		0	No (Respondent does not consent to follow up call) --> THANK, SAY GOODBYE AND TERMINATE INTERVIEW
a2 *(required)*	[READ] f-a2. Do you agree to participate in this study? *Question relevant when: selected(${a1} , '1') or selected(${a1a} , '1')*	1	Yes
		0	No

a2a *(required)*	f-a2a. Would you be able to participate if we called at a different time? *Question relevant when: selected(${a2} , '0')*	1	Yes --> NOTE AND SCHEDULE CALLBACK, THANK, SAY GOODBYE AND TERMINATE INTERVIEW
		0	No --> THANK, SAY GOODBYE AND TERMINATE INTERVIEW

f2. Filter Questions 2
Group relevant when: selected(${a2} , '1')

a3 *(required)*	f2-a3. Do you own or work with a business supplying goods to Chaldal?	1	Yes
		0	No
a4 *(required)*	f2-a4. Can you refer us to someone who works for this company? We prefer to speak with the owner or a main manager if the owner is not available. *Question relevant when: selected(${a3} , '0')*	1	Yes
		0	No --> THANK AND END INTERVIEW
name_referred *(required)*	f2-a4a. What is name of the person to be contacted? *Question relevant when: selected(${a4} , '1')*		
referral_contact	f2-a4b. What is the phone number? *Question relevant when: selected(${a4} , '1')*		
a5 *(required)*	f2-a5. Are you the owner of this company? *Question relevant when: selected(${a3} , '1')*	1	Yes
		0	No
a6 *(required)*	f2-a6. What is your position in this company? *READ OPTIONS ONLY TO CLARIFY IF NEEDED* *Question relevant when: selected(${a5} , '0')*	1	Manager
		2	Sales and Marketing Team
		3	[DO NOT READ] Other
		4	[DO NOT READ] Refuse to answer
a6a *(required)*	f2-a6a. If "other" please specify *(FOR INTERVIEWER ONLY): If the respondent cannot specify any position then ask him what types of work he/she is doing in this business and write it down correctly. If you cannot specify any position only then type "NA".* *Question relevant when: selected(${a6} , '3')*		
checkpoint2 *(required)*	**ENUMERATOR:** Is the respondent still there? *(FOR INTERVIEWER ONLY): PLEASE DO NOT READ ALOUD* *Question relevant when: selected(${a2} , '1') and (selected(${a5} , '1') or selected(${a6} , '1') or selected(${a6} , '2') or selected(${a6} , '3') or selected(${a6} , '4'))*	1	Yes
		0	No

g1. impressions
Group relevant when: (selected(${a5} , '1') or selected(${a6} , '1') or selected(${a6} , '2') or selected(${a6} , '3') or selected(${a6} , '4')) and ${checkpoint2} = 1

n1	g1-n1. Now, I am going to read you a series of questions. For each, please respond how much you agree or disagree with the statement, using the options 1) Strongly disagree, 2) disagree, 3) neutral (neither agree not disagree) 4) agree, and 5) strongly agree. *ONE OPTION PER QUESTION, READ RESPONSES ONLY. PLEASE DO NOT READ THE NUMBERS OF ANSWER CHOICES.*		

q1 *(required)*	g1-q1. This business has grown because of selling to Chaldal. Do you strongly disagree, disagree, are neutral, agree or strongly agree? *(FOR INTERVIEWER ONLY): Please, only read options 1 through 5. Do not read "Don't know" or "Refuse to answer" to the respondent.*	1	Strongly Disagree
		2	Disagree
		3	Neutral
		4	Agree
		5	Strongly Agree
		-98	[DO NOT READ] Don't Know
		-99	[DO NOT READ] Refuse to answer
q2 *(required)*	g1-q2. Chaldal has enabled me or others I work with to connect with other entrepreneurs and learn from them. Do you strongly disagree, disagree, are neutral, agree or strongly agree? *(FOR INTERVIEWER ONLY): Please, only read options 1 through 5. Do not read "Don't know" or "Refuse to answer" to the respondent.*	1	Strongly Disagree
		2	Disagree
		3	Neutral
		4	Agree
		5	Strongly Agree

		-98	[DO NOT READ] Don't Know
		-99	[DO NOT READ] Refuse to answer
q3 *(required)*	g1-q3. Customers trust the quality of a product sold by Chaldal more than products sold at other shops or stores. Do you strongly disagree, disagree, are neutral, agree or strongly agree? *(FOR INTERVIEWER ONLY): Please, only read options 1 through 5. Do not read "Don't know" or "Refuse to answer" to the respondent.*	1	Strongly Disagree
		2	Disagree
		3	Neutral
		4	Agree
		5	Strongly Agree
		-98	[DO NOT READ] Don't Know
		-99	[DO NOT READ] Refuse to answer
q4 *(required)*	g1-q4. Chaldal has enabled this business to obtain better prices for its products. Do you strongly disagree, disagree, are neutral, agree or strongly agree? *(FOR INTERVIEWER ONLY): Please, only read options 1 through 5. Do not read "Don't know" or "Refuse to answer" to the respondent.*	1	Strongly Disagree
		2	Disagree
		3	Neutral
		4	Agree
		5	Strongly Agree
		-98	[DO NOT READ] Don't Know
		-99	[DO NOT READ] Refuse to answer
q5 *(required)*	g1-q5. Since this business started selling through Chaldal, it is easier to access business financing. Do you strongly disagree, disagree, are neutral, agree or strongly agree? *(FOR INTERVIEWER ONLY): Please, only read options 1 through 5. Do not read "Don't know" or "Refuse to answer" to the respondent.*	1	Strongly Disagree
		2	Disagree
		3	Neutral
		4	Agree
		5	Strongly Agree
		-98	[DO NOT READ] Don't Know
		-99	[DO NOT READ] Refuse to answer
q6 *(required)*	g1-q6. For businesses like this one, the opportunity to supply goods to Chaldal provides an incentive to formally register the business. Do you strongly disagree, disagree, are neutral, agree or strongly agree? *(FOR INTERVIEWER ONLY): Please, only read options 1 through 5. Do not read "Don't know" or "Refuse to answer" to the respondent.*	1	Strongly Disagree
		2	Disagree
		3	Neutral
		4	Agree
		5	Strongly Agree
		-98	[DO NOT READ] Don't Know
		-99	[DO NOT READ] Refuse to answer
q7 *(required)*	g1-q7. Businesses selling goods through digital stores like Chaldal are more likely to attract attention from tax authorities. Do you strongly disagree, disagree, are neutral, agree or strongly agree? *(FOR INTERVIEWER ONLY): Please, only read options 1 through 5. Do not read "Don't know" or "Refuse to answer" to the respondent.*	1	Strongly Disagree
		2	Disagree
		3	Neutral
		4	Agree
		5	Strongly Agree
		-98	[DO NOT READ] Don't Know
		-99	[DO NOT READ] Refuse to answer
checkpoint3 *(required)*	**ENUMERATOR:** Is the respondent still there? *(FOR INTERVIEWER ONLY): PLEASE DO NOT READ ALOUD* *Question relevant when: ${checkpoint2} =1*	1	Yes
		0	No

g2. Business Relationship with Chaldal
Group relevant when: (selected(${a5} , '1') or selected(${a6} , '1') or selected(${a6} , '2') or selected(${a6} , '3') or selected(${a6} , '4')) and ${checkpoint3} = 1

g2. Business Relationship with Chaldal > q8. Question 8

q8a *(required)*	g2-q8a. How many complete years has this business worked with Chaldal? *ENTER YEARS BETWEEN 0 AND 15 OR -98 FOR DON'T KNOW OR -99 FOR REFUSE TO ANSWER.* *Response constrained to: (.>=0 and .<=15) or (.= -98 or .= -99)*		

q8b *(required)*	g2-q8b. How many additional months has this business been a supplier for Chaldal? *ENTER MONTHS 0-11.* *IN CASE OF FRACTIONS OF MONTHS, PLEASE PUT NEAREST INTEGER VALUE (FOR EXAMPLE, IN CASE OF, BELOW 2 WEEKS, PLEASE PUT 0 MONTH; IN CASE OF 0.5 MONTHS OR 2 WEEKS, PLEASE PUT 1 MONTH; 1.5 MONTHS OR 6 WEEKS, PLEASE PUT 2 MONTHS; IN CASE OF 2.5 MONTHS OR 10 WEEKS, PLEASE PUT 3 MONTHS.* *ENTER -98 FOR DON'T KNOW OR -99 FOR REFUSE TO RESPOND.* *Response constrained to: (.>=0 and .<=11) or (.= -98 or .= -99)*		
q9 *(required)*	g2-q9. What type of products does this business sell through Chaldal? [Select all that apply]	1	COVID-19 Protection
		2	Baby Care
		3	Pet Care
		4	Fresh Fruits and Vegetables (Food and beverages)
		5	Beverages (Food and beverages)
		6	Fresh Meat and Fish (Food and beverages)
		7	Snacks (Food and beverages)
		8	Fresh Dairy or Eggs (Food and beverages)
		9	Frozen/Canned Food (Food and beverages)
		10	Bread and Bakery (Food and beverages)
		11	Baking (Food and beverages)
		12	Cooking - rice, oil, spices, etc. (Food and beverages)
		13	Diabetic Food (Food and beverages)
		14	Home and Cleaning
		15	Office Products
		16	Beauty and Health
		17	Home Appliances
		18	Vehicle Essentials
		19	Other
q9a *(required)*	g3-q9a. If other, please specify *(FOR INTERVIEWER ONLY): If the respondent has no specification, please type "NA".* *Question relevant when: selected(${q9} , '19')*		
q10 *(required)*	g2-q10. In the past month, about what part of the total sales of this business was sold through Chaldal? *(FOR INTERVIEWER ONLY): Only read options 1 through 4. Do not read "Don't know" or "Refuse to answer" to the respondent.*	1	0-25%
		2	26-50%
		3	51-75%
		4	76-100%
		-98	[DO NOT READ] Don't Know
		-99	[DO NOT READ] Refuse to answer

q11 *(required)*	g2-q11. Think about how the COVID pandemic has affected the share of your business sales that are through Chaldal. Because of the pandemic, has the share of your sales that are through Chaldal increased, decreased, or stayed the same? *Please only read the first 3 options. Do not read "don't know" or "refusal to answer" to the respondent.*	1	Increased
		2	Decreased
		3	Stayed the same
		-98	[DON'T READ] Don't know
		-99	[DON'T READ] Refuse to answer
checkpoint4 *(required)*	**ENUMERATOR:** Is the respondent still there? *(FOR INTERVIEWER ONLY): PLEASE DO NOT READ ALOUD* *Question relevant when: ${checkpoint3} =1*	1	Yes
		0	No

g3. Decision to work with Chaldal
Group relevant when: (selected(${a5} , '1') or selected(${a6} , '1') or selected(${a6} , '2') or selected(${a6} , '3') or selected(${a6} , '4')) and ${checkpoint4} = 1

q12 *(required)*	g3-q12. Think back to when this business first decided to work with Chaldal: What were the primary reasons this business decided to sell through Chaldal? [SELECT ALL THAT APPLY] *(FOR INTERVIEWER ONLY): Please, READ ALL OPTIONS* *Response constrained to: if(selected(., -98) or selected(., -99), count-selected(.) = 1,count-selected(.) >= 1)*	1	Reach more customers
		2	More reliable/Steady sales
		3	Higher prices
		4	Wanted to diversify sales outlets
		5	Chaldal offers better terms
		6	Response to Covid-19
		7	Other
		-98	[DON'T READ] Don't Know
		-99	[DON'T READ] Refuse to answer
q12a *(required)*	g3-q12a. If other, please specify *(FOR INTERVIEWER ONLY): If the respondent has no specification, please type "NA".* *Question relevant when: selected(${q12} , '7')*		

checkpoint5 *(required)*	**ENUMERATOR:** Is the respondent still there? *(FOR INTERVIEWER ONLY): PLEASE DO NOT READ ALOUD* *Question relevant when: ${checkpoint4} =1*	1	Yes
		0	No

g4. Use of Special Services of Chaldal
Group relevant when: (selected(${a5} , '1') or selected(${a6} , '1') or selected(${a6} , '2') or selected(${a6} , '3') or selected(${a6} , '4')) and ${checkpoint5} = 1

q13n	g4-q13n. We'd like to know about how you or others at your company use services of Chaldal to manage the business? *READ RESPONSES.*		
q13a1 *(required)*	g4-q13a1. How does your business receive purchase order from Chaldal? *(FOR INTERVIEWER ONLY): Please, only read options 1 through 4. Do not read "Don't know" or "Refuse to answer" to the respondent.*	1	By email
		2	By phone call
		3	By both email and phone call
		4	Not aware of this service of Chaldal
		-98	[DO NOT READ] Don't Know
		-99	[DO NOT READ] Refuse to answer
q13a2 *(required)*	g4-q13a2. How often does this business receive purchase orders from Chaldal? *(FOR INTERVIEWER ONLY): Please, only read options 1 through 3. Do not read "Don't know" or "Refuse to answer" to the respondent.* *Question relevant when: selected(${q13a1} , '1') or selected(${q13a1} , '2') or selected(${q13a1} , '3')*	1	Daily
		2	Weekly
		3	Monthly
		4	Less frequently than monthly
		-98	[DO NOT READ] Don't know
		-99	[DO NOT READ] Refuse to answer
q13b1 *(required)*	g4-q13b1. How does this business receive sales report from Chaldal? *(FOR INTERVIEWER ONLY): Please, only read options 1 through 4. Do not read "Don't know" or*	1	By email
		2	By phone call

	"Refuse to answer" to the respondent.	3	By both email and phone call
		4	Not aware of this service of Chaldal
		-98	[DO NOT READ] Don't Know
		-99	[DO NOT READ] Refuse to answer
q13b2 *(required)*	g4-q13b2. Does this business use the information in the sales report in its planning or decision making? *(FOR INTERVIEWER ONLY): Do not read "Don't know" or "Refuse to answer" to the respondent.* *Question relevant when: selected(${q13b1} , '1') or selected(${q13b1} , '2') or selected(${q13b1} , '3')*	1	Yes
		2	No
		-98	[DON'T READ] Don't know
		-99	[DON'T READ] Refuse to answer
q13b3 *(required)*	g4-q13b3. How does this business use the information of the sales report? *(FOR INTERVIEWER ONLY): Please, only read options 1 through 8. Do not read "Don't know" or "Refuse to answer" to the respondent.* *Question relevant when: selected(${q13b2} , '1')* *Response constrained to: (if(selected(., -98) or selected(., -99), count-selected(.) = 1,count-selected(.) >= 1))*	1	Check our accounts
		2	Adjust the products we sell
		3	Adjust prices
		4	Adjust quantities we sell to Chaldal
		5	Adjust marketing
		6	Business planning
		7	Don't use it at all
		8	Other
		-98	[DO NOT READ] Don't know
		-99	[DO NOT READ] Refuse to answer
q13b3a *(required)*	g4-q13b3a. If Other, please specify *Question relevant when: selected(${q13b3} , '8')*		
q13c1 *(required)*	g4-q13c1. Has this business ever asked for business advice from the relationship manager of Chaldal? *(FOR INTERVIEWER ONLY): Please, only read options 1 through 3. Do not read "Don't know" or "Refuse to answer" to the respondent.*	1	Yes
		2	No
		3	Not aware of this relationship manager of Chaldal
		-98	[DO NOT READ] Don't know
		-99	[DO NOT READ] Refuse to answer
q13c2 *(required)*	g4-q13c2. How useful did you find the business advice from the relationship manager? *(FOR INTERVIEWER ONLY): Please, only read options 1 through 4. Do not read "Don't know" or "Refuse to answer" to the respondent.* *Question relevant when: selected(${q13c1} , '1')*	1	Very useful
		2	Useful
		3	Somewhat useful
		4	Not useful
		-98	[DO NOT READ]
		-99	[DO NOT READ] Refuse to answer
q13d1 *(required)*	g4-q13d1. Does this business know about the partnership marketing service of Chaldal? *(FOR INTERVIEWER ONLY): Please explain what partnership marketing is. Do not read "Don't know" or "Refuse to answer" to the respondent.*	1	Yes
		2	No
		-98	[DON'T READ] Don't
		-99	[DON'T READ] Refuse to answer
q13d2 *(required)*	g4-q13d2. Has this business ever used the partnership marketing service of Chaldal? *(FOR INTERVIEWER ONLY): Please, do not read "Don't know" or "Refuse to answer" to the respondent.* *Question relevant when: selected(${q13d1} , '1')*	1	Yes
		2	No
		-98	[DON'T READ] Don't
		-99	[DON'T READ] Refuse to answer
q13d3 *(required)*	g4-q13d3. Why has this business never used the partnership marketing service of Chaldal? [SELECT ALL THAT APPLY] *(FOR INTERVIEWER ONLY): Please, only read options 1 through 3. Do not read "Don't know" or "Refuse to answer" to the respondent.* *Question relevant when: selected(${q13d2} , '2')* *Response constrained to: (if(selected(., -98) or selected(., -99), count-selected(.) = 1,count-selected(.) >= 1))*	1	Too expensive
		2	Not enough returns
		3	Was not aware of the possibility

		-98	[DO NOT READ] Don't know
		-99	[DO NOT READ] Refuse to answer
q13d4 *(required)*	g4-q13d4. Would you be willing to engage in partnership marketing for a fee? *(FOR INTERVIEWER ONLY): Please, do not read "Don't know" or "Refuse to answer" to the respondent.*	1	Yes
		2	No
		-98	[DON'T READ] Don't know
		-99	[DON'T READ] Refuse to answer
q13e. *(required)*	g4-q13e. Would this business be interested in getting such services such as sales report, purchase order, information on partnership marketing and/or other market intelligence through an App or Seller Portal on Chaldal? *(FOR INTERVIEWER ONLY): Please do not read "Don't know" or "Refuse to answer" to the respondent.*	1	Yes
		2	No
		-98	[DON'T READ] Don't know
		-99	[DON'T READ] Refuse to answer
checkpoint6 *(required)*	**ENUMERATOR:** Is the respondent still there? *(FOR INTERVIEWER ONLY): PLEASE DO NOT READ ALOUD* Question relevant when: ${checkpoint5} =1	1	Yes
		0	No

g5. Changes in the Business
Group relevant when: (selected(${a5} , '1') or selected(${a6} , '1') or selected(${a6} , '2') or selected(${a6} , '3') or selected(${a6} , '4')) and ${checkpoint6} = 1

q14n	g5-q14n. Now we'd like to ask about how specific areas of how your business might have changed in response to working as a supplier for Chaldal. *ONE OPTION PER QUESTION, READ RESPONSES.*		
q14a *(required)*	g5-q14a. Since this business started supplying its products to Chaldal, have its total sales revenues increased, decreased or stayed the same? *(FOR INTERVIEWER ONLY): Please, only read options 1 through 3. Do not read "Don't know" or "Refuse to answer" to the respondent.*	1	Increased
		2	Decreased
		3	Stayed the same
		-98	[DON'T READ] Don't know
		-99	[DON'T READ] Refuse to answer
q14b *(required)*	g5-q14b. Since this business started supplying its products to Chaldal, has the number of full-time employees increased, decreased, or stayed the same? *(FOR INTERVIEWER ONLY): Please, only read options 1 through 3. Do not read "Don't know" or "Refuse to answer" to the respondent.*	1	Increased
		2	Decreased
		3	Stayed the same
		-98	[DON'T READ] Don't know
		-99	[DON'T READ] Refuse to answer
q14c *(required)*	g5-q14c. Since this business started working with Chaldal, has the number of skilled employees or managers increased, decreased, or stayed the same? *(FOR INTERVIEWER ONLY): Please, only read options 1 through 3. Do not read "Don't know" or "Refuse to answer"*	1	Increased
		2	Decreased
		3	Stayed the same
		-98	[DON'T READ] Don't know
		-99	[DON'T READ] Refuse to answer
q15a *(required)*	g5-q15a. Since starting to work with Chaldal has this business made any changes or significant improvements in how it markets its goods? *(FOR INTERVIEWER ONLY): Please do not read "Don't know" or "Refuse to answer" to the respondent.*	1	Yes
		2	No
		-98	[DON'T READ] Don't know
		-99	[DON'T READ] Refuse to answer
q15b *(required)*	g5-q15b. Since starting to work with Chaldal, has this business made any changes or significant improvements in its bookkeeping or how accounts are kept? *(FOR INTERVIEWER ONLY): Please do not read "Don't know" or "Refuse to answer" to the respondent.*	1	Yes
		2	No
		-98	[DON'T READ] Don't know

		-99	[DON'T READ] Refuse to answer
q15c *(required)*	g5-q15c. Since starting to work with Chaldal, has this business made any changes or significant improvements to the quality or packaging of its products? *(FOR INTERVIEWER ONLY): Please do not read "Don't know" or "Refuse to answer" to the respondent.*	1	Yes
		2	No
		-98	[DON'T READ] Don't know
		-99	[DON'T READ] Refuse to answer
q15d *(required)*	g5-q15d. Since starting to work with Chaldal, has this business made any changes or significant improvements in its use of digital technology? *(FOR INTERVIEWER ONLY): Please do not read "Don't know" or "Refuse to answer" to the respondent.*	1	Yes
		2	No
		-98	[DON'T READ] Don't know
		-99	[DON'T READ] Refuse to answer
q15e *(required)*	g5-q15e. Since starting to work with Chaldal, has this business made any changes or significant improvements in how its inventory or logistics are managed? *(FOR INTERVIEWER ONLY): Please do not read "Don't know" or "Refuse to answer" to the respondent.*	1	Yes
		2	No
		-98	[DON'T READ] Don't know
		-99	[DON'T READ] Refuse to answer
q15f *(required)*	g5-q15f. Since starting to work with Chaldal, has this business made any significant increase in its use of bank loans? *(FOR INTERVIEWER ONLY): Please do not read "Don't know" or "Refuse to answer" to the respondent.*	1	Yes
		2	No
		-98	[DON'T READ] Don't know
		-99	[DON'T READ] Refuse to answer
q15g *(required)*	g5-q15g. Since starting to work with Chaldal, has this business made any significant changes in how the business is legally structured or registered? *(FOR INTERVIEWER ONLY): Please do not read "Don't know" or "Refuse to answer" to the respondent.*	1	Yes
		2	No
		-98	[DON'T READ] Don't know
		-99	[DON'T READ] Refuse to answer
q15h *(required)*	g5-q15h. Since starting to work with Chaldal, has this business made any changes or significant improvements to its equipment or facilities? (For example, buying new equipment) *(FOR INTERVIEWER ONLY): Please do not read "Don't know" or "Refuse to answer" to the respondent.*	1	Yes
		2	No
		-98	[DON'T READ] Don't know
		-99	[DON'T READ] Refuse to answer
checkpoint7 *(required)*	**ENUMERATOR:** Is the respondent still there? *(FOR INTERVIEWER ONLY): PLEASE DO NOT READ ALOUD* *Question relevant when: ${checkpoint6} =1*	1	Yes
		0	No

g6. Business Characteristics
Group relevant when: (selected(${a5} , '1') or selected(${a6} , '1') or selected(${a6} , '2') or selected(${a6} , '3') or selected(${a6} , '4')) and ${checkpoint7} = 1

g6n	g6n. Now I'd like to ask you some questions about your business.		

g6. Business Characteristics > Group for question 16

q16a *(required)*	g6-q16a. How many complete years has this business been in operation? [ENUMERATOR: PLEASE ENTER COMPLETE YEARS] *ENTER YEARS BETWEEN 0-100 OR -98 FOR DON'T KNOW OR -99 FOR NO RESPONSE* *Response constrained to: (.>=0 and .<=100) or (.= -98 or .= -99)*	
q16b *(required)*	g6-q16b. How many additional months has the business been in operation? [ENUMERATOR: PLEASE ENTER MONTHS 0-11 OR 98 FOR DON'T KNOW OR 99 FOR REFUSE TO RESPOND] *ENTER MONTHS 0-11. IN CASE OF FRACTIONS OF MONTHS, PLEASE PUT NEAREST INTEGER VALUE (FOR EXAMPLE, IN CASE OF, BELOW 2 WEEKS, PLEASE PUT 0 MONTH; IN CASE OF 0.5 MONTHS OR 2 WEEKS, PLEASE PUT 1 MONTH; 1.5 MONTHS OR 6 WEEKS , PLEASE PUT 2 MONTHS; IN CASE OF 2.5 MONTHS OR 10 WEEKS, PLEASE PUT 3 MONTHS. ENTER -98 FOR DON'T KNOW OR -99 FOR REFUSE TO RESPOND.* *Response constrained to: (.>=0 and .<=11) or (.= -98 or .= -99)*	
q16ab_warning *(required)*	q16a+q16b should be equal or greater than Q8a+8b; Please, proceed to check and go back to input valid information. *Question relevant when: ${q16ab} < ${q8ab}*	

q17 *(required)*	g6-q17. Which of the following best describes this business? [SELECT ONE] *(FOR INTERVIEWER ONLY): Please, READ ALL OPTIONS.*		1	Manufacturer
			2	Farm, dairy, eggs, or livestock producer
			3	Trader/Wholesaler
			-98	[DON'T READ] Don't know
			-99	[DON'T READ] Refuse to answer
q18 *(required)*	g6-q18. Where does this business source its products from? [SELECT ALL THAT APPLY] *(FOR INTERVIEWER ONLY): Please, READ ALL OPTIONS* *Question relevant when: selected(${q17} , '3')*		1	Same city or district-direct from farm or factory
			2	Same city or district-other supplier
			3	Same division
			4	Nationally
			5	Import from overseas
			-98	[DON'T READ] Don't know
			-99	[DON'T READ] Refuse to answer
q19 *(required)*	g6-q19. Over what geographic area this business sell its products? [SELECT ALL THAT APPLY] *(FOR INTERVIEWER ONLY): Please, READ ALL OPTIONS* *Response constrained to: if(selected(., -98) or selected(., -99), count-selected(.) = 1,count-selected(.) >= 1)*		1	Municipal
			2	District
			3	Division
			4	Country
			5	International
			-98	[DON'T READ] Don't know
			-99	[DON'T READ] Refuse to answer
q20 *(required)*	g6-q20. Apart from Chaldal, in what other outlets does this business sell goods? [SELECT ALL THAT APPLY] *(FOR INTERVIEWER ONLY): Please, READ ALL OPTIONS* *Response constrained to: if(selected(., -98) or selected(., -99) or selected(., 7), count-selected(.) = 1,count-selected(.) >= 1)*		1	Supermarkets
			2	Small shops
			3	Own store
			4	Own website
			5	Other digital platforms
			6	Whole sellers or traders
			7	No others, sell only through Chaldal
			8	Other
			-98	[DON'T READ] Don't know
			-99	[DON'T READ] Refuse to answer
q20a *(required)*	g6-q20a. If Other, please specify *Question relevant when: selected(${q20} , '8')*			
q21 *(required)*	g6-q21. What is this business's current legal structure? *(FOR INTERVIEWER ONLY): Please, SELECT ONE, DO NOT READ OPTIONS*		1	Unincorporated/ Unregistered
			2	Sole proprietorship
			3	Partnership
			4	Limited liability company (LLC) - private
			5	Limited liability company (LLC) - public
			6	Government company
			7	Cooperative establishment
			8	Club/association
			9	Other
			-98	[DON'T READ] Don't know

		-99	[DON'T READ] Refuse to answer
q21a *(required)*	g6-q21a. If other, specify *(FOR INTERVIEWER ONLY): If the respondent has no specification, please type "NA"* *Question relevant when: selected(${q21} , '9')*		
q22 *(required)*	g6-q22. How has the COVID-19 pandemic affected the total sales of your business – have sales decreased a lot, decreased a little, stayed the same, increased a little, or increased a lot? *(FOR INTERVIEWER ONLY): Please, only read options 1 through 5. Do not read "Don't know" or "Refuse to answer" to the respondent.*	1	Decreased a lot
		2	Decreased a little
		3	Stayed the same
		4	Increased a little
		5	Increased a lot
		-98	[DON'T READ] Don't know
		-99	[DON'T READ] Refuse to answer
q23 *(required)*	g6-q23. In the past month, what was the total monthly sales of your business? *(FOR INTERVIEWER ONLY): Only read the first 9 options. Do not read "don't know" or "refuse to answer" to the respondent.*	1	Less than BDT 10,000
		2	BDT 10,001-50,000
		3	BDT 50,001-1,00,000
		4	BDT 1,00,001-5,00,000
		5	BDT 5,00,0001-10,00,000
		6	BDT 10,00,001-30,00,000
		7	BDT 30,00,001-50,00,000
		8	BDT 50,00,001-1,00,00,000
		9	More than BDT 1,00,00,000
		-98	[DON'T READ] Don't know
		-99	[DON'T READ] Refuse to answer
checkpoint8 *(required)*	**ENUMERATOR:** Is the respondent still there? *(FOR INTERVIEWER ONLY): PLEASE DO NOT READ ALOUD* *Question relevant when: ${checkpoint7} =1*	1	Yes
		0	No

g7. People who work in the business
Group relevant when: (selected(${a5} , '1') or selected(${a6} , '1') or selected(${a6} , '2') or selected(${a6} , '3') or selected(${a6} , '4')) and ${checkpoint8} = 1

q24 *(required)*	g7-q24. How many people work at this business full-time, including the owner? *ENTER NUMBER OF WORKERS FROM 1-9000 OR -98 FOR DON'T KNOW OR -99 FOR REFUSE TO RESPOND* *Response constrained to: (.>=1 and .<=9000) or (.= -98 or .= -99)*		
q25 *(required)*	g7-q25. Apart from your top manager and other managerial employees, about what percent of your full-time employees have completed at-least HSC (12 class) or equivalent examination? *ENTER PERCENT 0-100 OR -98 FOR DON'T KNOW OR -99 FOR REFUSE TO RESPOND.* *Response constrained to: (.>=0 and .<=100) or (.=-98 or .= -99)*		
q26 *(required)*	g7-q26. What percent of your managerial employees, including the top manager have completed at-least honors (or equivalent) degree? *ENTER PERCENT 0-100 OR -98 FOR DON'T KNOW OR -99 FOR REFUSE TO RESPOND.* *Response constrained to: (.>=0 and .<=100) or (.=-98 or .= -99)*		
checkpoint9 *(required)*	**ENUMERATOR:** Is the respondent still there? *(FOR INTERVIEWER ONLY): PLEASE DO NOT READ ALOUD* *Question relevant when: ${checkpoint8} =1*	1	Yes
		0	No

g8. Tools for doing business
Group relevant when: (selected(${a5} , '1') or selected(${a6} , '1') or selected(${a6} , '2') or selected(${a6} , '3') or selected(${a6} , '4')) and ${checkpoint9} = 1

q27 *(required)*	g8-q27. Does this business use a bank account? *(FOR INTERVIEWER ONLY): Only read first two options. Do not read "don't know" or "refuse to answer" to the respondent.*	1	Yes
		2	No
		-98	[DON'T READ] Don't know
		-99	[DON'T READ] Refuse to answer

q28 *(required)*	g8-q28. Is this account a business bank account separate from any personal accounts of the owners or is it used for business and personal reasons? *(FOR INTERVIEWER ONLY): PLEASE SELECT ONE, READ OPTIONS* *Question relevant when: selected(${q27} , '1')*	1	Business has a separate bank account
		2	Business has a mixed business/personal account
		-98	[DON'T READ] Don't know
		-99	[DON'T READ] Refuse to answer
q29a *(required)*	g8-q29a. Does this business use smart phones? *(FOR INTERVIEWER ONLY): Only read first two options. Do not read "don't know" or "refuse to answer" to the respondent.*	1	Yes
		2	No
		-98	[DON'T READ] Don't know
		-99	[DON'T READ] Refuse to answer
q29b *(required)*	g8-q29b. Does this business use computers? *(FOR INTERVIEWER ONLY): Only read the first two options aloud. Do not read "don't know" or "refuse to answer" to the respondent*	1	Yes
		2	No
		-98	[DON'T READ] Don't know
		-99	[DON'T READ] Refuse to answer
q29c *(required)*	g8-q29c. Does this business use specialized computer software beyond excel, word or other standard packages? *(FOR INTERVIEWER ONLY): PLEASE READ OPTIONS*	1	Yes
		2	No
		-98	[DON'T READ] Don't know
		-99	[DON'T READ] Refuse to answer

q30 *(required)*	g8-q30. What method does this business use to keep its books/accounting? [SELECT ALL THAT APPLY]
	(FOR INTERVIEWER ONLY): Only read the first two options. Do not read "don't know" or "refuse to answer" to the respondent
	  Response constrained to: if(selected(., -98) or selected(., -99) or selected(., 1), count-selected(.) = 1,count-selected(.)
	  >= 1)
		1	No special system

		2	Hand-written ledgers
		3	Computer with standard software such as excel or word
		4	Specialized app on computer
		5	Specialized app on mobile
		6	Other
		-98	[DON'T READ] Don't know
		-99	[DON'T READ] Refuse to answer
q30a *(required)*	g8-q30a. If other, specify *(FOR INTERVIEWER ONLY): If the respondent has no specification, please type "NA"* *Question relevant when: selected(${q30} , '6')*		
q31 *(required)*	g8-q31. Does this business have a VAT registration number? *(FOR INTERVIEWER ONLY): Only read first two options. Do not read "don't" know" or "refuse to answer" to the respondent.*	1	Yes
		2	No
		-98	[DON'T READ] Don't know
		-99	[DON'T READ] Refuse to answer
checkpoint10 *(required)*	**ENUMERATOR:** Is the respondent still there? *(FOR INTERVIEWER ONLY): PLEASE DO NOT READ ALOUD* *Question relevant when: ${checkpoint9} =1*	1	Yes
		0	No
g9. Business characteristics- Family business *Group relevant when: (selected(${a5} , '1') or selected(${a6} , '1') or selected(${a6} , '2') or selected(${a6} , '3') or selected(${a6} , '4')) and ${checkpoint10} = 1*			
g9n	g9n. Now I'd like to ask about the business's plans for the future.		
q32 *(required)*	g9-q32. Is the owner of this business or a family member of the owner also the main manager of this business? *(FOR INTERVIEWER ONLY): Only read first two options. Do not read "don't" know" or "refuse to answer" to the respondent.*	1	Yes
		2	No
		-98	[DON'T READ] Don't know
		-99	[DON'T READ] Refuse

			to answer
q33 *(required)*	g9-q33. Is there any plan for expanding this business in the next two years? *(FOR INTERVIEWER ONLY): Only read first two options. Do not read "don't" know" or "refuse to answer" to the respondent.*	1	Yes
		2	No
		-98	[DON'T READ] Don't know
		-99	[DON'T READ] Refuse to answer
q34 *(required)*	g9-q34. In two years time, do you feel that digital platforms like Chaldal will make up more, less, or the same share of this business' revenues? *(FOR INTERVIEWER ONLY): Only read first three options. Do not read "don't" know" or "refuse to answer" to the respondent.*	1	More
		2	Less
		3	The same amount
		-98	[DON'T READ] Don't know
		-99	[DON'T READ] Refuse to answer
checkpoint11 *(required)*	**ENUMERATOR:** Is the respondent still there? *(FOR INTERVIEWER ONLY): PLEASE DO NOT READ ALOUD* *Question relevant when: ${checkpoint10} =1*	1	Yes
		0	No
g10. Respondent Profile *Group relevant when: (selected(${a5} , '1') or selected(${a6} , '1') or selected(${a6} , '2') or selected(${a6} , '3') or selected(${a6} , '4')) and ${checkpoint11} = 1*			
g10n	g10n. Now I'd like to ask you some questions about yourself and your household. *Question relevant when: (selected(${a5} , '1') or selected(${a6} , '1') or selected(${a6} , '2') or selected(${a6} , '3') or selected(${a6} , '4')) and ${checkpoint11} = 1*		
q35 *(required)*	g10-q35. What is your age in years? *(FOR INTERVIEWER ONLY): Please type the age in years as an integer|* *Response constrained to: (.>=15 and .<=90)*		
q36 *(required)*	g10-q36. What is the highest level of education you have completed? SELECT ONE, DO NOT READ OPTIONS. *(FOR INTERVIEWER ONLY): PLEASE DO NOT READ OPTIONS, SELECT ONLY ONE.*	1	None/Never attended school
		2	Primary - Class 1-4
		3	Primary (PSC) -Class 5
		4	Junior (JSC) - Class 8
		5	SSC or equivalent - Class 10
		6	HSC or equivalent - Class 12
		7	Bachelor's degree or higher
		8	Diploma/vocational education
		-98	[DON'T READ] Don't know
		-99	[DON'T READ] Refuse to answer
q37 *(required)*	g10-q37. What is your gender? *SELECT ONE, DO NOT READ OPTIONS*	1	Male
		2	Female
		-98	[DON'T READ] Other
		-99	[DON'T READ] Refuse to answer
q38a *(required)*	g10-q38a. Do you or anyone in your household own a two-wheeler? *(FOR INTERVIEWER ONLY): Only read the first two options. Do not read "don't know" or "refuse to answer" to the respondent.*	1	Yes
		2	No
		-98	[DON'T READ] Don't know
		-99	[DON'T READ] Refuse to answer
q38b *(required)*	g10-q38b. Do you or anyone in your household own a car? *(FOR INTERVIEWER ONLY): Only read the first two options. Do not read "don't know" or "refuse to answer" to the respondent.*	1	Yes
		2	No
		-98	[DON'T READ] Don't know
		-99	[DON'T READ] Refuse to answer

q38c *(required)*	g10-q38c. Do you or anyone in your household own a refrigerator? *(FOR INTERVIEWER ONLY): Only read the first two options. Do not read "don't know" or "refuse to answer" to the respondent.*	1	Yes
		2	No
		-98	[DON'T READ] Don't know
		-99	[DON'T READ] Refuse to answer
q38d *(required)*	g10-q38d. Do you or anyone in your household own a smart phone? *(FOR INTERVIEWER ONLY): Only read the first two options. Do not read "don't know" or "refuse to answer" to the respondent.*	1	Yes
		2	No
		-98	[DON'T READ] Don't know
		-99	[DON'T READ] Refuse to answer
q38e *(required)*	g10-q38e. Do you or anyone in your household own land or a house?	1	Yes
		2	No
		-98	[DON'T READ] Don't know
		-99	[DON'T READ] Refuse to answer
checkpoint12 *(required)*	**ENUMERATOR:** Is the respondent still there? *(FOR INTERVIEWER ONLY): PLEASE DO NOT READ ALOUD* *Question relevant when: ${checkpoint11} =1*	1	Yes
		0	No
g11. Contact Information *Group relevant when: (selected(${a5} , '1') or selected(${a6} , '1') or selected(${a6} , '2') or selected(${a6} , '3') or selected(${a6} , '4')) and ${checkpoint12} = 1*			
q39 *(required)*	g11-q39. May we confirm your name and contact information so we can contact you again if necessary?	1	Yes
		0	No
q40 *(required)*	g11-q40. What is your name? *Question relevant when: selected(${q39} , '1')*		
q40a *(required)*	g11-q40a. What is the best way to contact you? [SELECT ALL THAT APPLY] *(FOR INTERVIEWER ONLY): READ OPTIONS IF NEEDED FOR CLARITY, SELECT ALL THAT APPLY* *Question relevant when: selected(${q39} , '1')*	1	Phone
		2	Text
		3	Email
		4	Other
q41a *(required)*	g11-q41a. What is your phone number? *(FOR INTERVIEWER ONLY): READ BACK TO VERIFY* *Question relevant when: selected(${q40a} , '1') or selected(${q40a} , '2')*		
q41b *(required)*	g11-q41b. What is your email? *(FOR INTERVIEWER ONLY): [READ BACK TO VERIFY]* *Question relevant when: selected(${q40a} , '3')*		
q41c *(required)*	g11-q41c. What is your contact information? *Question relevant when: selected(${q40a} , '4')*		

e1 *(required)*	e1. FOR INTERVIEWER ONLY: DID THE RESPONDENT COMPLETE THE INTERVIEW? *Response constrained to: if(${q39} >0, .=1, .=0)*	1	Yes
		0	No
e2 *(required)*	e2. FOR INTERVIEWER ONLY: If you or the respondent ended the survey early, please indicate why *Question relevant when: selected(${e1} , '0')*	1	Respondent is not interested to participate
		2	Respondent was busy, declined to participate
		3	Respondent was busy; Interview is rescheduled
		4	Call dropped and could not reach again
		5	Right Respondent is not available then - Interview is rescheduled
		6	Right respondent is not available
		7	Other
e2a *(required)*	e2a. If "other", please specify *(FOR INTERVIEWER ONLY): PLEASE SPECIFY, IF THERE IS OTHER REASONS FOR NOT COMPLETING THE INTERVIEW* *Question relevant when: selected(${e2} , '7')*		