Do Marketers Matter for Entrepreneurs? Evidence from a Field Experiment in Uganda

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ABSTRACT

Promoting growth by differentiating products is a core tenet of marketing. However, establishing and quantifying marketing’s causal impact on firm growth, while critical, can be difficult. This paper examines the effects of a business support intervention in which international professionals from different functional backgrounds (e.g., marketing, consulting) volunteered time to help Ugandan entrepreneurs improve growth. Findings from a multi-year field experiment show entrepreneurs randomly matched with volunteer marketers significantly increased firm growth. Compared to control firms, the entrepreneurs in the Marketer treatment group grew monthly sales by 51.7% on average, while their monthly profits improved by 35.8%, total assets increased by 31.0%, and paid employees rose by 23.8%. A linguistic analysis of interactions between volunteers and entrepreneurs indicates the marketers spent more time on product-related topics than other volunteers. Further mechanism analyses indicate the marketers helped the entrepreneurs focus on premium products to differentiate in the marketplace. In line with the study’s process evidence, firms with greater market knowledge or resource availability benefitted significantly more than their peers when matched with volunteer marketers. As small-scale businesses form the commercial backbone of most emerging markets, their performance and development are critically important. And marketers’ positive impact on the businesses highlights the need for the field’s increased presence in emerging markets.

Keywords: volunteer marketers, premium products, differentiation, marketing-entrepreneurship interface, firm growth, emerging markets, randomized controlled field experiment
A critical yet largely unaddressed research question motivates our study: Can marketers help improve the world? We propose marketers can help entrepreneurs in emerging markets grow their businesses. And flourishing entrepreneurs in these markets can improve lives, sustain livelihoods, enhance overall living standards, and strengthen societies.

To test marketers’ unique effect on emerging market entrepreneurs, we conduct a randomized controlled field experiment with 930 Ugandan businesses. The experiment allows us to examine the impact of a business support intervention in which international professionals from varying functional backgrounds (e.g., marketing, consulting) volunteered time to help small-scale entrepreneurs. Our results show volunteer marketers are effective in helping entrepreneurs grow sales, profits, assets, and employees. The volunteers specifically help emerging market entrepreneurs differentiate their businesses and offer premium products, an outcome difficult for many firms to achieve.

Our research makes several contributions. Ours is the first field experiment examining whether and how volunteer marketers help emerging market entrepreneurs grow their businesses. By addressing our two research questions (i.e., the main effect and its mechanism), we add to the literature in marketing, management, and development economics. Our paper advances understanding of the effectiveness of business support services, including new ways of designing collaborations leveraging technology and enhancing access for emerging market entrepreneurs.

Causally identifying the impact of a “marketer” on firm growth adds to the burgeoning work on marketing’s overall influence in firms. While it may seem obvious that marketing professionals focus on differentiation and premium products, the approach may be counterintuitive in emerging markets, where disposable income is low. Moreover, through additional insights on the role of market knowledge and resource availability, our study adds to the sparse marketing-entrepreneurship literature, particularly as it pertains to firm growth in an emerging market.

The paper speaks to several non-academic audiences. Given the positive and direct impact marketers can have on growth outcomes, we hope the study will motivate marketing practitioners to work with entrepreneurs and early-stage ventures in emerging markets. Governmental and non-governmental organizations actively serving emerging markets should also benefit from our findings when designing and implementing future business support services. Entrepreneurs should also take note of our findings and solicit marketers’ help by hiring them or contracting for their services.
“Most of the businesses are too small and utterly undifferentiated from the many others.”
—Banerjee and Duflo (2011) on entrepreneurial businesses in emerging markets

What role, if any, do marketing professionals play in improving the world? We propose marketers help firms grow profitably, and their positive effects can be tremendous, especially when considering entrepreneurial firms in emerging markets. Flourishing entrepreneurs create jobs and wealth and help improve overall living standards (Anderson, Chandy and Zia 2018; Banerjee and Duflo 2011; Campos et al. 2017; Schumpeter 1934). In the words of Frese, Gielnik and Mensmann et al. (2016, p. 196), “Entrepreneurship is one of the most effective means to alleviate poverty in developing countries.”

Entrepreneurs are ubiquitous in emerging markets (Gollin 2002). In 2010, more than 31% of the adult population in Uganda, the setting for our study, was either starting a business or running a business less than four years old (Kelley, Bosma and Amorós 2011). However, many emerging market entrepreneurs struggle to make ends meet, and their firms’ growth rates are low (Hsieh and Klenow 2014; Kiranda, Walter and Mugisha 2017), stifling the positive impact they could have on society (Frese et al. 2016). As Banerjee and Duflo (2011) assert, the low growth rates seem to result from most businesses being “utterly undifferentiated” and failing to attract customer interest.

Marketing helps firms differentiate by attempting to answer the question, “Why should the customer buy from the firm and not elsewhere?” (See, for example, Boulding, Lee and Staelin (1994) and Kotler and Keller (2016), p. 5.). Thus, we examine whether entrepreneurs in emerging markets can benefit from marketers’ help. As shown in Figure 1, we conducted a randomized controlled field experiment with 930 entrepreneurs to examine a virtual business support intervention in which international professionals from different functional backgrounds
volunteered their time supporting Ugandan entrepreneurs via Skype video conferencing, mobile calls, emails, WhatsApp, etc. We partnered with a non-profit, Grow Movement, to recruit international professionals from more than 60 countries to engage in the volunteer activity.

[Insert Figure 1 about here]

When recruiting the professionals, Grow Movement did not focus on specific functional backgrounds; rather, the organization recruited volunteers from multiple areas with substantial business experience and time to work with an entrepreneur. Marketers made up the largest group: 26% of the volunteers. Business professionals from consulting and other functional backgrounds were also included. After being randomly assigned to a control group (n = 400) or treatment group (n = 530), the entrepreneurs receiving the intervention were randomly matched with volunteers. The result was three exogenously-determined groups of 136, 122, and 272 treated entrepreneurs working with volunteers from “marketing,” “consulting,” and “other” backgrounds, respectively. Each entrepreneur-volunteer pair worked virtually for two to six months to improve business performance.

Our study shows the international business support intervention was effective, especially for entrepreneurs collaborating with volunteer marketers. Compared to the control group, firms matched with volunteer marketers increased monthly sales by 51.7%. The firms also achieved 35.8% higher profits than control firms, and increased total assets by 31.0% and employees by 23.8%. Importantly, based on a standardized outcome index, only the firms matched with volunteer marketers experienced significant firm growth compared to the control group.¹

¹ We included the volunteer professionals from other functional backgrounds in our analysis primarily to help understand the theoretical mechanism allowing marketers to help entrepreneurs grow.
Mechanism evidence suggests volunteer marketers tended to help entrepreneurs differentiate their businesses by focusing on the goods or services they offer. A linguistic analysis of the meetings and interactions between volunteers and entrepreneurs indicates the marketers spent significantly more time on product-related topics than volunteers from other functional areas. Moreover, an intermediate outcome analysis shows entrepreneurs collaborating with volunteer marketers increased average product price, contribution, markup percentage, and value-add versus those in the control group, indicating the firms offered more premium products after the intervention than before (Boulding, Lee and Staelin 1994; Caldieraro, Kao and Cunha Jr. 2015). Additionally, we find these premium product proxies (e.g., price) mediate volunteer marketers’ effect on firm growth.

We also investigated heterogeneous treatment effects. In particular, international volunteers are unlikely to have local market knowledge, a prerequisite for developing business differentiation (Porter 1980), and firms require resources to deploy differentiation efforts (Kerin and Hartley 2017). Accordingly, our results show emerging market entrepreneurs with greater ex ante market knowledge or resource availability gain the most from working with a volunteer marketer, who can provide support and help the entrepreneurs differentiate as a growth catalyst.

Our study is the first field experiment examining whether and how volunteer marketers specifically help emerging market entrepreneurs grow their businesses. By addressing our two research questions (i.e., the main effect and its mechanism), we add to the literature in marketing, entrepreneurship, and development economics. We advance understanding of the effectiveness of business support services, including new ways of designing virtual collaborations leveraging technology and enhancing access for emerging market entrepreneurs. We hope the study assists

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2 Hereafter, we use “products” in reference to tangible, physical goods (e.g., doughnuts, shampoo), intangible, non-physical services (e.g., breakfast delivery, hair cutting), and combined offerings (Kerin and Hartley 2017, p. 266).
organizations like the World Bank or United Nations, and multinationals like Unilever or Procter & Gamble, in designing future business support services for emerging markets.

While promoting firm growth by effectively differentiating products is a core marketing tenet, establishing and quantifying marketing’s causal impact on growth is non-trivial (Boulding and Staelin 1995). Our study causally identifies marketers’ positive impact on emerging market entrepreneur firm growth, thereby adding to the entrepreneurship literature (e.g., Matsuno, Mentzer and Özsomer 2002; Webb et al. 2011) and research on marketing’s influence within the firm (e.g., Homburg, Workman and Krohmer 1999; Verhoef and Leeflang 2009).

In addition, while it may seem obvious marketing professionals focus on differentiation and offering premium products, the approach may be counterintuitive in emerging markets, where consumers have limited disposable income. If emerging market consumers can only afford inexpensive, low quality products, premium products are likely to fail. Our study indicates the assumption is incorrect. We show emerging market entrepreneurs can successfully offer premium products well-aligned with their customers’ needs and wants. Thus, we provide empirical evidence for Mahajan’s (2016) assertion that “low-income consumers [in emerging markets] yearn for premium products, which are a hit among the urban masses” (also see Arunachalam et al. 2020). Our finding also responds to calls for research on how to operate in emerging markets (Narasimhan, Srinivasan and Sudhir 2015).

Finally, our heterogeneous treatment effects provide guidance on which emerging market entrepreneurs marketing interventions should target, i.e., those with greater ex ante market knowledge or resource availability. Many economists believe emerging market entrepreneurs fail to flourish largely due to resource constraints (e.g., Yunus 2007). Our results confirm more
resources help. However, our results also suggest emerging market entrepreneurs may require guidance to use available resources effectively.

The rest of the paper proceeds as follows: We first provide an overview of Sub-Saharan African entrepreneurship and the positive societal impact entrepreneurial growth can have. We then review the marketing-entrepreneurship interface literature and develop a theory explaining why marketers are well-suited to support emerging market entrepreneurial growth. We position our study relative to the extant literature, focusing on prior studies dealing with business support interventions. We then describe our research design and analyses, present our results, and discuss our findings and their implications for relevant audiences.

**Entrepreneurship in Sub-Saharan Africa**

Many people in emerging markets start businesses (Gollin 2002). Due to limited employment opportunities, the businesses are typically necessity-driven, created for survival rather than to address a clearly identified market opportunity. Most of the businesses are small and undifferentiated and cannot grow beyond subsistence. Many emerging market entrepreneurs’ products closely resemble other products, making it difficult to succeed and grow (Banerjee and Duflo 2011). When emerging market firms fail to grow, gainful employment and its positive effects also stagnate (Bruton, Ketchen and Ireland 2013; Kiranda et al. 2017).

All else equal, emerging market entrepreneurs operating growing businesses enjoy enhanced income and greater purchasing power. The entrepreneurs’ families are able to afford quality food, education, and health care and are generally less concerned about meeting basic needs. Their employees benefit through increased wages and job stability. Stable jobs allow
employees to access savings accounts and loans to purchase products like stoves and refrigerators, which can significantly increase quality of life. Emerging market governments and societies also benefit from growing entrepreneurial businesses, as the firms typically pay higher taxes and the additional income can be used to enhance regulations and infrastructure (e.g., transportation, sewers, and fresh water systems).

Research has shown entrepreneurship is one of the most effective means of alleviating poverty in emerging markets (Banerjee and Duflo 2011; Frese et al. 2016; Schumpeter 1934). Scholars also suggest businesses must clearly identify opportunities in their markets and stand out from the crowd (i.e., be sufficiently differentiated) to grow (Banerjee and Duflo 2011; Kiranda et al. 2017). Differentiation opportunities abound in emerging markets (e.g., McKenzie and Woodruff 2014), but entrepreneurs must identify and implement them. Unfortunately, significant gaps remain in emerging market entrepreneurs’ business education and knowledge quality and relevance (Anderson, Chandy and Zia 2018; Bloom et al. 2013; Kiranda et al. 2017; McKenzie and Woodruff 2014).

We suggest experienced professionals volunteering time to guide emerging market entrepreneurs could be one possible solution. Specifically, we suggest virtually connecting emerging market entrepreneurs with experienced professionals from advanced markets could facilitate differentiation. Given their functional backgrounds and experience, we believe volunteer marketers should be particularly effective for helping the entrepreneurs identify and implement viable differentiation strategies, as marketing helps firms discover market needs and customer groups, target appropriate customers, and position products so customers recognize them as distinct from others (Kotler and Keller 2016, p. 5).
A recent study by Anderson, Chintagunta and Vilcassim (2020) examines how remote volunteers help emerging market entrepreneurs ‘pivot’ their business model (broadly defined; see Ries 2011), thereby helping them improve their firms’ sales. That study is based on the same business support intervention and data gathering as our study. However, there are key distinctions between their study and ours. First, we not only focus on isolating the specific impact of marketing volunteers (versus volunteers in general), but also how marketing volunteers help emerging market entrepreneurs become more differentiated by offering premium products. Both of these aspects – i.e., main effect and mechanism differences – are not considered in Anderson et al. (2020). Second, we also include multiple outcome measures (e.g., profits, assets, employees, and firm growth indices) beyond just sales, which is the focal outcome considered in Anderson et al. (2020). Third, our mediation and text analyses in support of the mechanism are unique and add further distinction from Anderson et al. (2020). Fourth, our paper’s interaction analyses are novel given our use of multiple business-level moderators, as well as our examination of non-linear relationships. As a result, our study provides more fine-grained information for governments, NGOs, researchers and multinationals, on the types of businesses and types of volunteers likely to lead to greater differentiation and firm growth. The two studies should therefore be viewed as complementary and adding to our knowledge on improving the performance of entrepreneurs in emerging markets.

Volunteer Marketers and Emerging Market Entrepreneurs

Marketing and entrepreneurship are two key responsibilities of any young firm (Drucker 1954). However, research on the combination and interaction of marketing and entrepreneurship
is sparse (e.g., Matsuno et al. 2002; Merlo and Auh 2009; Webb et al. 2011) and suggests competing insights. Christensen (1997) hints at incompatibilities between marketing and entrepreneurship, arguing market-oriented entrepreneurial firms (i.e., those in which marketing flourishes (Kohli and Jaworski 1990)) fail to innovate because they are preoccupied with the market (Matsuno et al. 2002; Merlo and Auh 2009). In contrast, Webb et al. (2011) argue marketing significantly supports the entrepreneurship process (also see Matsuno et al. 2002). Although they do not test their predictions empirically, Webb et al. (2011) propose marketing activities and entrepreneurship processes are positively and reciprocally related.

**Marketing and the Entrepreneurship Process**

The archetypal entrepreneurship process has five stages, according to Bygrave and Hofer (1991). The process begins with (1) entrepreneurial alertness, which leads to (2) recognizing an opportunity, followed by (3) innovation, (4) opportunity exploitation, and (5) enhanced performance. Webb et al. (2011) propose marketing, in particular an entrepreneurial firm’s market orientation and marketing-mix skills, positively influences the five steps and enhances performance. The theory implicitly assumes entrepreneurs, either themselves or through employees, have access to marketing capabilities. However, the assumption is likely less applicable for emerging market entrepreneurs than advanced market business owners.

Research has shown emerging market entrepreneurs employ “sporadic and rudimentary” marketing efforts (McKenzie and Woodruff 2014, p. 49) and lack marketing knowledge and related skills (Anderson et al. 2018; Kiranda et al. 2017). Most emerging market entrepreneurial ventures have few employees (McKenzie and Woodruff 2014), and the workforce cannot compensate for the entrepreneur’s lack of marketing knowledge. Thus, emerging markets are less likely to experience the positive interaction between marketing and entrepreneurship Webb et al.
(2011) propose. However, we argue virtual access to professionals with marketing backgrounds could help emerging market entrepreneurs address their capability gap.

*International Business Support from Volunteer Marketers*

Extant research indicates emerging market entrepreneurs can acquire general marketing capabilities by attending broad, in-class marketing courses (Anderson et al. 2018). We propose emerging market entrepreneurs can also acquire the skills by collaborating with an experienced volunteer from an advanced market. In contrast to group-based marketing principles courses (Anderson et al. 2018), one-on-one collaborations deal directly with each entrepreneur’s unique products and business challenges. Thus, regularly interacting with an experienced volunteer marketer may be more applicable to entrepreneurs than general classroom training (Campos et al. 2017; McKenzie and Woodruff 2014).

Depending on their functional backgrounds, volunteers likely emphasize different business practices during their collaborations with entrepreneurs. Volunteers naturally bring their own experiences to interactions with entrepreneurs (e.g., Friedrichs 1987), and even when business professionals operate outside their primary functional area, past learning and conditioning affects their thinking (Waller, Huber and Glick 1995) and leads them toward familiar solutions (March and Simon 1958). Kaplan’s Law states individuals rely on familiar “tools” (Kaplan 2017); thus, we expect volunteer marketers to focus on their marketing expertise during their interactions with entrepreneurs. Likewise, we expect volunteers with other backgrounds to focus on their unique skills.

Marketing education and professional development emphasizes identifying demand-increasing opportunities (e.g., Fleit and Morel-Curran 2012; Whittler, Krause, Lehmann 2018). Most other business functions focus on throughput. The finance, legal, and accounting functions,
for example, focus internally on improving firm efficiency (Hambrick and Mason 1984). A significant body of research indicates marketers recognize market-based opportunities (e.g., Vorhies and Morgan 2005; Zhou, Yim and Tse 2005) and help firms differentiate (Kotler and Keller 2016, p. 5; Sharp and Dawes 2001). Marketers say they keep differentiation strategies on the top of their minds (e.g., The CMO Survey 2019). Volunteer marketers should therefore be well suited and eager to help emerging market entrepreneurs differentiate and address one cause of their low growth rates (Banerjee and Duflo 2011). Therefore, we expect emerging market entrepreneurs to exhibit improved performance and grow their firms after interacting with volunteer marketers.

We suggest the predicted positive performance effect will result from entrepreneurs differentiating as a result of their interactions with volunteer marketers. Firms often make product changes and attempt to align better with target customers’ needs and wants to become more differentiated (Kerin and Hartley 2017, p. 628). Indeed, Porter (1980) argues firms frequently seek to distinguish themselves from their rivals by offering differentiated products. Moreover, the emerging market context makes it difficult for entrepreneurs to differentiate on characteristics other than product. That is, their businesses tend to be local, so differentiation tactics relying on adding new channels or advertising and promotion are less accessible. Thus, ceteris paribus, we expect volunteer marketers to focus on product-related differentiation during collaborations with emerging market entrepreneurs.

That said, firms can use several approaches to differentiate their products (Dickson and Ginter 1987), and it is not clear, a priori, which tactic emerging market entrepreneurs working with volunteer marketers would use. Therefore, we set up our experimental design and data collection so we can later explore the approaches that entrepreneurs pursued.
Study Design

Studying volunteer marketers’ impact on emerging market entrepreneurs’ differentiation and growth is challenging. For example, no databases record both firm growth indicators (e.g., sales, profits, assets, employees) over time for the same set of entrepreneurs and the functional backgrounds of volunteer business professionals working with the entrepreneurs. Moreover, exogeneous variation in entrepreneur exposure to the volunteers would be needed to overcome omitted variables bias (e.g., unobserved alternative factors driving firm growth) and reverse causality concerns (e.g., substantial firm size as a prerequisite for attracting assistance). In addition, obtaining a relevant panel dataset with all outcome and theoretical variables of interest may still not solve potential bias from self-selection by entrepreneurs (i.e., varying motivations for choosing to receive assistance) and volunteers (i.e., different preferences for choosing firms to work with). We therefore conducted a two-year field experiment (see Figure 1) in which 930 Ugandan entrepreneurs were randomized into a control group (n = 400) and treatment group (n = 530). We also randomly matched the treated firms with volunteer business professionals from different functional backgrounds.

Sample Recruitment and Pre-intervention Data Collection

From January to August 2015, we followed multiple steps to obtain a representative sample of emerging market entrepreneurs running small firms in Uganda. 3 First, a team of 15 enumerators went door-to-door across greater Kampala, systematically covering all business hubs, marketplaces, and commercial zones. We conducted a recruitment survey of every

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3 As noted above, our data gathering was the same as in the Anderson, Chintagunta and Vilcassim (2020) study. While our research questions, study designs, and empirical analyses differ, we repeat some of the sampling and measurement descriptions here for transparency and completeness.
entrepreneur who could speak conversational English, operated their firm from a physical structure, and was interested in receiving assistance from a volunteer business professional. The survey contained questions on entrepreneur and business characteristics for screening or to be used as controls in our main analysis. Our sampling frame includes the 4,043 entrepreneurs who completed the recruitment survey.

We then implemented an “established firm” scorecard, ranging from 0 to 100 points, using nine proxies from the recruitment survey: business premises, upfront investment, full-time staff, internal affairs organization, new activities and processes, business and formal education, prior corporate experience, exposure to other countries, and external ecosystem awareness. We ranked the 4,043 entrepreneurs based on the scorecard and proceeded with the top 1,500 firms.\(^4\) We attempted a baseline survey of the entire group; however, only 1,254 entrepreneurs completed the 90-minute site visit and audit. The survey contained business background questions but focused on obtaining detailed financial data (e.g., sales, profits, assets, employees) and product data (e.g., descriptions, prices, costs, markups). Finally, our partner invited the qualifying 1,254 entrepreneurs to a one-on-one interview where they received details about the business support service. Our partner used the registration meeting as an additional eligibility screen and approved 930 entrepreneurs, which formed our study sample. The sample includes a broad mix of firms, with business-to-consumer retailers and service providers being the most common. (Refer to Web Appendix 1 for a summary of firms by industry.)

\textbf{Randomization, Matching, and Functional Backgrounds}

\(^4\) The screening step was in line with our partner’s program requirement to work with operational firms committed to and ready to receive a business support service. Screening or targeting approaches have become common in government and non-governmental organization programs aiming to allocate scarce resources for stimulating firm or economic growth (e.g., Anderson et al. 2018). The screening step influences the population to which our results generalize but not our causal effects.
All 930 firms were randomly assigned to a Control group (n = 400) or Treatment group (n = 530). Each treated firm was randomly matched one-to-one with a unique volunteer business professional. The randomization process was done by computer, so differences across groups were due to chance.

Two independent experts coded volunteers’ background variables after the study finished using CVs, LinkedIn profiles, and partner administrative data. The coders did not have access to entrepreneur or firm data. Volunteers’ primary functional backgrounds refer to the business area or specialization in which they spent the majority of their career until project participation. The inter-rater reliability for coding functional backgrounds was 89.8%; all discrepancies were resolved through discussion. Background data was missing or insufficient for 38 volunteers. The 530 functional backgrounds were coded into 10 areas: Marketing and Sales (n = 136), Consulting and Advisory (n = 122), Finance and Accounting (n = 84), Strategy and General Management (n = 48), Engineering and R&D (n = 39), Operations and Supply Chain (n = 23), Entrepreneurs and Owners (n = 18), Human Resources (n = 14), Legal (n = 8), and Unknown (n = 38).

All entrepreneurs and volunteers, as well as the partner’s intervention managers, were blind to the experiment. We permitted no one to switch volunteers or entrepreneurs, and we controlled all matching steps and dyad formation. Thus, self-selection did not occur and the assignment of volunteers to treated firms was exogenously determined. This randomized matching (of volunteers and entrepreneurs) allowed us to construct treatment groups based on functional backgrounds. We set the group size minimum at 100 firms to provide sufficient statistical power and thus divided our study sample of 930 firms into four experimental groups: (1) Treatment 1 (or Marketers), includes the 136 entrepreneurs exposed to a marketing/sales volunteer; (2) Treatment 2 (or Consultants), includes the 122 entrepreneurs exposed to a
consulting/advisory volunteer; (3) Treatment 3 (or Other Professionals), includes the 272 entrepreneurs exposed to volunteers from one of the remaining functional areas (e.g., finance, engineering, strategy, operations, etc.); and (4) Control, includes the 400 entrepreneurs who did not receive the intervention during the two-year study period and acted as a counter-factual against the treatment groups.

The identification approach allows us to isolate marketing volunteers’ effect on firm growth and product differentiation. It is aligned with our research objective of understanding the relationship between volunteer marketers and emerging market entrepreneurs.

**Intervention Overview: Collaborating with Volunteers**

Our intervention exposed each Ugandan entrepreneur to a volunteer in a different country and let the dyad work together for two to six months to improve firm performance. The collaborations were virtual, with every entrepreneur-volunteer interaction, sometimes multiple per week, happening via Skype video conferencing, mobile calls, and text messages. Many dyads leveraged other virtual productivity tools, such as email, Google Docs, Dropbox and Whatsapp. Our partner, Grow Movement, provided in-country intervention managers to facilitate introductions and ensure collaborations continued on schedule but otherwise did not intervene. The partner maintained an online project management system allowing volunteers to enter goals, track milestones, and record interaction details at biweekly intervals. Outside its basic structure, the intervention was open-ended, i.e., the volunteers had the discretion to guide the project and tailor the topics, assignments, and activities as they saw fit. Web Appendix 2 provides examples of typical entrepreneurs in the sample and their products.

The 530 volunteers approved to participate in the project initially applied online via the Grow Movement website. Our partner subsequently interviewed and vetted them to ensure we
matched only committed volunteers with entrepreneurs. The volunteers had to demonstrate substantial business experience and convince Grow Movement they were willing to work with a Ugandan entrepreneur for multiple months to improve business performance. The partner did not implement prerequisites or quotas regarding volunteers’ functional backgrounds. The intervention included business professionals from nearly every continent (see Web Appendix 3). Volunteers represented more than 60 countries, with the largest number coming from the U.K. (28%), India (10%), the United States (9%), Germany (4%), Italy (4%), Canada (4%), Australia (3%), and Spain (3%). Web Appendix 4 provides details on the volunteers.

**Intervention Strength and Compliance Rates**

The intervention featured a relatively high take-up rate, as 88% of treated entrepreneurs completed at least one of the two-week modules, each of which included multiple interactions with a volunteer. (See Web Appendix 5 for a breakdown by treatment group.) The first two-week module entailed arranging logistics with an intervention manager, scheduling a two-hour Skype call with the matched volunteer, traveling to a field office or internet café to hold the call, completing multiple assignments (e.g., problem identification, product details, financials, market research, goal setting), and communicating with the professional via follow-up calls, texts, and emails. Intervention compliance was relatively high. The typical collaboration lasted about 2.5 months, with the average number of completed modules varying by group (Marketers = 5.04, Consultants = 5.98, Other Professionals = 5.60). However, entrepreneurs reported completing more modules (~8 in total) than were recorded in our partner’s system, likely making the compliance estimate a lower-bound.

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5 Take-up rates did not statistically differ from the Marketer to Other Professional ($p = .137$) or Consultant group ($p = .847$). Compliance levels did not differ from Marketers to Other Professionals ($p = .246$), while Consultants completed more modules than Marketers ($p = .099$).
*Post-intervention Data Collection*

Our study’s intervention phase lasted roughly one year, from August 2015 to July 2016. To allow a two-year gap for potential growth from pre- to post-intervention data collection, we implemented our endline survey in May 2017. An independent auditor (i.e., enumerator trained and supervised by an Innovations for Poverty Action research manager) conducted the survey at each entrepreneur’s business location. Questions closely mirrored those in the baseline survey to ensure auditors collected the same financial data (e.g., sales, profits, assets, employees) and product differentiation data (e.g., descriptions, prices, costs, markups) pre- and post-intervention. We used an electronic survey tool to collect firm financial data and followed a standard aggregation, anchoring, and adjustment methodology to obtain plausible and precise estimates on key outcomes like sales and profits (Anderson, Lazicky and Zia 2020). Our team leaders, field manager, and research manager took several rigorous auditing and verification steps to ensure every survey was complete and accurate.\(^6\)

*Firm Growth Measurement*

Our study aims to learn whether and how volunteer marketers help emerging market entrepreneurs improve their business performance and size. Firm growth is the main outcome of interest. We define firm growth conceptually as an increase in a firm’s sales, profits, assets, or employees. We measure firm growth operationally using several indicators and two overall indexes. We use aided-recall and iterative anchored-adjusted approaches to measure monthly

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\(^6\) Team leaders, a field manager, and a research manager supervised our field team and reviewed data daily. Outliers, anomalies, and data entry errors were immediately clarified with the enumerator or entrepreneur. Additional auditors, blind to the research design and firms, cross-checked a random set of 10% of the surveys with the entrepreneurs on a daily basis. The field manager and/or team leaders conducted on-site business audits to verify flagged responses. After all data from a survey round had been collected, the research manager in Uganda verified the accuracy of all outliers and anomalies, with particular attention paid to sales, profit, asset, and employee estimates, by visiting the entrepreneur and conducting an additional audit of financial information and cross-checking flagged variables. The same steps were taken for each completed survey.
sales and profits (Anderson, Lazicky and Zia 2020). Based on these measures, we constructed two composites for each monthly sales and profits to use in our analysis: a winsorized sales composite, a winsorized profit composite as well as inverse hyperbolic sine (IHS) transformed sales and profit composites. Moreover, we use an iterative approach to measure the current value of all firm assets and the number of employees, again constructing composites to use in our analysis: a winsorized assets composite, a winsorized employee composite, as well as IHS transformed assets and employee composites. Finally, using the sales, profits, total assets, and employee measures, we constructed two indexes of ‘firm growth’ (i.e., firm growth index I and II) to use in our analysis. Combining the outcomes into an index better represents the construct by capturing all relevant dimensions, improving statistical power to detect effects in the same direction, and guarding against multiple hypothesis testing (e.g., Campos et al. 2017). Web Appendix 6 provides details on how we operationalize each firm growth indicator and index.

Empirical Methodology and Summary Statistics

Model Specification

Given we randomly assigned entrepreneurs to experimental groups, we estimate the effect of exposure to a volunteer business professional as the difference in average outcomes for the treatment and control firms at endline using an intention-to-treat regression:

\[ Y_i = \alpha + \beta_1 \text{Marketer}_i + \beta_2 \text{Consultant}_i + \beta_3 \text{OtherProfessional}_i + \sum \gamma_s d_{i,s} + \delta Y_{i,b} + \epsilon_i. \]

\( Y_i \) is the dependent variable (i.e., firm growth) for firm \( i \) at endline. \( \text{Marketer}_i \) is a treatment dummy variable indicating whether a firm is randomly assigned to the Marketing intervention and matched with a marketing volunteer. \( \text{Consultant}_i \) is a treatment dummy variable indicating
whether a firm is randomized into the Consultant intervention group and matched with a consulting volunteer. OtherProfessional is a treatment dummy variable indicating whether a firm is randomized into the Other Professional intervention group and matched with a non-marketing or non-consulting volunteer.\(^7\) \(d_{i,s}\) comprises control variables measured pre-intervention, including 10 controls for baseline entrepreneur characteristics (gender, age, ethnicity, marital status, children, education level, business program, prior salaried job, previous ownership experience, and commitment), 15 controls for baseline business characteristics (founder, operating years, startup capital, formal loans, separation of business-personal affairs, days open per week, sales frequency, business premises, location, registration, size, business practices, product competition, business-to-business customers, and markets outside neighborhood), and 10 industry fixed effects based on two-digit SIC codes. We include the controls to improve estimate precision and account for any group imbalances due to attrition or spurious correlations in interaction analyses. Equation (1) also controls for the baseline value of the dependent variable, \(Y_{i,b}\) (whenever this outcome was measured at baseline).\(^8\) Robust standard errors are reported in all regression specifications. Because the dependent variable is continuous (e.g., sales, profits, assets, employees), we estimate Equation 1 via an ordinary least squares regression.

**Firm and Entrepreneur Profile**

70% of the firms are run by the founder and, on average, have been in operation for nearly four years and are open 6.5 days per week. The firms are fairly formalized, with 74% maintaining separate business and personal affairs, 13% having received a financial institution

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\(^7\) In our interaction analysis, Equation 1 includes the pre-treatment theoretical variables of interest (i.e., Market Knowledge and Resource Availability) and interaction terms, one for each interaction between the treatment dummy and theoretical variables.

\(^8\) The analysis of covariance specification can increase statistical power compared to a difference-in-differences model when measures are noisy and low autocorrelation exists between the baseline and endline dependent variable values, a common condition for small firm outcomes like sales and profits in emerging markets (McKenzie 2012).
loan, and 22% being formally government registered. The average firm in the sample operates from a small standalone shop or larger physical premises, is located in a busy area, has monthly sales of 4.4 million UGX (~$11909), has monthly profits of 673 thousand UGX (~$184), owns assets valued at 14.4 million UGX (~$3950), and employs 1.7 paid staff (excluding the owner).

Female entrepreneurs make up 40% of the sample, and 99% are local Ugandans. The typical entrepreneur is 31 years old, has 2.3 children, and has completed at least high school. On average, 55% have engaged in a prior business development program (e.g., training course, advising help), 54% are married, and 46% previously owned a business. Web Appendix 7 displays summary baseline statistics for our full sample of 930 firms.

**Balance Checks**

Our experimental groups are reasonably balanced on pre-intervention covariates (i.e., randomization was successful; see Web Appendix 7). Out of 120 t-tests, we find six statistically significant differences in means, which would be expected by chance. Nonetheless, we control for entrepreneur and business characteristics in all regression analyses to account for group imbalances on observables.10 We perform attrition and survival checks but do not detect differential effects among groups (see Web Appendix 9).

Given the experimental groups do not differ in attrition or failure, our subsequent analysis includes the full sample of survivors with complete endline surveys and key data (n = 605). We also followed the standard, conservative approach for dealing with non-survivors in small firm

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9 We use a currency conversion rate of: $1 USD = 3,656 UGX (as per www.xe.com on 31st October 2017; the midpoint of our endline surveying period).

10 We perform the same randomization checks with the full sample at endline in Web Appendix 8. The F-test is not significant for any of the three group comparisons. We find only eight statistically significant differences across the 120 t-tests.
studies suggested by Anderson et al. (2018) and re-run each analysis with non-survivors, obtaining qualitatively similar results.

Main Effect: Analysis and Results

Model Free Evidence for Volunteer Marketer Impact

Figure 2 (top panel) provides model free evidence for volunteer marketers’ impact on firm growth. The Control group decreased on the raw index measure (-.030 SD) from baseline to endline. The average change in growth for the Marketer treatment group is positive (.123 SD) and significantly larger than for the Control group ($p = .042$). We see a similar pattern of positive growth effects across our individual outcome measures; change in monthly sales, monthly profits, total assets, and paid employees is greater for firms exposed to a volunteer marketer than for control firms.

[Insert Figure 2 about here]

Figure 2 (bottom panel) plots the four experimental groups’ cumulative distribution functions for the Firm Growth Index, showing a rightward shift for treated firms. Across the distribution, it appears entrepreneurs matched with a volunteer marketer achieved the most growth compared to the Control group.

Regression Results for Volunteer Marketer Impact

Table 1 presents our regression results for the volunteers’ effect on firm growth. Our findings from the intention-to-treat analysis are consistent with the model free evidence. Across the outcome measures, we see significant and positive main effects for the Marketer treatment group (see Web Appendix 10 for full details).
We find entrepreneurs matched with a volunteer marketer, on average, increased in size on multiple growth indicators. Table 1 shows monthly sales increased by UGX 2,311,757 (51.7% or .30 SD), monthly profits by UGX 292,912 (35.8% or .23 SD), total assets by 4,386,521 UGX (31.0% or .19 SD), and paid employees by 0.45 (23.8% or .17 SD) for Marketer treatment group firms compared to Control group firms. We also include the respective changes in logs (based on the IHS-transformed measures) in Table 1 for each growth indicator. Although firm growth measures commonly feature large standard errors in emerging market business studies (McKenzie 2012; McKenzie and Woodruff 2014), we find consistent coefficient magnitudes across our eight indicators (32.5% average effect size across the specifications in columns (1)-(8) of Table 1).

Most importantly, our overall Firm Growth Indexes are positive and significant. Table 1 shows a Firm Growth Index effect of .187 to .189 SD for volunteer Marketers, 2.95 times greater than that for Consultants (.064 SD) and 2.49 times greater than that for Other Professionals (.076 SD). Taken together, the regression analysis finds a positive and meaningful treatment effect for the marketing intervention. For example, a 292,912 UGX ($80) increase in monthly profits (i.e., the marketer treatment effect in column (3)) would allow the average firm in our sample to substantially expand their business premises – especially considering that mean rent at baseline was 341,136 UGX per month. Moreover, as per column (5), growing total assets by 4,386,521 UGX ($1,200) is equivalent to a 67% rise in stock and inventory. Such working capital gains can fuel the sales engine of a small emerging market business. Overall, the main effect results
suggest entrepreneurs exposed to a marketer tended to grow their firms – and more than those who did not receive any intervention.\footnote{Considering the Firm Growth Indexes, we cannot reject the null hypothesis of equal coefficients between firms in the Marketer and Consultant treatment groups, where $p = .161$ and .192, or between the Marketer and Other Professional treatment groups, where $p = .139$ and .169. However, our goal is to examine volunteer marketers’ effects on businesses and their growth, and we therefore focus on the Marketer effects in our discussion.}

**Robustness 1.** We obtain a similar pattern of main effect results using alternative specifications: excluding control variables, selecting control variables via Lasso, including non-survivor firms, and designating Marketer treatment as the excluded base group. The main effect also continues to hold when we use Difference-In-Differences approaches instead of the ANCOVA model specified in Equation 1. We further support our findings using a bounding exercise to examine attrition, where lost Control group firms are assigned the treated firms’ average growth values. Web Appendix 11 shows these robustness checks.

**Robustness 2.** Web Appendix 12 presents additional robustness checks. The regression results show the Marketer treatment effects continue to hold, with coefficients similar to those in Table 1, when consultants and other professionals are collapsed into a single treatment group labeled Non-Marketers. Critically, this lends support to the exogeneity of the Marketer treatment dummy (i.e., the randomized matching of entrepreneurs and volunteers) as the effects remain similar. The Non-Marketer treatment dummy variable is significant for the sales outcomes, which is consistent with Anderson, Chintagunta and Vilcassim’s (2020) findings.

**Mechanism: Analysis and Results**
We argued volunteer marketers help emerging market entrepreneurs differentiate, a trait many entrepreneurs lack and a key reason they fail or stagnate (Banerjee and Duflo 2011). Moreover, we predicted volunteer marketers focus specifically on product-related differentiation strategies. However, we noted firms can take different routes to product differentiation (Dickson and Ginter 1987) and it is not clear how the entrepreneurs exposed to volunteer marketers would proceed. Thus, we set up our experimental design and data collection so we can later analyze the entrepreneurs’ approaches. In what follows, we present the insights from these analyses.

**Intervention Effects: Insights from Linguistic Analysis**

As described, the volunteers were encouraged to use Grow Movement’s online project management system to summarize the topics they discussed in each entrepreneur meeting. All summaries were provided in English and saved in the partner’s database. On average, 71.5% of volunteer marketers, 70.6% of volunteer consultants, and 69.1% of other volunteers provided written summaries. The entry rates were not significantly different ($p > .55$). We also examined average entry length; marketers averaged 959 words (SD = 1,413), consultants averaged 1,163 words (SD = 1,518), and other professionals averaged 915 words (SD = 1,380). The three groups did not significantly differ in average words used ($p > .18$).

Words and text provide information about their author (Tirunillai and Tellis 2014), and analysts can aggregate text across authors to study larger groups. As grouping individuals on the basis of shared characteristics can provide insight into their similarities and differences (Berger et al. 2020), we first organized all session summary text by treatment group. We then used topic modeling to identify underlying themes and general topics discussed during the intervention and differences in the extent to which each treatment group focused on topics. We used structural topic modeling for the analysis, removing stop words and employing stemming (Berger et al.
We also removed all names. We employed the “stm: R package” developed by Roberts, Stewart and Tingley (2017) for our analysis. No clear guidance is available for selecting an optimal number of topics for STM analysis (Berger et al. 2020). However, the semantic coherence measure of our data was highest when we set topics at $K = 6$. Thus, combining the statistical measure results with researcher judgment (Berger et al. 2020), we used $K = 6$ topics. Table 2 presents the topics extracted from the text, along with the words most likely to be present for each (Roberts et al. 2017).

Across the three treatment groups, volunteers devoted similar amounts of text to the six topics when creating their session summaries, with one notable exception. Volunteer marketers devoted significantly more text to Topic 4, which relates to products, than consultants and other professionals. Topic 4 captures text such as “She has a good handle on the profit and loss side of business. To grow the business [she] will need to focus on marketing [her products better]” and “She has visited three supermarkets [so far]. They are telling her that they want her product delivered hot and have their own display.” Other text includes “Are there products that are often wasted and not sold?”, “Are there products that take a lot of time to make,” and “[I advised her to] introduce a new line of products.”

In particular, volunteer marketers devoted on average 18% of their text to Topic 4. Consulting volunteers devoted on average 10% of their text to Topic 4, while other volunteers devoted on average 12% of their text to Topic 4. The differences are statistically significant, with marketers being greater than consultants at $p = .006$ and greater than other volunteers at $p = .015$.

Topic 4 captures text devoted to products, including their performance, which resonate with customers. Thus, consistent with our prediction, our STM results suggest volunteer
marketers sought to help entrepreneurs differentiate through product-focused approaches. However, the STM results do not offer insights into how entrepreneurs supported by volunteer marketers changed their products. Nevertheless, these results indicate further analyses pertaining to emerging market entrepreneurs’ products are warranted.

It is also noteworthy marketers did not devote more text to Topic 2 than the other volunteers. This finding suggests customer and market-related topics – aside from product-related discussions captured by Topic 4 – were equally covered across the treatment groups. Thus, this offers further evidence that volunteer marketers’ product focus was a key driver of their positive impact, again suggesting additional analyses of emerging market entrepreneurs’ products are worthwhile.

Intermediate Effects: Insights from Mediation Analysis

According to Porter (1980), to effectively differentiate products, firms must provide some unique and meaningful value. Porter (1980) also argues firms that differentiate are frequently able to charge a premium price for their products, not just to compensate for potentially higher costs, but also to achieve higher margins. Of note is that differentiation has been found to reduce customers’ price sensitivity and to enable the firm to earn a price premium (e.g., Sharp and Dawes 2001). That said, emerging market entrepreneurs may also seek to differentiate their products by offering lower prices (e.g., Arunachalam et al. 2020). Against this backdrop, we analyze the marketers’ effect on four proxies to assess whether and how entrepreneurs differentiate their products: (1) Price per unit, (2) Contribution per unit, (3) Markup percentage per unit, and (4) Enhancement of products. Web Appendix 13 provides details on measurement of the product differentiation proxies. The regression results in Table 3 demonstrate volunteer
marketers’ impact on emerging market entrepreneurs’ product differentiation efforts (see Web Appendix 14 for full details).

We find a 58.2% increase ($\beta_1 = 46.94$) in average price per unit for firms in the Marketer treatment group versus the Control group. Moreover, we find the average unit contribution increased by 75.2% ($\beta_1 = 23.36$) for firms exposed to volunteer marketers relative to firms receiving no intervention. And, compared to Control group entrepreneurs, Marketer treatment group firms improved markups by 15.3% on average, and 33.3% more of the firms ($\beta_1 = 0.103$) enhanced their products. These results suggest volunteer marketers indeed helped emerging market entrepreneurs to differentiate their products. The results also suggest emerging market entrepreneurs started offering more premium products – defined as products that demand “higher prices” and that “provide greater value to consumers” (e.g., Caldieraro et al. 2015) – after the marketing intervention. We also examined volunteer marketers’ impact on changes in outcomes not related to product differentiation (e.g., firm operational or financial capabilities) but do not find significant effects, providing some evidence against alternative mechanism explanations.

[Insert Table 3 about here]

To address noisy measurement issues, we also tested volunteer marketers’ effect on a Product Index (referred to as Premium Product Index in the following given the above findings), constructed by averaging the four standardized product differentiation proxies. As shown in Table 3, Marketer group firms achieve a .254 SD increase for the overall Premium Product Index compared to those in the Control group, a roughly 37% increase. By contrast, we observe no significant change in the Premium Product Index nor the four product differentiation proxies for Consultant and Other Professional group firms.
In terms of the substantive impact for entrepreneurs who were paired with a volunteer marketer, on average, their per unit prices increased by 46,944 UGX ($12.84 or a 58.2% increase relative to control firms) and their unit contribution increased by 23,356 UGX ($6.39 or a 75.2% increase relative to control firms). These increases represent meaningful effect sizes for entrepreneurs selling in a marketplace where most customers are earning $5-$12 per day.

We next examined the relationship between the product differentiation proxies and firm growth. The general pattern of results suggests a positive and significant correlation between product differentiation and firm growth (see Table 3). We also tested whether product differentiation mediates volunteer marketers’ effect on firm growth using Hayes’ (2018) PROCESS model 4. As Figure 3 shows, the indirect effect of the Marketer treatment on our main Firm Growth index – through the Premium Product index – is positive and significant (i.e., axb = .04; 95% Confidence Interval based on 10,000 bootstrap samples = .01 to .08). Thus, entrepreneurs exposed to volunteer marketers not only created more premium products with higher prices, unit contributions, and markups, but they were also successful at selling these products, indicated by their increased sales and profits. We repeated the mediation analysis for the Consultant treatment and Other Professional treatment groups. Neither of the indirect effects was significant, indicating product differentiation does not mediate the firm growth effects for these groups.

[Insert Figure 3 about here]

Taken together, the results support our theoretical predictions that volunteer marketers specifically help emerging market entrepreneurs improve product differentiation. Interestingly, the focus seems to be on selling more “premium” products, which is somewhat counterintuitive
given the low disposable incomes of consumers in these markets. This analysis uncovers at least one (new) process through which the marketing intervention leads to firm growth.

**Heterogeneous Effects: Analysis and Results**

Next, we analyzed interaction effects to determine which types of firms volunteer marketers help most. In particular, given the findings from the mechanism analysis thus far, the marketing intervention should be more effective for businesses better equipped for product differentiation. This begs the question: What makes a firm better equipped for a product differentiation-focused marketing intervention? Morgan, Vorhies, and Mason (2009) show that a firm’s marketing capabilities and market orientation combine and interact and are akin to interconnected assets (Teece, Pisano, and Shuen 1997). Intelligence generation and dissemination are key components of a firm’s market orientation (Jaworski and Kohli 1993). In turn, market knowledge is an important outcome of the two and helps firms understand customer preferences and competitor positions, which should enhance differentiated product development. Thus, we expect entrepreneurs with greater market knowledge to benefit more from the marketing intervention (which provides the marketing capabilities).

Moreover, the marketing intervention enables and is akin to benchmarking (e.g., Vorhies and Morgan 2005), a learning process by which the entrepreneur seeks to identify best practices from the volunteer marketer. That said, the benchmarking literature has shown that firms with greater resources are better equipped to act-upon benchmarking insights (e.g., Anand and Kodali 2008). Indeed, greater resources (e.g., money, time) should assist firms in delivering products to
market and improve their deployment of premium, differentiated products. Hence, we expect entrepreneurs with greater resources to benefit more from the marketing intervention.

We used three business characteristics to capture each firm’s Market Knowledge—local market experience, demand tracking system, and diverse customers—and Resource Availability—startup capital, business partners, and cash reserves. We provide details on measuring the characteristics in Web Appendix 15 and 16. We created two composites for each construct (normalized 0-1 and median split, with 0 = lower and 1 = higher) and separately examined heterogeneity in the volunteer marketers’ treatment effect.

Table 4 (columns (1) – (6)) presents interaction regressions based on a firm’s ex ante Market Knowledge using the composite measures and all three dimensions. We observe positive firm growth effects for entrepreneurs exposed to volunteer marketers when the businesses have greater Market Knowledge. In particular, the Marketer interaction coefficient is large, with a 2.71 SD firm growth increase. Interpreted differently, a 33% Market Knowledge composite increase (i.e., obtaining the maximum score on one of three dimensions) leads to a .904 SD gain in overall firm growth.

Likewise, marketers’ impact on firm growth is greater for entrepreneurs with more Resource Availability. As shown in Table 4 (columns (6) – (10)), firms matched with volunteer marketers realize a 3.57 SD gain when their Resource Availability is highest (i.e., 1 on the normalized composite). The positive firm growth effects persist whether the composite measure is normalized or split at the median, as well as for each of its three dimensions. We note that
when all interaction terms are included in the same model (column 11 in Table 4), the results are substantively similar.\textsuperscript{12}

**Market Knowledge and Nonlinear Firm Growth Effects**

We also explored nonlinearities in the relationship between Market Knowledge and firm growth to delve deeper into heterogeneity. Web Appendix 17 summarizes the regression results when including the continuous Market Knowledge measure (normalized 0-1 and mean-centered) and its squared term, interacted with our treatment dummy variables. The positive impact on firm growth persists when businesses increase in Market Knowledge and are matched with a volunteer marketer. Moreover, we find a positive and significant squared term (7.03), which suggests the relationship is nonlinear. We plot the predicted values from the regression in Figure 4 (top panel) to highlight differences between the Marketing treatment and Control groups. For Marketing treatment firms, we observe a convex relationship as Market Knowledge (MK) increases from the left-tail (MK = –0.159) to the right-tail (MK = +0.292) of its distribution. The plot shows most of the interaction effect occurs toward the right-tail, where Market Knowledge is highest and separation from the Control group distribution is greatest.

[Insert Figure 4 about here]

To better understand the pattern, we next divided the Market Knowledge composite into terciles: Low (MK = 0.000 to 0.116); Medium (MK = 0.117 to 0.162); and High (MK = 0.163 to 1.000). We then regressed the Firm Growth Index on the Market Knowledge tercile dummy variables, interacting them with each of the treatment dummy variables (see Web Appendix 17). We observe a significant coefficient only for the High Market Knowledge variable (i.e., top

\textsuperscript{12} An additional analysis (not reported) indicates high Market Knowledge and high Resource Availability combined result in a growth effect of .431 SD ($p = .006$) for firms exposed to a volunteer marketer – greater than knowledge alone (.266 SD) or resources alone (.318 SD). This effect suggests a synergistic relationship between knowledge, which can help develop differentiated products, and resources, which can help deploy products in the market.
tercile observations) interacted with Marketer treatment (.474). We plot this nonlinear relationship in Figure 4 (bottom panel) and find little difference between the Marketer treatment and Control group for the Firm Growth Index when Market Knowledge is low or medium. The interaction effect significantly separates only when Market Knowledge is high. A similar nonlinear relationship emerges when we plot the individual firm growth measures (e.g., sales, profits, assets, employees) in Web Appendix 17.

Thus, our results together provide evidence consistent with the pattern observed using the continuous Market Knowledge measure. Only businesses with high Market Knowledge appear to see a large and increasing positive effect on firm growth when exposed to a marketer.

**Resource Availability and Nonlinear Firm Growth Effects**

We also explored treatment heterogeneity and nonlinear firm growth effects for Resource Availability. Web Appendix 18 summarizes the regression results when including the continuous Resource Availability measure (normalized 0-1 and mean centered) and its squared term, interacted with our treatment dummy variables. The positive firm growth effect persists when businesses increase in Resource Availability and are matched with a marketer. However, the negative and significant squared term (-14.19) suggests the relationship is again nonlinear. We plot the predicted values from the regression in Figure 5 (top panel) to highlight the differences between the Marketing treatment and Control groups. For Marketing treatment firms, we observe a concave relationship as Resource Availability (RA) increases from the left-tail (RA = –0.057) to the right-tail (RA = +0.291) of its distribution. The plot shows the interaction effect occurs mainly toward the mid- to right-tail as Resource Availability increases.

[Insert Figure 5 about here]
To further examine the pattern, we also divided the Resource Availability composite into terciles: Low (.000 to 021), Medium (.022 to .051), and High (.052 to 1.000). We then regressed the Firm Growth Index on the Resource Availability tercile dummy variables, interacting them with each of the treatment dummy variables (see Web Appendix 18). We again observe a significant coefficient only for the High Resource Availability variable (i.e., top tercile observations) interacted with Marketer treatment (.560). We plot the nonlinear relationship in Figure 5 (bottom panel) and find little difference between the Marketer treatment and Control group for the Firm Growth Index when Resource Availability is low or medium. The interaction effect significantly separates only when Resource Availability moves higher. A similar nonlinear relationship emerges when we plot the individual firm growth measures (e.g., sales, profits, assets, employees) in Web Appendix 18.

These results again provide additional evidence consistent with the pattern observed using the continuous Resource Availability measure. Only businesses with high Resource Availability appear to see a large and slightly decreasing positive effect on growth when exposed to a marketer.

**Discussion and Conclusion**

Interest in business support interventions’ effect on firm and economic growth in emerging markets has risen over the past decade. Researchers have suggested entrepreneurship, in particular, can be a catalyst for growth (Campos et al. 2017; Frese et al. 2016). However, scholars have also pointed out a need for research determining which business skills are
impactful and for whom and examining the process through which interventions enhance firm performance (e.g., McKenzie and Woodruff 2014).

Our main effect results, based on a randomized controlled field experiment with 930 entrepreneurs in Uganda, indicate volunteer marketers significantly and positively impact the entrepreneurs’ firm growth by 32.5% on average, as measured in monthly sales, monthly profits, total assets, and paid employees.

Our theory and mechanism analyses indicate volunteer marketers are effective because they help the entrepreneurs differentiate, a capability many desperately lack (Banerjee and Duflo 2011). Process evidence suggests entrepreneurs matched with volunteer marketers create more premium products resonating with target customers. For example, a bake shop owner in our Treatment group began selling high-quality doughnuts to a local supermarket. She placed a display unit in the market, which helped differentiate her firm as a quality bake shop and attracted additional business opportunities. Also, a beauty salon owner in the sample trained herself to offer new and sought-after hairstyles. She now also sells and applies hair extensions in various colors and styles, allowing her to stand out from competitors offering only basic services.

Finally, our evidence based on interaction effects provides insight into which types of businesses benefit most from a volunteer marketer—namely those with greater ex ante market knowledge or resources.

**Implications for Governmental Organizations and NGOs**

Governmental and non-governmental organizations invest billions in business support interventions to fight poverty in emerging markets each year (Campos et al. 2017). Researchers debate whether the aid is beneficial (e.g., Easterly 2014; Sachs 2005), and some argue the fight against poverty becomes overwhelming when the debate centers on solving the condition with
one stroke (e.g., Singer 2009). Banerjee and Duflo (2011) argue the big questions about eradicating poverty are important, but the smaller questions address what really matters—choosing the right anti-poverty interventions to fund.

Our study focuses on a basic, concrete question: Can marketers help small-scale entrepreneurs in Uganda grow their businesses? If yes, marketers could partially alleviate Uganda’s pervasive poverty (e.g., Kiranda et al. 2017). As Frese et al. (2016, p. 196) point out, “Increasing the…quality of entrepreneurs is probably one of the most helpful ways to reduce poverty because it creates employment and boosts the innovation and economic empowerment of individuals in poor countries with extremely high unemployment rates.”

Many emerging market entrepreneurs struggle and fail to grow because they are “utterly undifferentiated” (Banerjee and Duflo 2011). We find marketers can be especially effective as volunteers because they help entrepreneurs differentiate.

We therefore offer governmental organizations and NGOs an accessible recommendation for future business support interventions in emerging markets. We hope our findings will earn marketers a seat at the policy table with organizations like the World Bank, International Monetary Fund, and United Nations, which invest heavily in business and entrepreneurship programs every year. Our results suggest the organizations should consider how marketers and marketing tools can be integrated into solutions for stimulating firm growth.

Many economists believe emerging market entrepreneurs often fail to thrive due to resource constraints (e.g., Yunus 2007). While our results confirm resources help the entrepreneurs succeed, we find resources alone may not be enough. Emerging market entrepreneurs may also need guidance from experienced business professionals, particularly marketers, to use their available resources.
Our partner, Grow Movement, estimates each of its entrepreneur-volunteer collaborations costs $450-500 when run at a large scale in a single country, where fixed costs can be spread across units. These costs compare favorably to other business support interventions in emerging markets (e.g., Campos et al. 2017; McKenzie and Woodruff 2014), suggesting governmental organizations and NGOs would be willing to support the costs. In fact, several Business Schools and NGOs have recently started incorporating versions of our ‘remote coaching’ intervention into their programs with a focus on matching entrepreneurs with marketing practitioners. We hope other Business Schools and NGOs will support similar programs. We also hope multinationals in developed markets will participate in future remote marketing coaching interventions like ours. In short, we envision multinationals to allow and enable their interested marketers to spend a few hours a week remotely coaching an emerging market entrepreneur. This endeavor, we believe, could be a win-win for the entrepreneurs and the multinationals: The entrepreneurs’ businesses would likely grow, and the multinationals would likely have more satisfied employees, accrue Corporate Social Responsibility-related benefits, and learn about opportunities (and threats) that exist in emerging markets.

**Implications for Emerging Market Entrepreneurs and Marketers**

The marketing literature has largely neglected entrepreneurial firms, surprising given the important role the companies play across all markets (e.g., Matsuno et al. 2002; Webb et al. 2011). Likewise, the entrepreneurship literature has largely ignored marketing, equally surprising as some have argued “marketing is the home for the entrepreneurial process” (Morris and Paul 1987, p. 247). Although marketing and entrepreneurship are two key business responsibilities (Drucker 1954), researchers have done little to understand how the two combine and interact (Webb et al. 2011). Our study offers evidence marketing and entrepreneurship blend especially
well in emerging markets. The insight adds to the literature on marketing’s influence within the firm (e.g., Homburg et al. 1999; Verhoef and Leeflang 2009), suggesting emerging market entrepreneurs benefit meaningfully from marketing knowledge and skills.

We hope entrepreneurs in emerging markets take note of our findings and consider either acquiring marketing skills or hiring marketers. We also hope marketers consider partnering with entrepreneurial firms as volunteers or paid employees. Finally, we hope emerging market entrepreneurs and marketers note our finding that premium products can be successful in emerging markets. Low-income market consumers appear to desire and be willing to purchase premium products. Thus, we add to the emerging literature on low-income consumers’ preferences in emerging markets (e.g., Arunachalam et al. 2020; Mahajan 2016).

**Limitations and Future Research**

Our study is not without limitations, some of which provide opportunities for future research. We do not know whether the positive business outcomes observed in our Marketer treatment group stem from overall market expansion or revenue reallocation from other firms. If the latter is true, the emerging market economies may not experience gains from scaling up the marketing intervention. However, our finding that marketer-supported entrepreneurs hire new employees suggests broader benefits. Moreover, additional positive spillovers may result if other firms copy the techniques implemented by the Treatment group firms. Some argue positive spillovers from interventions result in greater public gains than private gains (McKenzie and Woodruff 2014), a conjecture we hope future research will examine.

Although our study was conducted over two years, longer than many prior business support intervention studies, its long-term implications are not obvious. For example, we cannot say with certainty the treated entrepreneurs will continue using the marketing capabilities they
acquired during the intervention. While we show the entrepreneurs significantly changed their products, which bodes well for long-term effects (McKenzie and Woodruff 2014), future intervention studies might measure outcomes over longer periods.

We randomly assigned volunteers to entrepreneurs as part of our experimental setup. Thus, we did not match volunteers and entrepreneurs based on their backgrounds. However, more technical businesses, for example, might benefit from a volunteer with an engineering background. Entrepreneurs and volunteers might also match well based on demographics like gender or age. We hope future research will explore matching-related questions.

Finally, some economists (e.g., Easterly 2014) and organizations (e.g., the American Enterprise Institute) are skeptical of or oppose foreign aid. Some suggest foreign aid is often focused on recipients’ material well-being without addressing underlying issues like corrupt governments and individual rights suppression. We acknowledge the concerns are serious and valid; however, evidence suggests flourishing entrepreneurship translates to positive long-term net effects in developing economies (e.g., Frese et al. 2016). We hope future research continues to explore ways in which marketers can play a role in ‘doing good’ in the economies and societies of emerging markets, thereby contributing to a better world.
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Figure 1: Timeline and Data Collection

January – June 2015
Pre-Intervention Data Collection

July – August 2015
Partner Screening

August 2015
Randomization Steps

August 2015 – July 2016
Treatment 1: Marketers

August 2015 – July 2016
Treatment 2: Consultants

August 2015 – July 2016
Treatment 3: Other Professionals

May – June 2017
Post-Intervention Data Collection

Recruitment Survey
N = 4,043
Completed
(top ~1500 invited to next stage)

Baseline Survey
N = 1,254
completed
N = 268 not surveyed (attrition)

One-on-One Interview
N = 930
passed
(with completed baseline)

Sample of 930 firms randomly assigned:
N = 400
Control
N = 530
Treatment

530 firms randomly matched:
N = 136
Marketers
N = 122
Consultants
N = 272
Other Professionals

Intervention Admin Data
N = 515
completed
(15 professionals missing key data)

Endline Survey
N = 735
Completed

Of the 735:
608 firms in operation
605 firms in operation with complete data
127 firms failed (non-survival)
Figure 2: Volunteer Marketers’ Main Effects on Firm Growth

Pre-to-post Change in Firm Growth (Index 2)

Notes: Error bars = +/- 1 SE

CDF Depicting Change in Firm Growth (Index 2)

Notes: Plot of the cumulative distribution function (CDF) for pre-to-post changes in Firm Growth (from baseline to endline)
Figure 3: Mediation Analysis for Premium Products

Notes: Indirect effect $a*b = .04$, 95% CI [.01; .08]

*a* $p < .10$

**$p < .05$

***$p < .01$

Notes: Indirect effect $a*b = .04$, 95% CI [.01; .08]
Figure 4: Market Knowledge and Nonlinear Firm Growth Effects

Notes: The predicted values of Firm Growth (p-hat) are obtained following a non-linear interaction analysis that regresses Firm Growth (Index 2) onto the continuous measures of Market Knowledge and its squared term as well as the interactions of both variables with each of the treatment dummies (and the full set of controls). Refer to Web Appendix 17 for complete results. For display purposes, 2.5% of the distribution’s right-tail is truncated in the figure above. Error bars = +/- 1 SE

Notes: Error bars = +/- 1 SE
Figure 5: Resource Availability and Nonlinear Firm Growth Effects

Resource Availability Using Continuous Variable

Notes: The predicted values of Firm Growth (p-hat) are obtained following a non-linear interaction analysis that regresses Firm Growth (Index 2) onto the continuous measures of Resource Availability and its squared term as well as the interactions of both variables with each of the treatment dummies (and the full set of controls). Refer to Web Appendix 18 for complete results. For display purposes, 2.5% of the distribution’s right-tail is truncated in the figure above. Error bars = +/- 1 SE

Resource Availability Using Tercile Splits

Notes: Error bars = +/- 1 SE
## Table 1: Volunteer Marketers Main Effects’ on Firm Growth

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
<th>(7)</th>
<th>(8)</th>
<th>(9)</th>
<th>(10)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Monthly Sales</td>
<td>Monthly Profits</td>
<td>Total Assets</td>
<td>Total Employees</td>
<td>Firm Growth</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>[levels: UGX]</td>
<td>[logs: IHS]</td>
<td>[levels: UGX]</td>
<td>[logs: IHS]</td>
<td>[index 1]</td>
<td>[index 2]</td>
<td>[levels: UGX]</td>
<td>[logs: IHS]</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Treatment 1: offered Marketer [yes=1]</strong></td>
<td>2311.757**</td>
<td>0.245*</td>
<td>292.912*</td>
<td>0.559**</td>
<td>4386.521*</td>
<td>0.454*</td>
<td>0.162**</td>
<td>0.187**</td>
<td>0.189***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(910.151)</td>
<td>(0.133)</td>
<td>(158.327)</td>
<td>(0.223)</td>
<td>(2368.823)</td>
<td>(0.252)</td>
<td>(0.091)</td>
<td>(0.075)</td>
<td>(0.072)</td>
<td></td>
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<tr>
<td><strong>Treatment 2: offered Consultant [yes=1]</strong></td>
<td>1210.990</td>
<td>0.153</td>
<td>1.116</td>
<td>-0.047</td>
<td>2894.067</td>
<td>0.094</td>
<td>0.071</td>
<td>0.066</td>
<td>0.064</td>
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<tr>
<td></td>
<td>(979.500)</td>
<td>(0.132)</td>
<td>(142.183)</td>
<td>(0.264)</td>
<td>(2405.527)</td>
<td>(0.234)</td>
<td>(0.089)</td>
<td>(0.073)</td>
<td>(0.071)</td>
<td></td>
</tr>
<tr>
<td><strong>Treatment 3: offered Other Professional [yes=1]</strong></td>
<td>970.828</td>
<td>0.219**</td>
<td>101.796</td>
<td>0.302</td>
<td>2230.143</td>
<td>0.108</td>
<td>0.104</td>
<td>0.076</td>
<td>0.076</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(718.131)</td>
<td>(0.099)</td>
<td>(130.877)</td>
<td>(0.217)</td>
<td>(1857.546)</td>
<td>(0.176)</td>
<td>(0.070)</td>
<td>(0.060)</td>
<td>(0.058)</td>
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</tr>
<tr>
<td><strong>Baseline value of dependent variable included</strong></td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
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<td><strong>15 Business controls included</strong></td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td></td>
</tr>
<tr>
<td><strong>10 Entrepreneur controls included</strong></td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td></td>
</tr>
<tr>
<td><strong>10 Industry fixed effects included</strong></td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
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</tr>
<tr>
<td><strong>R-squared</strong></td>
<td>0.375</td>
<td>0.425</td>
<td>0.312</td>
<td>0.148</td>
<td>0.404</td>
<td>0.525</td>
<td>0.469</td>
<td>0.428</td>
<td>0.465</td>
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<td><strong>Sample Size: total</strong></td>
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<td>605</td>
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<td>605</td>
<td>605</td>
<td>605</td>
<td>605</td>
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</tr>
<tr>
<td><strong>Control: mean of dependent variable</strong></td>
<td>4475.372</td>
<td>8.290</td>
<td>818.983</td>
<td>6.244</td>
<td>14167.098</td>
<td>1.903</td>
<td>0.996</td>
<td>-0.013</td>
<td>-0.012</td>
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<tr>
<td><strong>Control: standard deviation of dependent variable</strong></td>
<td>7625.873</td>
<td>1.251</td>
<td>1254.108</td>
<td>2.246</td>
<td>23190.844</td>
<td>2.828</td>
<td>0.955</td>
<td>0.700</td>
<td>0.717</td>
<td></td>
</tr>
</tbody>
</table>

* $p < .10$.  
** $p < .05$.  
*** $p < .01$.  

Notes: Robust standard errors are in parentheses. Firm growth values in levels (sales; profits; assets) are listed as Ugandan Shillings (UGX) in 100s.
Table 2: Linguistic Analysis Insights

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>get</td>
<td>custom</td>
<td>uganda</td>
<td>product</td>
<td>busi</td>
<td>client</td>
</tr>
<tr>
<td>will</td>
<td>discuss</td>
<td>will</td>
<td>shop</td>
<td>session</td>
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<td>can</td>
<td>market</td>
<td>creat</td>
<td>sale</td>
<td>discuss</td>
<td>call</td>
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<tr>
<td>also</td>
<td>client</td>
<td>can</td>
<td>month</td>
<td>plan</td>
<td>progress</td>
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<td>talk</td>
<td>new</td>
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<td>understand</td>
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<td>servic</td>
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<td>cost</td>
<td>manag</td>
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</tr>
<tr>
<td>now</td>
<td>increas</td>
<td>page</td>
<td>new</td>
<td>cash</td>
<td>week</td>
</tr>
</tbody>
</table>

Highest Probability Words (in Descending Order)

Examples of Text

<table>
<thead>
<tr>
<th>Treatment 1: Marketer</th>
<th>Treatment 2: Consultant</th>
<th>Treatment 3: Other Professional</th>
</tr>
</thead>
<tbody>
<tr>
<td>12%</td>
<td>17%</td>
<td>5%</td>
</tr>
<tr>
<td>15%</td>
<td>22%</td>
<td>3%</td>
</tr>
<tr>
<td>14%</td>
<td>18%</td>
<td>4%</td>
</tr>
</tbody>
</table>

Text Devoted to Topic by Treatment Group

Notes: Marketers devoted significantly more text to Topic 4 (18%) compared to the consultants (10%) and the other professionals (12%). Also, marketers devoted significantly less text to Topic 6 (6%) compared to the other professionals (10%). Text devoted to the six topics does not significantly differ between the consultants and other professionals.

*p < .10.

**p < .05.

***p < .01.
### Table 3: Volunteer Marketers’ Effects on (Intermediate) Product-Related Outcomes

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
<th>(7)</th>
<th>(8)</th>
<th>(9)</th>
<th>(10)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Product Price</td>
<td>Product Unit Contribution</td>
<td>Product Markup</td>
<td>Product Enhancement</td>
<td>Premium Product Index</td>
<td>Firm Growth [index 2]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment 1: offered Marketer [yes=1]</td>
<td>46.944*</td>
<td>23.356**</td>
<td>0.153**</td>
<td>0.103*</td>
<td>0.254***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(27.023)</td>
<td>(11.174)</td>
<td>(0.069)</td>
<td>(0.054)</td>
<td>(0.086)</td>
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<td></td>
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<tr>
<td>Treatment 2: offered Consultant [yes=1]</td>
<td>23.734</td>
<td>16.096</td>
<td>0.021</td>
<td>-0.041</td>
<td>0.065</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>(28.624)</td>
<td>(13.676)</td>
<td>(0.083)</td>
<td>(0.056)</td>
<td>(0.094)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment 3: offered Other Professional [yes=1]</td>
<td>-21.473</td>
<td>-7.971</td>
<td>0.025</td>
<td>-0.066</td>
<td>-0.087</td>
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</tr>
<tr>
<td></td>
<td>(15.763)</td>
<td>(6.869)</td>
<td>(0.059)</td>
<td>(0.045)</td>
<td>(0.054)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Product Price: average per unit [UGX in 1000s]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.00067***</td>
<td>(0.00017)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Product Unit Contribution: average per unit [UGX in 1000s]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.00144***</td>
<td>(0.00039)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Product Markup: average per unit [percent]</td>
<td></td>
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<td></td>
<td></td>
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<td></td>
<td>-0.05885</td>
<td>(0.04261)</td>
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<tr>
<td>Product Enhancement: changed output and added value [yes=1]</td>
<td></td>
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<td></td>
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<td></td>
<td>0.09486*</td>
<td>(0.05224)</td>
<td></td>
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</tr>
<tr>
<td>Premium Product Index [average of standardized measures]</td>
<td></td>
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<td></td>
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<td></td>
<td>0.17088***</td>
<td>(0.04494)</td>
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<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
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<td>YES</td>
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<tr>
<td>15 Business controls included</td>
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<tr>
<td>10 Entrepreneur controls included</td>
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<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
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<tr>
<td>10 Industry fixed effects included</td>
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<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
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<tr>
<td>R-squared</td>
<td>0.496</td>
<td>0.401</td>
<td>0.311</td>
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<tr>
<td>Control: standard deviation of dependent variable</td>
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<td>85.062</td>
<td>0.716</td>
<td>0.463</td>
<td>0.682</td>
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<tr>
<td>Premium Product measure (normalized 0-1): coefficient</td>
<td>1.340</td>
<td>1.220</td>
<td>-0.312</td>
<td>0.095</td>
<td>1.406</td>
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</tr>
</tbody>
</table>

*p < .10.  
**p < .05.  
***p < .01.  

Notes: Columns (1)-(5) show the effects on different measures of product outcomes. Columns (6)-(10) show the relationship between each product measure and the overall Firm Growth outcome. Robust standard errors are in parentheses. Firm growth values in levels (price & contribution per unit) are listed as Ugandan Shillings (UGX) in 1000s.
Table 4: Heterogeneity in Volunteer Marketers’ Interaction Effects on Firm Growth

<table>
<thead>
<tr>
<th>(Market Knowledge or Resource Availability)*(Marketer)</th>
<th>(Market Knowledge or Resource Availability)*(Consultant)</th>
<th>(Market Knowledge or Resource Availability)*(Other Professional)</th>
<th>MK Dimension: Local Market Experience</th>
<th>MK Dimension: Demand Tracking System</th>
<th>MK Dimension: Diverse Customers</th>
<th>Resource Availability (RA): composite [normalized 0-1; mean centered]</th>
<th>Resource Availability (RA): high [yes=1; median split]</th>
<th>Combined Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.713*** (0.976)</td>
<td>1.681** (0.701)</td>
<td>0.898** (0.438)</td>
<td>1.048** (0.530)</td>
<td>3.565** (1.687)</td>
<td>0.318** (0.141)</td>
<td>1.126* (0.655)</td>
<td>3.357** (1.590)</td>
<td>2.083** (0.992)</td>
</tr>
<tr>
<td>Treatment 1: offered Marketer [yes=1]</td>
<td>0.206*** (0.070)</td>
<td>0.187*** (0.069)</td>
<td>0.198*** (0.076)</td>
<td>0.211*** (0.071)</td>
<td>0.184*** (0.071)</td>
<td>0.197*** (0.068)</td>
<td>0.175** (0.071)</td>
<td>0.186*** (0.070)</td>
</tr>
<tr>
<td>Treatment 2: offered Consultant [yes=1]</td>
<td>1.337** (0.628)</td>
<td>0.156 (0.136)</td>
<td>-0.149 (0.378)</td>
<td>0.588 (0.416)</td>
<td>0.699** (0.344)</td>
<td>2.000* (1.106)</td>
<td>0.031 (0.141)</td>
<td>1.289 (0.898)</td>
</tr>
<tr>
<td>Treatment 3: offered Other Professional [yes=1]</td>
<td>0.053 (0.069)</td>
<td>0.061 (0.071)</td>
<td>0.049 (0.071)</td>
<td>0.053 (0.069)</td>
<td>0.053 (0.070)</td>
<td>0.062 (0.071)</td>
<td>0.065 (0.071)</td>
<td>0.066 (0.071)</td>
</tr>
<tr>
<td>MK Dimension: Local Market Experience</td>
<td>0.459 (0.288)</td>
<td>-0.075 (0.232)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MK Dimension: Diverse Customers</td>
<td>-0.574** (0.252)</td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Resource Availability (RA): composite [normalized 0-1; mean centered]</td>
<td>-0.804 (0.836)</td>
<td>0.039 (0.068)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Resource Availability (RA): high [yes=1; median split]</td>
<td>-0.842 (0.794)</td>
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<td></td>
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<tr>
<td>Dimension: Startup Capital [normalized 0-1; mean centered]</td>
<td>-0.524 (0.350)</td>
<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Dimension: Business Partners [normalized 0-1; mean centered]</td>
<td>0.064 (1.063)</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Dimension: Cash Reserves [normalized 0-1; mean centered]</td>
<td>0.185 (0.575)</td>
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<td></td>
<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>R-squared</td>
<td>0.493</td>
<td>0.474</td>
<td>0.491</td>
<td>0.475</td>
<td>0.483</td>
<td>0.488</td>
<td>0.470</td>
<td>0.485</td>
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<td>Sample Size: total</td>
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<td>589</td>
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<td>Control: mean of dependent variable</td>
<td>-0.012</td>
<td>-0.012</td>
<td>-0.012</td>
<td>-0.008</td>
<td>-0.012</td>
<td>-0.012</td>
<td>-0.012</td>
<td>-0.014</td>
</tr>
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<td>Control: standard deviation of dependent variable</td>
<td>0.717</td>
<td>0.717</td>
<td>0.719</td>
<td>0.715</td>
<td>0.717</td>
<td>0.717</td>
<td>0.717</td>
<td>0.722</td>
</tr>
</tbody>
</table>

Notes: 15 business controls, 10 entrepreneur controls, and 10 industry fixed effects are included. To avoid duplication, the 'start-up capital' control is dropped from the Resource Availability regressions in columns (6)-(8). Robust standard errors are in parentheses.