GENERAL HUMAN CAPITAL TRANSFER AND RELATIONAL STRENGTH IN ALTERNATIVE WORK ARRANGEMENTS

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INTRODUCTION

Work arrangements are rapidly changing. Innovation in areas such as automation, artificial intelligence, telecommunication, and online network platforms (e.g. Uber, Upwork, Mturk) are affecting the "where", "when", "how", and "by whom" work tasks are performed (Autor & Salomons, 2018; Brynjolfsson & McAfee, 2014). An empirical trend of the "future of work" is the increased share of the labor force employed in so-called "alternative work arrangements" (e.g. contract workers and independent contractors, temporary, part-time, informal, and even online platform workers) (OECD, 2015). While such alternative work arrangements grant flexibility and potential cost savings to firms due to their limited administrative, locational, and/or temporal attachment, they also bring new empirical and theoretical challenges (Ashford, George, & Blatt, 2007; George & Chattopadhyay, 2017; Spreitzer, Cameron, & Garrett, 2017). In this paper, we focus on a theoretical dilemma accentuated by alternative work arrangements: a firm's decision to invest in workers' general human capital (Becker, 1962).

General human capital, as communication and managerial skills, has been extensively linked to higher productivity (Bloom, Genakos, Sadun, & Van Reenen, 2012; Bruhn, Karlan, & Schoar, 2010). If a firm hires workers who lack general skills relevant to their tasks, training them in such skills could arguably increase the total value created by the employment relationship. Nonetheless, received theories of strategic human capital would suggest that firms would refrain from making these investments in the first place, focusing rather on investments in firm-specific human capital (i.e. skills valuable in the context of the firm and not by the external market) (Barney & Wright, 1998; Coff, 1997). Indeed, worker mobility may increase the risk of not appropriating the value created by investments in general human capital (Barney & Wright, 1998; Becker, 1962; Wang, He, & Mahoney, 2009). In alternative work arrangements, which are often "fluid" and short-term, the appropriability hazard is arguably even greater. Consequently, firms anticipate not recouping the value invested and refrain from allocating funds in *general* training policies. In this paper, we respectfully argue that this interpretation provides only a partial picture of the demand and supply-side incentives to invest in general human capital.

Although worker mobility leads to value appropriation hazards, there are several contexts that may allow firms to capture value from general human capital (Coff & Raffie, 2015; Raffie & Coff, 2016). Especially when dealing with low-skilled workers, general human capital transfer may elicit reciprocity (Bosse, Phillips, & Harrison, 2009), signal commitment (Baron & Kreps, 2011; Wang et al., 2009), or even become a socialization tool (Ranganathan, 2018) that increases the strength of the firm-worker relationship. As a result, general training provision could: 1) increase the length of the partnership, allowing firms to capture the benefit of increased productivity spanning from general human capital investments; and 2) align the incentives associated with the supply of training by firm managers and demand for training by workers.

In this paper, we theoretically argue for and empirically test a relational role of general training provision that may preclude worker mobility. Empirically, we benefit from unique data from a Brazilian branch of a multinational retail firm (*SalesNow*) whose business model uses an alternative work arrangement that employs individuals with low levels of general human capital. Specifically, we employ an "insider econometrics" approach (Shaw & Ichniowski, 2013; Teodorovicz, Cabral, & Lazzarini, 2019). We focus on a direct sales model involving workers at the Base-of-the-Pyramid (Kistruck, Beamish, Qureshi, & Sutter, 2013; Prahalad & Hart, 2002; Sutter, Bruton, & Chen, 2018) who are employed by the focal firm through an alternative work arrangement for a "business partner" position. Meetings with firm managers, analysis of internal

documents, and reports from phone interviews with business partners provided qualitative insights that along with the strategic human capital literature allowed us to draw testable hypotheses. To test our hypotheses, we employed a mix of non-experimental and experimental empirical designs.

HYPOTHESES

When exploring the sources of performance heterogeneity across organizations, the strategic management literature often portrays human capital as key to achieve competitive advantage (Barney & Wright, 1998; Coff, 1997; Wang et al., 2009). Since its inception, the concept of human capital has been divided in terms of 'general human capital' and 'firm-specific human capital' (Becker, 1962). General human capital represents a set of skills and abilities possessed by individuals at a firm whose productive value is transferrable across any firm. One type of human capital that has been associated with increased productivity is managerial knowledge (Bloom et al., 2012; Bruhn et al., 2010). Acquiring such capital is even more critical to agents with high resource constraints imposing greater requirements for connection with formal markets and enhanced productivity (Perez-Aleman, 2011; Pietrobelli & Rabellotti, 2006). Thus, we hypothesize that:

Hypothesis 1: Firm-sponsored transfer of general human capital to business partners under alternative work arrangements increases partnership performance.

However, increasing partnership performance is not enough to provide a business case for firm-led managerial training in alternative work arrangements with fluid relationships. Even if general training has the potential to increase performance, the focal firm may not be able to appropriate gains from this investment as workers may, for instance, require higher compensation due to the now increased performance, or simply leave the partnership for other positions that appear once the worker has acquired new general human capital (Wang & Barney, 2006). However, more recent research on strategic human capital has argued that aspects related with the demand and supply for labor may circumvent worker mobility after general human capital acquisition (Raffie & Coff, 2016; Riley, Michael, & Mahoney, 2017). In this case, even general human capital might lead to competitive advantage. In particular, we argue that if the human capital transfer process is perceived as a relational signal of a firm's commitment with the worker (Baron & Kreps, 2011; Wang et al., 2009) and if the alternative work arrangement is not short-term by construction (e.g. one-off task) but rather allows for repeated interaction (e.g. service provision), the worker could prolong its partnership on the hopes of receiving further training investments or accrue more value from the partnership itself. In this scenario, such signal may elicit reciprocity (Bosse et al., 2009) and become a socialization tool (Ranganathan, 2018) that strengthen rather than weaken workers' relational attachment to the firm. Finally, if the costs of managerial training are not high compared to the value appropriated from an even short-term superior performance, then there is also a case for firms to invest in managerial training under alternative work arrangements, including relationships at the BoP markets (Riley et al., 2017). Hence:

Hypothesis 2: Firm-sponsored transfer of general human capital to business partners under alternative work arrangements increases the expected duration of the partnership.

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Further, if both firms and business partners or employees under alternative work arrangements perceive that a human capital transfer program may yield relational returns, which accrue benefits to both parties, we would expect that the conflict between a firm pushing for firm-specific human capital transfer and a business partner demanding for generic human capital transfer would be acquiesced. Thus:

Hypothesis 3a: firms are more likely to supply general human capital to partners under alternative work arrangements when expecting that the training is likely to increase the relational capital of the partnership

Hypothesis 3b: business partners under alternative work arrangements are more likely to demand general human capital when expecting that the training is likely to increase the relational capital of the partnership

EMPIRICAL CONTEXT

Our research uses the setting of a micro-entrepreneurship program and an associated managerial training program sponsored by SalesNow, the Brazilian branch of a multinational direct sales channel. To cater its sales network in more than 3,000 municipalities in Brazil, SalesNow subdivides Brazil in 807 geographic non-overlapping zones/regions. Each geographic zone is supervised by a single "firm manager" as the immediate point of contact between SalesNow and local, non-employed, sales representatives who perform selling tasks under a direct sales format. To solve managerial predicaments in local markets, SalesNow further sponsors a 'business partner' micro-entrepreneurship program involving some of the companies' sales representatives. This program offers the possibility for a subset of existing sales representatives, often from the BoP,[1] to become a 'business partner' responsible to manage a group of sales representatives. The main responsibilities of business partners are recruiting new sales representatives, supporting and incentivizing existing sales representatives, and 'bridging' information from the firm to local sales representatives (e.g. product brochures, sales strategies).At any point in time, the company supports from 12,000 to 14,000 business partners to manage approximately 1 million sales presentatives in Brazil. This paper focus on the partnership between SalesNow and business partners, which as regular sales representatives, are also under an alternative work arrangement. After joining the business partner program, 36% of all business partners leave within 4 months and 75% leave within one year.

To test our hypotheses, we use a combination of non-experimental (study 1) and experimental methods (study 2). In study 1, we use highly detailed data about a managerial training program sponsored by SalesNow since 2015 to address hypotheses H1 and H2. SalesNow provided individual-level data for all individuals working as 'business partners' between 2014 and 2016. This data encompasses performance indicators for each team of sales representatives, each of which can be under the supervision of a 'business partner', for a period of 57 sales campaigns from 2014 to 2016. The company granted access to all training material and a list of each business partner who finished the early-stage training. The dataset also has socioeconomic information on business partners' educational level, age, and postal address when they first joined the program. We further complement the firm-provided dataset with administrative datasets containing individual and regional

[1] From 2014 to 2016, close to 40% of all business partners managers had at most elementary education, and only 12% had college degrees. Further, 40% of these individuals lived in regions with a per capita income lower than one minimum wage (around US$ 240 as of February, 2020).

level information. We then performed propensity score matching and differences-in-differences approaches to estimate the effect of the general human capital transfer on business partner's performance and on the length of the partnership.

In study 2, we designed a small-scale field experiment to verify whether relational considerations could indeed affect the demand and supply for training. In May/2018, SalesNow replaced its previous online business partner training program (analyzed in study 1) by a new training program. We have taken advantage of this opportunity to devise three different digital communication policies (our treatment arms) that would target both the **business partners** (demand for training) and the **firm/zone manager** responsible for managing the firm-business partner relationship (supply of training). This experiment consists in randomly assigning a sales zone (i.e. all business partners and the corresponding zone manager) to one of the three types of communication policies regarding the new training program. This strategy creates exogenous variation across sales zones across the perceived benefits of the new training program. We devised three treatment arms consisting of communication policies sharing a common structure, but differing in a single and key informational aspect: how we frame the expected benefit of undertaking the training program. First, a "firm-specific" communication policy used a framing highlighting the training as a mean to increase the profits of the business partner while interacting with the firm. Second, a "general" communication policy framed the training as mean to develop skills transferrable to contexts outside the firm-business partner relationship (e.g. leadership and entrepreneurial skills). Lastly, a "relational" communication policy framed the training as a mean to strengthen the partnership between the firm and the business partners. Our method compares measures of the interest for the training on both the demand- and supply-side of human capital provision.

RESULTS

STUDY 1: MANAGERIAL TRAINING PROGRAM

Table 1 reports the average treatment effects on the treated of the effect of general human capital transfer (in form of managerial training) on two performance measures: gross sales and individual gains earned by the business partner. All estimates are from a differences-in-differences model within a matched sample of trained and untrained business partners. Trained and untrained business partners were matched bases on the immediately preceding sales period before the training started. Columns 1, 2, 5, and 6 considers a matched sample considering a 3 -window-before-treatment matching. These columns consider treated business partners (and their matched control group) with at least 3 previous campaigns of experience (total of 526 matched treated business partners). Columns 3, 4, 7, and 8 considers treatment and control groups using information from 6 sales campaigns prior the treatment of the trained business partners (total of 279 matched treated business partners). In both sub-samples, unreported results confirm parallel pre-trends in terms of performance. Columns 1-4 display the effect on sales performance while columns 5-8 display the effect on business partners' gains. Considering the 3-window matched sample, transferring general human capital (in the form of personal communication skills and use of data to manage performance) leads to a gross sales increase of 0.035sd and a business partner individual gains increasing of 0.11sd ($p<0.001$). For this sub-group, this represents a mean increase of 5.5% and 24% on gross sales and individual gains, respectively. Considering the more restrict matched sample (columns 3, 4, 7, an 8), the average effect remains qualitatively similar.

Table 1 - General Human Capital Transfer and Performance

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	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
Dependent variable	Gross sales (standardized by sales campaign)				Individual gains (standardized by sales campaign)			
	Average Treatment Effect on the Treated (ATT)							
Received training	0.033*	0.035*	0.022‡	0.020	0.110*	0.105*	0.062†	0.052‡
	[0.009]	[0.010]	[0.013]	[0.015]	[0.020]	[0.021]	[0.029]	[0.030]
Adjusted R-squared	*0.772*	*0.763*	*0.742*	*0.728*	*0.509*	*0.493*	*0.400*	*0.408*
Individual FE	Y	Y	Y	Y	Y	Y	Y	Y
Sales Campaign FE	Y	Y	Y	Y	Y	Y	Y	Y
Window FE	Y	Y	Y	Y	Y	Y	Y	Y
Back Windows	3	3	6	6	3	3	6	6
Front Windows	3	6	3	6	3	6	3	6
Individual-period observations	13624	17963	10463	12781	13624	17963	10463	12781
Individuals (unweighted)	2052	2052	1084	1084	2052	2052	1084	1084
Treated business partners	526	526	279	279	526	526	279	279
Mean weighted dep. variable at baseline	-0.601	-0.601	-0.601	-0.601	-0.454	-0.601	-0.601	-0.542

Note: * p<0.01; † p<0.05; and ‡ p<0.1. All standard errors are clustered at the business partner-level.

Table 2 displays the effect of firm-sponsored general human capital development on the probability of the relationship survival. The estimated effects are interpreted as the average difference in probability of a business partner remaining in the partnership after 1, 6, 12, and 18 sales campaigns. A trained business partner in the 3-back-window matched sample has a probability 11% higher of remaining within the partnership after 6 sales campaigns, with the difference lasting up until 18 sales campaigns (one year), though reducing in magnitude to 6.7%. When accounting for firm/zone managers in the 6-back-window matched sample, the differences in churning fades away close to the one-year mark.

Table 2 - General Human Capital Transfer and Partnership Duration at the BOP

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
Active in +T period from training	+1	+6	+12	+18	+1	+6	+12	+18
Received training	0.061*	0.111*	0.087*	0.067*	0.059*	0.072†	0.054‡	0.013
	[0.009]	[0.022]	[0.024]	[0.022]	[0.011]	[0.031]	[0.032]	[0.030]
Business partner's baseline performance	Y	Y	Y	Y	Y	Y	Y	Y
Business partner's baseline characteristics	Y	Y	Y	Y	Y	Y	Y	Y

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Regional characteristics	Y	Y	Y	Y	Y	Y	Y	Y
Baseline period	Y	Y	Y	Y	Y	Y	Y	Y
Back Windows	3	3	3	3	6	6	6	6
Business partners (unweighted)	2052	2052	2052	2052	1084	1084	1084	1084
Treated business partners	526	526	526	526	279	279	279	279

Note: * $p<0.001$; † $p<0.05$; and ‡ $p<0.1$. All standard errors are clustered at the individual-level.

STUDY 2: EXPERIMENTAL EVIDENCE ON RELATIONAL ROLE OF GENERIC HUMAN CAPITAL TRANSFER

Figure 1 summarizes our main experimental results on how the relational role of human capital transfer affects demand and supply of human capital. We compare the average incidence of the training program, as well as of the manifested interested to acquire and supply human capital, across treatment groups. The top two graphs in Figure 1 show that receiving information about a training program in a way to highlight the benefits to business partners' general human capital (blue bars) outperforms the case when business partners' are prompted to think about the training as a source of firm-specific human capital (red bars) in terms of demand of training. There is a +5% difference ($p<0.05$) on the share of business partners prompted with the general human capital communication that started/concluded a training in comparison to those in the firm-specific context ($p<0.05$). On the other hand, the bottom right graph also shows that firm managers are less incentivized to communicate business partners of a new training program when the training is sponsored as providing general rather than firm-specific human capital (-18% probability of downloading message to send to local manager, $p<0.01$). Nonetheless, ours results support our proposed mechanism through which transferring human capital may be favorably perceived to develop relational capital on both the demand and supple sides. Being informed that the training held potential to develop a stronger relationship with the firm (green bars) performed as well as the general human capital strategy both statistically and in terms of magnitude. Even more interestingly, on the supply-side, the partnership prompt performed better than the general human capital prompt and performed statistically as well as the firm-specific prompt, that is, firm managers were statistically as likely to incentivize business partners to undertake the training when being prompted by either the training's relational results or as a firm-specific return. Business partners receiving information about the training as a mechanism to strengthen the relationship with the firm are 6.2% more likely ($p<0.05$) to conclude a training than those receiving firm-specific prompts and equally as likely as those receiving general human capital prompts. Further, firm managers are 17.6% less likely to send information about the training program to business partners if they believe the training will transfer general human capital, rather than firm-specific human capital. However, they are statistically as likely to send the information when the training is believed to develop relational capital between the business partner and the firm than under the firm-specific prompt. These experimental results support the "relational" role of human capital transfer in the context of alternative work arrangements. Due to space constraints, we do not report regressions tables. Nonetheless, results from both linear probability and logit models lead to similar conclusions.

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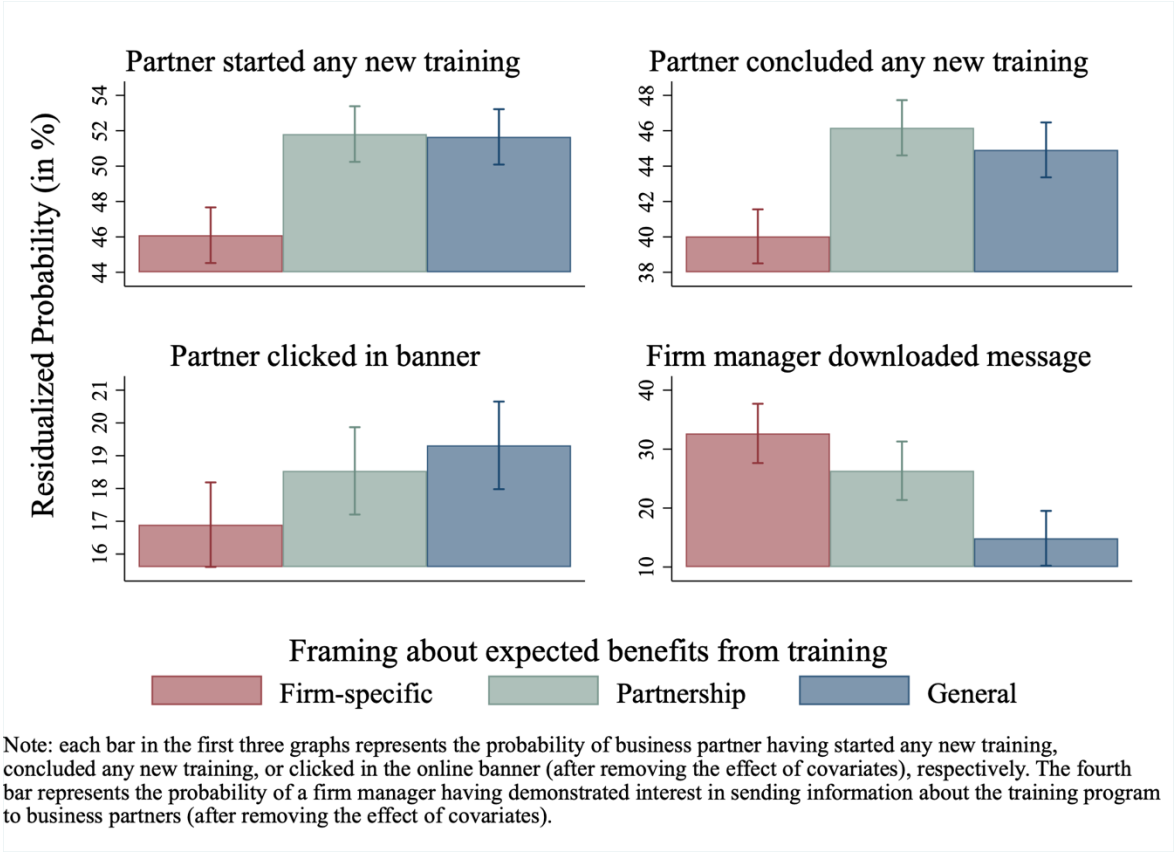
Figure 1 – Probability of interest for human capital transfer by communication strategy



Note: each bar in the first three graphs represents the probability of business partner having started any new training, concluded any new training, or clicked in the online banner (after removing the effect of covariates), respectively. The fourth bar represents the probability of a firm manager having demonstrated interest in sending information about the training program to business partners (after removing the effect of covariates).

CONTRIBUTIONS

By employing non-experimental and experimental methods, we provide support to the relational role of firm-sponsored investment in general human capital in alternative work arrangements. We show that firm-sponsored general human capital transfer within the contexts of human capital scarcity has a dual role: (1) it increases the performance of business partners/workers under alternative work arrangements; and (2) contrary to the expectation in contexts of highly mobile and fluid partnerships, it strengthens the ties between firms and business partners. We provide evidence that the relational component of a human capital transfer may align incentives for human capital transfer in relationships in the context of alternative work arrangements. This mechanism allows us to provide some theoretical contributions. First, we complement

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the literature in strategic human capital by continuing the strand of literature comparing firm's potential to extract value from general and firm-specific investment in human capital (Riley et al., 2017). Second, we connect the strategic human capital literature with the BoP literature by addressing the recent calls for micro-oriented research on knowledge transfer mechanisms in human capital scarce environments (Kistruck et al., 2013). Our findings may even support a business case for firm-led general training even in unstable partnerships while also suggesting a private-based solution to a potential ineffectiveness of government- and nonprofit-led training initiative in impoverished areas in emerging and developing economies (McKenzie & Woodruff, 2014). Our results also provide practical implications by suggesting that general training might substitute for on-the-job learning in the context of alternative work arrangements. This result is especially useful as high churning rates would imply that partners may not experience on-the-job learning due to the fluid nature of alternative work arrangements. If firms can signal the relational commitment through firm-sponsored general training, firm may be able provide create and capture value from transferring general human capital to partnering stakeholders.

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