

MITIGATING PRINCIPAL-AGENT PROBLEMS IN BASE-OF-THE-PYRAMID MARKETS: AN IDENTITY SPILLOVER PERSPECTIVE

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The potential for profitably distributing products to previously underserved “base-of-the-pyramid” (BOP) markets as a means of poverty alleviation has received growing interest within the management field. However, such business models often struggle with the agency costs that arise between the firm and local sales agents as the institutions and infrastructure in BOP markets make traditional contractual and monitoring mechanisms difficult and expensive to employ. We present the results of two complementary studies which were both conducted with salespeople in rural Guatemala. The first study employed a quasi-experimental field-study combined with in-depth interviews, while the second study was a laboratory experiment. The results of the studies suggest that identity-based mechanisms can potentially mitigate agency costs through a positive identity spillover effect in multiproduct settings.

Over the past decade, interest has burgeoned in how firms can tap into opportunities in “base-of-the-pyramid” (BOP) markets that not only provide a new source of revenue to organizations, but also help to alleviate poverty by providing products to previously underserved or exploited local populations (Jain & Vachani, 2006; Prahalad, 2004; Prahalad & Hart, 2002). Although anecdotal evidence has suggested that there is a great deal of promise in the BOP approach, research has also suggested that organizations selling products into the BOP market

often struggle to effectively and efficiently manage the relationships with locally embedded individuals needed to act as agents for distributing products (Kistruck & Beamish, 2010; London & Hart, 2004; Marquez & Rufin, 2011; Vachani & Smith, 2008). The use of local salespeople who reside in the villages in which the products are being sold is necessitated by a lack of organizational awareness of heterogeneous BOP cultures and dialects, and an overall general distrust of foreigners in rural BOP markets (Webb, Kistruck, Ireland, & Ketchen, 2010). However, given the weak public legal institutions and physical infrastructure in BOP markets (De Soto, 2000; Mair & Marti, 2009), many efforts to distribute products using local individuals are significantly impeded by the enormous private monitoring and enforcement costs borne by firms to ensure these agents are performing their tasks diligently (Kistruck, Webb, Sutter, & Ireland, 2011). Thus, organizations seeking to tap BOP markets continue to struggle with how to efficiently sell and distribute products there without incurring significant agency costs. While agency theory has remained the dominant theoretical perspective for

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examining solutions to principal-agent problems, it has been suggested that integrating the economically based behavioral assumptions underlying agency theory with those of psychology and sociology may yield a much more complete understanding of the efficacy of potential mitigating mechanisms (Akerlof & Kranton, 2000, 2005). By integrating identity theory (Burke, 1980; Stryker, 1968, 1980) with agency theory, we argue that having a sales agent adopt the more prestigious identity of owner rather than agent for one product in BOP markets can lead to higher sales of not only that particular product, but also other products for reasons of identity salience. Identity salience is defined as “the probability that an identity will be invoked across a variety of situations, or alternatively across persons in a given situation” (Stryker & Burke, 2000: 236). However, we further argue that whether or not an ownership identity remains more salient depends on the similarity of nonsocial cues. Specifically, when the products for which a salesperson does not have ownership are similar in functionality to the product that he or she does own, we hypothesize that such similarity will serve as an important external cue that leads to behaviors consistent with the values of an owner across similar products.

To empirically test our arguments, we employed an initial multimethodological study consisting of a quasi-experimental field investigation and subsequent qualitative in-depth interviews with BOP market salespeople in rural Guatemala. The results of the study supported our hypotheses of an identity spillover, which we define as the continued activation of one identity formed in association with a specific task in other tasks in which alternative identities were previously salient. Subsequently, we undertook a second study using more of a controlled laboratory design to more succinctly capture the specific constructs and linkages involved in the process of identity spillover. Our results again supported the notion that an ownership identity created with one product can spill over to other similar products, even when the agent does not have ownership of such products.

Our findings make a number of important contributions to existing theory. First, our study illustrates that although the agency theory assumption is that an individual’s identity is discrete in the creation of multitask models (Feltham & Xie, 1994; Holmstrom & Milgrom, 1991), the motivation of agents toward any given task can be influenced by more panoptic identities that guide their overall

behavior. Therefore, contrasting with the current agency theory assumption that the behavior of sales agents for any given task is a function of separate incentive arrangements, our evidence suggests that the influence of such economic incentives can be subverted to those of broader-based social-psychological mechanisms. Previous agency theorists have broadly stressed the importance of integrating a social-psychological perspective into agency predictions (Akerlof & Kranton, 2005; Shapiro, 2005), and our specific integration of identity theory with agency theory suggests how doing so can help better theoretically explain behavioral outcomes in principal-agent relationships.

Our findings also contribute directly to identity theory by exploring the role of nonsocial cues in the activation of different identities. Earlier work on identity theory downplayed the importance of social cues in general (i.e., seeing coworkers) as compared to internal identity hierarchies (Stets & Burke, 2000; Stryker, 1968), yet subsequent research has suggested that the activation of different identities is at least in part a function of external social cues (Ashforth, Harrison, & Corley, 2008). However, the results of our study further suggest that nonsocial external cues (i.e., products) that are similar in nature can also moderate when particular internal identities are triggered.

In terms of practical implications, our study suggests that organizations seeking to tap BOP markets may be able to mitigate principal-agent problems using identity-based mechanisms that are potentially less expensive than many of the monitoring and economic-based incentive mechanisms, which are often inefficient and ineffective in BOP environments (Kistruck et al., 2011). Our study further suggests that organizations seeking to employ such mechanisms should be cautioned to limit the scope of their products rather than attempt to diversify to a large degree when seeking increased scale. Thus, with limited product scope, identity-based mechanisms may present a cost-effective alternative for organizations seeking to undertake financially sustainable market-based approaches to poverty alleviation. However, given that our studies involved participants from one organization in a single BOP market, much more research is needed to further assess the efficacy of such mechanisms across other BOP and more developed environments.

We begin by providing an overview of BOP markets and the challenges that organizations currently face within such institutional settings. Secondly, we provide both a complementary and a contrast-

ing view of agency and identity theories in developing our hypotheses related to single- and multi-product sales performance. We then proceed to describe the setting for our first study and discuss both our quantitative results and qualitative insights. After presenting the design and results of our second study, we discuss the implications of our findings for current theory and practice.

BOP MARKET ENVIRONMENTS

Base-of-the-pyramid markets represent over half of the world's population residing at the lower regions of the world's economic pyramid (Hart, 2005; Prahalad, 2004). While primarily located in least developed countries, the least developed regions of emerging markets such as India and China are also BOP markets (Kistruck et al., 2011). BOP markets represent an enormous population that remains disconnected from the global economy and the supply chains that link developed markets with emerging markets. As a result of this disconnect, many of the consumers residing in BOP markets do not have access to health care, education, and other products and services so readily available to relatively wealthier residents of developed countries (Marquez & Rufin, 2011; Rangan, Quelch, Herrero, & Barton, 2007). Additionally, BOP market consumers are often forced to overpay for access to water, housing, and financial products, given the lack of competition and oligopolistic nature of BOP market environments (Pralhad & Hart, 2002).

The potential to generate significant financial profits while producing goods and services that help to alleviate poverty has attracted a host of both for-profit and nonprofit organizations to engage in new BOP market initiatives over the past decade (London, 2008; Seelos & Mair, 2007). However, anecdotal evidence of BOP initiatives has suggested that such enormous potential comes with an equally large number of challenges (Kandachar & Halme, 2008). In addition to the challenges associated with delivering the intended social benefits (Karnani, 2007), organizations engaged in BOP ventures have struggled with achieving financial sustainability in their product initiatives as they endeavor to create new business models suitable to the BOP environment (Karamchandani, Kubzansky, & Lalwani, 2011; London & Hart, 2004). Such challenges include the amount of time required to recoup initial investments (Simanis & Hart, 2006), the need to completely re-engineer, rather than modify, existing products (Hart & Christensen,

2002), and the distribution challenges in attempting to sell their products in BOP markets (Anupindi & Sivakumar, 2007; Vachani & Smith, 2008).

Many of the distribution challenges arise from the nature of the cultural and institutional environments in BOP markets. Large cultural heterogeneity, language fragmentation, and a general distrust of "outsiders" by rural BOP communities have created a number of specific marketing and distribution challenges (Kistruck & Beamish, 2010; Viswanathan, Sridharan, Gau, & Ritchie, 2009). To combat such challenges, organizations are often forced to seek out locally embedded individuals to act as agents to tap BOP market communities (Smith & Stevens, 2010; Viswanathan, Rosa, & Harris, 2005). Such individuals are instrumental in garnering access to informal institutions as a means for generating acceptance of new products and services (London & Hart, 2004). However, such individuals typically are not trained as sales professionals and have very little sense of what it is like to participate in a formal business (Kistruck et al., 2011). Indeed, very few individuals in BOP markets own, or are employees of, formal organizations (De Soto, 2000; Dia, 1996).

The institutional voids that characterize BOP markets also create significant agency costs when firms use locally embedded individuals to sell and distribute products (Khanna & Palepu, 1997; Kostova & Zaheer, 1999). Specifically, the weak legal institutions of BOP markets make it difficult for organizations to enforce contracts and rely upon public forms of governance in the event of dispute (De Soto, 2000). Similarly, the technological and transportation infrastructures make monitoring of effort very expensive and difficult for organizations operating in BOP markets (Webb et al., 2010). As a result, firms attempting to expand into BOP markets often use hybrid governance structures such as franchising or consignment. These tactics help balance the transaction responsibility placed on local salespeople with the firms' retention of control over how the products are sold (Christensen, Parsons, & Fairbourne, 2010; Smith, 2010). However, this need to maintain control often results in significant ongoing monitoring and enforcement costs for the firms (Kistruck et al., 2011).

Thus, organizations pursuing BOP opportunities are struggling to identify ways in which they can mitigate agency costs in a way that is financially feasible. BOP markets also represent a pertinent setting for exploring how the creation of an "ownership identity" that is distinct from that of an

“agent identity” can serve as an effective mechanism for mitigating agency costs. As a result of the increased risk that accompanies a principal’s investment in an asset, an “ownership identity” consists of higher levels of motivation, increased control, and greater feelings of responsibility and concern for the protection of the asset, as compared to an “agent identity” (Eisenhardt, 1989; Jensen & Meckling, 1976). Individuals in more developed markets are more likely to have either first-hand experience with formal business ownership or pre-existing exposure to an ownership identity formed through frequent social interactions with formal business owners; detailed newspaper, magazine, and other media accounts of such people; or even reality television shows such as *The Apprentice* (Gerbner, Morgan, Gross, Signorielli, & Shanahan, 2002). Furthermore, the social status of formal business owner is much higher than that of sales agent in BOP markets, which allows for a comparative examination of different identities upon an identity hierarchy. In developed countries, as compared to BOP markets, the social status of being an agent in developed countries can often be equal to or even higher than that of a formal business owner, given that CEOs, other firm executives, and top salespeople acting as agents in developed markets often earn even higher incomes and receive more social benefits than many formal business owners (Gomez-Mejia, Tosi, & Hinkin, 1987).

THEORY AND HYPOTHESES

As organizations increasingly pursue opportunities to distribute their products into BOP markets, there is an increasing need to better understand when and why alternative mechanisms for mitigating principal-agent problems may help to yield desired outcomes. In an attempt to address this need, we discuss and integrate two different discipline-based theoretical approaches that we believe can significantly illuminate how salespeople in BOP markets may respond to different principal-agent arrangements. Namely, we unpack and explore how agency theory and identity theory make both complementary and contradictory predictions for sales outcomes in single- and multiproduct settings, respectively.

Agency Theory

The dominant theoretical perspective that has been used to study principal-agent problems is

agency theory (Eisenhardt, 1989). Agency theory is focused on explaining the costs that emerge as a result of the division of labor between principals and agents (Ross, 1973). At a basic level, agency costs arise because agents, who have been retained by a principal to perform certain activities, are assumed to be boundedly rational, self-interested, and risk-averse in their behavioral orientation (Jensen & Meckling, 1976). Such conditions give rise to the likelihood of shirking or other opportunistic behaviors on the part of the agent when asymmetric information exists between principal and agent (Eisenhardt, 1989).

Given that “agency costs arise in any situation involving cooperative effort by two or more people” (Jensen & Meckling, 1976: 309), agency theory has been applied to a multitude of principal-agent settings. While the primary context employing agency theory has been the separation of ownership and control that occurs between shareholders and senior executives in publicly traded corporations (Daily, Dalton, & Cannella, 2003), agency theory has also been used as a foundation for explaining internal employer-employee relationships (Harris & Raviv, 1978); interorganizational relationships, including international alliances and vertical integration decisions (Wolfson, 1985); and sales force arrangements (Eisenhardt, 1988).

To address problems that arise with the separation of ownership and control, agency theorists have focused on predicting how alternative governance mechanisms can help mitigate agency costs. At a broad level, principals can choose to address the agency problem by constructing incentive-based contracts to better align an agent’s interests with those of the principals (Stroh, Brett, Baumann, & Reilly, 1996) or investing in monitoring mechanisms to reduce the underlying information asymmetry between principal and agent (Keeley, 1980). However, principal-agent problems can also be reduced, or even potentially eliminated, by having the agent become a principal; in other words, the agent takes ownership by purchasing the product in question, thereby eliminating the separation between ownership and control (Ben-Ner & Jones, 1995). The concept of shifting product ownership from the principal to the agent is akin to a more extreme outcome-based contract in which the agent assumes greater levels of downside uncertainty as well as greater upside incentives (Tosi & Gomez-Mejia, 1989).

Identity Theory

Although not traditionally applied to the study of principal-agent problems, identity theory (Stets & Burke, 2000; Stryker & Burke, 2000) provides a number of insights into how role identity affects behavior (e.g., “I am an agent” vs. “I am a principal”). In the last decade or so, organizational scholars have begun to develop a rich understanding of how different identities are both created (Pratt, 2000; Pratt, Rockmann, & Kaufmann, 2006) and activated in workplace settings (e.g., Ashforth, Kreiner, & Fugate, 2000; Scott & Lane, 2000). For instance, Pratt’s (2000) investigation of Amway workers documented that how employees make sense of their actions at work help to form their identity. Once formed, this identity promoted further behaviors (e.g., forming cohesive groups) that served to strengthen their identity. Studies have also shown that individuals’ identities can have a profound impact on their work behavior and that their behavior in any particular setting is typically congruent with what they perceive to be in accordance with the expectations associated with that particular identity (Ashforth & Humphrey, 1993).

Identity theory thus provides an explanatory framework for understanding a salesperson’s role-related behavior in different contexts (Stryker & Burke, 2000). According to identity theory, individuals can possess multiple identities (Scott, 1997; Vora & Kostova, 2007; Zhang, George, & Chan, 2006), and the degree to which any single identity is likely to be activated, and thus influence their behavior, depends on its salience (Stets & Burke, 2003; Stryker & Burke, 2000). Identities are argued to be organized in a hierarchical fashion, such that identities with more subjective importance for a person’s sense of self-esteem, feeling of self-worth, and psychological well-being should be more likely to be relied upon than less favorable identities, all else being equal (Ashforth & Johnson, 2001). Identities that are more positive for the self “are invested with emotion in part because they represent roles in which the individual’s ‘wants’ and ‘needs’ are satisfied. Thus an individual’s identities are ranked in terms of the ‘strength of feeling’ associated with each one” (Nuttbrock & Freudiger, 1991: 147). When an individual can choose between two relevant identities, the identity associated with prestige and more consistent with an individual’s set of values should be more personally rewarding and thus be more likely to be relied upon (Brewer & Gardner, 1996; George & Chattopadhyay, 2005).

Resulting Predictions of Single-Product Sales Behavior

As mentioned in the discussion of alternative agency-theory-based mechanisms for mitigating agency problems, one possible option for organizations struggling to efficiently distribute products through local salespeople in BOP markets would be to fundamentally change the nature of the principal-agent relationship, such that an agent *becomes* a principal. Specifically, agency theory would predict that having sales agents purchase the products—rather than operate under a salary- or commission-based model in which the organization retains ownership—would lead them to be less likely to shirk in their sales efforts as a result of taking on additional risk. Correspondingly, identity theory would predict that exposing an “agent” to the role of an “owner” through product ownership, would lead a salesperson to develop a new “owner identity” that is potentially more salient than his/her agent identity and thus more likely to be activated, and guide behavior, when he or she is selling that particular product (Ashforth, 2001; Black, Mendenhall, & Oddou, 1991). Once individuals engages in owner behaviors (e.g., taking ownership of an asset), they experience various reactions (e.g., increased sense of responsibility) that enact “sense-making” processes in which they come to adopt and embrace a newly created owner identity (Pratt, 2000). This newly created owner identity can continue to become reinforced, and strengthened, as individuals continue to engage in owner-related behaviors.

In BOP markets, the few formal business owners that do operate are often wealthy and perceived to be of high status (Dia, 1996; Frese, 2000). Thus, if BOP salespeople were exposed to the identity of being an owner through product ownership, such an identity would be expected to represent a favorable and appealing identity, as it should be personally rewarding (i.e., helping to affirm self-worth). In keeping with identity theory, if BOP salespeople adopt an ownership identity, the role prescriptions associated with this identity would subsequently lead to role-congruent behaviors (e.g., increased sales motivation), which might ameliorate some of the agency concerns prevalent in BOP markets.

Taken together, both agency theory and identity theory would propose a positive effect of shifting ownership of a product from an organization (principal) to a salesperson (agent) in BOP markets for sales of that particular product. We use existing

agency theory arguments and assume that the creation of an owner identity would have positive consequences for behavior to hypothesize that a change in a principal-agent arrangement from one in which salespeople do not assume ownership of a product they are tasked with selling, to one in which they do assume ownership by investing their own capital, will result in an increase in the quantity of that product that is sold:

Hypothesis 1. Principal-agent arrangements in which a salesperson assumes ownership of a product in BOP markets result in higher sales of that product than arrangements in which the salesperson does not assume ownership of the product.

Sales Behavior in Multiproduct Settings

Although one may anticipate that sales of a product owned by a salesperson should increase sales of that specific product, it is important to recognize that organizations seeking to tap BOP markets are often forced to sell multiple products as a way of achieving the large economies of scale and scope necessary to achieve profitable returns (Prahalad, 2004). The reality in such contexts is that the local salespeople do not possess sufficient financial capital to purchase all of the different products that companies seek to sell. Thus, having salespeople in BOP markets purchase all products up front as a way of overcoming the significant agency concerns is not a feasible option. However, this presents a question that is both practical and theoretically interesting: how would ownership of one product affect the sales of other, nonowned products?

Agency theory predictions in multiproduct settings. While much of the early-stage research on mechanisms for reducing agency costs viewed tasks involving principals and agents as discrete and singular, more recent research has recognized that most principal-agent relationships are comprised of sets of related tasks. In such cases, each task often receives a particular contractual and/or monitoring-based approach to resolve task-specific agency issues (Holmstrom & Milgrom, 1991). Thus, much in the same way that an organization can be perceived as a bundle of contracts or routines (Alchian & Demsetz, 1972; Nelson & Winter, 1982), principal-agent relationships can be perceived as a bundle of delegated activities.

In the presence of a bundle of uniquely monitored or incentivized activities, agency theorists

have posited the importance of incentive compatibility. Incentive compatibility refers to the process of ensuring that the activities that principals deem most important within the agents' overall bundle of activities are "incentivized" to the greatest degree (Hurwicz, 1972). In this way, for example, a firm may attempt to align the efforts of its salespeople with whatever particular product or service requires the most attention. This need for special attention may be a result of promotion of a new product, dumping excess inventory, or alternative strategic objectives desired by the principals of the firm.

However, as a result of increasing the incentives or monitoring on one task, agency theorists have proposed, agents will be more likely to shirk or act opportunistically vis-à-vis those activities for which they are not being heavily incentivized or monitored (Heide, 2003). In keeping with the behavioral assumptions underlying agency theory, when the risks or rewards to an agent on one task are higher than those on other tasks, the expected result is that agents will exert greater effort in the more rewarded or monitored activity, and less effort in their other activities (Holmstrom & Milgrom, 1991). Thus, from an agency theory perspective, we hypothesize that while ownership of a product will increase the sales of that particular product, it will decrease sales of products the salesperson does not own.

Hypothesis 2a. Principal-agent arrangements in which a salesperson assumes ownership of a single product result in lower sales of other nonowned products than arrangements in which the salesperson does not assume ownership of a single product.

Identity theory in multiproduct settings. As compared to the "incentive incompatibility" predictions of agency theory that imply an agent's behavior across multiple tasks will be determined by the comparative incentives and monitoring associated with each individual task, it is important to consider multiproduct arrangements through the lens of identity theory. As we have argued in Hypothesis 1, when salespeople assume ownership of a single product, they associate an owner identity with that product that results in increased sales of that product. Conversely, one may argue that salespeople might adopt an agent identity when engaged in selling products they do not own and thus have not assumed high levels of risk. In other words, in a multiproduct setting, an owner identity

may guide a salesperson's behavior for products she or he owns, while an agent identity would guide the salesperson's behavior for nonowned products.

Although switching between owner and agent identity is indeed possible, research focused on how individuals manage multiple identities has suggested that switching back and forth between contrasting identities can be taxing and result in psychological distress (e.g., Ashforth, 2001; Kreiner, Hollensbe, & Sheep, 2009; Settles, Sellers, & Damas, 2002). According to identity theory, where multiple identities are associated with the same sort of task (i.e., selling products), identity conflict will be prevalent (e.g., seeing oneself either as "owner" or as "agent"). Thus, in order to minimize the psychological distress associated with frequently switching identities, individuals often activate and maintain the more salient identity to govern their behavior.

As noted earlier, when multiple identities are potentially applicable, the likelihood that one particular identity will be selected over another is, in part, determined by which identity is more desirable (Ashforth & Johnson, 2001). This desirability is achieved in part by the degree to which the identity satisfies an individual's needs for self-esteem and self-worth. Namely, adopting an owner identity should better help to satisfy intrinsic motivation to feel prestigious and distinct than one would by adopting an agent identity. For instance, George and Chattopadhyay (2005) documented that when conflict arises between two relevant identities, the degree to which both identities contained attributes the individuals valued affected whether employees selected one identity over another.

Given that being an owner can be seen as more rewarding than being an agent, we argue that when an ownership identity is activated in BOP salespeople through ownership of a single product, this more salient identity will spill over, even when they are selling products they do not own. Specifically, because we expect an ownership identity to rank substantially higher than an agent identity on the identity hierarchy of a BOP salesperson, we propose that the behavior of the salesperson will be more consistent with values of an owner than those of an agent in the selling of multiple products. As such, we expect not only higher sales of the product owned by the salesperson, but also higher sales of the other, nonowned products that he or she is engaged in selling. Therefore, we hypothesize the following:

Hypothesis 2b. Principal-agent arrangements in which a salesperson assumes ownership of a single product result in higher sales of other, nonowned products than arrangements in which the salesperson does not assume ownership of a single product.

The moderating effect of product similarity. To reconcile these two competing hypotheses, we draw upon prior research involving the negotiation of dual identities (Scott, 1997; Vora & Kostova, 2007; Zhang et al., 2006). Such work has suggested that the degree to which one identity will be activated over another is not only a function of their ranking in an individual's hierarchy but also a function of "identity cues" (Ashforth et al., 2008)—contextual features, such as people or (potentially) objects with which an individual interacts, that can activate certain identities. For instance, an off-duty police officer may have her or his work-related identity activated upon seeing a police uniform. In this case, the uniform would serve as an identity cue that triggers the officer's work identity. Thus, situational context significantly affects the degree to which one identity will be more or less salient than another (Ashforth & Johnson, 2001).

Although it has been established that an individual's different identities can be activated by the presence of physical objects (Belk, 1988), we argue that physical objects that are similar in function may help to produce a spillover effect by activating identities that are similar. Psychologists have long argued that people's categorization and recall of objects tend to be greater when two objects are similar in function than when they are dissimilar (Goldstein, 1994; Smith, 1996). For example, individuals should be more likely to categorize a bus and a train as being similar, given their related function (i.e., modes of transportation), than two objects that are functionally unrelated (e.g., a bus and a piece of paper). Accordingly, we anticipate that identities associated with a particular object would be more likely to be triggered when an individual is interacting with an object that is similar rather than dissimilar. For instance, the same off-duty police officer we used in our earlier example would be more likely to have her or his work identity triggered upon seeing a security guard uniform rather than a nurse's uniform.

In keeping with this line of thinking, we argue that the degree to which a BOP salesperson would experience higher or lower sales of nonowned products in multiproduct settings is a function of

the similarity of the different products. Specifically, products that the salesperson perceives as being similar in function to the owned product should be more likely to act as identity cues that trigger the ownership identity. Thus, for products similarly categorized by the salesperson on the basis of functionality, an identity spillover is more likely to occur and result in higher sales levels in those products that are similar. Conversely, the salesperson's ownership identity that is attached to the owned product is less likely to be triggered in the selling of more dissimilar products. Thus, we hypothesize:

Hypothesis 3. Principal-agent arrangements in which a salesperson assumes ownership of a single product are more likely to result in higher sales of other, similar, nonowned products than in higher sales of dissimilar, non-owned products.

STUDY 1

Sample

To test our hypotheses for Study 1, we collected data involving a US-based multinational organization and its salespeople in six different geographical regions of rural Guatemala. Sales force arrangements are a frequently studied type of principal-agent arrangement in the agency literature (Eisenhardt, 1988; Redinbaugh, 1976). In such arrangements, contracts between a firm and its salespeople are usually outcome-based and heavily incentivized, as the firm (principal) places a great deal of the risk on its salespeople (agents) in order to maximize their motivation and associated sales efforts (Fama & Jensen, 1983). Our setting was similar in that the US-based organization, prior to our intervention, used a consignment model in which it retained ownership of all products throughout the sales process, and the agents' reward incentives were substantially tied to their sales (Rungtusanatham, Rabinovich, Ashenbaum, & Wallin, 2007).

In our BOP principal-agent setting, the agents sold a variety of products such as glasses, eye drops, water purifiers, and seeds, which they promoted by conducting sales campaigns, primarily on weekends, at local marketplaces. The organization required a minimum of two campaigns per month for each salesperson, although the salespeople were encouraged to conduct more campaigns on their own initiative. Using the consignment model, the

salesperson would return a portion of the revenues back to the organization to pay for the products that were sold after a campaign. Unsold products remained in the custody of the salesperson for use in the next campaign.

In our preliminary interviews with the president and regional managers of the organization, they identified "underperforming sales" as one of their primary agency problems. Because the ultimate goal of the organization was to provide as many socially valuable products as possible to local villagers as a way of improving their quality of life, low sales levels on the part of the agents was a significant impediment to accomplishing this mission. While the most extreme agency issues of shirking were dealt with through termination of the relationship, firing was at best a blunt tool, given that search and training costs associated with finding new rural salespeople made turnover relatively expensive for the organization.

Participants for the study were all salespeople working with the organization. The participants were divided into two groups—a control group and a treatment group. In order to avoid any discussion between the participants that could compromise the treatment group, the groups were divided on the basis of geographic region. Because of poor communication and transportation infrastructure in rural Guatemala, separating the treatment and control groups geographically limited any contamination effects. We selected the regional groups in such a way as to minimize any initial differences between the two groups on sales performance. However, because pure randomization cannot occur in such a setting, we included baseline measures of sales performance as controls in our statistical models (Goodwin, 2009).

The initial sample contained 37 salespeople, all of whom sold some quantity of eye drops during the four-month period prior to the initiation of the treatment. During the course of the study, four individuals, two from the control group and two from the treatment group, quit working with the organization (for reasons unrelated to the study) and were dropped from the sample. Two salespeople from the treatment group were financially unable to pay for the eye drops up front and were subsequently also dropped from the sample. The final sample contained 15 salespeople in the treatment group and 16 salespeople in the control group, for a total of 31 participants.

Data Collection and Analysis

A baseline survey, drafted in Spanish, was first face-validated with a small subsample of individuals who had worked previously as salespeople for the organization. After adjustments were made, we traveled to Guatemala in December 2009 to conduct in-person surveys with all salespeople in both the treatment and control groups. Subsequently, at the beginning of the New Year, the organization instructed the sales agents in the treatment group that they would now be required to purchase the eye-drops product up front, but would continue to receive all other products on consignment; no such changes were made in the control group regions. Furthermore, the price at which the salespeople in the treatment group were to purchase the eye drops from the organization was lowered—from 27 quetzales (about US\$3.35), the ongoing consignment price offered to the control group, to 22 quetzales (about \$2.75)—to provide reasonable compensation for the increased risk that accompanied their now upfront financial investment; ownership of a product typically means both increased risk and return. The eye-drops product was selected because it represented the least expensive yet still frequently sold product that the rural salespeople would be able to purchase up front, given their limited financial capital.

The new eye-drops product policy was put in place by the organization for a period of four months. A four-month window was selected to allow sufficient time for measurable behavioral change in the relevant dependent variables to occur, but not so much time that external factors might begin to affect the control and treatment regions in different manners. Thus, we employed a test-retest nonequivalent group quasi-experimental design for the quantitative component of our study (Campbell & Stanley, 1966; Reichardt, 2009). Organizational scholars have argued that quasi-experimental research designs help to strengthen causal inference in field research (Grant & Wall, 2009).

We undertook a second trip to Guatemala to conduct follow-up interviews with each of the 31 salespeople in both the treatment and control groups, the six regional managers of the organization, and the country director. We conducted these interviews in Spanish through the use of a translator to provide the study participants with greater flexibility to discuss behaviors and perspectives on the part of the agents and principal that were not anticipated during the design of our survey instru-

ment (Gephart, 2004). Interviews with the salespeople in the treatment group were approximately 20 minutes in duration, on average; those with the control group were approximately 5 minutes.

We created separate interview protocols for the treatment and control groups. The salespeople in the treatment group were each asked a series of open-ended questions to elicit episodic accounts of their behavioral responses to the organization's change in policy related to the eye-drops product (Flick, 2000). For instance, they were asked to describe their initial reactions to the change, the reactions of other salespeople in the region, and any changes they had made to the way they conducted their sales activities. Interviews with individuals in the control group primarily consisted of verifying that they had not heard of the policy change in the treatment regions, which was confirmed in all cases.

Measures

Sales of owned product. The sales of eye drops were measured using the average monthly quantity of bottles sold by each salesperson during the four-month treatment period from January to April 2010. Data were also collected for the average monthly quantity of eye drops sold by all sales agents during the equivalent four-month period that preceded the treatment period (September–December 2009). Because the prices of products were fixed, the correlation between quantity sold and resulting revenues would be expected to be nearly perfect. These data were used as a statistical control in our models to account for any initial differences between the control and treatment groups in terms of quantity of eye-drops product sold. While it would have been ideal to also control for any seasonal differences by including baseline sales data from the year before (i.e., January–April 2009), the organization had experienced sufficient salesperson hiring and turnover as well as product change, making such additional control data unavailable.

Sales of nonowned products. Similarly, the average monthly sales of other products (excluding the eye drops) during the four-month treatment period were also measured. Sales data for the number of units of nonowned products was also collected for the four-month period preceding the experiment to provide a statistical control for any initial differences.

Product similarity. The average monthly sales levels were further subdivided into two separate groups—vision-related and non-vision-related—to determine the identity spillover effects for each respective group. Because the primary function of the eye-drops product that the salespeople owned was to help vision, the objective was to distinguish the products according to the degree to which they shared a similar functionality. Included in the vision-related category were reading glasses, eye protectors, sunglasses, glasses cases, and straps. Included in the non-vision-related category were water purifiers, water filters, light bulbs, and seeds. Three regional managers and two salespeople were subsequently asked to rate all of the products in terms of their similarity (1 = “similar,” 2 = “dissimilar”). Interrater reliability using a kappa coefficient was 0.90 on average and ranged from 0.75 to 1.00, in confirmation of our proposed categorizations.

Control variables. In our survey, we measured a number of variables that might impact sales behavior and/or how salespeople may have responded to the treatment. *Ownership experience* was an important control, given our underlying assumptions about the BOP market context. While our assumption was that most rural salespeople in BOP markets did not already possess a clear ownership identity, we included a dichotomous control variable to account for any instances in which the agents indicated they may have had previously operated their own business (0 = “no ownership experience,” 1 = “some ownership experience”). We also included a control for the *number of villages* the salespeople had lived in previously. Despite poor communication and transportation infrastructure in BOP markets, salespeople who had previously been exposed to multiple cultures and diverse settings may have responded differently to the new changes to their contractual arrangements. In addition, we included a control for the amount of *time with the organization* to account for the possibility that individuals with longer tenure may have been more or less affected by the new contractual arrangement. Time with the organization was measured as the number of months the agent had been acting as a salesperson for the organization. Finally, we included a control for the level of *trust in the organization*, given that differences in the degree to which agents feel that the principal is expressly mindful of their interests when making decisions has been shown to impact the likelihood of their acting opportunistically (Ghoshal & Moran,

1996; Sheppard & Sherman, 1998). Using a single-item measure, agents were asked to indicate the degree to which they trusted that the organization was acting in their best interests (1 = “not at all,” 9 = “totally”).

Results

We analyzed our quantitative data with analysis of covariance (ANCOVA), using GLM procedures in PASW (formerly SPSS) v18 where our experimental treatment (i.e., ownership of eye drops vs. no ownership) was included as a between-persons factor, and we entered our controls as covariates in the model. Means and standard deviations are reported in and correlations are reported in As Table 1 indicates, the control and treatment groups did not vary much in terms of their level of ownership experience, number of villages lived in, time with the organization, or trust in the organization. Furthermore, as Table 2 indicates, no significant correlations emerged between our control vari-

TABLE 1
Means and Standard Deviations, Study 1

Variable	Mean	s.d.	<i>t</i>
<i>Ownership experience</i>			
Control	0.32	0.48	
Treatment	0.19	0.40	0.95
<i>Number of villages lived</i>			
Control	1.35	0.67	
Treatment	1.13	0.34	1.10
<i>Time with organization</i>			
Control	24.58	26.49	
Treatment	23.63	20.61	0.27
<i>Trust in organization</i>			
Control	8.22	1.01	
Treatment	7.63	2.16	1.06
<i>Sales of owned product</i>			
Control	4.49	4.43	
Treatment	8.15	5.59	2.10**
<i>Sales of nonowned products</i>			
Control	10.90	9.48	
Treatment	16.93	7.78	2.12**
<i>Sales of vision-related products</i>			
Control	6.49	7.55	
Treatment	10.43	4.49	2.17**
<i>Sales of non-vision-related products</i>			
Control	4.45	4.30	
Treatment	6.35	5.76	1.21

** $p < .01$

TABLE 2
Correlations, Study 1

Variable	1	2	3	4	5	6	7	8
1. Ownership experience								
2. Number of villages lived	-.01							
3. Time with organization	.27	.21						
4. Trust in organization	-.10	-.32 [†]	.05					
5. Sales of owned products	.06	-.09	.45*	.10				
6. Sales of nonowned products	.03	-.07	-.07	.16	.51**			
7. Sales of vision-related products ^a	.13	-.01	.29	.16	.79**	.84**		
8. Sales of non-vision-related products ^a	-.11	-.12	-.49**	.06	-.10	.72**	.23	
9. Ownership of eye-drops product ^b	-.15	-.18	-.02	-.18	.35*	.34 [†]	.31 [†]	.19

^a Subcategory of sales of nonowned products.

^b Treatment condition = 1, control condition = 0.

[†] $p < .10$

* $p < .05$

** $p < .01$

ables, expect for a marginally significant negative association between the number of villages lived in and trust in the organization.

As Table 3 shows, each of our models were run using standard covariates for all models (ownership experience, number of villages, time with organization, trust in the organization) as well as an additional covariate for each of the baseline measures of the dependent variables. Supporting Hypothesis 1, salespeople in the treatment condition who owned eye drops sold more of this product (average number of bottles sold = 8.15) than sales-

people in our control condition (average number of bottles sold = 4.49; $F = 4.391, p < .05$). Thus, Hypothesis 1 received statistical support.

For our next analysis, we examined how ownership of the eye-drops product impacted sales of nonowned products. Our analysis documented that the average number of other products sold by salespeople in the treatment group (mean = 16.93) was significantly higher than the parallel average for those salespeople in the treatment group, as shown in Table 1 (mean = 10.90; $F = 4.48, p < .05$). In other words, the number of nonowned products

TABLE 3
Tests of Hypotheses, Study 1^a

Variable	Sales of Owned Product	Sales of Nonowned Products	Sales of Vision-Related Products	Sales of Non-Vision-Related Products
<i>Covariates</i>				
Ownership experience	7.16 (0.33)	83.70 (0.99)	51.96 (1.32)	2.19 (0.09)
Number of villages	4.81 (0.22)	60.87 (0.72)	16.17 (0.41)	9.52 (0.41)
Time with organization	187.63** (8.68)	12.99 (0.15)	93.31 (2.37)	182.20* (7.87)
Trust in organization	17.24 (0.80)	141.54 (1.67)	88.40 (2.25)	4.50 (0.20)
Baseline sales of owned products	12.22 (0.57)			
Baseline sales of nonowned products		51.31 (0.61)		
Baseline sales of vision-related products			14.623(0.37)	
Baseline sales of non-vision-related products				0.02 (0.01)
<i>Fixed factor</i>				
Ownership of eye-drops product	94.93* (4.39)	378.92*(4.48)	184.59*(4.70)	33.91 (1.47)

^a $n = 31$. Mean squares are reported; F -values are in parentheses.

* $p < .05$

** $p < .01$

sold by the treatment group was higher, even after controlling for any initial differences between our treatment and control groups. Therefore, agency-theory-based arguments in Hypothesis 2a for a negative effect were unsupported. Rather, Hypothesis 2b, which argued for a positive identity-theory-based spillover effect, received statistical support.

Finally, we conducted an analysis of the sales of vision-related products and non-vision-related products for the treatment group and the control group to examine potential differences. Again, the sales of vision-related products were higher in the treatment group (mean = 10.43) as compared to the control group (mean = 6.49), and the difference is statistically significant ($F = 4.70, p < .05$; see Tables 1 and 3). Comparatively, while our results also indicate that the number of non-vision-related products sold by the treatment group (mean = 6.35) appeared to be somewhat higher than that sold by the control group (mean = 4.45), the difference was not statistically significant after we controlled for potential a priori group inequality ($F = 1.47, p = .238$). Therefore, while the effect of assuming ownership of the eye-drop product did appear to significantly increase the sale of other, similar, nonowned products, the same could not be said of non-vision-related products. Thus, Hypothesis 3 received statistical support.

Discussion

Our empirical results suggested that ownership of a single product—in this case, eye drops—can result in not only higher sales of that particular product, but also higher sales of other, similar, non-owned products. As compared to the expectations of current agency theory, altering the incentive structure in a principal-agent arrangement on one product can therefore produce a positive rather than negative effect. However, we sought to dig more deeply into our qualitative data as a means of exploring the process through which a new identity is created and subsequently triggered in different contexts.

In speaking with individual salespeople in the treatment group during the follow-up interviews, our data suggested that changing the structure of the relationship from one of consignment to one of ownership of the eye-drops product did indeed result in a change in their mentality. As one of the salespeople in the Xela treatment region described:

If everything is simply given, then we don't know what the cost really is, and it doesn't matter to us.

But if you take a bit of money out of your pocket, you say, "For this, I have to take care." The mentality changes because we spent on something. It's no longer just that someone came to leave you something, now you've taken money out. It's a change in our mentality, in how we visualize things. (Xela salesperson)

This change in mentality from agency to ownership was readily apparent to the regional managers in each of the treatment regions. As the regional manager from Solola explained,

I think that there's been a change with my salespeople, with them feeling the ownership of their own business. I don't know that there was as much a sense of ownership before. And I really feel that they've come into their own as more of a small business owner, which is in a lot of ways how we want them to think of themselves. We maybe decide the products they have and there is a lot of back and forth, sharing and exchange. But them having to invest, like any business owner, you have to put in the capital, you invest in the product and then you earn, that's what a business is, and there's been stronger sense of ownership for them. (Solola regional manager)

Thus, immersing salespeople in an ownership role through the purchase and sale, rather than consignment, of eye drops created a new identity. Furthermore, this new owner identity seemed to differ significantly from their pre-existing identity as agent. Emergent views of what is and what is not appropriate behavior for each role were observed. Specifically, the ownership identity seemed to represent a different level of effort and responsibility than that of being an agent:

If you don't buy, you won't take care of them. If someone comes and steals a product, maybe you won't do anything. It's a change. If it's your own money that's invested in the product, you take care of it. If it's not your own money, you don't take care of it. Even if you lose it, it doesn't matter. But now that we've purchased them . . . you have to fight to sell. (Nebaj salesperson)

It's like this: if I work for a business and they pay me a salary, I'm going to work just what is necessary so that they pay my salary. But if I'm the owner of the firm, I'm going to work even harder because this is mine. It's something that my mind automatically does. (Solola regional manager)

Interviews with the sales agents and regional managers also suggested that the identity salience of the new ownership identity was very high. Spe-

cifically, the identity of being an owner was associated with feelings such as increased happiness, confidence, and pride, which contributed to greater overall feelings of self-esteem and self-worth:

The people who bought [eye drops] became more formal and said “Yes, it’s mine.” And they make their money, and they are happy, and they feel more responsible. It changes their form of being. (Nebaj salesperson)

The fact that they own the eye drops means: first, that they have more desire to work because they want to get their money back; second, because they feel like owners, this gives them more confidence when they go out and do campaigns, because it’s their own, it’s not something that has been lent to them, it’s their own, so they do it with more confidence. (Xela regional manager)

This higher salience of the owner identity as compared to the agent identity resulted in a host of individual behaviors that were consistent with the values of being an owner. Generally, such behaviors related specifically to the nonowned products that were vision related. For instance, as the regional manager for the Solola region described:

I had an experience with [one sales agent]. She, how do you say, she came and there was a drunk person in the campaign and he took a pair of glasses. At another occasion, then she’d have said, “He took them. What could I do?” but she ran after him to fight for her glasses, because she now knows that everything has value. And she hit him over the head! (Solola regional manager)

However, as has already been evidenced by some of the preceding quotes, the behaviors of salespeople who acted more in accordance with the role of being an owner than an agent extended beyond simply the increased sales of products as hypothesized a priori. Specifically, our interview data suggested that the identity of being an owner carried with it not only an apparent increase in sales effort, but also an increase in the care and protection of products.

Thus, while the results of our initial study provided empirical support for a positive spillover of ownership identity from a sales perspective, our follow-up interviews suggested qualitatively that there are a broader range of characteristics that comprise an overall ownership identity which can also spill over during the sale of similar products.

Additionally, our follow-up interviews suggested that there may have been some cross-selling effects that contributed to higher sales of similar non-

owned products in addition to the hypothesized psychological spillover effects. Specifically, in the process of exerting greater effort to sell the eye-drops product, salespeople may have simultaneously drawn greater attention to products that were functionally similar. This cross-selling presents a somewhat complementary, but potentially competing, logistical explanation for our empirical results.

Therefore, in an attempt to both better capture the larger set of attributes that constitute an owner identity as well as to isolate the psychological mechanisms from alternative explanations that may cause a spillover effect, we undertook a second study using more of a controlled laboratory design. We chose to use a laboratory experiment, given that a well-designed experiment that minimizes threats to internal validity (Shadish, Cook, & Campbell, 2002) can help to: (1) optimize causal inference (Colquitt, 2008; Highhouse, 2009) and (2) provide greater insight into psychological mechanisms (Spencer, Zanna, & Fong, 2005) for testing theory. Thus, we attempted to use an experimental design to more succinctly capture the specific constructs and linkages involved in the process of identity spillover.

STUDY 2

Sample and Hypothesis

In the second study, we solicited the involvement of salespeople associated with the same Guatemalan organization described in Study 1. The participants consisted of salespeople who had been in the control group in Study 1 or were new salespeople that had been recruited since the conclusion of the previous study, and thus were operating solely using the consignment model. The resulting sample contained 32 salespeople in total, which were randomly assigned to one of two conditions: ownership ($n = 17$) or control ($n = 15$). Salespeople were paid 100 quetzales (about US\$12) for their participation. Although the study itself lasted for just under 30 minutes, most participants spent the majority of their day on buses in order to travel to and from the location of the study. Given that the average daily earnings for people in BOP markets is only \$8, the regional managers of the Guatemalan organization suggested that the payment for participation in the study was sufficiently generous to solicit involvement but not outrageously high. Participants were ensured that their payment was not connected in any way to their responses and that

they were guaranteed their entire payment for participation.

To ensure no residual effects from Study 1 would impact Study 2, we first confirmed with the organization that the salespeople in the control group for Study 1 had neither begun purchasing the eye-drops product nor been made explicitly aware of the treatment that occurred in the other regions in Study 1. We also conducted a brief inquiry with each salesperson who participated in Study 2 to ensure that there had not been any potential exposure to the treatment that had occurred in the other regions during Study 1. In both inquiries, there did not appear to be any effects from Study 1 that would affect the results of Study 2.

Prior to the data collection for Study 2, we also worked with the president and regional managers of the organization in Guatemala to identify three separate products that would be feasible for sale in rural Guatemala—two of which were functionally similar and one of which was dissimilar. After narrowing down a larger list, we decided that the three most suitable products for the experiment would be a self-filtering drinking straw (“Lifestraw”), a hand sanitizer (“Germ-X”), and a pepper spray (“Body-Guard”); these are real products sold in regions of the world other than Guatemala. Both the drinking straw and hand sanitizer were highlighted in the experiment as sharing a similar purpose, addressing health concerns, while the pepper spray was described as addressing mainly safety concerns. Both the drinking straw and hand sanitizer were also described as sharing the attributes of portability and eliminating bacteria. (Please see Appendix B for a translation of the overview of the products presented to each participant in the study.)

Our specific hypothesis for Study 2 closely mirrors that of Hypothesis 3 from Study 1. However, rather than predicting sales levels as a behavioral proxy for an identity spillover effect, we directly examined the presence of an ownership identity across both similar and dissimilar products. In keeping with our theoretical model, it was anticipated that participants who felt ownership for one product would be more likely to express feelings of ownership for a similar product. Thus, we sought to more closely examine the proposed moderating role of product similarity, which would suggest that identity spillover is more likely to occur for similar products than for dissimilar products. In line with our expectation that a similar product should serve as an identity cue (Ashforth et al., 2008) that would trigger an ownership identity, and

that a dissimilar product would be less likely to trigger this owner identity, we hypothesize:

Hypothesis 4. In principal-agent arrangements in which a salesperson assumes ownership of a single product, the likelihood of an identity spillover is greater for a product similar to the owned product than for a product dissimilar to the owned product.

Procedure and Data Collection

We conducted Study 2 at the Guatemalan regional offices of the organization. The salespeople were instructed to arrive sequentially at intervals between appointments intended to avoid any discussion or interaction between participants. Each experimental session was conducted in a private room in which only the salesperson, one of the authors, and a translator were present. Prior to conducting the experiment, both of our translators were given detailed verbal scripts and extensive procedural training for each condition to ensure accuracy and consistency. Although the procedure required that each translator be aware of whether a salesperson was assigned to the treatment or control condition, the translators were not familiar with our anticipated results. The alternative approach of having each translator only work with participants in one condition (i.e., treatment or control) would have made it impossible to ascertain whether a translator’s characteristics, rather than our experimental treatment, were responsible for any differences emerging between our two conditions.

The experiment began with the researcher informing the salespeople that the purpose of the study was to seek their thoughts on the feasibility of other organizations pursuing BOP market strategies to sell potential products in Guatemala. Specifically, it was communicated that the researcher was seeking to tap their existing knowledge and expertise to determine what products might be best suited for organizations similar to the one they currently worked with to sell in rural Guatemala. Rather than asking the salespeople to provide their personal reaction to the products, they were asked to provide their opinion of how a typical salesperson in Guatemala would feel/react toward the sampled products. From prior data collection efforts in BOP markets, as researchers, we have realized that by asking participants for their opinions as to how others would react, one reduces social desirability

concerns and the likelihood that respondents will provide what they would consider to be the “correct answer” rather than their true opinion.

The next step differed according to whether the salesperson had been randomly assigned to the treatment or control condition. Working with the treatment condition, the researcher then proceeded to present the Lifestraw product to the salesperson. To induce an ownership experience in this condition, several steps were taken. The product was presented gently into the hands of the salesperson to connote that the product was perhaps breakable and in need of careful handling. The experimenter, using a second Lifestraw product, then walked through the opening and closing of the different components and working parts of the Lifestraw product, ensuring that the salesperson physically repeated the same procedures to gain a feeling of familiarity. The salesperson was then provided with a brief description of the origins of the products and its health functions. At that point, the salesperson was asked to place the Lifestraw product around his or her neck using the strap provided while the interviewer did the same. The salespeople in the treatment group were asked to keep the Lifestraw around their necks throughout the further duration of the experiment to promote an ongoing feeling of product attachment and possessiveness.

Salespersons in the treatment condition were next informed that the organizations considering selling the Lifestraw product in Guatemala would expect payment up front for the product, rather than providing the product using the consignment model that the salespeople were familiar with. They were also told that, as part of taking ownership of the Lifestraw product, the salesperson would be primarily responsible for taking care of the product and preventing it from being stolen or damaged. The experimenter then simulated dropping the Lifestraw product on the ground and emphasized that if the Lifestraw product were to break, as the owner, the salesperson would be responsible for absorbing the entire financial loss. At the same time, because they would own the product, the salesperson was also instructed that they would have control over where the product was sold and how much time they would put into selling the product. Additionally, in return for taking on the increased risk associated with ownership, the salespeople were informed that they would receive a higher profit margin than if the Lifestraw was provided on the standard consignment model. Thus, through a series of verbal and nonverbal

cues, the experimenter attempted to simulate an ownership experience and emphasize the different attributes that constitute an ownership identity. Prior laboratory-based research has demonstrated that identities can be primed in laboratory settings (McLeish & Oxoby, 2011; Pettit & Lount, 2011; Spencer, Steele, & Quinn, 1999). While reinforcement through repeat behaviors is often necessary to solidify an identity, the initial formation of an identity can occur through even a basic experience or enactment (Pratt, 2000).

In the control condition, we attempted to limit perceptions of ownership. Although the salespeople were given identical information about the Lifestraw's function, they were only shown the Lifestraw and were not allowed to hold or handle the product. Throughout the experiment, the Lifestraw was visible but was placed on a nearby desk. Importantly, in contrast to salespeople in the treatment condition, the salespeople in the control group were told that the product would be distributed using a consignment model, much in the same way that the existing organization with whom they worked distributed their products.

Following the presentation of the Lifestraw product, in both the treatment and control conditions, the salespeople were asked to complete two identical questionnaires: one for the functionally similar product (Germ-X hand sanitizer) and the other for the functionally dissimilar product (Body-Guard pepper spray). The sequencing of the Germ-X and Body-Guard products was counterbalanced to account for potential carryover effects (Pollatsek & Well, 1995). A short description of each product was provided prior to the completion of each survey, and individuals in both the treatment and control conditions were instructed that the Germ-X and Body-Guard products would be distributed using a consignment model, much in the same way that they had been distributing products. At the conclusion of answering the questionnaires for both products, the salespeople were thanked for their participation and paid for their time.

Thus, the overall design of the experiment was such that the salespeople in the treatment condition briefly experienced physical and verbal cues related to the different facets of an ownership identity with a single product and were then asked a series of questions on other similar and dissimilar products for which they were explicitly told they were not an owner, but rather a consignee (Germ-X and Body-Guard, respectively). Comparatively,

salespeople in the control condition underwent no such ownership experience, but rather were consistently informed of their consignee role vis-à-vis all three products.

Measures

Ownership identity. Using current literature involving the diverse attributes that comprise psychological ownership (Pierce, Kostova, & Dirks, 2001; Rudmin & Berry, 1987; Van Dyne & Pierce, 2004) combined with previously used scales surrounding psychological ownership (Avey, Avolio, Crossley, & Luthans, 2009; Van Dyne & Pierce, 2004), we developed a six-item scale to represent an ownership identity (see Appendix A). The six particular items were based upon insights gained from the follow-up interview responses in Study 1 to reflect the most salient attributes of ownership in the BOP market environment of our study. The items were intended to capture the facets of an ownership identity in relation to a particular product, including degree of investment, responsibility, control, motivation, and concern. For instance, salespeople who participated in the study were asked, "How much control would the salesperson feel that they had over how to sell 'Product X'?" The specific wording for each item was translated into Spanish and face-validated with both the regional managers of the Guatemalan organization and several local entrepreneurs. All questions were based on a Likert scale representing varying levels of the particular component of ownership identity (i.e., for the control aspect, 1 = "not in control," 5 = "very in control"). The items from the scale had an acceptable measure of internal consistency (Chronbach's $\alpha = .71$), and an exploratory factor analysis documented that all items loaded on a single factor ($> .4$).

Product similarity. After completing the ownership identity scale for each product item, participants were asked a single item question to measure perceived similarity to the Lifestraw product, namely, "How similar in purpose is this product to the Lifestraw" (1 = "not at all," 5 = "very much so"). Providing support for the effectiveness of our manipulation of product similarity, a paired-samples *t*-test found that the related product (i.e., Germ-X: mean = 3.25, s.d. = 1.08) was evaluated as being significantly more similar to Lifestraw than our dissimilar product (i.e., Body-Guard: mean = 2.53, s.d. = 1.30; $t[31] = 2.78, p < .01$). Moreover, perceptions of similarity between our two products

did not differ between participants in the treatment versus the control conditions ($F < 1$). Taken together, these results highlight that, as intended, participants perceived our similar product (Germ-X) to be more related in function to the primary product (Lifestraw) than the dissimilar product (Body-Guard).

RESULTS AND DISCUSSION

We analyzed participant ownership identity for each product in the framework of a two-way mixed ANOVA, where the between-persons factor was our experimental manipulation of owner identity (treatment vs. control) and the within-persons factor was product similarity (similar product vs. dissimilar product). Analyses did not show an overall main effect for either the ownership factor ($F[1, 30] = 1.36, p = .253$) or the product similarity factor ($F[1, 30] = .12, p = .733$). However, as anticipated, we found a significant two-way interaction ($F[1, 30] = 6.11, p = .019$). Figure 1 graphically depicts this interaction.

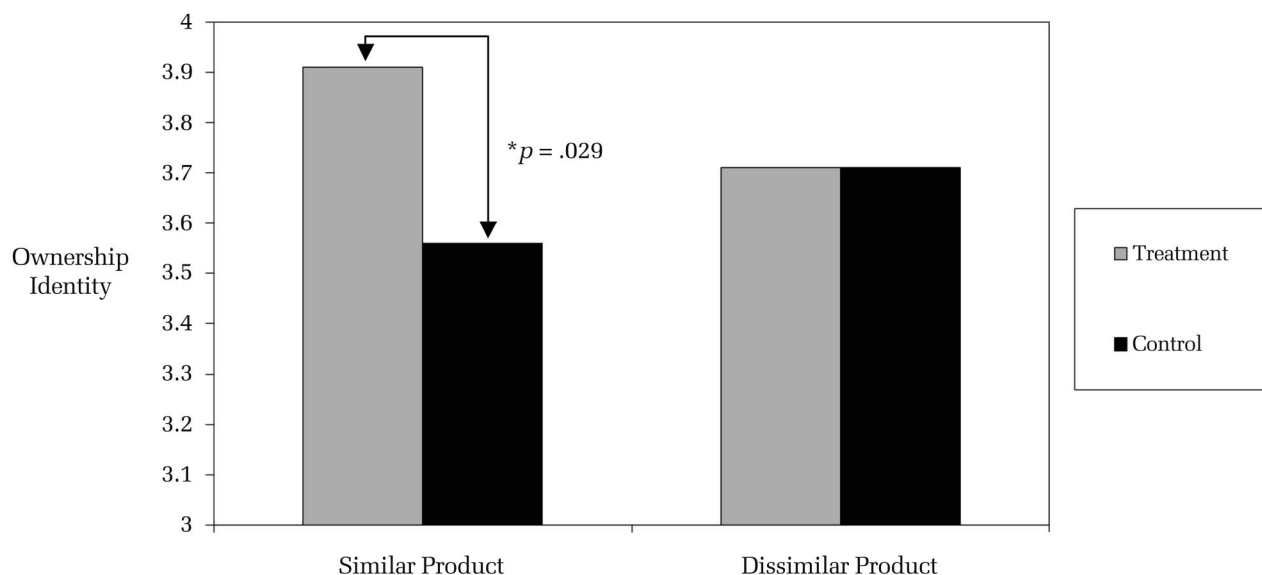
We conducted simple effect tests to better understand the nature of the interaction. Providing support for Hypothesis 4, participants in the ownership condition reported a greater owner identity for the functionally similar product (mean = 3.91, s.d. = .42) than did participants in the control condition (mean = 3.56, s.d. = .46; $t[30] = 2.29, p = .029$). In contrast, the owner identity of a functionally dissimilar product did not differ between participants in the ownership condition (mean = 3.71, s.d. = .49) and control condition (mean = 3.71, s.d. = .52; $t < 1$).

The findings of Study 2 documented that participants who felt ownership over one product could display an identity spillover for another product they did not own. Importantly, our results highlight that this occurred primarily for a product that was similar in function to the owned product. These results are consistent with the findings from Study 1 and highlight that the identity associated with owning one product can, depending on product similarity, lead to a positive identity spillover effect to other products.

General Discussion

In efforts to address principal-agent problems, researchers have focused on two primary alternatives: align an agent's interests with those of a principal by way of a contract, or monitor the agent's

FIGURE 1
Interaction of Treatment with Functionally Similar and Dissimilar Products, Study 2



behavior to overcome high levels of information asymmetry (Eisenhardt, 1989). By integrating identity theory with agency theory, our findings suggest that there may be other alternative, and even less expensive, identity-based mechanisms for reducing agency costs. Such mechanisms may be particularly beneficial to organizations operating in BOP environments with weak legal institutions and infrastructure, which makes contractual and monitoring mechanisms difficult and expensive. Thus, from a practical perspective, the process of creating an ownership identity in one product line may mitigate agency concerns across similar product lines to produce economies of scope for organizations seeking to leverage BOP market opportunities.

Studies rooted in agency theory, particularly those adopting a modeling-based approach to optimal contract design, continue to assume that in multitask environments, placing greater risk or incentives on any single task will positively influence agent motivation on that particular task but create a disincentive for agents to diligently perform other tasks (Eggleston, 2005; Feltham & Xie, 1994; Holmstrom & Milgrom, 1991; Preyra & Pink, 2001). However, our results did not support the notion of incentive incompatibility but rather showed positive effects when products were functionally similar. Thus, individuals may act in ways that are consistent with the values of an owner,

even when completing tasks in which their legally defined role is that of an agent. However, nonsocial environmental cues can affect the extent to which the owner identity remains salient over the agent identity. Namely, the similarity between a non-owned product and a product a person has come to associate with an owner identity will lead to a spillover effect.

Therefore, the results of our two studies suggest a number of additional theoretical insights. In regard to agency theory, its assumption that agents will respond discretely to different monitoring and incentive mechanisms in multitask environments is based on a behavioral assumption of bounded rationality and self-interest that presumes individuals are both capable and desiring of delineating their identities accordingly when engaging in similar tasks (Feltham & Xie, 1994). Furthermore, despite the overall lack of statistical support for the effectiveness of such mechanisms (Dalton, Daily, Ellstrand, & Johnson, 1998; Tosi, Werner, Katz, & Gomez-Mejia, 2000), agency theory continues to focus on contractual incentives to alter agents' behaviors to be better aligned with their principal's interests. We suggest that so long as an agent continues to maintain an agent identity, such extrinsic mechanisms may at best be muted. A primary example is the use of employee stock ownership plans (Kruse & Blasi, 1997).

Our study further contributes to work on agency theory by suggesting a potential moderating factor that may help to reconcile the increasingly disparate empirical findings surrounding incentive incompatibility. While some earlier empirical studies have indeed found support for incentive incompatibility (i.e., Bahrlick, Fitts, & Rankin, 1952; McNamara & Fisch, 1964), several other more recent studies have failed to find a statistically significant effect of the incentives on one task negatively affecting the completion of another task (Bonner & Sprinkle, 2002). Our findings suggest that when the task being heavily incentivized is similar to other tasks being performed by an agent, he or she may subconsciously transfer at least some of the positive behaviors to other tasks to help offset some of the more conscious decisions agents make regarding how to allocate their efforts, with the net effect being relatively neutral. Thus, considering not only how agents possess multiple identities, but also how contextual factors besides extrinsic rewards cue particular identities may greatly enhance the explanatory and predictive power of principal-agent contracting models.

Our work also contributes to identity theory in terms of how different types of contextual cues can trigger different identities that exist in an individual's identity hierarchy. In its earlier stages, identity theory largely ignored the role of external cues in identity activation, arguing instead that the primary determinant was individual-level commitment to a preferred identity (Stets & Burke, 2000; Stryker, 1980). However, more recent work has provided evidence that social cues involving group interaction can impact when preferred identities will be activated (Ashforth & Johnson, 2001). The results of our study suggest that nonsocial cues such as physical objects can also affect when related identities are triggered. Incorporating such additional contingencies brings a much broader perspective to how the environment shapes the self than was previously assumed in identity theory (McCall & Simmons, 1978). Importantly, this finding also contributes to knowledge regarding how individuals manage multiple identities at work (George & Chattopadhyay, 2005; Vora & Kostova, 2007; Zhang et al., 2006). Namely, our finding that nonsocial cues can help to increase the salience of a particular identity highlights another route in which one identity may be selected over another when more than one identity is relevant.

Of course, the findings of our studies come with a number of caveats that will require further explo-

ration in future research. First, our empirical studies only examined salespeople from one organization in a single BOP market environment. Thus, we are unable to ascertain the degree to which our results would be generalizable to other organizations operating in other BOP market environments without additional study. Furthermore, because formal business ownership is more common in developed markets, and status differences between owners and agents less salient, we are uncertain that similar positive spillover results would occur (Gomez-Mejia et al., 1987). Future research examining the degree to which an identity spillover effect would occur in more developed markets would thus help shape the specific boundary conditions of our findings.

Furthermore, our findings from neither Study 1 nor Study 2 provide evidence that the owner identity that was created can remain effective in changing behavior over a very long period (e.g., years). We do, however, believe that the multimethod nature of our studies provides a number of unique insights, as the vast majority of research projects involving BOP markets have been solely qualitative (Hart & Dowell, 2011). Although claims of external validity vis-à-vis other BOP markets may be unjustified given our use of only two relatively small quantitative samples in a single organization, use of innovative quantitative methodologies in difficult-to-survey BOP markets can certainly complement rich qualitative data when researchers are looking for more systematic patterns at the individual and organizational levels of analysis.

Conclusion

Providing rural BOP market communities with new products that can improve the lives of impoverished individuals in a financially sustainable manner is a promising model for the alleviation of global poverty. However, the institutional environments of BOP markets require more efficient and effective approaches for mitigating agency costs. While previous scholarly efforts have focused on alternative contractual and monitoring mechanisms to alleviate such problems, our findings suggest that identity-based mechanisms may be particularly efficacious in BOP environments.

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APPENDIX A

Ownership Identity Scale, Study 2

Drawing from our review of current literature related to psychological ownership as well as the qualitative data we collected in Study 1, we constructed a scale to reflect an overall ownership identity. The same scale was used to measure ownership identity for both the functionally similar and functionally dissimilar products. The translated scale items are as follows:

1. How much time would the salesperson dedicate towards selling “Product X”?
2. How responsible for “Product X” would the salesperson feel?
3. How much control would the salesperson feel over how to sell “Product X”?
4. How motivated would the salesperson be to sell “Product X”?
5. How responsible would the salesperson feel if “Product X” got damaged?
6. How concerned would the salesperson be if “Product X” was stolen?

APPENDIX B

Description of Products Used in Experiment, Study 2^a



LIFESTRAW

- Portable water purifier
- Destroys bacteria that cause diarrhea
- Unique filtration technology
- Self-cleaning



GERM-X

- Portable hand sanitizer
- Destroys bacteria that cause stomach related illness
- Unique chemical formulation
- Self-drying liquid—dries in less than 20 seconds

*Product to be used to disinfect hands prior to consuming food to decrease chances of contamination. Particularly useful for cleaning hands after coming in contact with animals, contact with people who appear ill, and after using the restroom.



BODY-GUARD

- Hot pepper mist sprayer
- To guarantee personal safety in the event of a personal attack
- Particularly suited to repelling dogs and wild animals, as well as humans
- Damage to the assailant is only temporary

*Individual should point device at assailant from a distance of approximately 5–10 feet. Hold down trigger button for approximately 3–5 seconds. Spray should be directed towards the eyes and face of the assailant.

^a These images and accompanying text boxes summarize material provided to study participants.

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