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Location, Location... Mailing Location? The Impact of Address as a Signal

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**Location, location ... mailing location?
The impact of address as a signal**

Abstract

Recently, service providers have begun offering an innovative option for consumers seeking to rent an address. While the traditional option was for a post office box (e.g., PO Box 203, Chicago, IL 60654), the new option features a real street address with a unique suite number (e.g., 301 West Grand Avenue, Suite 203, Chicago, IL 60654). Service providers claim that addresses affect consumer perceptions of credibility and professionalism; however, these arguments have never been substantiated. Therefore, this research aims to examine the relationship between addresses and consumer evaluations of small businesses. Across a series of five experiments, we find evidence in support of the service providers' claims and apply signaling theory to show why consumers evaluate a small business with a street and suite address more favorably.

Keywords: Firm address, Signaling theory, Signal quality, Attitudes

1. Introduction

For years, property experts have argued that the most important factor in determining the desirability of a property is “location, location, location,” and business properties are no exception (Spaeder, 2005). However, several factors in today’s modern marketplace (e.g., fierce competition, e-commerce improvements) are quickly changing the definition of business location. As firms close brick-and-mortar properties (Patel et al., 2018) and embrace virtual options (Carter, 2020; Prosser, 2016), business locations are moving from the physical storefront or office space to a site where a firm receives its mail.

Renting a post office (PO) box has long been the conventional choice for a professional mailbox service, as it provides a securely monitored and permanent mailing location. However, recently, two service providers—United Parcel Service (UPS) and Regus—have offered the same services with a new option featuring a real street address and unique suite number (hereinafter “street+suite”). With two options now available to firms, the question is which to choose. When communicating a firm’s business location, is a street+suite address better (or worse) than a PO box address?

UPS and Regus claim that addresses influence consumer perceptions of credibility and professionalism, giving small businesses with a street+suite address an edge in the marketplace. Likewise, to convey professionalism, business consultants recommend using a mail service that offers a real street address (Reddigari, 2019). However, these assertions have not been theoretically or empirically tested. Considering that an internet address is a signal that differentially influences consumer evaluations of an unfamiliar firm (Aaker et al., 2010), we draw on signaling theory (Spence, 1973) to posit and show how a mailing address does the same.

2. Signaling theory

Signaling theory proposes that signals play an important role in economic transactions between sellers and buyers (Spence, 1973). Signaling occurs when one party has access to information that is unavailable to its counterpart, which can influence the perceived risk of the economic transaction. During such transactions, sellers typically have more information about the quality of their offerings than buyers, so they use signals to assuage any concerns and separate themselves from competitors (Pecot et al., 2018). However, for signals to be effective, they must be perceived as costly to acquire (Pemer & Skjølsvik, 2019). Examples of such signals include price, storefront appearance, return policies, and warranties (Bonifield et al., 2010), which serve as evaluative criteria that affect consumer attitudes and behaviors toward a firm (De Ruyter et al., 2001). We aim to extend this literature by demonstrating how mailing addresses are also signals.

Supporting this notion of mailing address being a signal, Aaker et al. (2010) show that a firm's *online* location is a signal that influences consumer perceptions of firm competence. Specifically, as consumers typically associate dot-com (dot-org) internet addresses with for-profit (non-profit) organizations, they perceive these firms as more competent and are more willing to buy their products.

Thus far, signaling theory research has typically examined the impact of firm characteristics on product or service evaluations (see Table 1). We aim to extend that work by positing that a mailing address (henceforth, "address") directly influences consumer evaluations of the firm itself. While return policies, awards, and seals of approval are logically linked to product quality (e.g., lenient return policies should mean better-quality products), address seems to be linked to the overall legitimacy of the firm. Therefore, we argue that address is a signal that

can drive consumer evaluations of a firm (see Fig. 1), especially when it is unfamiliar to consumers (e.g., Biswas, 1992).

---TABLE 1 AND FIGURE 1---

3. Hypotheses development

Kukar-Kinney and Grewal (2006) find that brick-and-mortar (vs. internet-based) businesses send a higher signal of quality. Consistent with this notion, we argue that when an address features a PO box, it sends a signal that the firm is small or new and has yet to achieve the success to afford a commercial property. Conversely, when an address features a street, we propose that it sends a signal that the firm is legitimate and successful enough to obtain office space or a storefront, which incurs significant financial expense. Notably, UPS and Regus make similar assertions about how street addresses convey more professionalism (e.g., <https://www.theupsstore.com/mailboxes/business-mailboxes>).

However, not all addresses featuring a street are the same. For example, a street address is afforded to both residential and commercial spaces, but a business that operates out of the proprietor's home (vs. commercial property) would likely be perceived as less professional. Therefore, a firm with a street address would be perceived as a more legitimate business than one with a PO box address. Nevertheless, as a signal, whether a street address is an office/storefront or the proprietor's personal residence (e.g., 100 Parkway Drive) is not entirely clear. In comparison, we argue that a street+suite address (e.g., 100 Parkway Drive, Suite 203) sends a more professional/business signal to consumers, which enhances the perceived legitimacy of the firm. Thus, when no other information or signals are available, consumers are likely to evaluate a firm with a street+suite address more favorably than either a street or PO box.

We posit that perceptions of signal quality underlie this theorized relationship between address and evaluations, as the value of a signal depends on perceptions of the signal's quality and credibility (Wells et al., 2011). In the current context, a PO box address may be perceived as relatively easy to acquire with only a moderate amount of effort and cost involved, thus lowering its effectiveness at signaling firm credibility. Alternatively, both street and street+suite addresses may be perceived as more difficult to acquire, as consumers might assume that a physical location is owned/leased, which involves significantly higher financial expense. Therefore, we propose that perceived signal quality will mediate the positive relationship between street-based (vs. PO box) addresses and consumer evaluations of the firm. Moreover, we argue that street+suite addresses will send the strongest signal that a firm is operating in commercial space (vs. personal residence), which is considered the most difficult to acquire and thereby can generate more favorable consumer evaluations. Our model is in line with previous signaling theory work that identifies content, clarity, consistency, and credibility as four critical characteristics of signals (Erdem & Swait, 1998). Consistent with the notion that the content of a signal can impact the clarity and, in turn, the credibility of a signal (Pecot et al., 2018), we theorize that a street+suite address (content) will send the clearest message about the firm's location (clarity), thereby increasing signal quality (credibility).

- H1.** Consumers will evaluate a firm more favorably when its address features a (a) street+suite (vs. PO box), (b) street (vs. PO box), or (c) street+suite (vs. street).
- H2.** Consumers will perceive the address as a signal of higher quality when it features a (a) street+suite (vs. PO box), (b) street (vs. PO box), or (c) street+suite (vs. street).
- H3.** Perceptions of signal quality will mediate the positive relationship between address and consumer evaluations of the firm.

4. Study 1

Study 1 aims to test the main effect of an address on consumer evaluations through the proposed underlying process in our conceptual model. We posit that when no additional information is available, consumers will use an address as a signal of quality. Thus, Study 1a tests the direct effect of a street+suite (vs. PO box) address on consumer evaluations, and Study 1b examines whether this effect emerges because a street+suite (vs. PO box) address sends an overall better signal of quality, leading to more favorable consumer evaluations.

4.1. Study 1a Method

Undergraduate students ($n=92$, $\%_{\text{male}}=53.0$, $M_{\text{age}}=20.6$) from a private midwestern university participated in a one-factor (PO box vs. street+suite) between-subjects study for course credit. Participants were randomly shown one of the two firm addresses (see Appendix A) and asked to provide their own unique thoughts about the firm (“Based on the mailing address for Aeries, what thoughts come to mind about the company?”). We chose Aeries as the firm name because of its established neutrality (Choi & Rifon, 2012). Then, participants independently evaluated their own firm thoughts using one item (1=“extremely negative,” 7=“extremely positive”; adapted from Lacznik et al., 1989).

4.2. Study 1a Results

To test H1a, we analyzed the valence of participants’ firm thoughts. Independent samples t-tests revealed that participants evaluated a firm with a street+suite (vs. PO box) address significantly more favorably ($M_{\text{street+suite}}=4.64$ vs. $M_{\text{PO_Box}}=4.02$; $t(90)=2.12$, $p=.037$; see Table 2 and Fig. 2), supporting H1a.

---TABLE 2 AND FIGURE 2---

4.3. Study 1b Method

Study 1b replicated the previously described procedures with undergraduate students ($n=114$, $\%_{\text{male}}=39.0$, $M_{\text{age}}=22.3$) from a private southern university, with two minor exceptions. First, the focal firm was called A&P Creations (see Appendix A). Second, after evaluating their thoughts about A&P Creations, participants indicated their perceptions of the signal quality of the address (“Securing this address took significant effort and expense”; “When I saw the address, I assumed that the organization must have invested a lot of time and money to acquire it”; “The acquisition of the address required the organization to make a significant financial investment”; 1=“strongly disagree,” 7=“strongly agree”; $\alpha=.884$; adapted from Wells et al., 2011).

4.4. Study 1b Results

We first analyzed perceptions of signal quality for the firm’s address. Independent samples t-tests revealed that participants perceived a street+suite (vs. PO box) address as a signal of significantly higher quality ($M_{\text{street+suite}}=3.24$ vs. $M_{\text{PO_Box}}=2.50$; $t(112)=2.90$, $p=.004$; see Table 2 and Fig. 3), supporting H2a. Then, to examine whether perceptions of signal quality underlie the relationship between address and evaluations, we used PROCESS Model 4 to test for mediation (Hayes, 2017). A 95% bias-corrected confidence interval (CI) based on 5,000 bootstrapped samples showed a significant conditional indirect effect (IE) of address on consumer evaluations through the mediating mechanism of perceived signal quality (IE=.20, CI=[.02, .44]), supporting H3.

---FIGURE 3---

The findings of Studies 1a–1b indicate that consumers perceive a street+suite (vs. PO box) address as sending a signal of higher quality, leading them to evaluate the firm more

favorably. With evidence in support of our full theoretical model, we next focus on examining these relationships in the context of a shopping scenario.

5. Study 2

Study 2 aims to test our conceptual model with a new shopping scenario study design. Thus far, we have focused on differences between street+suite and PO box addresses. Now we also examine a street address (e.g., 100 Parkway Drive). Given our theorizing, we argue that a street address sends a mixed signal about the firm (whether commercial or residential). Therefore, we test whether consumers evaluate firms with street addresses more favorably than PO box addresses but less favorably than street+suite addresses.

5.1. Method

Undergraduate students ($n=157$, $\%_{\text{male}}=59.0$, $M_{\text{age}}=20.2$) from a private midwestern university participated in a one-factor (PO box vs. street vs. street+suite) between-subjects study for course credit. Participants were asked to imagine reading a magazine article about a Mother's Day sweepstakes for a meal kit by A&P Creations. They were told that the article caught their eye because their mother loves fine food. Next, participants were randomly assigned to one of the three conditions, shown a sweepstakes form that contained the address for A&P Creations (see Appendix B), and asked to address an actual envelope to submit their "sweepstakes entry." All participants submitted their entry to a lab monitor who confirmed that they correctly copied their randomly assigned address onto their envelope. Then, like previous studies, participants provided their thoughts about A&P Creations, evaluated these thoughts, and indicated their perceptions of signal quality ($\alpha=.921$).

5.2. Results

To test H1, an ANOVA revealed a significant effect of address on consumer evaluations ($F(2, 154)=8.16, p<.001$; see Table 3 and Fig. 2). Planned contrasts indicated that participants evaluated A&P Creations with a street+suite (vs. PO box) address more favorably ($M_{street+suite}=4.57$ vs. $M_{PO_Box}=3.63$; $F(1, 154)=16.14, p<.001$), replicating Study 1a and again supporting H1a. Participants directionally evaluated A&P Creations with a street (vs. PO box) address more favorably ($M_{street}=4.00$ vs. $M_{PO_Box}=3.63$; $F(1, 154)=2.34, p=.128$), which is consistent with H1b but not statistically significant. We interpret this result as supporting the notion that a street address sends a mixed signal about the firm's level of credibility, while a street+suite address sends a strong signal about the firm's legitimacy and professionalism. Last, participants evaluated A&P Creations with a street+suite (vs. street) address more favorably ($M_{street+suite}=4.57$ vs. $M_{street}=4.00$; $F(1, 154)=5.40, p=.022$), supporting H1c. Thus, the inclusion of a suite number has a positive effect, leading consumers to evaluate the firm more favorably.

---TABLE 3---

To test H2, an ANOVA revealed a significant effect of address on perceptions of signal quality ($F(2, 154)=10.75, p<.001$; see Fig. 3). Planned contrasts revealed that participants perceived the street+suite (vs. PO box) address as a signal of significantly higher quality ($M_{street+suite}=3.88$ vs. $M_{PO_Box}=2.74$; $F(1, 154)=21.40, p<.001$), replicating Study 1b and supporting H2a. Participants also perceived the street (vs. PO box) address ($M_{street}=3.37$ vs. $M_{PO_Box}=2.74$; $F(1,154)=3.94, p=.049$) and the street+suite (vs. street) address ($M_{street+suite}=3.88$ vs. $M_{street}=3.37$; $F(1,154)=6.04, p=.015$) as signals of significantly higher quality, supporting H2b–H2c. Collectively, these results verify our theorizing about the relationship between address and perceptions of signal quality.

To test H3, we ran PROCESS Model 4 with 5,000 bootstrapped samples (Hayes, 2017). As the independent variable has three levels, we first examined the difference between street+suite and PO box addresses. As expected, the results again showed that perceived signal quality is a significant mediator (IE=.33, CI=[.13, .55]). Then, we examined the difference between street and PO box addresses. The results also showed that perceived signal quality is a significant mediator (IE=.15, CI=[.03, .37]). In summary, the positive relationship between address and evaluations of A&P Creations is driven by perceptions of signal quality, with street+suite addresses sending the strongest signal of quality and leading consumers to evaluate the firm most favorably. H3 is supported.

6. Study 3

Now, we aim to expand our contributions by exploring additional questions of theoretical and practical interest. First, do boundary conditions affecting the address signal exist? As prior research has established that consumers predominantly use signals under conditions of perceived uncertainty and risk (Erdem & Swait, 1998), we examine the potential moderating effects of perceived uncertainty (Study 3a) and perceived risk (Study 3b). Services (vs. products) elicit greater uncertainty due to their inconsistent nature (Mitra et al., 1999); therefore, Study 3a examines whether consumers are more likely to deem address a signal when an unfamiliar firm offers a service (vs. product). Similarly, while various types of risk exist (i.e., financial/social/physical; Jacoby & Kaplan, 1972), Study 3b focuses on financial risk, as high (vs. low) price increases general perceptions of risk (Kaplan et al., 1974). Second, do addresses ultimately affect consumer behavior? Given prior research on the positive relationship between attitudes and behaviors (Choi & Rifon, 2012), we assume that address will affect downstream behavioral outcomes. Thus, in Studies 3a–3b, we manipulate address in a social media ad and

then directly measure its effect on consumers' online behaviors (i.e., liking, commenting, and sharing).

6.1. Study 3a Method

Undergraduate students ($n=318$, $\%_{\text{male}}=53.0$, $M_{\text{age}}=19.41$) from two private American universities participated in a 2 (PO box vs. street+suite) \times 2 (product vs. service) between-subjects study for course credit. Participants were asked to imagine having an upcoming career-related event and were given a vignette involving a social media ad for a try-before-you-buy wardrobe subscription from A&P Creations (see Appendix C). In addition to the address manipulation, participants were randomly assigned to see a sweepstakes for a product (i.e., the winner would personally choose \$100 worth of professional clothing) or service (i.e., a stylist would choose \$100 worth of professional clothing based on the winner's tastes). Participants could enter into the sweepstakes by interacting with the ad (i.e., liking, commenting, and/or sharing) We operationalized these actions as participants' online behaviors (liking, commenting, and/or sharing [coded as 1]; no interaction [coded as 0]). Afterward, participants provided and evaluated their thoughts about A&P Creations, indicated their perceptions of signal quality ($\alpha=.933$), and assessed the type of firm offering via one item (1="definitely a service," 8="definitely a product").

6.2. Study 3a Results

As expected, the manipulation check for product (vs. service) offering indicated that participants correctly perceived the condition to which they were assigned ($M_{\text{Service}}=4.28$ vs. $M_{\text{Product}}=5.06$; $F(1, 316)=11.93$, $p=.001$). Thus, we used PROCESS Model 5 with 5,000 bootstrapped samples to test for moderated mediation (Hayes, 2017). Replicating our previous results, we find significant effects of street+suite (vs. PO box) address on perceived signal

quality ($b=1.10, p<.001$; see Table 4) and perceived signal quality on consumer evaluations ($b=.43, p<.001$). However, the interaction between address and firm offering on consumer evaluations was not significant ($b=-.31, p=.267$), suggesting no difference between product and service offerings.

---TABLE 4---

Next, to examine the relationship between address and consumer behavior, we used PROCESS Model 6 with 5,000 bootstrapped samples to test for serial mediation. The direct effects of street+suite (vs. PO box) address on perceived signal quality ($b=1.10, p<.001$), perceived signal quality on consumer evaluations ($b=.43, p<.001$), and consumer evaluations on behaviors ($b=.28, p=.003$) were all significant. Mediation results also showed a positive effect of address on behaviors through perceived signal quality *and* consumer evaluations (IE=.13, CI=[.04, .26]), indicating that address indirectly influences both consumer evaluations and behaviors.

6.3. Study 3b Method

American consumers ($n=202, \%_{\text{male}}=56.2, M_{\text{age}}=38.93$) participated in a 2 (PO box vs. street+suite) \times 2 (high-risk vs. low-risk) between-subjects study via Amazon MTurk. The stimuli and procedures were the same as in Study 3a, except that we manipulated perceived risk by randomly assigning participants to a high-risk (i.e., \$100 offer) or low-risk (i.e., \$10 offer; see Appendix D) condition. After deciding whether to interact with the ad (i.e., liking, commenting, and/or sharing vs. no interaction), participants provided and evaluated their thoughts about A&P Creations, indicated their perceptions of signal quality ($\alpha=.950$), and assessed the perceived risk of the promotional offer via four items (“Accepting this promotional offer is risky,” “This promotional offer could lead to bad results,” “Accepting this promotional offer would make me

feel anxious,” “Accepting this promotional offer would cause me to worry”; 1=“strongly disagree,” 7=“strongly agree”; $\alpha=.937$; Cox et al., 2006).

6.4. Study 3b Results

First, a manipulation check for the effect of price level on perceived risk was significant ($M_{\$100}=3.95$ vs. $M_{\$10}=3.05$; $F(1, 200)=12.54$, $p<.001$), indicating adequate variability in perceived risk, which is critical to addressing power issues in detecting a moderating effect (McClelland & Judd, 1993). Consistent with prior research (Westjohn et al., 2016), we subsequently used the measure of perceived risk as this is the core construct of interest. Second, we used PROCESS Model 5 with 5,000 bootstrapped samples to assess moderated mediation (Hayes, 2017). As before, we find significant effects of street+suite (vs. PO box) address on perceived signal quality ($b=1.83$, $p<.001$; see Table 4) and perceived signal quality on consumer evaluations ($b=.55$, $p<.001$). Furthermore, the interaction between address and high-risk (vs. low-risk) on consumer evaluations was significant ($b=.19$, $p=.038$). For robustness, we used PROCESS Model 1 with 5,000 bootstrapped samples to visualize the interaction and employed the Johnson–Neyman method to show that when perceived risk was at a level of 1.72 or higher, a street+suite (vs. PO box) address had a significantly positive effect on consumer evaluations (see Fig. 4).

---FIGURE 4---

Finally, to corroborate the relationship between address and behaviors, we used PROCESS Model 6 with 5,000 bootstrapped samples to test for serial mediation. Replicating our previous results, the direct effects of street+suite (vs. PO box) address on perceived signal quality ($b=1.72$, $p<.001$), perceived signal quality on consumer evaluations ($b=.56$, $p<.001$), and consumer evaluations on behaviors ($b=.43$, $p=.002$) were all significant. Furthermore, perceived

signal quality and consumer evaluations significantly mediated the relationship between address and behaviors (IE=.41, CI=[.15, .78]). Notably, all the results remained significant when including perceived risk as a control variable. Combined, these results indicate that address influences both consumer evaluations and online behaviors, and that street+suite addresses have a stronger positive impact on consumer evaluations under high-risk conditions.

7. General discussion

Service providers have begun offering street+suite addresses as an alternative to conventional PO boxes, claiming that they give small businesses an edge over their competitors. As these arguments had yet to be substantiated, the main purpose of our research was to apply signaling theory to explain why consumers respond differentially to various types of addresses. Across five experiments, we validate service providers' claims, reveal perceived signal quality as the underlying process, and identify boundary conditions of the effect. These results provide significant contributions to marketing theory and practice.

7.1. Theoretical contributions

We contribute to marketing's application of signaling theory by demonstrating that an address acts as information in the consumer evaluation process, especially under high-risk conditions. Thus, we identify address as a new signal and offer a theoretical account for the promotional claims made by mailbox service providers. Furthermore, we find that consumers assign different signal qualities to different address types. We demonstrate that signal quality, which is influenced by the perceived difficulty of obtaining each type of address, mediates the relationship between address and consumer evaluations. We draw on signaling theory to show *why* consumers evaluate firms with street+suite (vs. PO box) addresses more favorably.

Specifically, street+suite addresses send the highest signal of quality, as consumers perceive them as more difficult to acquire and as involving a larger financial investment.

This research also contributes to the four-factor approach to signaling theory, which involves the content, clarity, consistency, and credibility of the signal (Erdem & Swait, 1998; Pecot et al., 2018). In particular, street+suite addresses exhibit the highest level of *clarity*, whereas street addresses may send mixed signals about the firm's location, leading to lower evaluations (Study 2). Similar to Pecot et al. (2018), we demonstrate that the signal *content* (address type) can lead to different levels of *clarity* (residential vs. commercial location), which can affect *credibility* (signal quality) in the consumer evaluation process. Thus, we illustrate that the content of the firm's address can enhance signal quality. Future research could extend our theoretical contribution by examining other signals that are commonly bundled with the address signal for *consistency* (Brunner & Baum, 2020).

Finally, we extend prior work on the effect of internet addresses (Aaker et al., 2010), demonstrating how mailing addresses also provide a valuable signal for consumer evaluations. We advance theory on the judgments consumers make about firm quality, particularly for unfamiliar and small businesses under high-risk conditions. We provide evidence that perceived high risk leads consumers to draw more heavily on secondary, unintentional signals to infer quality. Future research could extend this contribution to signaling theory by examining whether familiarity with the firm acts as a potential boundary condition by reducing perceived risk.

7.2. Managerial implications

This research has several timely practical implications. First, by comparing street+suite and PO box options, we substantiate the claims of UPS and Regus regarding differences in addresses. Specifically, we find that consumer evaluations of and behaviors toward street+suite

(vs. PO box) addresses are more favorable and that this effect is stronger in high-risk conditions. Such knowledge can help service providers better market their offerings and can benefit firms seeking ways to build stronger customer relationships. Second, by comparing street+suite and street addresses, we highlight the significance of a unique suite number in the address. Street+suite addresses send an overall better signal of quality about the firm, leading to more favorable consumer evaluations and behaviors. Thus, this research suggests that service providers should continue to feature unique suite numbers in their addresses. Third, for service providers that only offer PO box addresses and are struggling to grow their customer base (Ziobro, 2020), this research suggests a way to attract new customers by also offering a street+suite address option. Finally, in addition to psychological benefits, addresses may provide firms with functional utility, which is valuable when legally registering their business in the US. Specifically, for a business to officially register as a limited liability company/partnership, limited partnership, or corporation, a street-based address is legally required (Wong, 2020). Thus, service providers who rent street+suite addresses are also offering firms a way to meet the legal requirements associated with registering their business.

7.3. Future research directions

Across all five studies, our focal firm was fictitious and positioned as a small business, with a limited amount of information provided to participants. This was an intentional stimuli restriction, as our goal was to establish whether address was truly a signal that affects consumer evaluations of a firm, making it necessary to control for other “firm” factors. Future research could relax some of these restraints and increase the generalizability of our findings by examining whether factors such as firm familiarity, firm size, or industry type moderate the relationship between address and consumer evaluations.

Next, this research examined US addresses; however, firms are becoming increasingly global, and thus determining whether our findings translate to other countries with different mailing norms would be worthwhile. To increase generalizability, future research could examine whether consumers in other countries consider address a signal of firm quality. Moreover, studies could test whether consumer perceptions change when evaluating different types of foreign addresses. For example, while American consumers evaluate domestic street-based (vs. PO box) addresses more favorably, when less is known about the firm's place-of-origin, domestic consumers may respond more favorably to foreign PO box addresses, which send a signal of being a recognized entity by a major institution. Thus, research should examine our conceptual model in a cross-cultural context to ascertain the effects of foreign addresses on consumer evaluations and behaviors.

Finally, by extending prior work on internet addresses as a signal of quality (Aaker et al., 2010), this study provides motivation for future research to examine whether other forms of firm contact information (e.g., email address, phone number) are also signals that affect consumer evaluations. For example, firms can choose various phone number options: local area code, toll-free, or vanity. To motivate future research, we conducted a one-factor (toll free vs. local area code) between-subjects study with undergraduate students ($n=60$, $\%_{\text{male}}=53.3$, $M_{\text{age}}=19.9$) from a private midwestern university. Using a procedure similar to that in Study 1a, we showed participants a firm's name and phone number, asked them to provide their thoughts about the firm and to evaluate the valence of their thoughts. Independent samples t-tests revealed that participants evaluated the firm with a local area code (vs. toll free) significantly more favorably ($M_{\text{local}}=5.24$ vs. $M_{\text{toll_free}}=3.48$; $t(58)=4.38$, $p<.001$). This preliminary finding shows that phone

numbers may also be a signal influencing consumer evaluations and a worthy avenue for future research.

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Table 1

Selected literature.

Previous studies	Key findings
Spence (1973)	Economic actors use signals to communicate under conditions of imperfect information.
De Ruyter et al. (2001)	Consumers use online retailer organizational reputation as a signal that affects behavioral intentions.
Wang et al. (2004)	Seals of approval, awards from neutral sources, security disclosures, and privacy disclosures are signals that affect consumer attitudes and behaviors.
Chatterjee et al. (2005)	Consumers use retailers' signals to evaluate service quality.
Kukar-Kinney & Grewal (2006)	Signal quality is important for online retailers as the lack of a physical presence reduces the number of potential signals.
Erdem et al. (2008)	Price and advertising frequency serve as signals for the quality of consumer goods.
Aaker et al. (2010)	Domain name (dot-org vs dot-com) influences consumer perceptions of a firm.
Bonifield et al. (2010)	Consumers use online retailer signals to form beliefs about retailer quality.
Mitra & Fay (2010)	Price is a signal that influences consumer service expectations and satisfaction with online retailers.
Wells et al. (2011)	Website quality is a signal that influences perceptions of product quality and purchase intentions.
Pecot et al. (2018)	Brand heritage is a signal that conveys product quality and justifies price premiums.
Pemer & Skjølvsvik (2019)	Signals influence the <i>ex-ante</i> phase of buying services.
Current study	Address is a signal influencing consumer evaluations and behaviors.

Table 2
Studies 1a–1b results.

Study 1a						
Dependent variable	t(90)	p	Street+Suite		PO Box	
			Mean	SD	Mean	SD
ConsumerEvaluations	2.12	.037	4.64	1.21	4.02	1.58
Study 1b						
Dependent Variable	t(112)	p	Street+Suite		PO Box	
			Mean	SD	Mean	SD
ConsumerEvaluations	1.77	.080	4.67	1.57	4.14	1.61
SignalQuality	2.90	.004	3.24	1.30	2.50	1.41
PROCESS Model 4		b	SE	p	CI	
<i>Model Summary: n=114; R²=.070; p=.005</i>						
Street+Suite→SignalQuality		.73	.25	.005	(.23, 1.24)	
<i>Model Summary: n=114; R²=.079; p=.010</i>						
Street+Suite→ConsumerEvaluations		.33	.30	.282	(-.27, .92)	
SignalQuality→ConsumerEvaluations		.27	.11	.014	(.06, .49)	

Table 3
Study 2 results.

Dependent variable	F(154)	p	Street+Suite		Street		PO Box		
			Mean	SD	Mean	SD	Mean	SD	
ConsumerEvaluations	8.16	<.001	4.57	1.22	4.00	1.00	3.63	1.42	
SignalQuality	10.75	<.001	3.88	1.28	3.37	1.32	2.74	1.29	
PROCESS Model 4					b	SE	p	CI	
<i>Model Summary: n=157; R²=.123; p<.001</i>									
Street+Suite→SignalQuality					1.14	.25	<.001	(.66, 1.63)	
Street→SignalQuality					.63	.26	.015	(.12, 1.14)	
<i>Model Summary: n=157; R²=.178; p<.001</i>									
Street+Suite→ConsumerEvaluations					.62	.24	.011	(.14, 1.10)	
Street→ConsumerEvaluations					.19	.24	.419	(-.28, .67)	
SignalQuality→ConsumerEvaluations					.29	.07	<.001	(.14, .43)	

Table 4

Studies 3a–3b results.

Study 3a					
PROCESS Model 5	<i>b</i>	<i>SE</i>	<i>p</i>	<i>CI</i>	
<i>Model Summary: n=318; R²=.139; p<.001</i>					
Street+Suite→SignalQuality	1.10	.15	<.001	(.80, 1.40)	
<i>Model Summary: n=318; R²=.228; p<.001</i>					
Street+Suite→ConsumerEvaluations	.26	.21	.215	(-.15, .67)	
SignalQuality→ConsumerEvaluations	.43	.05	<.001	(.33, .53)	
Service→ConsumerEvaluations	-.07	.20	.722	(-.46, .32)	
Street+Suite*Service→ConsumerEvaluations	-.31	.28	.267	(-.86, .24)	
PROCESS Model 6					
<i>Model Summary: n=318; R²=.139; p<.001</i>					
Street+Suite→SignalQuality	1.10	.15	<.001	(.80, 1.40)	
<i>Model Summary: n=318; R²=.218; p<.001</i>					
Street+Suite→ConsumerEvaluations	.12	.15	.425	(-.18, .42)	
SignalQuality→ConsumerEvaluations	.43	.05	<.001	(.33, .53)	
<i>Model Summary: n=114; ΔCox–Snell=.033/ΔNagelkerke=.045; p=.013</i>					
Street+Suite→OnlineBehaviors	-.14	.25	.582	(-.63, .35)	
SignalQuality→OnlineBehaviors	-.01	.09	.952	(-.19, .18)	
ConsumerEvaluations→OnlineBehaviors	.28	.10	.003	(.09, .47)	
Study 3b					
PROCESS Model 5	<i>b</i>	<i>SE</i>	<i>p</i>	<i>CI</i>	
<i>Model Summary: n=202; R²=.259; p<.001</i>					
Street+Suite→SignalQuality	1.83	.22	<.001	(1.40, 2.26)	
<i>Model Summary: n=202; R²=.512; p<.001</i>					
Street+Suite→ConsumerEvaluations	-.06	.19	.768	(-.44, .33)	
SignalQuality→ConsumerEvaluations	.55	.05	<.001	(.45, .66)	
Risk _{Price} →ConsumerEvaluations	-.27	.05	<.001	(-.36, -.18)	
Street+Suite*Risk _{Price} →ConsumerEvaluations	.19	.09	.038	(.01, .37)	
PROCESS Model 6					
<i>Model Summary: n=202; R²=.279; p<.001</i>					
Street+Suite→SignalQuality	1.72	.25	<.001	(1.22, 2.22)	
Risk _{Price} →SignalQuality	-.13	.07	.062	(-.26, .01)	
Street+Suite*Risk _{Price} →SignalQuality	-.03	.06	.687	(-.15, .10)	
<i>Model Summary: n=202; R²=.502; p<.001</i>					
Street+Suite→ConsumerEvaluations	-.01	.22	.975	(-.44, .43)	
SignalQuality→ConsumerEvaluations	.56	.06	<.001	(.45, .67)	
Risk _{Price} →ConsumerEvaluations	-.28	.05	<.001	(-.39, -.18)	
Street+Suite*Risk _{Price} →ConsumerEvaluations	.02	.05	.635	(-.08, .12)	
<i>Model Summary: n=202; ΔCox–Snell=.147/ΔNagelkerke=.196; p<.001</i>					
Street+Suite→Online Behaviors	-.76	.40	.060	(-1.71, .79)	
SignalQuality→OnlineBehaviors	-.12	.12	.352	(-.36, .13)	
ConsumerEvaluations→OnlineBehaviors	.43	.14	.002	(.16, .70)	
Risk _{Price} →OnlineBehaviors	-.05	.10	.630	(-.24, .15)	
Street+Suite*Risk _{Price} →OnlineBehaviors	-.28	.10	.005	(-.48, -.09)	

Fig. 1. Conceptual model.

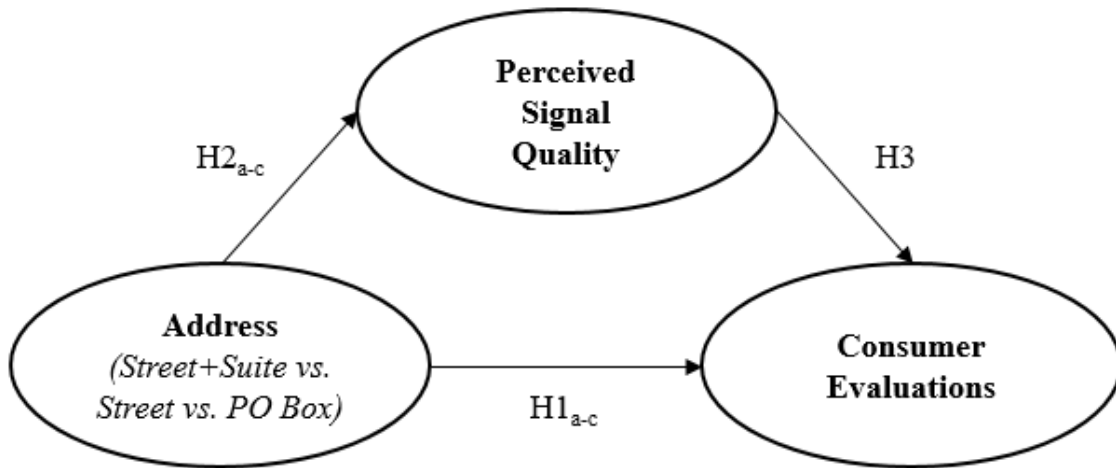
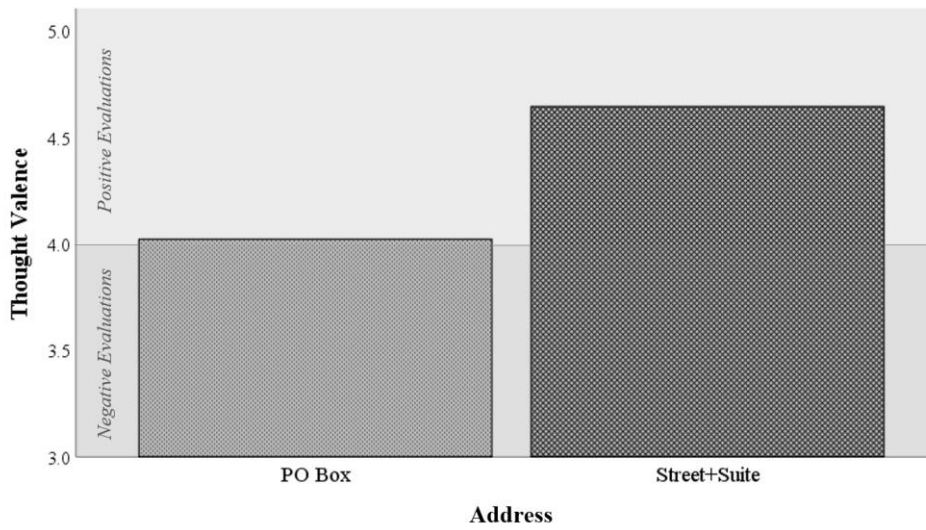


Fig. 2. Address effect on consumer evaluations.

Study 1a.



Study 2.

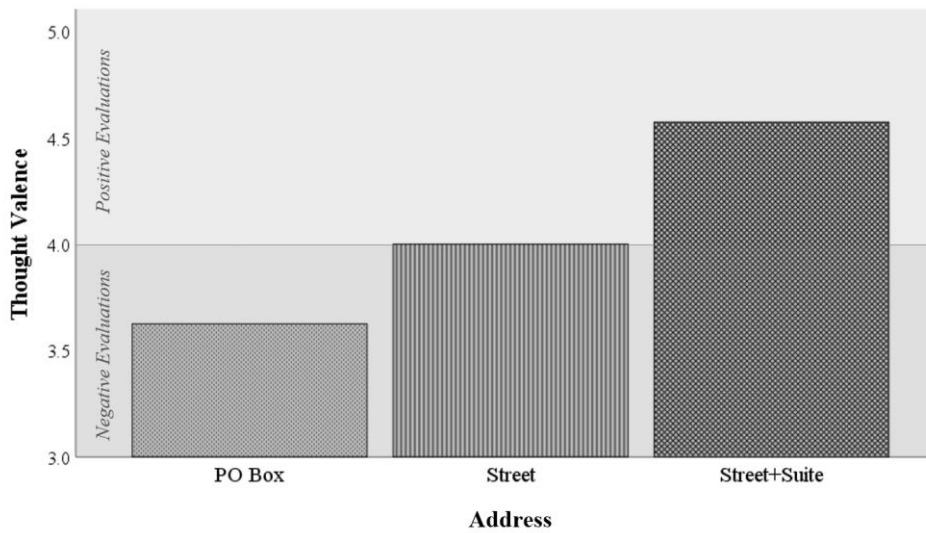
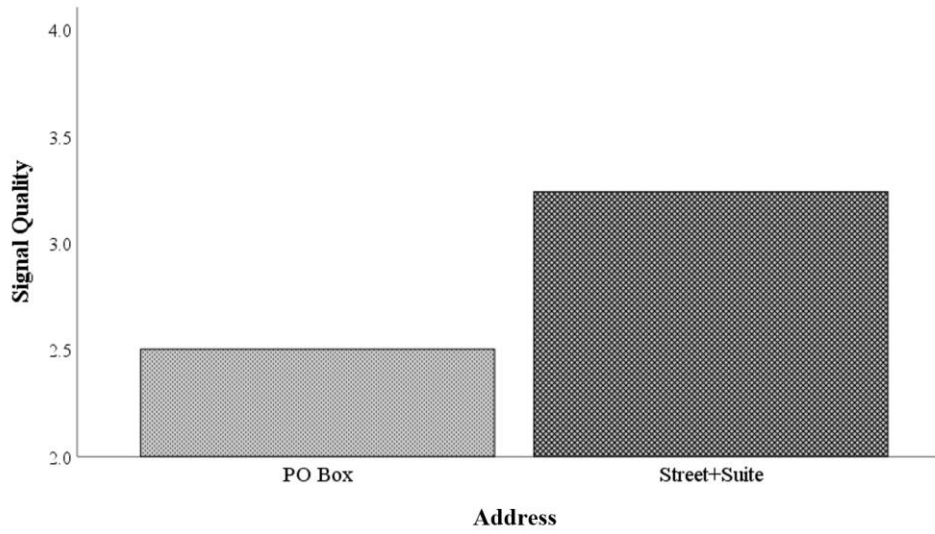


Fig. 3. Address effect on signal quality.

Study 1b.



Study 2.

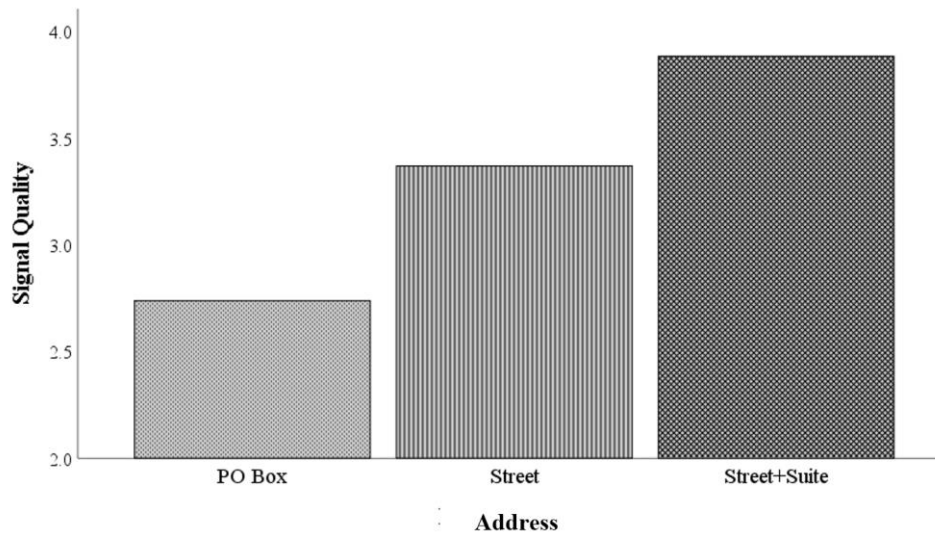
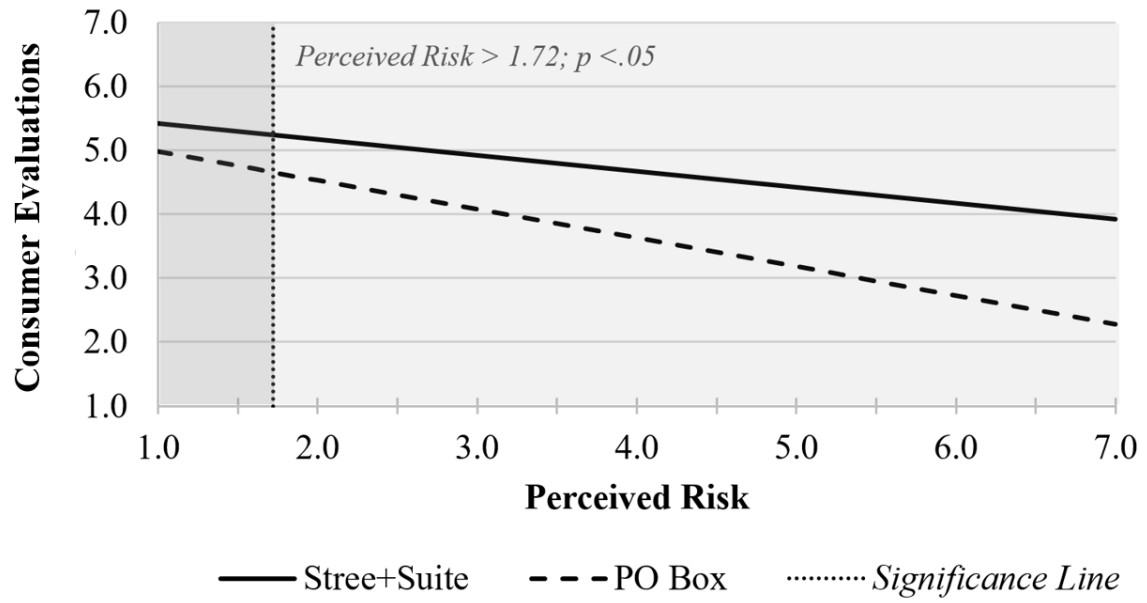


Fig. 4. Address and perceived risk floodlight plot.



APPENDIX A: STUDY 1 STIMULI

	ADDRESS	
	Street+Suite	PO Box
Study 1a	Aerius 100 Parkway – Suite 203 [City], [State] [Zip code]	Aerius P.O. Box 203 [City], [State] [Zip code]
Study 1b	A&P Creations 100 Parkway – Suite 203 [City], [State] [Zip code]	A&P Creations P.O. Box 203 [City], [State] [Zip code]

Note: For reasons of peer review and maintaining anonymity throughout the review process, we purposely removed in the above table the city, state and zip code that was shown to participants in Studies 1a-b.

APPENDIX B: STUDY 2 STIMULI

Stimuli

Street+Suite

A&P Creations	
<i>To enter, send form to:</i> A&P Creations 100 Parkway, Suite 203 [City], [State] [Zip Code] (314) 886-4243 contest@AP-Creations.net	<i>Mother's Day Promotion: Win a premium-quality, chef-designed meal kit</i> Name: _____ Address: _____ City/State: _____ Phone: _____ Email: _____

Address

Street

A&P Creations	
<i>To enter, send form to:</i> A&P Creations 100 Parkway [City], [State] [Zip Code] (314) 886-4243 contest@AP-Creations.net	<i>Mother's Day Promotion: Win a premium-quality, chef-designed meal kit</i> Name: _____ Address: _____ City/State: _____ Phone: _____ Email: _____

PO Box

A&P Creations	
<i>To enter, send form to:</i> A&P Creations P.O. Box 203 [City], [State] [Zip Code] (314) 886-4243 contest@AP-Creations.net	<i>Mother's Day Promotion: Win a premium-quality, chef-designed meal kit</i> Name: _____ Address: _____ City/State: _____ Phone: _____ Email: _____

APPENDIX C: STUDY 3A STIMULI

Firm Offering

Product

Service

Street+Suite



Shop these new professional looks at:

A&P Creations
100 Parkway, Suite 203
 [City], [State] [Zip Code]

Comment on this post to WIN

\$100 worth of clothing for a new work wardrobe!

One selected winner will choose from several clothing options, have seven days to try them at home, and will keep up to \$100 worth of clothing. Clothing not selected can be returned with free shipping.



Shop these new professional looks at:

A&P Creations
100 Parkway, Suite 203
 [City], [State] [Zip Code]

Comment on this post to WIN

\$100 worth of clothing for a new work wardrobe!

One selected winner will meet virtually with a professional stylist who will learn their tastes and create a wardrobe of up to \$100 worth of clothing. Clothing not selected can be returned with free shipping.



Address

PO Box



Shop these new professional looks at:

A&P Creations
P.O. Box 203
 [City], [State] [Zip Code]

Comment on this post to WIN

\$100 worth of clothing for a new work wardrobe!

One selected winner will choose from several clothing options, have seven days to try them at home, and will keep up to \$100 worth of clothing. Clothing not selected can be returned with free shipping.



Shop these new professional looks at:

A&P Creations
P.O. Box 203
 [City], [State] [Zip Code]

Comment on this post to WIN

\$100 worth of clothing for a new work wardrobe!

One selected winner will meet virtually with a professional stylist who will learn their tastes and create a wardrobe of up to \$100 worth of clothing. Clothing not selected can be returned with free shipping.



APPENDIX D: STUDY 3B STIMULI

Perceived Risk

Low-Risk

High-Risk

Street+Suite



Shop these new looks at:

A&P Creations
100 Parkway, Suite 203

Special Promotion!

Comment on this post and pay only **\$10** plus the cost of clothing for a new professional stylist-selected wardrobe!

Comment on this post and we will send you a code to pay only **\$10** plus the cost of clothing for a professional stylist-selected wardrobe. Clothing will be shipped directly to you to try on for size. Clothing not selected can be returned to the above address with free shipping.



Like



Comment



Share

Shop these new looks at:

A&P Creations
100 Parkway, Suite 203

Special Promotion!

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Like



Comment



Share

Address



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Like



Comment



Share

PO Box