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Credible Sales Messages in a Retail Context: Theory and Evidence

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Abstract

Purpose: his study examines the effect of message valence on consumer perceptions of sales messages and salesperson evaluations in retail contexts. In contrast to previous studies on the negativity effect, it examines the positivity effect, which implies that the effect of positive information may outweigh that of negative information in certain situations. In addition, the current research examines how the content of the sales message influences consumers' perceptions of salespeople. **Research design and methodology**: The study presents an analytical model in which a potentially altruistic salesperson transmits quality information as a form of cheap talk. Several predictions were derived from the model and then empirically tested in two experiments. **Results:** When the sales message is about relatively less expensive products, positive information can be more credible and diagnostic than negative information. In addition, positive sales messages about the less expensive products signal the salesperson's benevolence. **Conclusion:** This paper is one of the few studies to predict and empirically test the positivity effect. It also contributes to the literature on trust in salespeople by showing that message valence influences buyers' perceptions of salespeople.

Keywords : Positivity Effect, Sales Communication, Retailing, Other-regarding Preferences, Cheap Talk

JEL Classification Code: D91, L81, M31

1. Introduction

Manufacturers play an important role in marketing, perhaps more important than retailers. Many of the studies investigating the sales boost take the manufacturer's perspective into account (Ailawadi et al., 2009). Communication and promotion activities are largely driven by manufacturers, and retailers have relatively limited control over promotion and communication (Villanova et al., 2021). Marketing communication studies have paid more attention to manufacturer decisions such as advertising and public relations than to retailer marketing activities such as in-store communication and point-of-purchase promotion. However, the importance of retailer promotion and communication should not be overlooked. Previous studies have shown that a significant proportion of purchases are made in retail stores (e.g. Bava et al., 2009). In addition, a new trend in marketing, such as omnichannel marketing, requires retail marketing to play an important role.

One of the most overlooked retail marketing activities is in-store sales communication. In a retail store, the salesperson, who usually has better product information, can provide product information to potential buyers. In addition, the salesperson has the flexibility to tailor the sales message

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to meet the information needs of the individual shopper (Wenerfelt, 1994). As an example, consider a bike shop where a shopper narrows her interest to weight after researching attribute importance through online searches before coming to the store. A salesperson can advise her on the most appropriate weight particularly to her. The retailer's sales message could be helpful and useful if it is credible, and the salesperson is trustworthy. If this is the case, the salesperson could sell her the most appropriate product (to her), and she would be satisfied with her purchase.

But there's a problem: retail sales contexts are inherently fraught with mistrust. Buyers are often unfamiliar with salespeople (having never dealt with them before), and a lack of trust in what they say can be an important reason for not buying (Belkin & Rothman, 2017). Moreover, buyers are typically vulnerable because salespeople not only have greater access to information about product quality, but also have the ability to strategically share this information to maximize profits. Not surprisingly, buyers attempt to infer the trustworthiness of a seller's communication based on cues provided by the seller during the sales interaction (DeShields et al., 1996). The current research focuses on one such cue: message valence, which is independent of the actual quality of the product and cannot be verified prior to purchase (i.e., when the salesperson makes a positive or negative comment about products, such as "this model is good/bad").

To understand the issues of concern, consider the bicycle shop again. A salesperson is typically responsible for selling different models of bicycles and has an incentive to sell a more profitable model, which is usually more expensive. The salesperson often tries to sell a more profitable product by recommending the more profitable product or denigrating other less profitable products. If the more expensive product is more profitable for the salesperson, the salesperson may suggest that the more expensive model is of high quality or that the less expensive models are not of excellent quality and are inadequate in some way. In other words, these sales techniques involve praising the more profitable product or saying something negative about the relatively cheaper one. How might the valence of the message affect the consumer?

Previous studies have found that the effect of negative information outweighs that of positive information (the negativity effect). The negativity effect is widely observed in many domains such as impression formation (Fiske, 1980; Mizerski, 1982), product evaluation (Ahluwalia et al., 2000; Sen & Lehman, 2006), and political marketing (Klein & Ahluwalia, 2005). Applying this to the sales context, one would expect that a negative message denigrating the quality of the less profitable product might induce a customer to purchase the other product. If this is the case, a sales technique that denigrates the quality of the less profitable product might be successful. It is worth noting, however, that most of the research documenting the negativity effect either did not specify the source of the information or assumed that the parties providing the information had interests that were independent of the product evaluations and purchase decisions of the information recipients. Thus, the following question remains unanswered: How do these positive and negative messages about differentiated models affect trust in the message and liking of the salesperson?

When the salesperson decides what message to deliver, he or she considers the buyer's perceptual and behavioral responses. At the same time, the buyer also understands the salesperson's monetary incentive to sell the more profitable product and takes this understanding into account when processing the information provided by the salesperson. This is a typical game-theoretic situation, so a game-theoretic approach is needed to investigate important marketing issues in this sales communication. In the following sections, we present a model that characterizes the above sales contexts and derives interesting predictions. Data from two experiments supporting these predictions are also discussed.

2. Literature Review

This paper contributes to the literature on customer trust in salespeople. Trust in a salesperson is critical in a setting where consumers are uncertain about the product and the trustworthiness of a salesperson (Swan & Nolan, 1985). Various studies investigate important issues in this stream of literature on customer trust in salespeople, such as the determinants and consequences of trust in salespeople. A substantial body of research has examined the determinants of customer trust in salespeople, such as salesperson characteristics and the customer-salesperson relationship (e.g., Doney & Cannon, 1997). Salesperson characteristics that affect trust include similarity (Crosby et al., 1990; Doney & Cannon, 1997), expertise and competence (Crosby et al., 1990; Lagace et al., 1991; Gassenheimer, 1991; Kenney et al., 2001), communication styles (Morgan and Hunt, 1994), and salesperson power in the supplier firm (Doney & Cannon, 1997). The current study shows that message valence has an impact on customer perceptions of salespeople.

Previous studies have documented the "negativity effect"; the tendency for negative information to be given greater weight than positive information and subsequently have a greater impact on judgment and decision making (e.g., Fiske 1980; Skowronski & Carlston, 1987; Herr et al., 1991; Chevalier & Mayzlin, 2006). Chevalier and Mayzlin (2006) show that negative online product reviews have a greater

impact than positive online product reviews. Most of the previous studies on the negativity effect examine situations where the information sources are third parties whose interests do not depend on the judgment and purchase of the information recipients. For example, Ahluwalia et al. (2000) investigate the negativity effect of advertisements, and Chevalier and Mayzlin (2006) show the negativity effect of online book reviews. A salesperson as an information source differs from the information sources examined in previous studies in that its payoff depends on the buyer's product evaluation and purchase. To find out whether the negativity effect is robust, one needs to use a game-theoretic approach that examines the interaction between the seller and the buyer. Based on a cheap-talk game between a buyer and a possibly altruistic salesperson, we find the positivity effect, which implies that the impact of a positive sales message is greater than the impact of a negative sales message. The positivity effect is documented when a potentially altruistic salesperson talks about the quality of the less expensive product.

This study is related to the literature on cue diagnosticity. Some studies have examined interesting marketing phenomena where multiple cues are available to consumers. Particular interest has been given to the cases where multiple cues conflict with each other (e.g., Purohit & Srivastava, 2001; Gong et al., 2024). Purohit and Srivastava (2001) showed that high-scope cues, which evolve over time so that their valence cannot be changed instantaneously, are more diagnostic than low-scope cues, whose valence can be changed relatively easily. Applying the cue disgnosticity framework, Gong et al. (2024) examine the impact of celebrity endorsements in advertising. The present study contributes to this stream of literature by providing a mathematical explanation of cue diagnosticity using the notion of Purohit and Srivastava (2001).

This study contributes to the literature on retail communication. A significant number of studies have examined retail advertising and communication (e.g., Bharawaj & Shipley, 2020; Villanova et al., 2021). Relatively little attention has been paid to retail sales communication. Many of the studies examine sales communication in the context of digital marketing (Bharadwaj & Shipley, 2020; Willems et al., 2017) or B2B marketing (Koponen et al., 2019). This is one of the few studies that examines sales communication in a retail context.

The current research is related to the literature on the credibility of costless and unverifiable communication (i.e., cheap talk). In their seminal paper, Crawford and Sobel (1982) showed that cheap talk communication can be credible when a sender and a receiver of information share some common interests. Subsequent studies have investigated various mechanisms that endogenize the credibility of cheap talk communication in diverse contexts such as person-to-person encounters (e.g., Chakraborty & Harbaugh, 2014; Durbin & Iyer, 2009; Wenerfelt, 1994), and advertising communication (e.g., Bagwell & Ramey, 1993; Gardete, 2013; Gardete & Guo, 2021). For example, Wernerfelt (1993) showed that a salesperson can credibly convey product information through cheap talk communication in a sales encounter. Credibility arises because the salesperson loses future sales opportunities if he misreports the true product quality. Similarly, Dai and Singh (2020) examined reputational concerns as a truth-telling mechanism in diagnostic expert-client interactions. In the present model, cheap talk communication is partially credible due to the possibility of an altruistic salesperson whose bias is exogenously constrained. The credible mechanism is relatively straightforward in my case. Instead, the present paper focuses on the properties of the informative equilibrium and shows which types of information have greater impact and consequences of informative communication, such as attitudes toward a salesperson.

3. A Model of Sales Communication with Possibly Altruistic Salesperson

3.1. Mathematical Representation of the Cue Diagnosticity Framework

Before moving on to the main model, we present a mathematical representation of cue diagnosticity. According to the cue diagnosticity framework, product quality assessment is a categorization process where buyers use the available cues to assign a product to a specific quality category (Feldman & Lynch, 1988; Skowronski & Carlston, 1989; Purohit & Srivastava, 2001). In a social environment where negative information is more dominant than positive information, negative information is more diagnostic than positive information because it better reveals the true status of goals. Thus, negative information is both more diagnostic and more informative than positive information for the categorization process. As an example, consider a customer product evaluation in which the customer categorizes a product (e.g., a smartphone) as either good or bad. After receiving information about the product, the customer judges the quality of the product as either good or bad.

Consider a simple numerical example where the quality of a product is 1, 2, or 3 with equal probability. Suppose the product is described as good if the quality is either 2 or 3 and as good otherwise in a social environment where positive information predominates. When the customer receives positive information, the quality is either 2 or 3. The positive information partially reveals the true quality. If

the customer receives negative information, the quality is certainly 1. Thus, the negative information reveals the true quality of the product. In summary, the negative information is more diagnostic to infer the true quality than the positive information.

The numerical example presented above is described formally below. Let the quality space be Q such that $Q = \{1,2,3\}$. Denote the quality as q that is uniformly distributed from the quality space Q, i.e., $Pr(q = 1) = Pr(q = 2) = Pr(q = 3) = 1/3$. Denote the piece of information as $i \in I = \{b, g\}$, where b represents bad information while g represents good information. The information generation is a function, denoted as f, mapping Q into I such that $f(2) = f(3) = g$ and $f(1) = b$. The customer infers the quality based on the information she receives. The conditional probability that $q = 2$ conditional on $i = g$, i.e. $Pr(q = 2|i = g)$, is 0.5. Similarly, we have $Pr(q = 3|i = g) = 0.5$, and $Pr(q = 1|i = b) = 1$. The conditional probability of product quality conditional on information measures the degree of diagnosticity of the information. We have $Pr(q = 1|i = b) > Pr(q = 2|i = g) = Pr(q = 3|i = g)$, which means that negative information is more diagnostic than positive information.

3.2. The Model

We continue to use the mathematical representation of cue diagnosticity in model building and analysis. The literature on cue diagnosticity does not explicitly describe the process of generating information. The process is usually implicitly assumed, such as "positive information predominates". Also, the process of information generation is not strategic in the sense that the party generating information does not consider the interpretation process of information receiver and user. A sales communication between salesperson and customer is strategic because of the setting where the salesperson has incentive to induce the customer to purchase due to monetary incentive and the customer understands the salesperson's monetary motive. For this reason, we use a game theoretic approach to model the communication.

3.2.1. Model Setup

In the case where a salesperson sells two products that pay the salesperson different commissions, there are three possibilities: the salesperson communicates the quality of the less profitable product, the quality of the more profitable product, and the quality of both products. If the quality of the product with the higher commission is uncertain and the salesperson talks about the quality of the product, the negative effect is expected. This model is solved but not presented in this paper. Instead, we focus on the case where the target of the sales message is the less profitable (for the salesperson) product. The model is presented and analyzed below.

Consider a sales encounter where a salesperson sells two products, indexed by $j \in \{1,2\}$, and a buyer who buys one of the two products or nothing. Products are characterized by (p_j, q_j, c_j), where p_j is price, q_j is quality, and c_j is commission the salesperson receives from selling product j. We assume that product 1 is more profitable than product 2 to the salesperson, i.e. $c_1 > c_2$. The quality of product 2, q_2, is the salesperson's private information, and other product characters, p_j, c_j, and q_1 are known to both the salesperson and the buyer. The quality of the less profitable product, q_2, is a random variable drawn from a common knowledge distribution $F(q_2)$ with an interval $Q_2 = [\underline{q}_2, \overline{q}_2]$, such that $\overline{q}_2 > \underline{q}_2 \geq 0$.

Denote the buyer's monetary value of product j as $w(q_j)$, which is strictly increasing in q_j. For simplicity, we assume $w(q_j) = q_j$. The buyer's payoff from purchasing product j is $q_j - p_j$ and the value of no purchase is normalized to 0. We assume $\bar{q}_2 - p_2 > q_1 - p_1 > max\{\underline{q}_2 - p_2, 0\}$. Following Charness and Rabin (2002), the selling utility of the salesperson is given by

$$V_j^t = tU_j + (1 - t)c_j, \quad (1)$$

where t represents the extent to which the salesperson considers the buyer's payoff. When $t = 0$ the salesperson considers his own payoff and becomes more concerned with the buyer's payoff as t increases. There are two types of salespersons: "altruistic" and "self-interested" ($t \in \{a, s\}$), such that $1 > a > s = 0$. The prior probability that the salesperson is altruistic is 0.5, which is common knowledge.

The sequence of the game is as follows. First, Nature draws the salesperson type and the quality of q_2. Other variables are exogenously given and known to both the salesperson and the buyer. The salesperson sends a message about the quality of the less profitable product, i.e., q_2 as a form of unverifiable and costless message (e.g., Crawford & Sobel, 1982). The message is denoted by $\mu_2 \in Q_2$. The buyer updates her belief and makes a purchase decision.

We assume the existence of an altruistic salesperson. Discussions of this assumption are in order. First, several studies show empirically that economic agents care about the other's payoff. Researchers have developed formal models of other-regarding preferences that assume that people not only self-interested, but also care about other people's payoff. Examples include altruism (Charness & Rabin, 2002), relative income and envy (Bolton, 1991), inequality aversion (Fehr & Schmidt, 1999; Bolton & Ockenfels, 2000), and altruism and spitefulness (Levine, 1998). Several previous studies have applied some of these

models to address important issues in marketing (e.g., Cui et al., 2007; Guo, 2015; Guo & Jiang, 2016; Jiang et al., 2014). In the present study, we assume that the salesperson who possesses product information may be altruistic and apply the model of Charness and Rabin (2002) to examine the effect of message valence in a sales encounter. Most previous studies in the stream of literature on other-regarding preferences apply the inequity aversion model, in which players are motivated to reduce the difference between their payoffs and others' payoffs when their payoffs are smaller than others' payoffs. Unlike previous studies, this study uses the model of social welfare preference (or altruism). Previous studies have empirically demonstrated altruistic preferences (e.g., Andreoni & Miller, 2002; Charness & Rabin, 2002; Engelmann & Strobel, 2004) and presented a model of social welfare preference. Second, people are heterogeneous in the extent to which they consider the (monetary) payoffs of others. The assumption that the salesperson is either self-interested or altruistic is a reasonable one. We model a sales encounter where the buyer does not know the salesperson, so we assume that whether the salesperson is altruistic or self-interested is salesperson's private information.

3.2.2. Analysis

Product preference. The buyer prefers product 2 if its quality is high enough and prefers the other product if it is not. Letting $\hat{q}_2$ be the cutoff value of q_2 that makes the buyer indifference between the two products, we have the following equation:

$$\hat{q}_2 - p_2 = q_1 - p_1 \Leftrightarrow \hat{q}_2 = q_1 - p_1 + p_2 \qquad (2)$$

Let Q_2^B be $\{q_2 | q_2 \leq \hat{q}_2\}$ and Q_2^G be $\{q_2 | q_2 > \hat{q}_2\}$. If the (expected) quality of product 2 belongs to the region Q_2^I (or Q_2^{II}), the buyer prefers product 1 (or product 2).

The self-interested salesperson wants to sell product 1, which has a higher commission than product 2. Unlike the self-interested type of salesperson, the altruistic type of salesperson may or may not prefer selling product 1, depending on the true quality of product 2. The altruistic salesperson prefers to sell product 1 if the quality of product 2 is not too high. Otherwise, he prefers to sell product 2. Denote the cutoff value for the altruistic salesperson as $\tilde{q}_2$, which is obtained by the following equation,

$$a(\tilde{q}_2 - p_2) + (1-a)c_2 = a(q_1 - p_1) + (1-a)c_1$$
$$\Leftrightarrow \tilde{q}_2 = q_1 - p_1 + p_2 + \frac{1-a}{a}(c_1 - c_2). \qquad (3)$$

Let Q_2^L and Q_2^H be $\{q_2 | q_2 \leq \tilde{q}_2\}$ and $\{q_2 | q_2 > \tilde{q}_2\}$, respectively. The altruistic type prefers to sell product 1 if $q_2 \in Q_2^L$ and product 2 if $q_2 \in Q_2^H$. Note that $\tilde{q}_2 > \hat{q}_2$, implying the buyer's interest partially conflicts with that of the altruistic salesperson. If $q_2 > \tilde{q}_2$, both the buyer and the altruistic salesperson prefer the less profitable product. Similarly, both the buyer and the altruistic salesperson prefer to sell product 1 if $q_2 \leq \hat{q}_2$. The altruistic salesperson's interest conflicts against the buyer's interest when $\tilde{q}_2 > q_2 \geq \hat{q}_2$. These cutoff values are plotted in Figure 1.

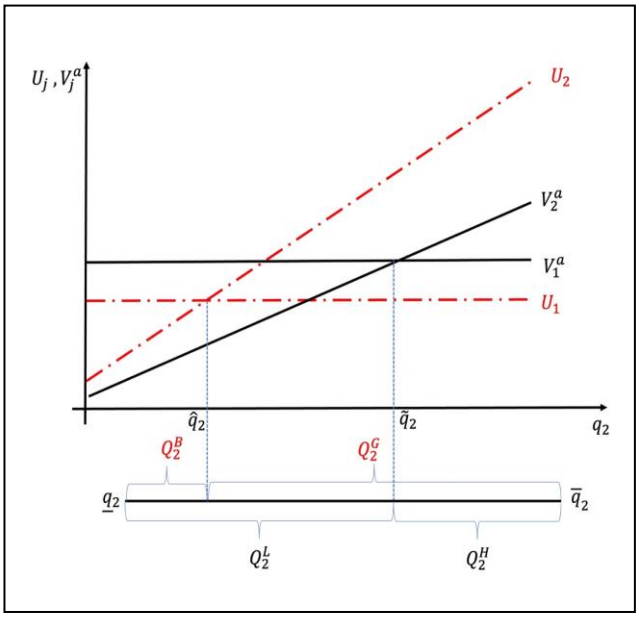

Figure 1 Cutoff values of the buyer and the altruistic salesperson (source: own)

In short, there are two types of partition: one summarizing the altruistic salesperson's preference and the other summarizing the buyer's preference. We define the upper subset representing the buyer's preference, i.e., Q_2^G, as the good category and the lower subset, i.e., Q_2^B, as the bad category. Similarly, I define Q_2^H as high segment and Q_2^L as low segment. Note that $Q_2^H \subset Q_2^B$, which shows the partial conflict between the buyer and the altruistic salesperson.

Existence of informative equilibrium. The equilibrium concept we use is that of perfect Bayesian equilibrium. We focus on informative and influential equilibrium (Sobel 2013). Communication is informative if the buyer updates her prior belief after receiving a sales message, and influential if the sales message affects the buyer's purchase decision on the equilibrium path. A communication strategy for the salesperson determines which message to send as a function of the quality of product 2. The buyer estimates the expected quality given the prior distributions, the salesperson's strategies, and the salesperson's message.

Suppose that there exists an influential equilibrium. The buyer's purchase decision is binary: buy product 1 or product 2. There are two sets of messages, namely $\mathrm{M}_2^{\mathrm{A}}$ and $\mathrm{M}_2^{\mathrm{B}}$, such that the buyer buys product 1 if $\mu_2 \in \mathrm{M}_2^A$ or purchases product 2 if $\mu_2 \in \mathrm{M}_2^B$ in the influential equilibrium. Thus, we have the following conditions for the influential equilibrium,

$$E[q_2|\mu_2 \in \mathrm{M}_2^A] \leq \hat{q}_2, \quad \hat{q}_2 > E[q_2|\mu_2 \in \mathrm{M}_2^B]. \tag{4}$$

The altruistic type of salesperson randomizes message within M_2^L if $q_2 \leq \tilde{q}_2$, and within M_2^H if $q_b > \tilde{q}_2$. If this is not the case, there exists a profitable deviation for the altruistic salesperson. Therefore, in the influential equilibrium, we have $\mathrm{Q}_2^L = \mathrm{M}_2^A$ and $\mathrm{Q}_2^H = \mathrm{M}_2^B$. The self-interested type randomizes message within Q_2^L for all q_2 in the influential equilibrium. In sum, we have the following proposition for the existence of the influential equilibrium.

Proposition 1: If $E[q_2|\mu_2 \in Q_2^L] \leq \hat{q}_2$, *there exists an informative and influential equilibrium in which the quality information is partially revealed by the altruistic salesperson. The equilibrium strategies are summarized as follow:*

[1]. The self-interested salesperson's strategy: rand omize message within Q_2^L for all q_2
[2]. The altruistic salesperson's strategy: randomize message within Q_2^L if $q_2 \in Q_2^L$, and within Q_2^H if $q_2 \in Q_2^H$.
[3]. Buyer's strategy: the buyer buys product 1 if $\mu_2 \in Q_2^L$ and product 2 if $\mu_2 \in Q_2^H$.

The equilibrium strategies are explained verbally below. The altruistic salesperson sends a positive (negative) message when the quality is in the high (low) segment. The self-interested salesperson sends negative message regardless of the true quality. The buyer purchases product 2 if she receives the positive message because the expected quality of product 2 conditional on positive message is good enough to buy. She purchases product 1 when receiving the negative message because the expected quality of product 2 conditional on the negative message is sufficiently low. This is the equilibrium strategies if $E[q_2|\mu_2 \in Q_2^L] \leq \hat{q}_2$.

The credibility of the sales messages. In the influential equilibrium, the positive message is sent if and only if the salesperson is altruistic and the true quality of product 2 is in the high segment. In other words, the true quality of product 2 is in the high segment when the positive message is sent. This implies that $Pr(q_2 \in Q_2^H|\mu_2 \in Q_2^H) = 1$. However, the true quality of product 2 can be high even if the message is negative. This is due to the possibility of self-interested type. I have $Pr(q_2 \in Q_2^L|\mu_2 \in Q_2^L) < 1$.

Proposition 2: *In the informative and influential equilibrium,* $Pr(q_2 \in Q_2^H|\mu_2 \in Q_2^H) > Pr(q_2 \in Q_2^L|\mu_2 \in Q_2^L)$. *In other words, a positive message is more credible than a negative message.*

The diagnosticity of the sales messages. In our model, the buyer's purchase decision is whether to buy product 1 or product 2. The buyer is interested in whether the quality of product 2 is in the good category or in the bad category. The categorization of interest is to assign product 2 to the good category if $q_2 > \hat{q}_2$ and to bad category if $q_2 \leq \hat{q}_2$. Thus, the probability that product 2 is a good product (i.e., the quality of product 2 is in the good category) conditional on the positive message indicates the extent to which the positive message is diagnostic. Similarly, the probability that product 2 is bad (i.e., the quality of product 2 is in the bad category) conditional on the negative message represents the extent to which the negative message is diagnostic Therefore, $Pr(q_2 \in Q_2^G|\mu_2 \in Q_2^H)$ and $Pr(q_2 \in Q_2^B|\mu_2 \in Q_2^L)$ measure the diagnosticity of the positive cue and that of the negative cue, respectively. Regarding the effect of message valence on cue diagnosticity, we have the following proposition.

Proposition 3: *In the influential equilibrium,* $Pr(q_2 \in Q_2^G|\mu_2 \in Q_2^H) > Pr(q_2 \in Q_2^B|\mu_2 \in Q_2^L)$. In other words, the positive message is more diagnostic and informative than the negative message.

The sales message does not only convey quality information, but also reveals the salesperson's type. Note that the positive message is sent only by the altruistic type when the quality of product 2 is sufficiently high. The buyer concludes that the salesperson is altruistic after receiving the positive message, i.e., $Pr(t = a|\mu_2 \in Q_2^H) = 1$. The positive message is a diagnostic cue to infer the salesperson's altruistic type. Unlike the positive message, the negative message is an ambiguous cue to infer the salesperson's type. When the buyer receives a negative message, either the salesperson is self-interested, or the salesperson is altruistic and the quality of product 2 is sufficiently low. Thus, the buyer is uncertain about the salesperson's type when receiving a negative message, i.e., $Pr(t = a|\mu_2 \in Q_2^L) < 1$ and $Pr(t = 0|\mu_2 \in Q_2^L) < 1$.

Proposition 4: *In the informative and influential equilibrium,* $Pr(t = a|\mu_2 \in Q_2^H) > Pr(t = 0|\mu_2 \in Q_2^L) > Pr(t = a|\mu_2 \in Q_2^L)$. *In other words, the probability that a salesperson is altruistic is higher when the buyer receives a*

positive message than a negative message.

3.2.3. Numerical example

Consider the following example: $Q_2 = \{2,3,4,5,6,7,8,\}$, f is a discrete uniform distribution on Q_2, and $q_1 - p_1 = 3.7, p_2 = 1, a = 0.5, c_1 = 4, c_2 = 2$. These easily lead to $\hat{q}_2 = 3.7 + 1 = 4.7$ and $\tilde{q}_2 = 3.7 + 1 + 0.5/0.5\,(4 - 2) = 6.7$. The buyer purchases product 2 if the (expected) quality of product 2 is larger than 4.7 and purchase product 1 otherwise. This implies that $Q_2^B = \{2,3,4\}$ and $Q_2^G = \{5,6,7,8\}$. The altruistic salesperson transmits positive message if $q_2 = 7$ or 8 or negative message otherwise. This implies that $Q_2^L = \{2,3,4,5,6\}$ and $Q_2^H = \{7,8\}$. Therefore, we have $E[q_2|\mu_2 \in Q_2^L] = 4.5$, which is less than $\hat{q}_2$. Therefore, influential equilibrium exists. When the buyer receives the positive information, the quality of product 2 is either 7 or 8 and the true quality is in the good category. However, when the buyer receives the negative information, the quality of product 2 is not always in the bad segment. The quality may be 6, 7, or 8. In summary, the positive message is more diagnostic and informative than the negative message.

4. Experimental Investigation

Our analysis provides a game-theoretic explanation for the positivity effect when the sales message is about the less profitable product. It also shows that the buyer perceives the salesperson as more altruistic when she receives a positive sales message about the less profitable product than when she receives a negative sales message about the less profitable product. This chapter explores these findings experimentally.

Two experiments were conducted to document both the negativity and positivity effects. Study 1 shows the robustness of the negativity effect when the target of sales messages is the more profitable product. In contrast, Study 2 documents the positivity effect when the sales message targets the less profitable product, which is the case in the present model. As shown in Figure 2, we intentionally minimize the difference between the stimuli of the two studies. In both studies, participants were shown two products with product photos and brief descriptions. The focal product in both studies is the T-Max 5.0 Commuter Bike, which is relatively more expensive in Study 1 and relatively less expensive in Study 2. The photo and short description of the T-Max 50. Commuter Bike is the same in both studies. The non-focal products, T-Max 3.0 in Study 1 and T-Max 7.0 in Study 2, are identical except for price and brand name.

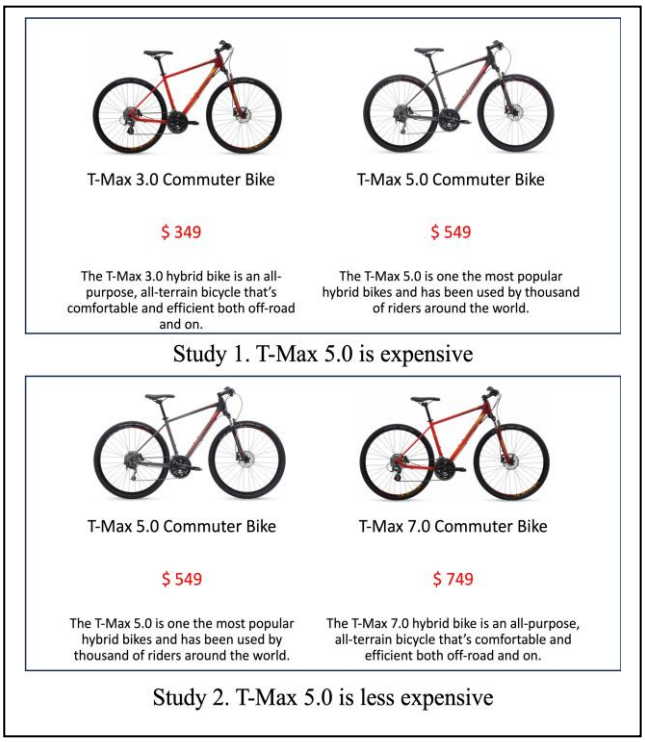

Figure 2 Stimuli in Two Studies (source: own)

4.1. Study 1

4.1.1. Method

Participants and design. Two hundred adult participants located in the United Kingdom (Mage = 39.34) were recruited from an online panel in exchange for small monetary compensation. They were randomly assigned to a positive message condition or a negative message condition.

Procedure. After obtaining consent to participate in the study, all participants were asked to imagine that they were in a bicycle shop and had encountered two bicycles: T-Max 3.0 Commuter Bike and T-Max 5.0 Commuter Bike, such that the T-Max 3.0 Bike is priced at $349 and the T-Max 5.0 Bike is priced at $549. Participants were given brief product descriptions and photos of the two bikes. Participants were then told to imagine that they were approached by a salesperson named Mike who gave them the following message about the T-Max 5.0 Commuter Bike. The salesman said, "The quality of the T-Max 5.0 is good (bad). My customer's evaluation of the model is high (low)". In the positive (negative) state. The message was kept simple so that the valence of the message varied, and no other quality indicators were present.

After this, participants also indicated their perceived usefulness, credibility, informativeness, and trustworthiness of the sales message along with scales (1 = "strongly disagree," and 7 = "strongly agree"). Then, they indicated

their attitude towards the salesperson, perceived helpfulness, altruism, and honesty of the salesperson along with scales (1 = "strongly disagree," and 7 = "strongly agree").

4.1.2. Results

Perception of the sales message. Participants' perceptions of the sales message about the more expensive bicycle were analyzed. The means are tabulated in Table 1. The analysis revealed significant effect of message valence on perceived usefulness, credibility, informativeness, and trustworthiness of the sales message. The negative message clearly led to more favorable perceptions at the 1% significance level. Study 1 confirmed the negativity effect.

Table 1: Mean message perception as a function of message valence

Variable	Negative Message	Positive Message	F	p
Usefulness	5.80	4.09	80.16	<0.01
Credibility	5.46	4.12	48.21	<0.01
Informativeness	5.58	4.06	50.71	<0.01
Trustworthiness	5.30	3.81	60.31	<0.01

Note: source own

Attitudes toward the salesperson. Participants' attitudes and perceptions of the salesperson were analyzed. Mean scores are tabulated in Table 2. Significant effects of message valence on attitudes toward and perceptions of the salesperson were analyzed. Participants formed more favorable attitudes when they received negative messages than when they received positive messages (M = 5.05 vs. 4.38). They perceived the salesperson as more helpful (M = 5.20 vs. 3.43), more altruistic (M = 5.04 vs. 3.11), and more honest (M = 5.35 vs. 3.85) when they received the negative message than the positive message.

Table 2: Mean evaluation of salesperson as a function of message valence

Variable	Negative Message	Positive Message	F	p
Attitude	5.05	4.38	17.62	<0.01
Helpfulness	5.20	3.43	70.84	<0.01
Altruism	5.04	3.11	81.90	<0.01
Honesty	5.35	3.85	71.36	<0.01

Note: source own

4.1.3. Discussion

The model where the salesperson sends a message about the more profitable product was analyzed but not included in this paper. The rationale for the negativity effect is similar to the rationale for the positivity effect of the model presented in Chapter 3. If the salesperson is self-interested, he has an incentive to push the more profitable product, so he sends a positive message. If the salesperson is altruistic, he has some incentive to reveal the true quality if the quality of the more profitable product is sufficiently low. Thus, the negative message is more diagnostic than the positive message. Also, the negative message is only sent by the altruistic salesperson.

As expected, the negative message created a more favorable perception of the sales message. Participants also perceived the salesperson more favorably when they received the negative message than when they received the positive message.

4.2. Study 2

4.2.1. Method

One hundred and ninety-nine participants from the United Kingdom (Mage = 39.02) were recruited from an online panel in exchange for a small monetary compensation. The design and procedure of Study 2 was almost identical to that of Study 1, except that the T-Max Commuter Bike 5.0 was paired with a more expensive model, the T-Max Commuter Bike 7.0. The price of the T-Max Commuter Bike was $749. The salesperson named Mike said either a positive or negative message about the T-Max Commuter Bike 5.0, which is the less expensive model in Study 2.

4.2.2. Results

Perception of the sales message. The means are tabulated in Table 3. The positivity effect was confirmed at the 1% significance level. Participants who received the positive message perceived the sales message as more useful than participants who received the negative message ($M_{positive}$ = 5.53 vs. $M_{negative}$ = 4.60). The positive message was perceived as more credible (M = 5.53) than the negative message (M=3.91). The positive message was perceived as more informative (M = 5.20 vs. 4.40) and more trustworthy (M = 5.07 vs. 3.80). Table 3 summarizes mean message perception.

Table 3: Mean message perception as a function of message valence

Variable	Negative Message	Positive Message	F	p
Usefulness	4.60	5.53	24.53	<0.01
Credibility	3.91	5.53	83.78	<0.01
Informativeness	4.40	5.20	15.90	<0.01
Trustworthiness	3.80	5.07	46.50	<0.01

Note: source own

Attitudes toward the salesperson. The table of means is presented below. Participants created more favorable attitudes when they received a positive message (M = 5.07) than when they received a negative message (M = 4.00).

They perceived the salesperson as more helpful (4.72 vs. 3.65), more altruistic (4.40 vs. 3.4), and more honest (4.90 vs. 3.80) when they received the positive message than the negative message. All effects were significant at the 1% level. Means and test results are tabulated in Table 4.

Table 4: Mean evaluation of salesperson as a function of message valence

Variable	Negative Message	Positive Message	F	p
Attitude	4.00	5.07	46.09	<0.01
Helpfulness	3.65	4.72	22.85	<0.01
Altruism	3.40	4.40	19.82	<0.01
Honesty	3.80	4.90	32.73	<0.01

Note: source own

4.2.3. Discussion

Study 2 showed that participants perceived the positive information as more useful, credible, informative, and trustworthy, confirming Proposition 2 and 3 of the model in Chapter 3. Proposition 4 was also supported by the analysis of attitudes toward the salesperson.

5. Conclusion

We developed a model of sales communication with a potentially altruistic salesperson and conducted experiments to examine how message valence affects sales message perception. The model predicts the positivity effect: a positive sales message is more credible, diagnostic, and informative than a negative message when the target of the sales message is relatively less profitable for the salesperson. It also finds that a positive message signals that the salesperson is altruistic. Both predictions are experimentally supported.

This study has several substantive contributions. First, this study is one of the few studies to empirically examine how message content affects perceptions of the sales message and evaluations of the salesperson who delivers the message. This study finds that a positive message may be more diagnostic and informative than a negative message, contrary to the general findings of previous studies. Second, this study also contributes to the literature on customer trust in a salesperson by examining an antecedent of this trust: it shows that message valence has an effect on perceived altruism and honesty of the salesperson and attitude. Third, a substantial body of research on costless and unverifiable communication (i.e., cheap talk) has examined the conditions for credible communication and its impact on profits. To the best of my knowledge, this study is the first to theoretically examine the effect of message valence and message content characteristics. Finally, this study contributes to the small literature on sales communication in the context of retailing. It sheds light on how a retailer delivers a credible sales message and how to develop trust with customers.

This study has practical implications by providing a basis for developing trust with a salesperson. The salesperson is one of the least trusted sources of information. It is important to understand how a salesperson can develop trust and form a favorable evaluation of the salesperson. Sending a positive (negative) message about a less (more) profitable product could be a good strategy to develop a trustworthy relationship between a salesperson and a customer.

Despite these contributions, there are some limitations. The model examines a restricted case and needs to be extended to a more general setting. It assumes that the quality of the more profitable product is known to the buyer and that of the less profitable product is not. This case is similar to the case where the more profitable product is a well-known brand and the less profitable product is an unknown brand. Although this case is often observed in real markets, it loses some generalizability. Also, the model assumes unidimensional uncertainty and message, i.e., only one product's quality is unknown and communicated, and it is worth considering the multidimensional case where the qualities of both products are the seller's private information. I also assume that the seller sells two products. It is worth investigating whether positive or negative effects hold when there are more than two products sold by a salesperson. One of the practical implications is that a positive sale message about a less profitable product could lead to a trustworthy relationship between a salesperson and a buyer. However, I have not investigated a dynamic model that explores whether the favorable evaluation of the salesperson formed by a positive message has an impact on subsequent sales encounters. It will lead to more concrete and practical implications.

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