An explorative analysis of salespeople's emotions and their effect on the selling situation perceived by the buyer

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Abstract:

Although emotions play a key role in the sales process there is little research on this topic to date. There is general consent that salespeople's ability to perceive emotion is a crucial factor for sales performance. Nevertheless, consequences of salespeople's emotion expressions are underexplored. As facial expressions are strong indicators for emotions, this paper analyzes sales conversations by employing computer-based facial expression analysis. An explorative analysis of the data revealed that the most important emotions during sales conversations are joy and surprise, with surprise having the greatest impact on the evaluation of the selling situation. This paper is a first step in helping to understand the effects of emotion expressions on the selling situation.

Keywords: Emotions, Sales Conversation, Facial Expression Analysis

Track: Sales Management and Personal Selling

1 Introduction

Emotions are essential in all kinds of social exchange, and thus affect the dynamics of interpersonal interaction (Lawler, 2001). Emotions are significantly shaping the initiation, the development and the retention of relationships over time (Anderson & Kumar, 2006). Hence, negative emotions can lead to serious consequences, including the termination of relationships. The role of emotions in business relationships have been neglected in research for a long time. Human behavior was explained by the cognitive abilities of the communicators. Limited information-processing abilities were considered as reasons for failure in communication (Kumar, 1997). However, researchers of different disciplines are increasingly incorporating emotions in their theories.

Unfortunately, little research about the role of emotions related to sales can be found. Anyhow, given the importance of emotions in conversations, it is crucial for sales representatives to understand the occurrence and role of emotions in a sales situation (Kopelman et al. 2006). Sales representatives should therefore be able to assess the power of emotions and use them as a tool for bargaining. Furthermore, they should be capable of managing and taking advantage of their emotional inventory. In other words, emotional intelligence plays a key role in the sales process. Ogilvie and Carsky (2002) claim that novice negotiators often assume good negotiations to be cool and unemotional. However, they emphasize that "the key to success is to be aware of the emotional components, to understand their role, and to manage them" (Ogilvie & Carsky 2002, 382).

Human communication includes not only spoken language but also non-verbal information such as gestures, facial expressions and tone of the voice. Among these non-verbal cues, facial expressions are widely accepted as strong indicators for emotions (Ekman 1993, Keltner & Ekman 2000). Ekman and Friesen (1976) developed the Facial Action Coding System (FACS), which has long been considered a standard in facial recognition research. FACS consists of 46 observable action units (AUs) from which emotions can be derived by human coders (Ekman & Friesen, 1976). This coding process is time- and labor-intensive. Recent developments in automated facial recognition allow for new possibilities in research and may overcome the limitations of human-based FACS coding. Computer-based facial expression analysis mimics our human coding skills quite impressively as it captures raw, unfiltered emotional responses. Thus, this paper employs automated facial recognition in sales conversations in order to explore the effects of emotions in the sales situations perceived by the buyer.

2 Literature Review - Emotions in Sales Situations

Due to characteristics such as opportunistic behavior or emotional reactions, selling situations, such as sales presentations or negotiations, cannot be considered as strictly rational processes. Previous research shows many aspects of personal selling and sales management inherently have affective elements (Erevelles & Fukawa, 2013), and thus, affect and emotions are playing a crucial role during the whole sales process (Kidwell, McFarland & Avila, 2007; Morris & Keltner, 2000; Van Kleef, De Dreu & Manstead, 2004). Even considerably weak emotional reactions can lead to misunderstandings and, therefore, may have a major impact on the sales context and outcome (Adler, Rosen & Silverstein, 1998; Allred et al., 1997; Fulmer & Van Kleef, 2004). Furthermore, literature suggests that it is crucial for sales people to understand the occurrence and role of emotions in sales situations (Kidwell, McFarland & Avila, 2007; Kopelman, Rosette & Thompson; 2006).

According to the literature, the term affect is commonly regarded as an umbrella term that covers emotion, mood and feeling (Bagozzi, Gopinath, & Nyer, 1999; Cohen, Pham, & Andrade, 2008), whereas emotions are often described as more intense affective feelings (Cohen, Pham, & Andrade, 2008; Hosany & Prayag, 2013). Research on affect and emotions in personal selling has generally focused on the consequences of moods, feelings and emotions expressed by sales people in a sales situation. For instance, Verbeke and Bagozzi (2002) explore the role of shame and embarrassment and find that these feelings lead to protective reactions, which negatively influence performance. George (1998) finds that the positive mood of salespeople potentially facilitates helping behaviors toward customers. Kidwell, McFarland, and Avila (2007) state that the ability to accurately appraise the emotions of others has an impact on the performance of adaptive selling and customer-oriented selling. Kumar (1997) studies the role of affect in negotiations. As emotions can affect the negotiation process in very different ways (depending on the specific context), he develops a theoretical framework of the negotiation process, which is intended to examine negotiating dynamics in specific instances.

Furthermore, emotions are shaping the buyer-seller relationship significantly. In this context, trust (Andersen and Kumar, 2006; Doney and Cannon, 1997) and empathy (Dawson, Soper, and Pettijohn, 1992) are important predictors of sales performance. In their meta-analysis, Wood et al. (2008) find that a customer's perception of a salesperson's expertise is positively related to the customer's trust of the salesperson. Even though authors found that

trust is inherently emotional (Jones and George, 1998) and that trust based on emotions is deeper and more stable than trust based on purely rational aspects (McAllister, 1995), trust is still mainly viewed as a cognitive or rationalistic construct in the literature (Andersen & Kumar, 2006).

However, the question of which emotions are most relevant in a sales process remains largely unanswered. Bagozzi (2006) attempts to identify the most relevant emotions by a literature review. He identifies four positive (pride, attachment, empathy, and emotional wisdom) and six negative (guilt, shame, embarrassment, envy, jealousy, and social anxiety) emotions playing a key-role in seller-buyer relations. The author focuses on social emotions, which differ from basic emotions (e.g. happiness, anger, fear, joy, …) in some points. According to Bagozzi (2006) social emotions cause certain hardwired reactions to specific situations (like basic emotions) but they relate directly to interpersonal relationships whereas basic emotions concern personal outcomes.

Previous empirical studies exploring the role of affect and emotions in the sales context use self-reported measures. However, self-reported measures have inherent shortcomings, especially in connection with emotions. According to the literature, they elicit socially acceptable answers (Wiles & Cornwell, 1991), respondents may not remember or be aware of the emotions they have experienced, and they capture a consumer's perception of the emotional response rather than the emotional response itself, which may lead to threats to the reliability and validity of the research results (Poels & Dewitte, 2006). Thus, this paper employs a psychophysiological measure, namely face recognition, to capture emotions during a sales conversation.

3 Methodology

Data was collected in an undergraduate sales management class. The students were asked to hold a sales conversation about a self-chosen product in pairs. The face of the seller was recorded using iMotions biometric research platform. iMotions biometric research platform is one single software platform and integrates a number of biometric technologies (eyetracking, GSR, facial recognition, and EEG). To gain deeper insight into human emotional reactions via facial expressions, iMotions integrates the AFFDEX algorithm by Affectiva Inc. (El Kaliouby & Robinson, 2005; McDuff, El Kaliouby, Kassam, & Picard, 2010). The algorithm builds on EMFACS mappings developed by Ekman and Friesen (Ekman & Friesen, 2003; Ekman & Rosenberg, 1997) and uses FACS classified pictures as

training database. iMotions detects changes in key face features (i.e., facial landmarks such as brows, eyes, and lips) and the affective emotion predictors use the observed facial expressions as input to calculate the likelihood (between 1 to 100) of an emotion. A facial expression can have either a positive or a negative effect on the likelihood of an emotion.

To keep the selling situation as authentic as possible, the webcam was fixed on a water jug on the table between buyer and seller. After the conversation was finished, the buyer filled out an online questionnaire including eight questions regarding the atmosphere, the seller behavior (5-point Likert), and demographics. Altogether 22 conversations and questionnaires were recorded and analyzed.

4 Results

22 sales conversations were recorded with an average duration of 12.22 minutes (maximum 17.36, minimum 4.1). Most of the students (15) had no experience in the field of sales management, whereas only four students indicated that they have at least one year of experience. In six conversations the seller was female and in 16 conversations male. 21 students were aged between 18 and 28 years.

For emotion detection, a threshold of 50 % likelihood that the identified facial expressions reflect the specific emotions for each emotion detected was used. A 50 % likelihood can be seen as a moderately strong display of facial response. The occurrence of specific emotions is illustrated as percentage of the total time of the sales conversation above this 50 % likelihood. Regarding the occurrence of specific emotions in the sales conversations held, data reveals a greater proportion of joy (5.44 %) and surprise (3.89 %) compared to anger (0.16 %), sadness (0.15 %), disgust (0.47 %), fear (1.05 %), and contempt (0.59 %). Engagement (22.24 %) was relatively high and positive valence (4.46 %) exceeded negative valence (3.28 %). Engagement is general measure of overall expressiveness and can be described as emotional responsiveness, whether positive or negative. It is calculated as the mean of the highest evidence scores from the upper (brow raise, brow furrow, nose wrinkle) and lower face region (lip corner depressor, chin raise, lip pucker, lip press, mouth open, lip suck, smile), respectively. Valence is a measure of the positive or negative nature of the participant's experience. Factors that increase the likelihood of positive valence include smile and cheek raise. Factors that increase the likelihood of negative valence include inner brow raise, brow furrow, nose wrinkle, upper lip raise, lip corner depressor, chin raise, lip press, lip suck (https://imotions.com/affectiva/).

To test for independent sample differences some non-parametric tests were performed. As the analysis is intended to be explorative in the first step, no hypotheses were formulated. The Kruskal-Wallis test reveals significant differences for the emotion of joy between three different age groups (p-value: <.05) with the highest percentage of joy in the youngest group of students (aged 18-22) and the second highest value for students aged between 23 and 28 years.

Furthermore, Mann-Whitney U-tests reveal differences between female and male sellers. Female salespeople rarely show the emotion disgust during the sales talks compared to male sellers (p-value: <.05). In contrast, the emotion of joy is identified much more often in conversations with female sellers than with male ones (p-value: <.05). There are also significant differences for engagement (p-value: <.01) and positive overall valence (p-value: <.05) between men and women with women showing a much higher degree for both aspects than men.

Six out of seven emotions are significantly correlated with self-reported ratings of the sales conversation. As shown in Table 1, the more often joy occurs during the sales conversation, the more likely the seller is considered to be goal oriented ($r=0.51$, $p<0.05$). In contrast, contempt and goal-orientation is negatively correlated ($r=-0.61$, $p<0.01$). Anger and disgust are both negatively related with 'the seller showed his expertise' ($r=-0.51$, $p<0.01$ and $r=-0.43$, $p<0.05$). Sadness and surprise are negatively correlated with 'the seller was flexible' ($r=-0.52$, $p<0.05$ and $r=-0.43$, $p<0.05$). For the emotion surprise, the most significant correlations can be detected. Surprise is negatively correlated with the items 'the seller was self-controlled' ($r=-0.60$, $p<0.01$), 'positive atmosphere' of the conversation ($r=-0.43$, $p<0.05$), and 'the seller has taken the initiative' ($r=-0.45$, $p<0.05$). No correlation are found for fear and engagement.

	Anger	Sadness	Disgust	Joy	Surprise	Fear	Contempt
showed his expertise	**-.546****	-0.184	**-.431***	-0.289	-0.143	-0.302	0.239
has actively listened	0.029	-0.177	0.213	0.022	-0.338	-0.371	0.349
was self-controlled	0.000	0.010	0.019	0.043	**-.603****	0.029	0.093
was flexible	-0.015	**-.518***	0.232	0.159	**-.431***	-0.118	-0.052
showed empathy	0.100	0.133	-0.253	0.125	-0.313	0.163	-0.231
created a positive atmosphere	-0.082	-0.046	-0.236	0.044	**-.432***	-0.071	-0.152
acted goal-oriented	-0.058	-0.318	-0.202	**.509***	-0.236	0.123	**-.610****
has taken the initiative	0.198	0.048	-0.101	-0.062	**-.446***	-0.260	0.052

Table 1. Correlations (Spearman-Roh)

5 Discussion and Conclusion

This paper is a first attempt to identify emotions that occur during a sales conversation based on automatic facial recognition. As little research on this topic could be found, the study is explorative in nature, and thus no assumptions were made beforehand. Nevertheless, valuable findings could be achieved, which can be built on in future research.

Findings suggest that joy (5.44 %) is the most common emotion in the conversations. Nevertheless, the frequency of joy does not play a major role in the assessment of the sales conversation by the buyer. Surprise, which ranks second in terms of frequency of occurrence (3.89 %), seems to be an important emotion to facilitate the buyer-seller relationship.

Surprise negatively affects many self-reported aspects. The higher surprise during the conversation was the lower the ratings for self-control, flexibility, positive atmosphere, and the proactivity of the seller. This finding suggests that a salesperson should focus on his sovereignty and be prepared for all eventualities in order to make a positive impression. Further, data reveal that 'expertise of the seller' significantly correlates with anger and disgust. The less anger and disgust the seller shows the more he could convince the buyer of his expertise. This result is consistent with the finding that joy is positively and contempt negatively related with goal-orientation. Thus, the more negative emotions are involved the worse the conversation experience is perceived by the buyer.

As far as limitations are concerned, it must be recognized that data was gathered from students' roleplays. The students were free to choose products to sell, but iMotions does not consider contextual information. However, research suggests that the context as well as situational factors might influence emotions (Mortillaro, Meuleman, & Scherer, 2015).

Second, iMotions' automated facial expression analysis has its inherent limitations. For instance, as the AFFDEX algorithm builds on EMFACS mappings (Ekman & Friesen, 2003; Ekman & Rosenberg, 1997) and uses FACS classified pictures as training database, which is based on the basic emotions theory. As a result, only basic emotions can be detected. However, according to Bagozzi (2006) social emotions differ from basic emotions and are more important in relationships. Furthermore, appraisal theorists argue that a direct relationship between facial expressions and emotions might be wrong (Mortillaro, Meuleman, & Scherer, 2015). As iMotions relies on this assumption, interpretation might be limited (Stöckli et al., 2018).

However, if one considers these limitations, the findings suggest significant relationships between basic emotions and the selling situation. Furthermore, behavioral differences between men and women have been found. As this research is explorative, future research should explore causal relationships in more detail. Moreover, this study was based on a very small student sample, future research should try to overcome these limitations by analyzing real sales situations.

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