

Examining the Relative Impact of Professional Profile Images and Facial Expressions in Small  
Business-to-Business Marketing Online

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### **Abstract**

This paper responds to a call for research on the context-specific effects of human images in different online contexts. This study investigates how inherent facial expressions in a consultant's profile image influence the likelihood to contact tendency of small business-to-business (B2B) website visitors. The results from a conjoint study (n = 68) demonstrate that a consultant's profile image with a smiling facial expression induced a higher likelihood to contact tendency. While the absence of a profile image reduced this tendency, relatively more than an image with a neutral facial expression. In light of these results, implications for small businesses as well as suggestions for future research are discussed.

*Keywords:* Small business enterprises, facial expressions, contextual influences, approach and avoidance, conjoint study, human-computer interaction,

**Research highlights**

- Facial expressions in a consultant's profile image influence customers in online B2B contexts.
- Facial expressions were the most important stimuli that encourage contact from customers.
- Smiling facial expressions had a positive impact on the likelihood to contact tendency.
- Absence of a profile image reduced the likelihood to contact.
- Human facial expressions can be used as a design element to positively influence visitors.

## 1. Introduction

Corporate websites have become one of the primary tools used by small businesses to communicate with potential customers. According to a recent survey by Google and Millward Brown Digital (Snyder and Hilal 2015), 89% of respondents in the study are using the Internet for business-to-business (B2B) research purposes. Moreover, the survey highlights that 71% of B2B researchers use a generic search and conduct 12 searches before engaging on a specific brand's website. This indicates that opportunities might be equal for small and large B2B organizations. Interestingly, the report further specifies that digitally native millennials comprise nearly half of the aforementioned B2B audience now (Snyder and Hilal 2015). It is safe to assume that e-commerce is a universally accepted (and expected) way to conduct B2B exchanges in the 21<sup>st</sup> century. Therefore, B2B websites often become the first point of interaction between prospective buyers and sellers. Thus, elements of B2B websites become crucial influencing factors which warrant further examination.

B2B decision-making is considered to be inherently more complex when compared to business-to-consumer (B2C) contexts (Fill 2005, Kotler and Pfoertsch 2006). Organizational buying procedures are comprised of relatively longer decision processes that generally involve more than one person (Solomon 2009, Fill 2005). Recent reports show that while C-suite and senior-level executives have final authority on purchase decisions, 81% of the non-C-suiters influence B2B decisions (Snyder and Hilal 2015). B2B environments have been targeted with marketing approaches that differ considerably from the average B2C marketing efforts. Traditionally, B2B customers are often thought of as being more "rational" than B2C customers. Therefore, B2B companies emphasize the practical traits of a product and its superior value. Marketing tactics directed toward B2B customers limit the use of emotional appeals and

implement a more information-oriented or functional approach in their efforts (Fill 2005, Lynch and De Chernatony 2004). However, disruptive signs show that B2B marketing strategies are now being modified to use tactics similar to those used in B2C marketing (see Kotler and Pfoertsch 2006, Lynch and De Chernatony 2004). Therefore, examining the influence of “non-functional” components, such as profile images, are deserving of research attention in certain B2B contexts.

As mentioned earlier, complexity is a characteristic attribute of B2B environments. This raises challenges in marketing the quality of B2B services. Service quality is difficult to evaluate in B2B environments (Virtsonis and Harridge-March 2008). Management consulting firms provide specialized services in the form of knowledge and expertise. As a result, the quality of intangible services (that a consultant might provide) might be more difficult to assess (for customers), even after the service has been rendered (Von Nordenflycht 2010). Based on some of the mechanisms described by Von Nordenflycht (2010), appearance is one of the ways firms can display the quality of their services. This refers to the observable characteristics of the firm’s employees (professional experience, educational attainment, physical appearance, etc.). Facial expressions are often classified as observable indicators of underlying affective states, which can have subsequent influences on the perceiver. Other common observable characteristics such as educational attainment and professional experience are basic qualifications for management consultants in European and US regions (see Gross and Poor 2008). Therefore, these observable characteristics were operationalized in this study (profile images and the inherent facial expressions, educational level, and professional experience).

Previous research on facial images in online environments demonstrate that incorporating human facial images implies social presence, and assists in building trust (Aldiri, Hobbs, and

Qahwaji 2008, Fogg et al. 2001, Steinbrück et al. 2002). Cyr et al. (2009) examined how the presence of human images influenced the perception of websites. They found that the presence of human images (with facial features) indicated social presence and can incite positive emotions (affective properties). However, as far as we know, previous studies examining the influence of human images and its subsequent impact on consumer behavior have not been conducted in B2B website contexts (e.g. Aldiri, Hobbs, and Qahwaji 2008, Fagerstrøm et al. 2017). Furthermore, Cyr et al. (2009) state that generalizations across contexts should not be made without investigation, as effects of facial images might be context-dependent. Since B2B customers use corporate websites to collect and examine information to facilitate decision-making (Virtsonis and Harridge-March 2008), elements like profile images can potentially have a significant impact in B2B contexts. The contribution of this research resides in examining factors that can influence conversion rates for small B2B firms. This study investigates how a consultant's profile image and its facial expressions affect a user's likelihood to contact small businesses B2B consultants online.

## 2. Literature review

Research in environmental psychology has utilized the stimuli-organism-response (S-O-R) framework to examine how behaviors are influenced by physical environments. Based on this paradigm, a model originally conceptualized by Mehrabian and Russell (1974) has been used extensively in management-oriented literature (especially retail) (e.g. Bitner 1992, Baker, Grewal, and Parasuraman 1994, Donovan et al. 1994). Within this model, environmental variables are identified as the main reasons for people's context-specific approach-avoidance behaviors (Mehrabian and Russell 1974, Russell and Mehrabian 1978). Internal states (emotions) mediate the relationship between the environment and approach-avoidance behavior. Naturally,

as this area of research progressed, the atmospheric influences of websites attracted the interest of researchers and practitioners. Eroglu, Machleit, and Davis (2001) used a similar conceptual stance and the S-O-R framework to study the effect of atmospheric elements in the online stores. They operationalized online atmospheric cues as the “stimuli,” shoppers’ internal states (affective or cognitive) as the “organism,” and approach-avoidance behaviors as the “response” (Eroglu, Machleit, and Davis 2001, 2003). Just as physical environments may invite or discourage interaction through their physical design, the same reasoning can be applied to study website design characteristics (Clark et al. 2009).

An adaptation of the atmospherics models proposed by Mehrabian and Russell (1974) and Eroglu, Machleit, and Davis (2001) was used as the conceptual basis for the present study. As highlighted by Donovan and Rossiter (1982), communication-related approach-avoidance behaviors can take the form of “a desire or willingness to communicate with others in the environment (approach), as opposed to a tendency to avoid interacting with others or to ignore the communication attempts from others (avoidance).” Therefore, we used “likelihood to contact” the B2B consultant as the dependent variable in this study. Furthermore, diverging from previous studies, we propose that approach or avoidance tendencies should be considered as an additional internal factor (organism). This allows us to generate assumptions about the effect of (internal) approach-avoidance tendencies on the dependent variable of “likelihood to contact.”

### *2.1 Facial expressions—positive and neutral*

Generally, smiling facial expressions are used to signal signs of happiness. The association of smiles with positive affective states stimulates favorable perceptions in observers. Hareli, Shomrat, and Hess (2009) state that the demonstration of certain emotional expressions leads others to attribute specific traits to the individuals who express these emotions and,

conversely, the knowledge that a person has certain traits leads people to expect certain emotional reactions from them. A study by Otta et al. (1994) clearly exemplifies this, as they found that stimulus images of smiling individuals resulted in favorable personality trait judgments by participants. The smiling facial expressions had a positive influence on the perceptions of observers. Similarly, several studies demonstrate that, in social contexts, the human smile is considered as a possible indicator of many prosocial qualities (e.g. Hess, Blairy, and Kleck 2000, Knutson 1996). Since a smiling individual is evaluated positively, observers may assume that the person is socially approachable, which might encourage possible interaction. Smiling facial expressions would, therefore, influence approach-avoidance related tendencies. Stins et al. (2011) conducted an experiment to test the influence of angry and smiling facial expressions (as social cues) on the tendency of people to approach or avoid the stimuli (by postural body movements). They found that participants needed less time to initiate a forward step toward smiling faces than toward angry faces. Taken together, these studies suggest that a smiling facial expression positively influences observers' expectations of certain emotional reactions, social characteristics, and collaborative behaviors.

While most facial expressions are associated with certain emotions, a neutral facial expression is considered to signify non-emotional reactions to stimuli. A neutral expression can also imply deliberate self-control of emotions (Schneider, Hempel, and Lynch 2013). In a study by Hareli, Shomrat, and Hess (2009), the participants perceived men who expressed neutral and angry emotions as higher in dominance when compared with men expressing sadness or shame. This dominance effect held only for men displaying angry and neutral expression and not for women displaying the same emotions (Hareli, Shomrat, and Hess 2009). This study also represents the common procedure used in facial expression research that utilizes neutral facial

expressions as a point of comparison with emotive facial expressions (e.g., happiness, sadness, anger, and fear expressions). These comparisons are used to examine the impact of certain expressions in different social contexts with regard to different psychological phenomena.

Many studies have contrasted the effects of smiling versus neutral facial expressions. Scharlemann et al. (2001) found that subjects were less likely to trust photographs of the same persons displaying neutral expressions versus smiling expressions. LaFrance and Hecht (1995) found that targets displaying smiling facial expressions received more lenient judgments than neutral targets. The perception of the target as a trustworthy person best accounted for this effect. Relative to each other, neutral and smiling facial expressions clearly have an opposing effect on the perception and judgments of individuals. Krumhuber et al. (2007) found that in a game of trust, a neutral expression (compared to authentic and fake smiles) was rated as least trustworthy. In a similar vein, Mussel, Göritz, and Hewig (2013) conducted a study using an ultimatum game in which they found that proposers with a smiling facial expression were more often accepted, compared to proposers with a neutral facial expression. In these cases, the relative contrasting effects of smiling and neutral facial expressions influenced the behaviors of the participants.

From the above discussion, we can conclude that smiling faces would most likely reduce avoidance tendencies in terms of physical contact. These tendencies might not manifest physically in the virtual context but might hold true for other forms of contact such as communication attempts. A smiling expression would have a positive influence on the perceptions of observers that would probably result in favorable judgments and behaviors. Therefore, we can expect that a smiling facial expression would most likely evoke approach and abate avoidance tendencies and simultaneously increase the likelihood to contact. Thus, the first

assumption of the study is: A profile image with a smiling facial expression will increase the tendency of the user's likelihood to contact the small B2B consultant online.

Based on the literature reviewed, a neutral facial expression would most likely have a negative influence on the perceptions, judgments, and behaviors of observers. We can expect that a neutral facial expression would most likely evoke avoidance tendencies, abate approach tendencies, and simultaneously decrease the likelihood to contact. Therefore, the second assumption of this study is: A profile image with a neutral facial expression will decrease the tendency of the user's likelihood to contact small businesses B2B consultants online.

## *2.2 Absence of facial image*

Previous studies demonstrate that there is a presence effect of facial images in different online contexts (e.g. Cyr et al. 2009, Fagerstrøm et al. 2017). One of the major themes has been to examine the influence of embedding social cues, like facial images, on the trustworthiness of websites and web content. Research on online credibility has shown that author photographs had significant effects on the perceived trustworthiness of web articles (Fogg et al. 2001). Steinbrück et al. (2002) found that by including the image of customer service agents on an e-bank's website significantly increased perceived trustworthiness. Aldiri, Hobbs, and Qahwaji (2008) found a similar result, with a moderating effect of culture, in an e-commerce context. However, Riegelsberger and Sasse (2002) found mixed responses to the inclusion of human images in an e-commerce context. The responses varied from positive enthusiasm to negative reactions that arouse suspicion and lowered trust. Therefore, the influence of human images on perceived trustworthiness were highly dependent on the type of user. In another study, Riegelsberger, Sasse, and McCarthy (2003) found that the mere presence of a human image did not have a significant effect on the trustworthiness of a website.

While these studies are focused mainly on perceived trustworthiness of websites, for our study, we can confirm that there is some cognitive or affective impact on the perceiver of the facial images. Taken together, these results imply that the influences of mere presence effects of human facial images are highly context-specific and dependent on the users involved in the online interaction/transaction. This effect also seems to be dependent on interactions between the type of human image and the website (Riegelsberger, Sasse, and McCarthy 2003). Based on this, we can infer that the absence of facial images would most likely evoke avoidance and abate approach tendencies and simultaneously decrease the tendency to contact the consultant. Therefore, the third assumption of this study, related to the lack of human facial image is: The absence of social cues (human images) will decrease the tendency of the user's likelihood to contact small businesses B2B consultants online.

### 3. Method

To test the assumptions, a conjoint analysis was used to examine how a consultant's profile image and its facial expressions influence the approach and avoidance behavior of small business B2B customers. Green and Srinivasan (1978) define conjoint analysis as a decompositional method for understanding how consumers build preferences for products or services. The term "conjoint" refers to the measurement of relative values of attributes considered jointly that might be immeasurable if they were evaluated individually (Jensen 2008). To enhance ecological validity, two additional independent variables were included in the study: educational attainment and professional experience.

#### *3.1. Participants*

A population of both existing and potential B2B customer leads participated in an online survey. Six cases were removed due to missing data, resulting in a final sample of 68

respondents. All respondents were professionals with a minimum of a bachelor's degree. Most of the Norwegian and international participants were recruited from LinkedIn.com, an online business and career networking website. The geographical distribution of the participants was 36 from Norway and 32 outside Norway representing Bermuda, Denmark, India, Italy, Nigeria, Philippines, Poland, Sweden, United Arab Emirates, the United Kingdom, and the United States. The distribution by gender was 50 men and 18 women. Three participants were in the age category 18-24 years old, 22 in the age category 25-34, 17 in the age category 35-44, 11 in age category 45-55, 12 in the age category 56-64, and, 3 in the age category 65-74.

### *3.2. Apparatus*

The questions were hosted on limeservice.com, a web-based survey platform that is used for preparing and running online surveys. A few modifications on the interface of each slide were implemented using Cascading style sheets (CSS). All nine stimuli cards and other visual elements used in the survey were designed or modified using Adobe Photoshop CC 2015. All profile images are in black and white and signify a business intelligence consultant representative. The human images used for the study were taken from the comprehensive database for facial expression analysis (Kanade, Cohn, and Tian 2000, Lucey et al. 2010). A few modifications were applied to the clothing on the profile images fit the given business scenario of the survey. The instructions presented in the survey were accompanied by visual aids to make them more comprehensible. An example of the stimulus cards and question is presented in Appendix A.

### *3.3. Procedure*

When participants accepted voluntarily participation in the study, they were presented with the following scenario: "You are looking for a Business Intelligence solution for your

company, and you came across a website that offers such services. To make an inquiry, you have to send their consultant an email.” Based on the information, the participants were presented with nine different situations that they were told to evaluate. Keeping in mind the given scenario, the participants were asked to answer each of the survey questions by giving it a rating of 1 to 10, 1 being not at all likely to contact the consultant representative and 10 being certainly would contact the consultant. The formulated questions signify the user’s desire to approach or avoid engaging with the consultant based on the combination of attributes presented in each slide.

#### *3.4. Design*

Based on the participants’ evaluation of a set of complex stimuli (for example profile images, educational attainment, and professional experience), conjoint analysis decomposes the original evaluation into separate and compatible impact scales by which the original overall evaluation can be reconstructed (Green and Wind 1975). A fractional factorial design was used to reduce the number of stimulus cards. A fractional factorial design is a method of selecting a segment of the generated stimuli cards from a full factorial design (Hair et al. 2006).

To create a realistic setting for the evaluation, a webpage was designed to mimic common website contact forms. Three website attributes were considered for the survey (facial expressions, educational attainment, and professional experience). These attributes were chosen as a solution to compensate for the opaque quality (Von Nordenflycht 2010) of service provider firms as they can embody the appearance and reputation of a consultant in a company. The “facial expression” and “educational attainment” stimuli were operationalized at three levels, and “professional experience” was operationalized at two levels as presented in Table 1. IBM SPSS Statistics 24 was used to create combinations for the stimulus cards ending up with nine stimulus cards, summarized in Appendix B.

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Insert table 1 about here

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The dependent variables are the emotional response elicited from the stimuli (approach-avoidance). Desire or likelihood to contact the consultant signify approach. Desire to avoid contacting the consultant signify avoidance. The survey consisted of nine questions with different combinations of the stimulus. Participants were required to answer each survey question before proceeding to the next slide. The task of answering the survey took the participants approximately 5-10 minutes to complete. A progress bar was displayed above the questions to notify the users of how many questions there were left to answer.

#### 4. Results

The analysis of data shows correlations between the observed and estimated preferences for desire or likelihood to contact the consultant (Pearson's  $r = 0.994$ ,  $p = 0.000$ ). Table 2 displays the importance values for facial expression, educational attainment, and professional experience and the impact estimate for each level. Evidently, in this context, human facial image was the most important antecedent stimulus with an averaged importance score of 46.938% of likelihood to contact the consultant. Educational attainment was the second most important variable, receiving an average importance score of 33.660%. The third most important stimulus was professional experience with an averaged importance score of 19.402% related to likelihood to contact the consultant.

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Insert table 2 about here

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Table 2 shows that a consultant's image with a smiling facial expression increases the likelihood to contact the consultant with an impact estimate score of 1.156. A consultant's image with a neutral facial expression produced a negative score (-0.158) toward likelihood to contact the consultant. The absence of facial image (head silhouette) produced a greater negative score of -0.998 resulting in the lowest likelihood to contact the consultant (in this context). For the stimulus of educational attainment, a PhD level of education increases the likelihood to contact the consultant with an impact estimate score of 0.658. A master's level of education produced an impact estimate score of 0.036. The bachelor's level of education received the lowest average impact score of -0.695. The professional experience stimulus received the lowest importance value score, which is reflected in the impact estimate scores. Results from the survey show that respondents favored the senior level consultant over the junior level, with an impact score of 0.428 for senior level and -0.428 for the junior level consultant. The data indicate a higher possibility for likelihood to contact for a senior level consultant than for a junior level consultant.

## 5. Discussion

This empirical research investigated how human facial images, with a focus on facial expressions (smiling and neutral) affect a user's likelihood to contact B2B consultants online. This research contributes to the literature by demonstrating the relative importance of different web elements in the context of B2B consultation websites. The facial image of the consultant on the B2B consultation website was the most important antecedent stimuli, followed by educational attainment. Professional experience was the least influential stimuli in this specific context.

The results from the present study demonstrate that a consultant's image with a smiling facial expression increases the likelihood to contact the consultant. This indicates that on a consultation services website, B2B customers were influenced mostly by the "non-functional" element, that is, facial expression. For the smiling facial image, the consultant might have been judged favorably (Otta et al. 1994), which is in line with research that demonstrates how a smiling expression positively influences the perception of social characteristics (Knutson 1996, Hess, Blairy, and Kleck 2000, Scharlemann et al. 2001). The results support recent studies that show that smiles have a positive impact, even in online settings (Fagerstrøm et al. 2017). However, another possible reason for this result could be that the nature of the task is not highly risky. The scenario only requires the customers to inquire, not to recruit. It is possible that the customers would have taken the task of reviewing the collective information more seriously (educational attainment and professional experience) if they were actually asked to consider purchasing the services of the consultancy.

Compared to the smiling picture of the consultant, the face with a neutral expression resulted in a lesser likelihood to be contacted by potential customers. The finding is consistent with studies discussed in this paper that show that a neutral facial expression has a negative influence on perceivers in social situations (Krumhuber et al. 2007, Scharlemann et al. 2001). A possible explanation for this effect is that we used the image of a male displaying the neutral expression. This might have resulted in negative personality trait associations, that is, dominance (Hareli, Shomrat, and Hess 2009). However, the negative perception of the customers might also have been the result of bias in the survey (Chrzan 1994), resulting from seeing a stimulus card consisting of a neutral face followed by a stimulus card with a smiling face.

As assumed, the absence of social cues (human images) resulted in the lowest likelihood to contact the consultant, even more so than the consultant with a neutral expression. Our findings are in line with previous research showing that facial photos and social presence cues on e-commerce websites can increase the perception of trustworthiness (Fogg et al. 2001, Steinbrück et al. 2002, Aldiri, Hobbs, and Qahwaji 2008, Cyr et al. 2009). Hence, the absence of facial images could have caused the environment to feel more artificial and less social. These factors might have produced a reduction of likelihood to contact in potential B2B customers.

### *5.1 Practical implications*

This paper contributes to the existing body of knowledge on the impact of human face images on the behavior of users online. The study presents several practical implications for web designers, consultants, and B2B companies that provide services. Findings from this investigation reveal that using human face images with varying facial expressions on B2B websites can influence the perception and behavior of users in either a positive or a negative way. It would, therefore, be advisable for web designers and content creators to test and incorporate human faces in B2B websites (Fogg et al. 2001) and consider the use of a smiling expression (especially an authentic smile) as it creates a more inviting web environment and can potentially lead to higher conversion rates or increase the tendency of a customer to initiate contact. These types of minor website changes could especially help small B2B businesses with limited resources to develop their online presence.

For B2B companies that capitalize on selling services, the assessment of quality has been one of the main marketing issues (Virtsonis and Harridge-March 2008, Von Nordenflycht 2010). This study emphasizes the importance of the consultant's image and facial expression in creating a positive first impression which might influence the client's perception. It would be advisable to

select senior consultants with a high level of education or provide more information on the consultant's professional experience. These factors can be potential indicators of the quality of services that a B2B firm can provide.

### *5.2 Limitations and Future research*

Due to the broadness of the topics covered in this study, certain aspects of the research call for further investigation. The direction for future research could involve the enhancement of the survey design as well as the improvement of the conceptual framework used in this study. Future research could employ the full set of approach-avoidance questions to measure actual approach-avoidance tendencies behavior (see Russell and Mehrabian 1978). The method of conducting the online-based survey was a success. However, there are some limitations in terms of monitoring the participants in the way that they answer the survey. During data collection, more than 50 incomplete samples were discarded from the study, most were repeated attempts from the respondents due to slow Internet connections or misunderstanding the instructions. The study consisted of 68 B2B customers and analysis gave significant values and low estimate of standard error (see Table 2). Despite this, it would be interesting to replicate the study with more B2B customers with different cultural backgrounds. This would verify the results of the present study and, in addition, cultural differences can be analyzed (e.g. Aldiri, Hobbs, and Qahwaji 2008). The level of experience and degree level of the consultant could also be examined further, as some may contend that the consultant's prior work experiences, statement from previous clients, and especially certifications, could also serve as benchmarks for prospective clientele (Gross and Poor 2008). Additionally, the impact of the attributes examined could be studied in conjunction with and independent of price. B2B services/products, on average, are often considerably more expensive compared to B2C offerings, and this is one of the main reasons that

decision-making is considered as more complex and involving many people. In this study, however, there is no information about the consultation charges. There could be significantly different results if the participants knew the price. A higher price could mean more risk, which could alter the importance of the other attributes examined in this study.

## 6. Conclusion

The study demonstrated how small improvements on a website such as adding pictures of people could significantly influence the behavior of website visitors. Through a method of conjoint analysis, this study investigated the impact of three attributes of human face images—smiling facial expression, neutral facial expression, and absence of facial image—on the behavior of B2B website visitors. A collection of literature in the topic of B2B marketing strategy, human face perception, and conjoint analysis was studied to find and develop links between the concepts used in the study. Sixty-eight professionals, both existing and prospective B2B customers participated in the web-based survey. Results from the study revealed the importance of human faces online. From the three stimuli selected for the study, the human face image stimulus was revealed to be the most important variable, followed by the educational attainment and professional experience. As anticipated, the image of a consultant depicting a smiling facial expression elicited the most likelihood of contact from respondents, followed by the neutral facial expression. The absence of a facial image had the least impact in this context. Since there is not much literature covering this topic, especially within the context of B2B websites, there is an opportunity for future significant contributions in both management practice and in academia.

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TABLE 1.

*Antecedent stimuli and levels considered in the study.*

| Antecedent stimuli             | Levels  |
|--------------------------------|---|
| Facial expression <sup>a</sup> | <ol style="list-style-type: none"> <li>1. Positive facial expression</li> <li>2. Absence of facial image</li> <li>3. Neutral facial expression</li> </ol> |
| Professional experience        | <ol style="list-style-type: none"> <li>1. Senior level consultant</li> <li>2. Junior level consultant</li> </ol>  |
| Educational attainment         | <ol style="list-style-type: none"> <li>1. PhD degree</li> <li>2. Master's degree</li> <li>3. Bachelor's degree</li> </ol>                                 |

<sup>a</sup>The two facial expression images are taken from a Cohn-Kanade AU-coded facial expression database (Kanade, Cohn, and Tian 2000, Lucey et al. 2010) with consent for publication (see Appendix C).

TABLE 2.

*Test of the impact of antecedent stimuli on likelihood to contact the consultant on a B2B website.*

| Antecedent stimuli and levels  | Conjoint impact estimate and relative importance |                   |                |
|--------------------------------|--|-------------------|----------------|
|                                | Impact estimate                                  | Importance values | Standard error |
| <b>Facial expressions</b>      |  | 46.983%           |                |
| Positive facial expression     | 1.156  |                   | 0.100          |
| Absence of facial image        | -0.998   |                   | 0.100          |
| Neutral facial expression      | -0.158   |                   | 0.100          |
| <b>Professional experience</b> |  | 19.402%           |                |
| Senior level consultant        | 0.428  |                   | 0.075          |
| Junior level consultant        | -0.428   |                   | 0.075          |
| <b>Educational attainment</b>  |  | 33.660%           |                |
| PhD degree                     | 0.658  |                   | 0.100          |
| Master's degree                | 0.036  |                   | 0.100          |
| Bachelor's degree              | -0.695   |                   | 0.100          |
| (Constant)                     | 4.846  |                   | 0.075          |

TABLE 3:

*Outcomes of the scenario simulation analysis related on likelihood to contact the consultant on a B2B website.*

| Scenarios                       | Cases | Stimuli and Levels         |                        |                         | Outcomes          |                              |                                 |                    |
|---------------------------------|-------|----------------------------|------------------------|-------------------------|-------------------|------------------------------|---------------------------------|--------------------|
|                                 |       | Facial expressions         | Educational attainment | Professional experience | Preference scores | Maximum Utility <sup>a</sup> | Bradley-Terry-Luce <sup>b</sup> | Logit <sup>b</sup> |
| Top education and experience    | A     | Positive facial expression | PhD degree             | Senior level consultant | 7.106             | 64.2%                        | 23.2%                           | 44.2%              |
| Top education and experience    | B     | Absence of facial image    | PhD degree             | Senior level consultant | 4.952             | 5.6%                         | 16.7%                           | 12.5%              |
| Top education and experience    | C     | Neutral facial expression  | PhD degree             | Senior level consultant | 5.793             | 15.3%                        | 19.4%                           | 20.9%              |
| Bottom education and experience | D     | Positive facial expression | Bachelor's degree      | Junior level consultant | 4.897             | 10.4%                        | 17.0%                           | 12.9%              |
| Bottom education and experience | E     | Absence of facial image    | Bachelor's degree      | Junior level consultant | 2.743             | 1.9%                         | 10.5%                           | 3.8%               |
| Bottom education and experience | F     | Neutral facial expression  | Bachelor's degree      | Junior level consultant | 3.584             | 2.6%                         | 13.2%                           | 5.6%               |

a. Including tied simulations

b. 56 out of 67 subjects are used in the Bradley-Terry-Luce and Logit methods because these subjects all have non-negative scores.

## Appendix A

An example of a stimulus card used in the study.

B2B Lead Generation Resume later Exit and clear survey

15%

\* On a scale of 1 to 10, 1 being not at all likely to contact and 10 certainly would contact, how likely will you contact this consultant?



**Daniel Hansen**  
Senior Business Intelligence Consultant  
Education: **Masters Degree**

Send Daniel Email

Please select one answer

1 2 3 4 5 6 7 8 9 10

Next

## Appendix B

*Factorial design used to synthesize stimulus cards.*

| Stimuli and levels |                   |                         |                        |
|--------------------|-------------------|-------------------------|------------------------|
| Stimulus card      | Facial expression | Professional experience | Educational attainment |
| 1                  | 3                 | 1                       | 3                      |
| 2                  | 1                 | 1                       | 2                      |
| 3                  | 3                 | 1                       | 1                      |
| 4                  | 1                 | 2                       | 3                      |
| 5                  | 2                 | 1                       | 3                      |
| 6                  | 3                 | 2                       | 2                      |
| 7                  | 2                 | 1                       | 2                      |
| 8                  | 2                 | 2                       | 1                      |
| 9                  | 1                 | 1                       | 1                      |

Note. Antecedent stimuli and their levels correspond to Table 1.

## Appendix C

The two facial expression images (“joy” and “neutral”) are taken from Cohn-Kanade AU-coded facial expression database (©Jeffrey Cohn) with consent for publication (Kanade, Cohn, and Tian 2000, Lucey et al. 2010).



Smile



Silhouette image



Neutral

Kanade, Takeo, Jeffrey F Cohn, and Yingli Tian. 2000. "Comprehensive database for facial expression analysis." *Automatic Face and Gesture Recognition, 2000. Proceedings. Fourth IEEE International Conference on*, Grenoble, France.

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