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**Article**

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## Impact of Netiquette on Email Communication

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### Summary

- Research Question: Does Netiquette in business Email communication have an impact on the recipients' level of understanding, job satisfaction, amount of uncertainty and perception of senders' likability? Does the organizational status of the sender matter and does Netiquette let a negative message sent via Email be evaluated by the recipient lesser negative?
- Methods: An electronic questionnaire was designed, where the participants ( $N=105$ ) had to evaluate four sample Emails. Two pretended to be written by a superior and two by a subordinate within the same organization. All Emails delivered a negative message (rejection or criticism). Each pair contained one Email with just the plain message content and one delivered the same message but with common Netiquette cues added respectively.
- Results: Netiquette significantly improved the understanding and job satisfaction, reduced uncertainty and let the sender appear more favorable. Additionally, the organizational status of the sender resulted in a leveraging positive effect on job satisfaction and the Emails were evaluated less negatively. Evidence for gender differences were also found in the results.
- Structure of the Article: 1. Introduction; 2. Literature Review; 3. Research Questions & Methods; 4. Empirical Results; 5. Conclusions; 6. About the author; 7. References

### Introduction

Today's organizations depend heavily on the use of email. It has replaced traditional communication including letters, faxes, and calls and has become the preferred tool of communication in all business environments (Block, 2009; Lafrance, 2012; Robb, 2008; Tassabehji & Vakola, 2005).

The reason for this development is likely due to the advantages that email has over other business communication media. It is fast, reliable, asynchronous and can be used with relative ease. But also, the fact that email has become an integral component of modern mobile devices, like smartphones or tablets, which provide usually continual connectivity and accessibility, shifted the way how knowledge workers manage their business communication in the contemporary workplace (Mazmanian, Orlikowski, & Yates, 2013).

Email communication has been the topic of many studies since its inception. Many theories guided these studies, like the Information Richness Theory (IRT; Daft & Lengel, 1986), which categorizes media by its ability to resolve uncertainty and equivocality, or the Media Naturalness Theory (MNT; Kock, 2005), which follows an evolutionary approach based on Darwin's theory of evolution.

While prior studies focused more on the inherent characteristics of the medium and its resulting communication restraints, more recent studies were motivated by the contextual factors and how they may affect the emotional perception of the recipient.

Shapiro and Anderson (1985) realized already in the early days of email, that the effects and side-effects in using electronic mail and message systems can be significant. Maybe one of the most important observations they described was the possibility, that recipients respond negatively or inappropriately to electronic messages, which might have been likewise misinterpreted. This was often the beginning of a conversational phenomenon called "flaming", where people express strong opinions very emotionally and usually in a very disrespectful way. Characteristics of email, e.g. that casual and formal messages look virtually the same or that responses can be sent near-instantaneous instead of reasoned, were identified as one of the main reasons that make this miscommunication likely.

Shapiro and Anderson (1985) wrote one of the first guidelines about the right "etiquette" of sending and receiving emails with the goal to increase the quality and appropriateness in electronic communication. Numerous authors followed and formulated similar, as well as additional rules for the same purpose and soon the word "Netiquette" was established in the literature.

The word Netiquette is derived from combining the word network with the French word étiquette and describes a respectful and values driven way of behaving with others in emails or other computer mediated communications (CMC) (Oxford, 2016).

These rules encompass for example a precise subject line, greeting and salutation, a concise message text, conscious usage of the carbon copy fields and maybe most importantly, to “remember the human” within email communication (Shea & Shea, 1994). Although Netiquette is considered “an unwritten set of rules”, non-compliance to these rules is perceived as a sign of disrespect (Kozík & Slivová, 2014, p. 67).

Regardless of the existence of proper Netiquette rules, prior studies have identified that it is challenging to deliberately and accurately communicate emotions in email messages and that emotions are likely to be the reason for miscommunication (Byron, 2008).

Kristin Byron, Ph.D. for Managerial Sciences and associate professor at Georgia State University’s J. Mack Robinson College of Business, Atlanta, found evidence that “despite advice to avoid doing so, email senders intentionally and unintentionally communicate emotion. Email characteristics make miscommunication likely, and ... receivers often misinterpret work emails as more emotionally negative or neutral than intended” (2008, p. 309).

Based on her studies, she developed a model that describes influencing factors of the sender, the receiver as well as social- and message factors that influence the receivers’ emotional interpretation of the email. This model provided the foundation of this study and will be described in detail hereafter.

But why should organizations be interested in the accurate perception of emotions in emails between their employees? The positive emotional transfer of emotions and moods among people in a group improves cooperation, increases perceived task performance and decreases conflict and absenteeism (Barsade, 2002). It is therefore crucial for organizations to succeed to accurately communicate emotions in emails, and that all members of an organization, especially the upper management, know how to skillfully communicate with this medium.

Cyber incivility or even poor or unintentional communication of emotions in emails can have extensive and expensive consequences that only few organizations can afford. US \$5 billion in health costs has been estimated to have been incurred by organizations due to stress-related illness of victims of rude emails (Lim & Teo, 2009) and US \$50 thousand per exiting employee due to incivility (Pearson & Porath, 2005). Furthermore, without good communication managers can fail to gain commitment from employees, fail to achieve business goals and fail to develop rapport with the people on their team (Jay, 2012).

Although a large body of research identified a strong correlation between positive emotions and increased work satisfaction and productivity (Barsade, 2002; Barsade & Gibson, 2007), most studies in the field of CMC focused mainly on the limited availability to convey emotions.

This study focuses primarily on the differences between delivering only the content of a message and the usage of established and common Netiquette rules to “wrap” the message in a courteous way. The present paper gives evidence that Netiquette can be used as an effective communication strategy to significantly improve organizational email communication from a content-wise perspective as well as from an emotional point of view.

On the content level it will increase recipients’ understanding and as Netiquette also builds on relationships, it helps on the emotional level to clarify the intent of the message, which correlates to employees’ job satisfaction, uncertainty reduction, likability and emotional perception. Hence, this study concentrates primarily on the subjective perceptions of the receivers in email communication.

Strong evidence could be found that Netiquette has a significant impact on email communication from the analyzed results of a conducted electronic questionnaire where participants had to evaluate inter alia four email samples. Despite the fact, that all of the presented email samples contained a negative message (rejection or criticism), those that included Netiquette resulted in a considerably higher understanding, job satisfaction, reduced amount of uncertainty, more likable picture of the sender and the emails appeared more positive than the corresponding email samples without Netiquette.

Furthermore, evidence was found that the organizational status of the sender had a leveraging effect on all of the tested results, so that the email samples with Netiquette from the higher status sender were generally rated higher than the email samples from the lower status sender.

Additionally, evidence for gender differences were found in the results. Women significantly evaluated the email with Netiquette from the ostensible higher status writer more positive and perceived the sender as more likable than men.

Further differences in the evaluation of the email samples between the participants age, email usage level or organizational status were not found in this research.

With such knowledge, managers can design and implement Netiquette based email policies and communication trainings, especially for the upper management, to assure that organizational email communication facilitates understanding and clarifies the emotional intent of the message among their members. This will not only lead to a higher productivity, as employees gain a better understanding and do not lose work time worrying about the right interpretation of the email, but may also increase their cooperation, work commitment and job satisfaction.

## Research Model

The model of sender, receiver, social context, and message factor effects on receivers' emotion misperception in emails (Byron, 2008) serves as the framework of this of this study (Figure 1).

Derived from Berlo's Source-Message-Channel-Receiver (SMCR) Model (1960), Byron adopted the idea that the factors of source or sender (S), message (M), channel (C) and receiver (R) have an impact on the communication process.

Due to its simplicity and linearity this model can be easily adapted to email communication, where the sender (S) encodes a message (M) suitable to be sent through the email channel (C) to the receiver (R) who reads and subjectively evaluates the email. Each of these factors may affect the communication process and thus, the recipients' emotional perception of the email, which in turn may be likely interpreted as more neutral or negative than intended by the sender, or more precisely, to a *neutrality* or *negativity* effect.

The neutrality effect describes that the receivers perceive emails as less intense than intended by the sender, whereas the negativity effect is characterized by a more intense negative perception (Byron, 2008). Sender factors encompass the *gender*, *relationship length*, and *relative status within an organization*, while the receiver factors embrace the *age* and *negative affectivity* (how likely a person experiences negative emotional impression). Message factors, like Netiquette or the use of verbal cues, influence both, the sender and receiver factors and may override them. Consequently, it may have an impact on the neutrality and negativity effect.

These factors mainly guided the design of the developed questionnaire of this study. Therefore, the model can be seen as the architectural framework of this study and also provided the theoretical foundation of this research. Nevertheless, the current study does not prove or discard the propositions made by Kristin Byron when she developed the model (2008), although some of the factors were considered in the current research. Rather it gives the theoretical background of factors that may affect the recipients' perception of an email and help to explain why Netiquette can be seen as a message factor.

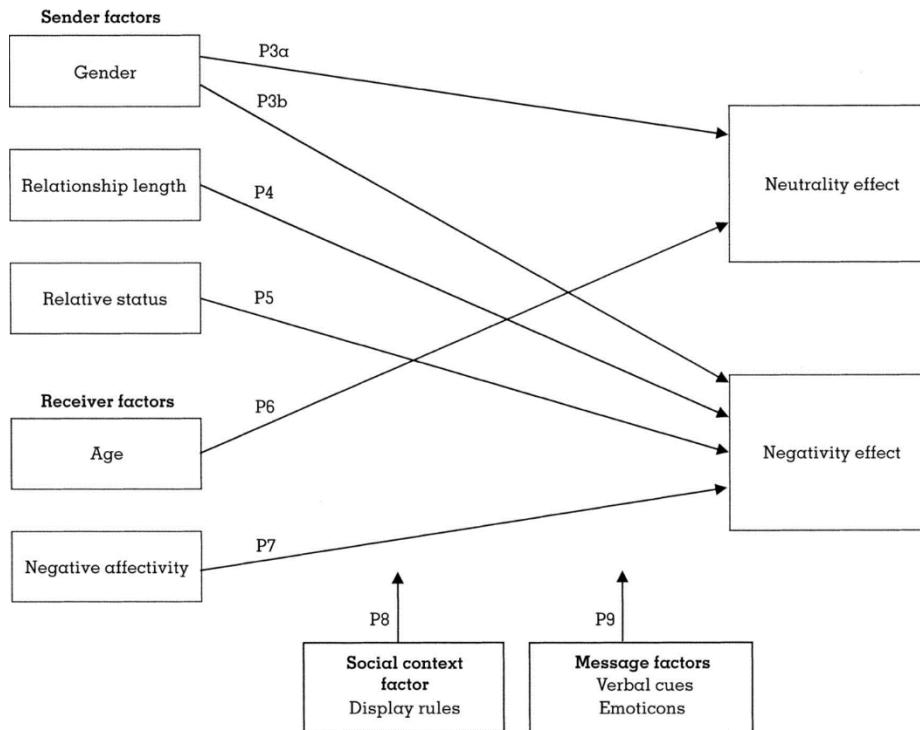


Figure 1:  
Research Model

## Neutrality Effect

The neutrality effect may diminish positive emotions as more emotionally neutral than planned by the sender. Byron (2008) argued, that the neutrality effect might happen because of three reasons.

First, from the reduced availability of cues and feedback, that may make email communication in general less physiologically arousing than face-to-face communication. Byron underpinned this assumption by the evolutionary perspective of the Media Naturalness Theory,

which contends that the usage of less natural media, like email, leads to the following effects:

(1) Increased cognitive effort, (2) increased communication ambiguity, and (3) decreased physiological arousal (Kock, 2005).

Second, that the emotional intensity is difficult to accurately deliver through email (Byron, 2008). This statement gets support from outcomes from researches about egocentrism. "When people try to imagine the perspective, thoughts, or feelings of someone else, a growing body of evidence suggests that they use themselves as an anchor or reference point" (Kruger, Epley, Parker, & Ng, 2005, p. 925). Hence, email receivers cannot "hear" the same voice as the senders "hear" when they composed the email message and tend to believe that they can communicate over email more effectively than they actually can (Kruger et al., 2005; Middaugh, 2015).

Third, business emails tend to be task oriented and impersonal. Due to the utilitarian nature of emails, recipients may develop a schema about emails and may therefore miss emotional content when it is present. Schemata are likely to fill the gaps when (1) no clear cues are given or (2) the data is disconfirming and therefore ignored by the recipient (Byron, 2008).

Furthermore, email transports beyond the plain message content also symbolic cues, which might be interpreted from the recipient and may contribute to the neutrality effect. For example, a superior who praises a subordinate via face-to-face rather symbolizes caring and concern for his/her subordinate than doing so via email (Trevino, Lengel, & Daft, 1987).

Byron (2008) adds to this statement, that the relative effortlessness or thoughtlessness of how emails are written today and their predominantly fugitive and informal characteristics leverage the symbolic meaning and make a neutrality effect more likely.

### **Negativity Effect**

When people read emails, it is likely that they may cause negative reactions. This observation is not new and probably exists since the very first email. Indeed, Shapiro et al. (1985) noted already in their early drafted guidelines for ethics and etiquette for electronic mail, that:

"Perhaps the most important phenomenon in electronic mail systems is the likelihood that the recipient will react negatively or inappropriately in reading material that might well have been misinterpreted."

The misinterpretation results from several attributes of the medium that allow casual and formal messages to look superficially the same; that allow near-instantaneous, rather than reasoned, response; that don't permit feedback during the delivery of a message (as in personal conversation); and that require modification to many old

traditions of communication. A related phenomenon is "flaming," in which emotions are expressed via electronic mail, sometimes labelled as such, and sometimes not."

(Shapiro et al., 1985, p. 6)

In fact, what Shapiro et al. (1985) mentioned in their guidelines for electronic mail can be found in many studies and theories that followed as one of the main reasons that make miscommunication likely and why email can be characterized as rather a lean, than a rich medium (Daft & Lengel, 1986).

Byrons' argumentation is based on similar findings, when she described the negativity effect for her model of receivers' emotion misperception in emails (Figure 1). Emails are text-based and filter out nonverbal cues thus, their emotional tone is often equivocal. She argues further, that this equivocality leverages the salience of any negative information, especially because emotional content in emails may lead to an infringement of the recipients' schemata of emails as emotionally neutral (2008).

Additionally, and aligned to the observations of Shapiro et al. (1985), the lack of feedback contributes to the negativity effect. Without accurate feedback of how recipients interpreted the emails from the senders, less information is available to the senders to write effective messages or adapt their writing style in future correspondences.

### **Message Effect**

Message factors describe how the senders (S) encode their message (M) (Figure 1; Path P9), and therefore, have an impact on the neutrality and negativity effect. Byron argues, that senders may overcome the limitations of email to convey their intended emotions, by the use emoticons (usually text based cues symbolizing persons faces expressing an emotion when read sideways, e.g. laughing ":-)" or frowning ":-(") or by the verbalization of emotions (e.g. "This makes me happy/sad"). She claims further, that despite the lack of empirical research, emails are interpreted more precisely when they contain more verbal or nonverbal cues and proposes, that this will moderate the relationship between the sender and receiver as well as the emotional perception of the email (2008).

According to the model used for this study and the described definition of message factor characteristics (Figure 1; Path P9), Netiquette is considered a message factor within this study. It can be seen as a way how senders encode their message, provide verbal and nonverbal cues, clarify the emotional intent and therefore build on relationships, which impacts the communication from a social and emotional perspective. Consequently, it is reasonable and assumed, that Netiquette has a positive impact on the neutrality and negativity effect.

## Literature Review

### Netiquette and the impact on Understanding

According to the Oxford dictionary definition, the term “understand” describes the ability of a person to “perceive the intended meaning of (words, a language, or a speaker)” (Oxford Dictionary, 2016).

In terms of email communication, and also referring to the used framework of this study (*Figure 1*), the process to facilitate understanding or the effectiveness of communication attempts can be seen as the sequence of consecutive steps starting with the sender (S) who encodes a message (M) verbally or nonverbally through the channel (C) of email with the intent that the recipient (R) is able to decode and perceive the intended meaning of the provided information.

However, from an evolutionary point of view, human beings’ communication apparatus was optimized to communicate synchronous and co-located with the ability to interpret speech, facial expressions and body language – cues which are filtered out by email due to its text based and asynchronous nature. Consequently, this makes email a less natural medium and understanding more difficult (Kock, 2005).

Furthermore, this makes it especially difficult to convey emotion or ambiguity, such as irony or sarcasm over email. Assuming that email senders intentionally and unintentionally communicate emotion (Byron, 2008) miscommunication is likely.

Nevertheless, organizations have the need to process information, but have limited resources and capabilities. Information is exchanged to reduce uncertainty and resolve equivocality to accomplish internal tasks, coordinate activities or interpret the external environment to attain an acceptable level of performance. Often issues are ill-defined in the brevity of emails and thus, the problem is a lack of clarity, not data (Daft & Lengel, 1986).

Much research in recent years has focused on the inherent and limited characteristics of email to facilitate understanding based on the Information Richness Theory (Daft & Lengel, 1986). According to Daft & Lengel:

“Information richness is defined as the ability of information to change understanding within a time interval. Communication transactions that can overcome different frames of reference or clarify ambiguous issues to change understanding in a timely manner are considered rich. Communications that require a long time to enable understanding or that cannot overcome different perspectives are lower in richness. In a sense, richness pertains to the learning capacity of a communication.

...

In order of decreasing richness, the media classifications are (1) face-to-face, (2) telephone, (3) personal documents such as letters or memos, (4) impersonal written documents, and (5) numeric documents.” (Daft & Lengel, 1986, p. 560)

Therefore, this theory gives explanations why lean media, such as email, is less effective and efficient for resolving ambiguity and facilitating understanding. Hence, communication media aware users choose media of appropriate richness for tasks that involve communication.

Contradictory, other studies found out, that email is a richer medium than reflected in the scale of information richness theory (Panteli, 2002) and is hence, suitable for all types of communication (Wells & Dennis, 2016).

Lee (1994) even stated, that email

“... might very well lack the capability for immediate feedback, use only a single channel, filter out significant cues from the message's author, tend to be impersonal, and incur a reduction in language variety. Yet, communication using e-mail does not necessarily lose richness. It can retain and even gain richness through distanciation, autonomization, social construction, appropriation, and enactment.” (Lee, 1994, p. 151)

Consequently, email can be rather seen as neither rich nor lean and recipients of email not just as passive recipients of data, but active producers of subjective or interpreted meaning within the socially constructed world of the organization.

Nevertheless, how rich or lean email is classified, it is widely known that people are able to overcome the shortages of email to convey especially equivocal or emotional content more or less precisely with contextual factors, e.g. emoticons (Skovholt, Grønning, & Kankaanranta, 2014; Walther & D'Addario, 2001) or by the usage of other textual markups (Byron & Baldridge, 2007). However, a common issue with such non-verbal cues is, that these markers are not uniformly interpreted and therefore, should be used cautiously or not at all (Munter, Rogers, & Rymer, 2003; Vincent, 1999).

Furthermore, Kruger et al. (2005) found in their study, that despite of the limitations of email to convey cues like in face-to-face communication, people tend to believe that they can communicate over email more effectively than they actually can. This overconfidence is born of egocentrism, the inherent difficulty of detaching oneself from one's own perspective when evaluating the perspective of someone else. Consequently, when people try to imagine the perspective, thoughts, or feelings of someone else, they use themselves as an anchor or reference point.

Kruger et al. referred in their paper the very vivid music tapping study of Elizabeth Newton (1990), where Newton asked the participants of her study to tap the rhythm of a well-known song to a listener and assess the likelihood that the listener would correctly identify the song. Only 3% of the listeners could identify the song accurately, whereas the tappers estimated beforehand an accuracy level of over 50%.

Ross & Ward (1996) found an answer for this dramatic overestimation that the tappers could inevitably “hear” the tune and even the words of the song, while the listeners could hear only an aperiodic series of taps.

A similar effect is likely to happen to the writers of emails, where the authors evidently hear their voice and tone during the composition of the email with all the richness that appears usually in face-to-face communication, while the recipients only see the text on the screen.

Drawing from the findings about the ability of email to convey cues, the inconsistent interpretation of markers and the overestimation of the senders of their communication skills, it is likely that miscommunications happen because of the subjective meaning of emails and not because of the objective dictionary sense or definition of the words transported in the message text.

Thus, Netiquette can be seen as the right communication tool for the sender to clarify the intent of the message without deviating from business communication norms. Common Netiquette rules provide additional textual cues to the recipient that deliver a respectful and valuable tone, which should have a positive effect on employees’ understanding.

### **Netiquette and the Impact on Job Satisfaction**

Email has become one of the most important means for business communication and this is not only true for geographically distributed organizations, which need to communicate independent from time and space. “Indeed, even when a whole project is undertaken on a single site, email is often regarded as essential to ensure communication and coordination between team members” (Jackson, Dawson, & Wilson, 2001, p. 82). Thus, it is very likely that email is used and preferred over other media for communications within organizations to communicate with coworkers, customers and other colleagues (Byron, 2008).

Sarbaugh-Thompson and Feldman (1998) found on an early multiyear experiment on the impact of email, that while the use of email increased, the overall organizational communication decreased. Hence, the increase of email did not offset the decrease of face-to-face communication. They further identified, that most of the lost organizational communication involved greetings and that organizational members reported to feel less connected to their colleagues. Although, it remains unclear from this study if the decline in greetings was caused solely by

email or whether the decrease in greetings refer exclusively to personal interactions, a correlation between greetings and job satisfaction is reasonable. Further, the important role of greetings or the level of formality in electronic communication was already emphasized more than 30 years ago (Shapiro et al., 1985), as well as by more recent experts of Netiquette (Kallos, 2007; Kozík & Slivová, 2014). Correspondingly, greetings might be a similar marker of respect for the communicators as in face-to-face communication and might have as well an impact on the perceived satisfaction for the recipients.

Similar effects caused by the lack respect and courtesy in email communication can be found in research about (cyber) incivility at workplace, or in other words, “communicative behavior exhibited in computer mediated interactions that violate workplace norms of mutual respect” (Lim & Teo, 2009, p. 419).

Pearson and Porath noted that contemporary workers think they have no time to be “nice” in impersonal modes of contact or that email communication does not require any respect or courtesies. Reasons for this thinking is likely due to high email loads that knowledge workers need to handle within todays’ fast-paced, global connected online work environment, but also due to their relative status within an organization. Targets of incivility are much more likely to be subordinates than superiors (2005). Further, high-status employees tend to express less positive, but more negative emotions to those of lower-status, which leverages according to Byron (2008) the negativity effect as shown in (Figure 1; Path P5).

While the costs caused by incivility cannot be accurately determined, but seem to be comparable to the annual costs caused by sexual harassment, about \$6 million annually for a fortune 500 company in absenteeism, lost productivity and turnover (Pearson & Porath, 2005, p. 9), the negative impact on the organizational memory is far more worse. Targets who feel that they have been treated unvalued and disrespectful, will likely report this to their families and friends, lose work time worrying about how to interact in the future with the rude colleague, cut back work efforts, engage in deviant behavior against their organization or in the worst case, quit their job (Lim & Teo, 2009; Pearson & Porath, 2005).

While incivility at workplace usually comes in many forms, and cyber courtesy may be just one of it, the effects are likely to be the same for all forms of rudeness. The affected employees feel disrespected and job satisfaction and organizational commitment erodes.

Consequently, it is reasonable, that the opposite might have a positive impact on job satisfaction and organizational commitment. Netiquette defines rules to support a polite and respectful tone in email communication. Probably one of the most important rule which was defined is to “remember the human” (Shea & Shea, 1994), because every human has a need for self-esteem, respect and courtesy (Vincent, 1999, p. 10) when interacting with others.

One of the fundamental assumptions of this study is therefore, that the application of common Netiquette rules, e.g. greetings, respectful and polite tone etc., in email messages lead to a significant higher job satisfaction than delivering only the plain content.

### **Organizational status and the impact of Netiquette**

Derived from the used framework for this study, the factor of the organizational status of the sender is considered (Figure 1; Path P5). According to Byron (2008), higher-status employees are less likely to send positive emotional content in emails, but are more likely than lower-status employees to express negative emotions. These assumptions also get support by several studies that have reported that individuals of higher status and power are given the latitude to express anger toward those of lower status (Steelman, 2007).

Byron argued further, that lower-status employees may be more motivated to seek information about higher-status others because of being dependent on them for desired outcomes and are therefore, particularly sensitive to negative cues (2008).

Although several studies have argued that CMC limits cues indicating status and reduces the visibility of the status, others found out that email signals rather than alleviates hierarchical differences and that the organizational context intertwines with email message texts. People at higher ranks speak and write more freely than those at lower ranks (Panteli, 2002).

But even in the absence of cues, it is likely that recipients know the relative status of familiar senders, given the salience of status in organizations (Byron, 2008).

Research on the impact of cyber incivility suggests, that employees trust and commitment to the organizations are especially affected if the source of the incivility stems from someone of a relative higher status, such as a superior. Thus, when employees perceive that others do not treat them as they deem desirable, they respond in ways that may be detrimental to the organization (Lim & Teo, 2009).

Therefore, incivility is costly to organizations and their members in subtle but pervasive ways that may include reduction of job satisfaction, fading of organizational loyalty, and loss of leadership impact (Pearson & Porath, 2005).

It is expected that employees evaluate email messages without Netiquette from senders with a higher-status than themselves as more negative than messages received for example, from subordinates which were written without Netiquette. Furthermore, it is expected that emails coming from higher-status employees have a direct impact on the job satisfaction and that Netiquette as an approach to communicate in a values-driven and respectful way might (a) reduce the negativity effect and (b) increases the perceived job satisfaction of the receiver.

Hence it is expected that a respectful human behavior is the basis for civility (Carter, 1998) and that everyone has a need for self-esteem, respect and courtesy (Vincent, 1999) and that Netiquette has a higher impact on job satisfaction if communicated from higher organizational levels to lower organizational levels.

### **Netiquette and the impression of the senders' likability**

Organizations can be seen as open social systems, with the need to share information to coordinate tasks and accomplish organizational goals. However, the information cannot be processed the same way as in lower level systems, because human systems are far more complex and require usually a similar interpretation and agreement of the data from several individuals or groups. The shared information must bridge disagreement and diversity from individuals to achieve an acceptable level of performance (Daft & Lengel, 1986). Consequently, it can be said that the effectiveness of the organizational communication process depends to a large degree on work relationships and thus, on the perception of others.

As email has become the preferred tool for communication in most modern business environments, it is likely that organizational members use it often to facilitate collaboration with coworkers and colleagues. Therefore, the impression of the senders' likability has become especially important to facilitate cooperation and commitment between the communicators, as there was found evidence, that receivers are more likely to respond to sender requests they perceive as likable (Byron & Baldridge, 2005).

Byron & Baldridge (2007) found evidence, that email recipients want to understand the person who is behind a message and want to evaluate the emotional meaning of the email, even when no or little information is available. Thus, email recipients rely on a variety of cues to form impressions of senders and contextual factors, like the use of correct capitalization or emoticons, help to reduce uncertainty and make the sender more favorable.

As it is likely that senders' intentionally or unintentionally communicate emotion and emails are often interpreted by recipients as more emotionally negative than intended (Byron, 2008), it is likely that this negative evaluation also influences the recipients' perception of the sender as a person. Subsequently, this might reduce the cooperation of the recipient to, e.g. reply in a timely manner to an email request.

Emotions in turn have a great impact on organizational productivity, such as to create and sustain work motivation, influence decision making, creativity, turnover, interpersonal behavior and leadership. Employees who experience positive emotions and moods are more willing to increase their work performance, engage in prosocial behavior, are more cooperative and are less absent. Positive moods of leaders are found to be associated with

greater group performance and perceived similarity liking (Barsade & Gibson, 2007).

Furthermore, there exists evidence that moods tend to be transferred among people in a group and that a positive emotional contagion also influence cooperativeness as well as individual and group level dynamics (Barsade, 2002). It is therefore possible, that a contagion of moods and emotions also exist for email communication and that it will influence the receiver.

However, as email filters out important cues due to its asynchronous and text based nature, it is limited in its ability to convey an intended emotional meaning precisely (Byron & Baldridge, 2005; Byron & Baldridge, 2007) and misunderstanding is likely (Byron, 2008).

While it is widely known that people find ways to overcome those limitations in email communication to clarify their emotional meaning (Tidwell & Walther, 2002; Wells & Dennis, 2016), the interpretation of such attempts are far from consistent (Byron, 2008).

A great deal of research has been conducted in recent years that analyzed the impact of emoticons and how much they reflect senders' emotion or the intended emotional meaning of the email (Byron & Baldridge, 2007; Byron & Baldridge, 2005; Derkx, Fischer, & Bos, 2008; Walther & D'Addario, 2001)

Other studies identified, that emoticons in workplace emails do not primarily indicate the writers' emotions, but rather how an statement should be interpreted. Thus, they can be markers of a positive attitude, joke/irony markers or they function as softeners and may be therefore used as a positive politeness strategy of the writer, or in other words, that the sender appears more likable to the recipient (Skovholt et al., 2014).

Although some authors of Netiquette recommend the usage of emoticons (see Aranda, 2007 for a review), they are not considered within this research, as emoticons are not uniformly interpreted (Byron, 2008) and other authors of Netiquette suggest to use them sparingly or not at all, as they might appear informal and may harm credibility of the sender (Munter, Rogers, & Rymer, 2003; Vincent, 1999).

It is therefore argued, that Netiquette provides additional cues without deviating from business communication norms and helps to clarify the emotional intent of the email. Furthermore, as it emphasizes on relationships, it will let the sender appear more likable, which in turn increase cooperation and facilitate collaboration between the communicators.

### **Uncertainty Reduction and the Motivation to search for Cues**

Based on earlier research, there is evidence that people are always "interpreting" everything from their personal perspective. This suggestion gets further support from the

symbolic meaning of email and that every symbol can be a carrier of meaning (Trevino et al., 1987).

Therefore, the time lapse until one answers an email request or the presence and accuracy of the subject line can be as well a carrier of meaning as writing an email instead of using another form of communication.

Indeed, even the use of email as a medium instead of another communication channel that is more natural or familiar, such as face-to-face or telephone, may be seen as distant, communicating a lack of concern or caring from the sender and may lead to uncertainty at the recipients' side (Trevino et al., 1987).

Email recipients have a motivation to search and interpret all available cues in emails. This motivation has its origin in the desire to reduce uncertainty, or in other words, a "high uncertainty is a stimulus for seeking information as well as an inhibitor of attraction" (Kellermann & Reynolds, 1990).

Uncertainty Reduction Theory (URT; Berger & Calabrese, 1975) serves as the supporting theory of this assumption and that individuals are always uncomfortable with uncertainty and have a general motivation to predict another's attitudes and behaviors (Byron & Baldridge, 2007).

Consequently, the more information one can observe or gather about his/her communication partner, the less uncertainty he/she has. However, the means how such information is exchanged is limited to the email message (Tidwell & Walther, 2002).

Thus, all available cues in email messages might be subject of the recipients' motivation to reduce uncertainty and need to be considered as important in email messages.

Netiquette can be summarized as a set of rules to appear polite in email communication. Although these rules usually do not add additional objective information to the content of the message and thus, can be seen as time- or resource consuming, it is argued that Netiquette delivers additional cues to the email message, which creates a common experience in communicating with common meanings to reduce uncertainty and increase understanding. Hence, it is expected that Netiquette reduces uncertainty on the receivers' side.

### **Netiquette and the reduction of the negativity effect**

A negativity effect may happen because of the reduced ability of email to convey nonverbal cues and the often, equivocal emotional meaning, which may lead to misunderstandings. Factors like the writers' gender (Figure 1; Path P3a, P3b), relationship length (Figure 1; Path P4) and organizational status (Figure 1; Path P5) might leverage the negativity effect or make it more probable as well as the recipients age (Figure 1; Path P6) and negative affectivity (Figure 1; Path P7) (Byron, 2008).

However, the likelihood that recipients perceive emails more negative than intended by the sender might have many more reasons, like the symbolic meaning of email (Trevino et al., 1987), uncertainty (Berger & Calabrese, 1975), missing courtesy markers (Vincent, 1999), missing capacity of the medium to allow immediate feedback (Daft & Lengel, 1986) or that the senders may compose near-instantaneous rather than reasoned responses (Shapiro et al., 1985).

Many of the reasons why emails have a tendency to appear more negative than intended by the sender, may have their cause in egocentrism. Senders' might project their own thoughts and feelings on the recipient, who is apparently hidden behind the email address (Kruger et al., 2005), which might be because senders forgot to "remember the human", as suggested by Shea & Shea (1994), in the email communication.

Netiquette fits in Byron's model (2008) as a message factor (Figure 1; Path P9) and may influence or override the sender as well as the receiver factors. In both cases it is assumed that it will have a positive impact on the emotional perception of the email on the receivers' side.

Drawing on the prior assumptions, that the usage of common Netiquette rules will increase understanding as it builds on relationships, increases job satisfaction, reduces uncertainty and makes the writer appear more likable, it is likely that Netiquette might be capable to reduce the negativity effect and makes the email message appear more positive for the receiver. Therefore, it is believed that Netiquette reduces generally the negativity effect of emails.

## Research Questions & Methods

Derived from the theoretical and empirical findings of this study, suggestions were made that Netiquette leads to a better business email communication on the content level, which increases employees' understanding and provides nonverbal cues on the relationship level, which corresponds with employees' job satisfaction, impression of the senders' likability, perceived level of uncertainty and overall emotional perception of the email. Furthermore, the organizational status of the sender was considered, as it is expected that it has a leveraging effect on employees' job satisfaction when emails are authored with Netiquette and were sent from a person who has a higher organizational status than the recipient of the email.

## Hypothesis

This section presents six distinct hypotheses, resulting from the prior made suggestions about the impact of Netiquette on email communication. Each hypothesis is formulated pairwise and states the positive expectation first and in order to statistically test it later, the corresponding null hypothesis directly after it.

### Impact of Netiquette on Understanding

Netiquette was suggested to have a positive impact on the recipients' understanding, as it provides additional cues to the recipient, which resolves equivocality and help to facilitate understanding. Therefore, the following pair of hypothesis is formulated:

$H1$      *"Netiquette in email communication increases recipients' understanding."*

$H1_0$     *"Netiquette has no effect on recipients' understanding."*

### Impact of Netiquette on Job Satisfaction

Netiquette was expected to build on relationships and helps to clarify the emotional intent of the email, which will increase the recipients' job satisfaction. Thus, it is stated:

$H2$      *"Netiquette in email communication increases employees' job satisfaction."*

$H2_0$     *"Netiquette has no effect on employees' job satisfaction."*

### Impact of Organizational Status and Netiquette on Job Satisfaction

The organizational status of the sender was considered, because lower-status employees may be more motivated to seek information about higher-status others and higher-status employees are less likely to send positive emotional content in emails, but are more likely than lower-status employees to express negative emotions.

Consequently, it is expected, that emails with Netiquette from a superior leverage the recipients' job satisfaction, which resulted in the following two hypotheses:

$H3$      *"Netiquette has a higher impact on job satisfaction if it is communicated from higher organizational levels to lower organizational levels."*

$H3_0$     *"Organizational status has no effect on job satisfaction when using Netiquette."*

### **Impact Netiquette on the Impression of Senders' Likability**

Receivers are more likely to respond to sender requests they perceive as likable. As Netiquette emphasizes on relationships, it will let the sender appear more likable. Hence, it is stated:

- H4     "Netiquette increases the recipients' impression of senders' likability."*
- H4<sub>0</sub>    "Netiquette has no effect on recipients' impression of senders' likability."*

### **Impact of Netiquette on Uncertainty**

Individuals feel always uncomfortable when they encounter uncertainty. Consequently, high uncertainty is a strong motivator to search for all available cues in emails to get information about the communication partner. As Netiquette delivers additional cues which creates a common experience with common meanings, it is believed that Netiquette reduces uncertainty, which was expressed with the following hypothesis:

- H5     "Netiquette reduces the receivers' level of perceived uncertainty."*
- H5<sub>0</sub>    "Netiquette has no effect on the level of perceived uncertainty."*

### **Impact of Netiquette on the Negativity Effect**

Senders are likely to project their own thoughts and feelings on the recipient and forget to "remember the human" in the communication process. Furthermore, miscommunication is likely as senders often unintentionally communicate emotions in emails. It is expected that Netiquette makes the email message appear more positive and thus, reduces the negativity effect. Therefore, the following two hypotheses are stated:

- H6     "Netiquette reduces the negativity effect of emails."*
- H6<sub>0</sub>    "Netiquette has no effect on the sender's evaluation of the email."*

## **Empirical results**

### **Impact of Netiquette on Understanding**

Table 1 provides descriptive statistics for the superior email samples (Email 1: *without Netiquette*, Email 2:

*with Netiquette*). As can be seen from the mean deviations, the email with Netiquette was rated considerably higher ( $M = 4.35$ ,  $SD = .620$ ) than its counterpart without Netiquette ( $M = 1.90$ ,  $SD = .898$ ). *Figure 2* and *Figure 3* visualize through the yellow and purple areas the amount of understanding that the participants perceived after reading the emails. Almost all participants (94.28%) gained a greater understanding from the email including Netiquette (*Figure 3*) than from the email without Netiquette (*Figure 2*).

In support of hypothesis 1, Table 2 displays the results of a parametric paired samples *t*-test of the two superior email samples. The superior email sample with Netiquette resulted in a significant higher understanding than the message without Netiquette.

Similar results were found for the email samples from the subordinate by analyzing the descriptive statistics in Table 3 and the paired samples *t*-test in Table 4. The email sample including Netiquette ( $M = 3.35$ ,  $SD = 1.074$ ) resulted in a significant higher understanding than the email sample without Netiquette ( $M = 1.87$ ,  $SD = 0.878$ ). This difference in understanding is also reflected by the yellow and purple pies of *Figure 4* and *Figure 5*, which represent the likelihood of an increase in understanding. For 52.38% of the participants the subordinate email with Netiquette resulted in a higher understanding compared to 7.62% for the complementary email sample without Netiquette.

The results demonstrate that there is a statistically significant difference between the participants response on understanding when the email is written with Netiquette and when it is not. Consequently, the null hypothesis *H1<sub>0</sub>: "Netiquette has no effect on the recipients' understanding"* was rejected within a 95% confidence interval and the alternative hypothesis *H<sub>1</sub>: "Netiquette in email communication increases recipients' understanding"* was accepted.

### **Impact of Netiquette on Job Satisfaction**

Table 5 shows the results of descriptive statistics of the perceived job satisfaction after reading the superiors' email samples (Email 1: *without Netiquette*, Email 2: *with Netiquette*). Comparing the mean scores, the superior email with Netiquette ( $M = 4.02$ ,  $SD = .734$ ) was considerably rated higher than its counterpart without Netiquette ( $M = 1.66$ ,  $SD = .618$ ). As visible in *Figure 6* and *Figure 7*, the yellow and purple areas symbolize a greater likelihood of job satisfaction than the other areas. In fact, 78.09% of the participants perceived a greater job satisfaction from the superior email sample including Netiquette (*Figure 7*) than from the email sample without Netiquette (*Figure 6*), where only 0.95% of the participants felt that the email would increase their job satisfaction.

In support of hypothesis 2, Table 6 displays the results of a paired samples *t*-test from the two superior emails. The

email sample from the superior with Netiquette resulted in a significant higher job satisfaction than without Netiquette.

Analogous results were found by analyzing the descriptive statistics (Table 7) and the paired samples *t*-test (Table 8) of the second pair of email samples which were allegedly written from a direct subordinate. The email sample written with Netiquette ( $M = 3.09$ ,  $SD = 1.001$ ) resulted in a significant higher job satisfaction than the corresponding email that delivered only the plain message without Netiquette ( $M = 1.76$ ,  $SD = .701$ ). As can be seen from the yellow and purple areas in *Figure 9*, 35.24% of the participants indicated that the email sample from the subordinate with Netiquette would lead to an increase of their job satisfaction compared to 2.86% of the participants for the other email without Netiquette (*Figure 8*).

The results demonstrate that there is a statistically significant difference between the participants' response on job satisfaction when the email is written with Netiquette and when it is not. Consequently, the null hypothesis  $H_{20}$ : "*Netiquette has no effect on employee's job satisfaction*" was rejected within a 95% confidence interval and the alternative hypothesis  $H_2$ : "*Netiquette in email communication increases employees' job satisfaction*" was accepted.

### **Impact of Organizational Status and Netiquette**

Table 9 provides descriptive statistics of the job satisfaction for the superior and subordinate email samples including Netiquette (Email 1: *Superior Email with Netiquette*, Email 2: *Subordinate Email with Netiquette*). An inspection of the means indicates, that the superior email sample with Netiquette leads to a higher job satisfaction ( $M = 4.02$ ,  $SD = .734$ ) than the email sample with Netiquette from the subordinate ( $M = 3.09$ ,  $SD = 1.001$ ). A conducted paired samples *t*-test of these two emails (Table 10) indicated a significant difference in the participants' ratings of their evaluated job satisfaction. This result is also reflected by the yellow and purple pies in *Figure 10*, which visualize that 78.09% of the participants felt an increase of job satisfaction resulting from the superior email sample with Netiquette compared to only 35.24% who felt the same for the subordinate email sample with Netiquette (*Figure 11*).

However, as can be seen in Table 12, this effect does not amplitude statistically significant in both of the directions, so that for example the superior email without Netiquette produces a significant lower job satisfaction than the respective email sample from the subordinate. Although, as can be observed from the mean differences in Table 11 (Email 3: *Superior Email w/o Netiquette*, Email 4: *Subordinate Email w/o Netiquette*) the superior email sample without Netiquette ( $M = 1.66$ ,  $SD = .618$ ) resulted in a lower job satisfaction than the subordinate email sample without Netiquette ( $M = 1.76$ ,  $SD = .701$ ).

The results demonstrate that there is a significant difference between the participants response on job satisfaction of the superior email sample with Netiquette and the subordinate email sample with Netiquette. Consequently, the null hypothesis  $H_{30}$ : "*Organizational Status has no effect on Job Satisfaction when using Netiquette*" was rejected within a 95% confidence interval and the alternative hypothesis  $H_3$ : "*Netiquette has a higher impact on job satisfaction if communicated from higher organizational levels to lower organizational levels*" was accepted.

### **Impact of Netiquette on the impression of senders' likability**

Descriptive statistics of the participants' impressions of likability for the two superior email samples are represented in Table 13 (Email 1: *without Netiquette*, Email 2: *with Netiquette*). As can be seen in the mean differences, the scores for the superior email sample with Netiquette was noticeable higher ( $M = 4.29$ ,  $SD = .703$ ) than for the emails sample without Netiquette ( $M = 2.04$   $SD = .854$ ). The difference is also illustrated in *Figure 14* and *Figure 15*, where the yellow and purple areas represent a high likability. Almost all participants (87.61%) perceived the sender from the sample including Netiquette (*Figure 15*) as moderately likable or likable, while barely no one (.95%) did so for the email sample without Netiquette (*Figure 14*).

In support of hypothesis 4, the results of a paired samples *t*-test of the two superior email samples (Table 14) proved that the email with Netiquette resulted in a significant higher impression of the senders' likability than the email without Netiquette. The yellow and purple regions of *Figure 14* and *Figure 15* illustrate that only .95% of the participants perceived the sender of the superior email sample without Netiquette as likable, while almost all (87.61%) participants did so for the email sample with Netiquette.

Table 15 contains the descriptive statistics and Table 16 the results of the paired samples *t*-test for the subordinate emails, where comparable results were found (Email 3: *without Netiquette*, Email 4: *with Netiquette*). The email written with Netiquette rules ( $M = 3.33$ ,  $SD = 0.873$ ) lead to a significant higher senders' likability than the email without Netiquette ( $M = 1.87$ ,  $SD = 0.797$ ). Comparing the yellow and the purple areas of *Figure 16* and *Figure 17*, only 2.86% of the participants found the sender of the subordinate email without Netiquette likable, while 44.77% of the participants rated the sender of the email with Netiquette as likable or moderately likable.

The results demonstrate that there is a statistically significant difference between the participants response on likability when the email is written with Netiquette and when it is not. Consequently, the null hypothesis  $H_{40}$ : "*Netiquette has no effect on recipients' impression of senders' likability*" was rejected within a 95% confi-

dence interval and the alternative hypothesis “*H4: “Netiquette increases the recipients’ impression of senders’ likability”* was accepted.

### Impact of Netiquette on Uncertainty

Table 17 lists the descriptive statistics for the uncertainty scores of the two superior email samples (Email 1: *without Netiquette*, Email 2: *with Netiquette*). The mean score of the superior email sample ( $M = 4.5$ ,  $SD = .622$ ) is noticeable above its counterpart without Netiquette ( $M = 2.70$ ,  $SD = 1.091$ ). *Figure 18* and *Figure 19* reveal through the yellow and purple areas, that 95.24% of the participants felt almost no uncertainty from the superior email sample with Netiquette (*Figure 19*), while the email sample without Netiquette (*Figure 18*) caused that almost half of the participants (46.67%) perceived uncertainty.

In support of hypothesis 5, a paired samples *t*-test (Table 18) was conducted and a significant difference in the participants’ perceived uncertainty for the two superior email samples were found.

Table 19 shows descriptive statistics for the second pair of emails from the subordinate (Email 3: *without Netiquette*, Email 4: *with Netiquette*). As can be observed from the conducted paired samples *t*-test in Table 20 the subordinate email sample with Netiquette ( $M = 4.04$ ,  $SD = .843$ ) caused significant lesser uncertainty than the email sample without Netiquette ( $M = 3.09$ ,  $SD = 1.194$ ). This is also reflected by the yellow and purple areas of *Figure 20* and *Figure 21*, where 78.1% of the participants felt almost no uncertainty resulting from the subordinate sample with Netiquette, while only 39.05% of the participants felt like this for the corresponding email sample without Netiquette.

The results demonstrate that there is a statistically significant difference between the participants response on uncertainty when the email is written with Netiquette and when it is not. Consequently, the null hypothesis *H5<sub>0</sub>: “Netiquette has no effect on the level of perceived uncertainty”* was rejected within a 95% confidence interval and the alternative hypothesis *H<sub>5</sub>: “Netiquette reduces the receivers’ level of perceived uncertainty”* was accepted.

### Impact of Netiquette on the Negativity Effect

Descriptive statistics for the two superior email samples can be found in Table 21 (Email 1: *without Netiquette*, Email 2: *with Netiquette*). Comparing the mean score of the superior email with Netiquette ( $M = 4.58$ ,  $SD = .662$ ) indicates that it is far above the participants’ evaluation of the email sample without Netiquette ( $M = 1.87$ ,  $SD = .784$ ). This high result can be also observed in *Figure 23*, where the yellow and purple colored areas represent a positive appearance in the participants’ perception, while the blue and green areas of *Figure 22* signify a negative

evaluation. 94.28% of the participants evaluated the email sample with Netiquette from the superior as positive although the message contained a negative content (rejection of the project), while 81.9% rated the email without Netiquette as negative.

In support of hypothesis 6, Table 22 contains evidence from a paired samples *t*-test, that the differences between the superior email samples are significant.

Table 23 shows the descriptive statistics and comparing the means shows that the email written with Netiquette ( $M = 3.52$ ,  $SD = 1.029$ ) was evaluated higher than the email without Netiquette ( $M = 1.69$ ,  $SD = 0.711$ ). Table 24 displays the results of a conducted paired samples *t*-test, which gave evidence, that the differences between the two email samples are also statistically significant. This difference is also visualized in *Figure 24* and *Figure 25*. While over the half of the participants (52.38%) perceived the subordinated email with Netiquette as positive, only 2.86% did so for the email sample without Netiquette.

The results demonstrate that there is a statistically significant difference between the participants response on the superior and subordinate email evaluation when it is written with Netiquette and when it is not. Consequently, the null hypothesis *H6<sub>0</sub>: “Netiquette has no effect on the sender’s evaluation of the email”* was rejected within a 95% confidence interval and the alternative hypothesis *H<sub>6</sub>: “Netiquette reduces the negativity effect of emails”* was accepted.

## Conclusions

This study has shown that Netiquette improves email communication on two levels. Firstly, on the content level where it supports recipients’ understanding and secondly, as it also builds on relationships, it clarifies the emotional intent of the sender.

Recalling that email senders intentionally and unintentionally communicate emotion and that emails are often interpreted by recipients as more emotionally negative than intended, but the positive emotional transfer of moods among people in a group improves cooperation, decreases conflict and increases perceived task performance makes it obvious, why organizations should implement an email policy which integrates Netiquette in its core. Especially to “remember the human” should be considered as the most important Netiquette rule.

Email communication filters out non-verbal cues compared to face-to-face communication, which defines it as a lean medium in terms of the media richness theory as well an unnatural medium in the media naturalness theory. Both of the theories describe why communicating over email is difficult for humans, especially when it

## Bartl, Impact of Netiquette on Email Communication

comes to convey equivocality or more precisely, the emotional intent of the sender.

Due to the lean and unnatural characteristics of email, it is easy for the sender to forget the human on the other side of the communication, as people tend to project their own thoughts and feelings on the receiver. This makes it likely that people believe that they can communicate more effectively over email than they actually can.

Despite the fact that people can overcome the limitations of email with the use of emoticons to clarify the emotional meaning of their message, research has found out that emoticons are not uniformly interpreted and might also appear informal and even harm credibility of the sender in business related emails.

This study provided evidence, that the use of Netiquette in email communication leads to a higher understanding and helps clarify the emotional intent of the sender without deviating from business communication norms. The findings of this research demonstrate, that Netiquette resulted not only in a better understanding, but also in a higher job satisfaction, a lower uncertainty, a more favorable impression of the sender and a positive perception of the email message.

Especially the upper management should be aware of using Netiquette in their email communication and should be trained regularly, as it was found in this research, that the emails from the superior had a significant higher impact on the recipients' job satisfaction than the analogous emails from the subordinate. Moreover, the emails with Netiquette from the superior resulted also in a significant higher understanding, lower perception of uncertainty, a more favorable impression of the senders' likability and a positive emotional perception of the email than the corresponding email from the subordinate. Social cognition that can be all defined as essential for a functioning organization.

The implications of Netiquette and the upper management gets particularly evident when recalling that higher-status employees are less likely to send positive emotional content in emails, but are more likely than lower-status employees to express negative emotions. Communication aspects which might lead likely to a workspace deviant behavior of the subordinates and might as well erode organizational commitment.

The results of this study provide a compelling evidence for the positive impact of Netiquette in business email communications. Organizations should carefully implement proper email policies based on Netiquette and provide communication trainings, particularly for the upper management, to increase employees understanding and job satisfaction, as it likely increases productivity, work commitment and might even shape a value based organizational culture.

## About the Author

Ramon Bartl studied Applied Computer Sciences at Ravensburg-Weingarten University of Applied Sciences and International Business Management and Leadership at the Professional School of Business and Technology, Kempten.

During his studies he founded his own company RIDING BYTES, which provides professional open source web solutions worldwide. Email is especially in this work area often the primary means of communication and crucial for the success of the business when communicating with potential clients or partners around the globe.

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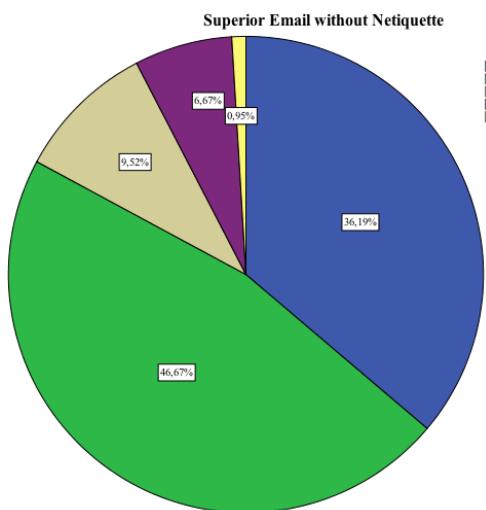


Figure 2:  
Impact on Understanding;  
Superior Email Sample w/o Netiquette

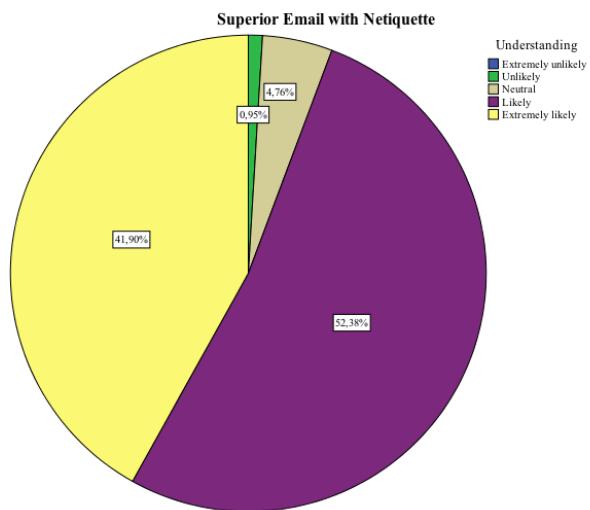


Figure 3:  
Impact on Understanding;  
Superior Email Sample with Netiquette

	Mean	SD	SE
Understanding Email 1 <sup>a</sup> (Superior Email w/o Netiquette)	1.90	.898	.088
Understanding Email 2 <sup>a</sup> (Superior Email with Netiquette)	4.35	.620	.060

Note. <sup>a</sup> N = 105; SD = Standard Deviation Mean; SE = Standard Error Mean

Table 1:  
Descriptive Statistics: Netiquette \* Understanding (Superior Emails)

	Paired Differences						t	df	Sig.			
	95% CI											
	Mean	SD	SE	Lower	Upper							
Understanding (Superior Emails)	2.457	1.127	.110	2.239	2.675	22.344	104		.000			

Note. SD = Standard Deviation Mean; SE = Standard Error Mean; CI = Confidence Interval of the Difference; Sig. = Significance

Table 2:  
Paired Samples T-Test: Superior Email with Netiquette – Superior Email w/o Netiquette

## Bartl, Impact of Netiquette on Email Communication

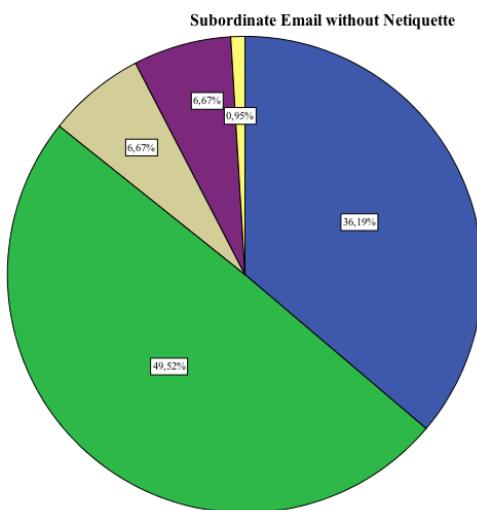


Figure 2:  
Impact on Understanding;  
Subordinate Email Sample w/o Netiquette

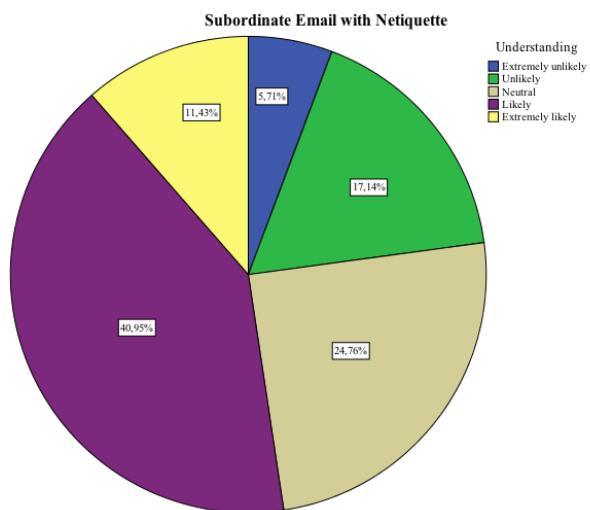


Figure 3:  
Impact on Understanding;  
Subordinate Email Sample with Netiquette

	Mean	SD	SE
Understanding Email 3 <sup>a</sup> (Subordinate Email w/o Netiquette)	1.87	.878	.086
Understanding Email 4 <sup>a</sup> (Subordinate Email with Netiquette)	3.35	1.074	.105

Note. <sup>a</sup> N = 105; SD = Standard Deviation Mean; SE = Standard Error Mean

Table 3:  
Descriptive Statistics: Netiquette \* Understanding (Subordinate Emails)

	Paired Differences						t	df	Sig			
	95% CI											
	Mean	SD	SE	Lower	Upper							
Understanding (Subordinate Emails)	1.486	1.264	.123	1.241	1.730	12.042	104	.000				

Note. SD = Standard Deviation Mean; SE = Standard Error Mean; CI = Confidence Interval of the Difference; Sig. = Significance

Table 4:  
Paired Samples T-Test: Subordinate Email with Netiquette – Subordinate Emails w/o Netiquette

## Bartl, Impact of Netiquette on Email Communication

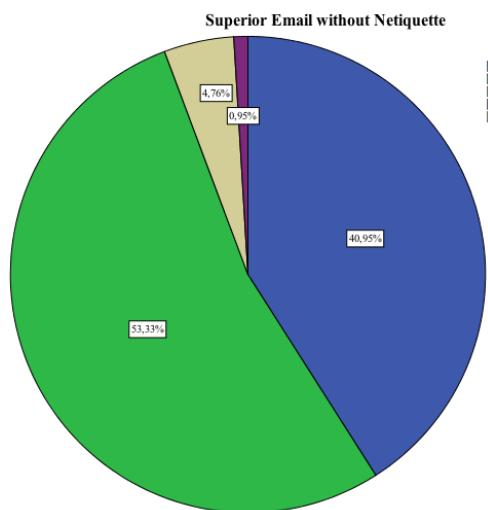


Figure 6:  
Impact on Job Satisfaction;  
Superior Email Sample w/o Netiquette

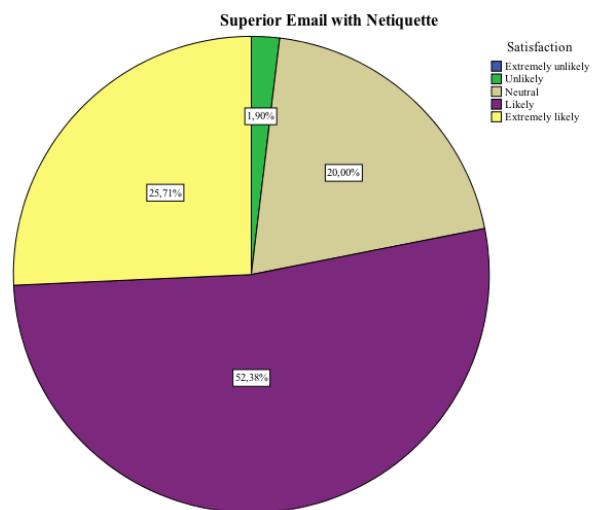


Figure 7:  
Impact on Job Satisfaction;  
Superior Email Sample with Netiquette

	Mean	SD	SE
Satisfaction Email 1 <sup>a</sup> (Superior Email w/o Netiquette)	1.66	.618	.060
Satisfaction Email 2 <sup>a</sup> (Superior Email with Netiquette)	4.02	.734	.072

Note. <sup>a</sup> N = 105; SD = Standard Deviation Mean; SE = Standard Error Mean

Table 5:  
Descriptive Statistics: Netiquette \* Job Satisfaction (Superior Emails)

	Paired Differences						t	df	Sig.			
	95% CI											
	Mean	SD	SE	Lower	Upper							
Satisfaction (Superior Emails)	2.362	1.057	.103	2.567	2.157	22.892	104	.000				

Note. SD = Standard Deviation Mean; SE = Standard Error Mean; CI = Confidence Interval of the Difference; Sig. = Significance

Table 6:  
Paired Samples T-Test: Superior Email with Netiquette – Superior Email w/o Netiquette

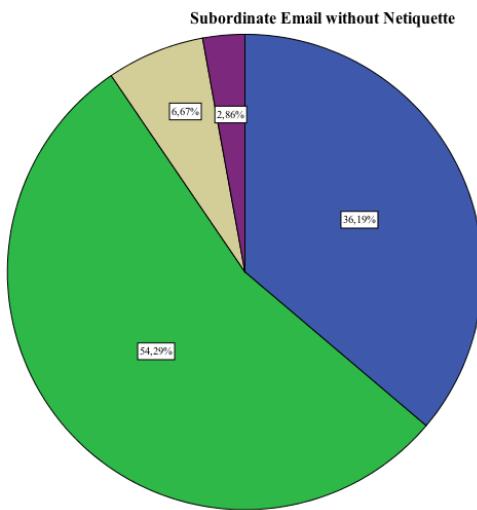


Figure 8:  
Impact on Job Satisfaction;  
Subordinate Email Sample w/o Netiquette

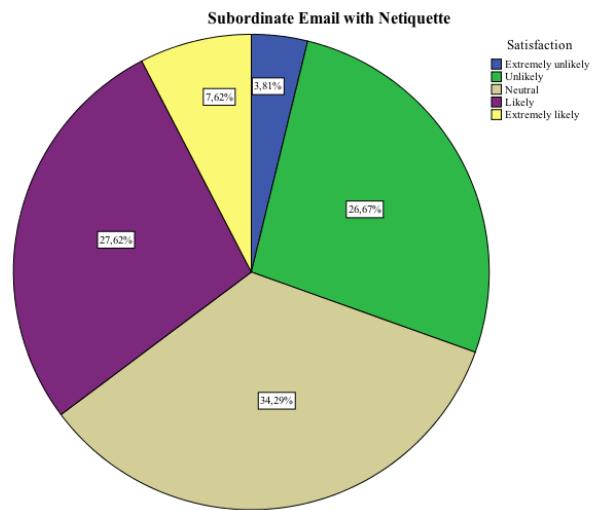


Figure 7:  
Impact on Job Satisfaction;  
Subordinate Email Sample with Netiquette

	Mean	SD	SE
Satisfaction Email 3 <sup>a</sup> (Subordinate Email w/o Netiquette)	1.76	.701	.068
Satisfaction Email 4 <sup>a</sup> (Subordinate Email with Netiquette)	3.09	1.001	.098

Note. <sup>a</sup> N = 105; SD = Standard Deviation Mean; SE = Standard Error Mean

Table 7:  
Descriptive Statistics: Netiquette \* Job Satisfaction (Subordinate Emails)

	Paired Differences						t	df	Sig.			
	95% CI											
	Mean	SD	SE	Lower	Upper							
Satisfaction (Subordinate Emails)	1.324	1.096	.107	1.112	1.536	12.374	104		.000			

Note. SD = Standard Deviation Mean; SE = Standard Error Mean; CI = Confidence Interval of the Difference; Sig. = Significance

Table 8:  
Paired Samples T-Test: Subordinate Email with Netiquette – Subordinate Email w/o Netiquette

## Bartl, Impact of Netiquette on Email Communication

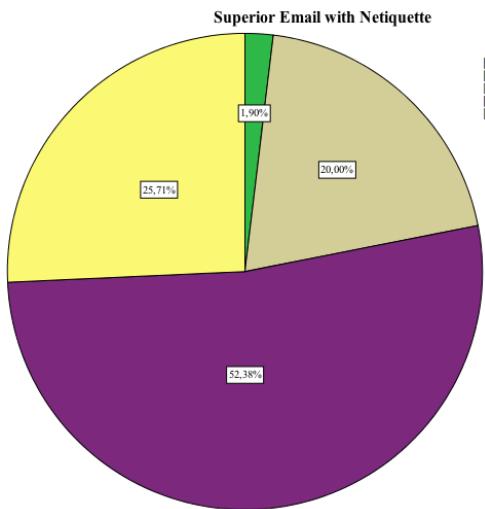


Figure 10:  
Impact on Job Satisfaction;  
Subordinate Email Sample w/o Netiquette

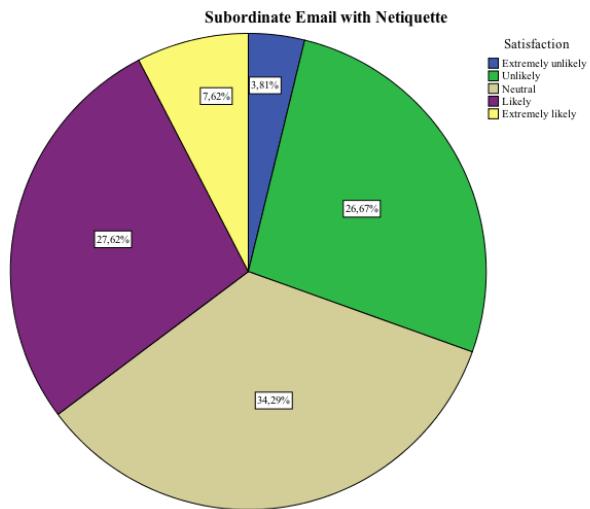


Figure 7:  
Impact on Job Satisfaction;  
Subordinate Email Sample with Netiquette

	Mean	SD	SE
Satisfaction Email 1 <sup>a</sup> (Superior Email with Netiquette)	4.02	.734	.072
Satisfaction Email 2 <sup>a</sup> (Subordinate Email with Netiquette)	3.09	1.001	.098

Note. <sup>a</sup> N = 105; SD = Standard Deviation Mean; SE = Standard Error Mean

Table 9:  
Descriptive Statistics: Organizational Status \* Job Satisfaction (with Netiquette)

	Paired Differences						t	df	Sig.			
	95% CI											
	Mean	SD	SE	Lower	Upper							
Satisfaction (with Netiquette)	.933	1.146	.112	.712	1.155	8.347	104	.000				

Note. SD = Standard Deviation Mean; SE = Standard Error Mean; CI = Confidence Interval of the Difference; Sig. = Significance

Table 10:  
Paired Samples T-Test: Superior Email with Netiquette – Subordinate Email with Netiquette

## Bartl, Impact of Netiquette on Email Communication

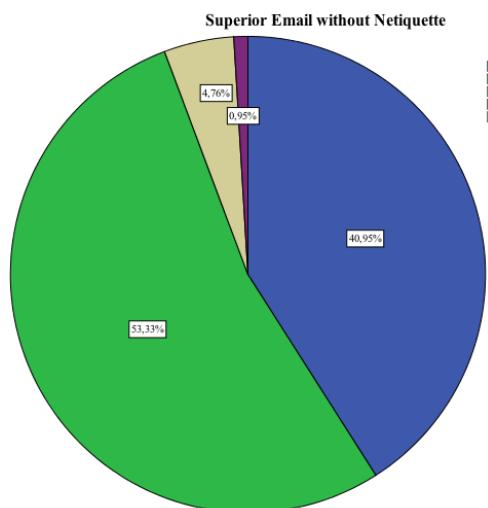


Figure 12:  
Org. Status \* Job Satisfaction;  
Superior Email Sample w/o Netiquette

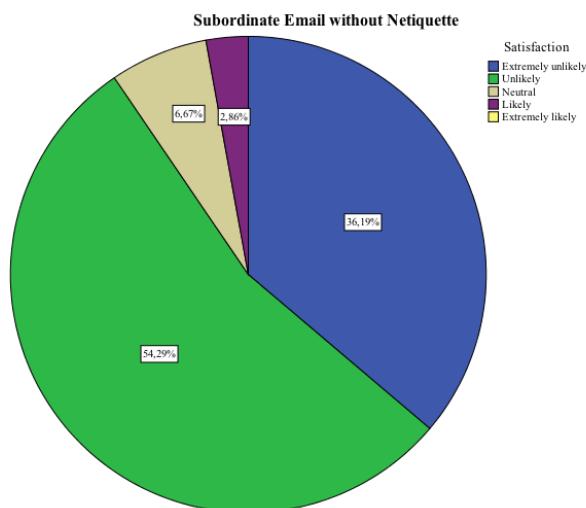


Figure 13:  
Org. Status \* Job Satisfaction;  
Subordinate Email Sample with Netiquette

	Mean	SD	SE
Satisfaction Email 3 <sup>a</sup> (Superior Email without Netiquette)	1.66	.618	.060
Satisfaction Email 4 <sup>a</sup> (Subordinate Email without Netiquette)	1.76	.701	.068

Note. <sup>a</sup> N = 105; SD = Standard Deviation Mean; SE = Standard Error Mean

Table 11:

Descriptive Statistics: Organizational Status \* Job Satisfaction (w/o Netiquette)

	Paired Differences							t	df	Sig.			
	95% CI												
	Mean	SD	SE	Lower	Upper								
Satisfaction (without Netiquette)	-.105	.733	.072	-.247	.037	-1.465	104						

Note. SD = Standard Deviation Mean; SE = Standard Error Mean; CI = Confidence Interval of the Difference; Sig. = Significance

Table 12:

Paired Samples T-Test: Superior Email w/o Netiquette – Subordinate Email w/o Netiquette

## Bartl, Impact of Netiquette on Email Communication

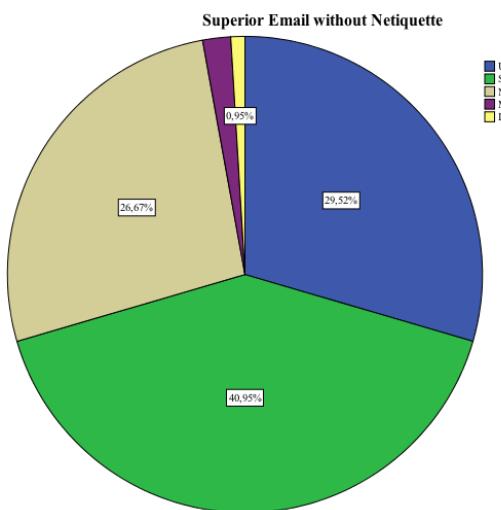


Figure 14:  
Impact on Senders' Likability;  
Superior Email Sample w/o Netiquette

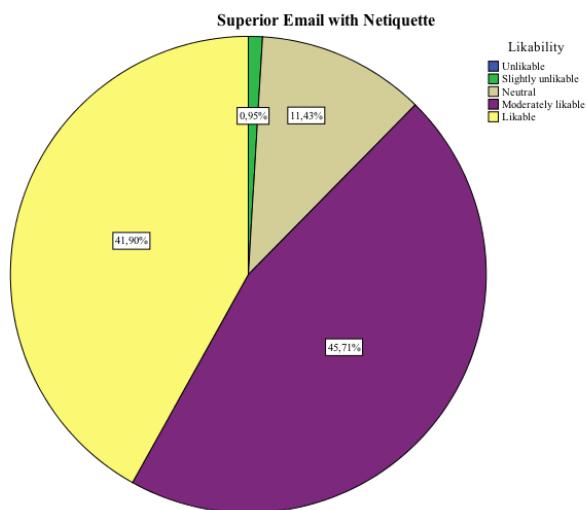


Figure 15:  
Impact on Senders' Likability;  
Superior Email Sample with Netiquette

	Mean	SD	SE
Likability E-Mail 1 <sup>a</sup> (Superior Email without Netiquette)	2.04	.854	.083
Likability E-Mail 2 <sup>a</sup> (Superior Email with Netiquette)	4.29	.703	.069

Note. <sup>a</sup> N = 105; SD = Standard Deviation Mean; SE = Standard Error Mean

Table 13:  
Descriptive Statistics: Netiquette \* Senders' Likability (Superior)

	Paired Differences						t	df	Sig.			
	95% CI											
	Mean	SD	SE	Lower	Upper							
Likability	2.248	1.254	.122	2.005	2.490	18.365	104	.000				
(Superior Emails)												

Note. SD = Standard Deviation Mean; SE = Standard Error Mean; CI = Confidence Interval of the Difference; Sig. = Significance

Table 14:  
Paired Samples T-Test: Superior Email with Netiquette – Superior Emails without Netiquette

## Bartl, Impact of Netiquette on Email Communication

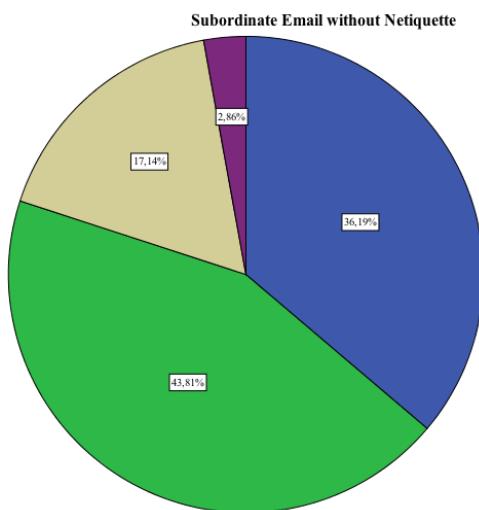


Figure 16:  
Impact on Senders' Likability;  
Subordinate Email Sample w/o Netiquette

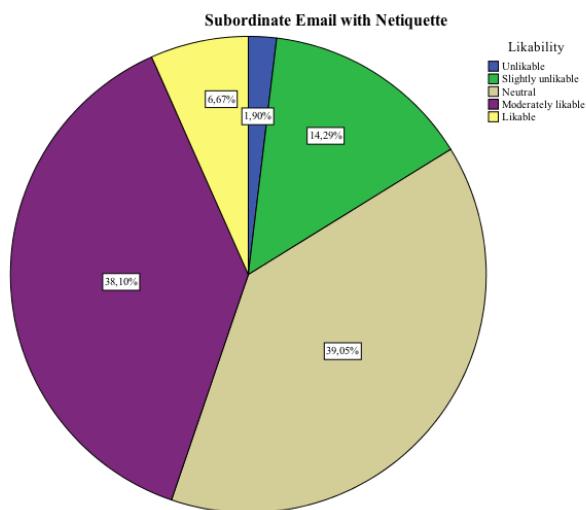


Figure 17:  
Impact on Senders' Likability;  
Subordinate Email Sample with Netiquette

	Mean	SD	SE
Likability E-Mail 3 <sup>a</sup> (Subordinate Email w/o Netiquette)	1.87	.797	.078
Likability E-Mail 4 <sup>a</sup> (Subordinate Email with Netiquette)	3.33	.873	.085

Note. <sup>a</sup> N = 105; SD = Standard Deviation Mean; SE = Standard Error Mean

Table 15:

Descriptive Statistics: Netiquette \* Senders' Likability (Subordinate Emails)

	Paired Differences						t	df	Sig.			
	95% CI											
	Mean	SD	SE	Lower	Upper							
Likability (Subordinate Emails)	1.467	1.029	.100	1.268	1.666	14.604	104		.000			

Note. SD = Standard Deviation Mean; SE = Standard Error Mean; CI = Confidence Interval of the Difference; Sig. = Significance

Table 16:

Paired Samples T-Test: Subordinate Email with Netiquette – Subordinate Email w/o Netiquette

## Bartl, Impact of Netiquette on Email Communication

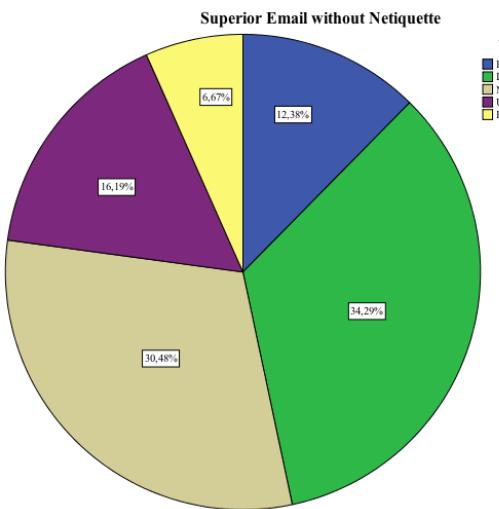


Figure 18:  
Impact on Uncertainty;  
Superior Email Sample without Netiquette

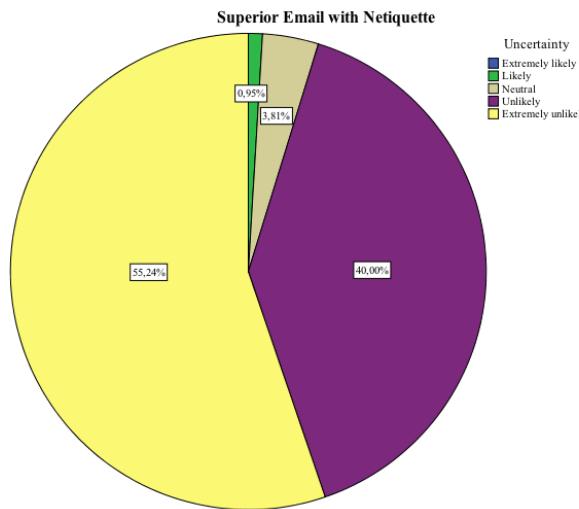


Figure 19:  
Impact on Uncertainty;  
Superior Email Sample with Netiquette

	Mean	SD	SE
Uncertainty E-Mail 1 <sup>a</sup> (Superior Email w/o Netiquette)	2.70	1.091	.106
Uncertainty E-Mail 2 <sup>a</sup> (Superior Email with Netiquette)	4.50	.622	.061

Note. <sup>a</sup> N = 105; SD = Standard Deviation Mean; SE = Standard Error Mean

Table 17:  
Descriptive Statistics: Netiquette \* Uncertainty (Superior Emails)

	Paired Differences							t	df	Sig.			
	95% CI												
	Mean	SD	SE	Lower	Upper								
Uncertainty. (Superior Emails)	1.790	1.174	.115	1.563	2.018	15.625	104	.000					

Note. SD = Standard Deviation Mean; SE = Standard Error Mean; CI = Confidence Interval of the Difference; Sig. = Significance

Table 18:  
Paired Samples T-Test: Superior Email with Netiquette – Superior Email without Netiquette

## Bartl, Impact of Netiquette on Email Communication

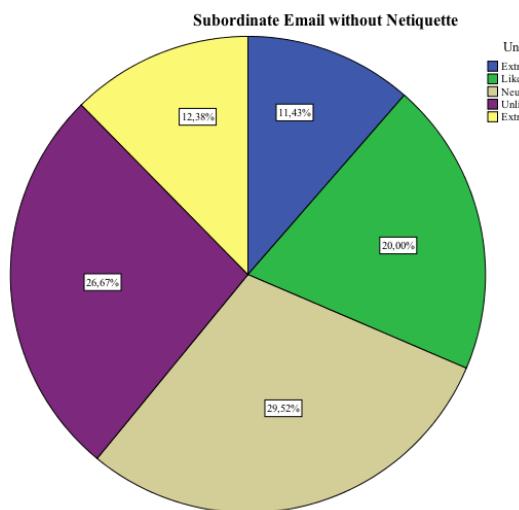


Figure 20:  
Impact on Uncertainty;  
Subordinate Email Sample w/o Netiquette

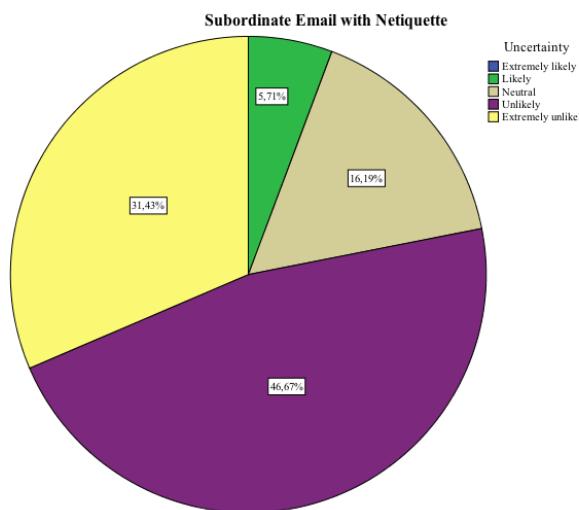


Figure 21:  
Impact on Uncertainty;  
Subordinate Email Sample with Netiquette

	Mean	SD	SE
Uncertainty E-Mail 3 <sup>a</sup> (Subordinate Email w/o Netiquette)	3.09	1.194	.117
Uncertainty E-Mail 4 <sup>a</sup> (Subordinate Email with Netiquette)	4.04	.843	.082

Note. <sup>a</sup>N = 105; SD = Standard Deviation Mean; SE = Standard Error Mean

Table 19:  
Descriptive Statistics: Netiquette \*Uncertainty

	Paired Differences						t	df	Sig.			
	95% CI											
	Mean	SD	SE	Lower	Upper							
Uncertainty. (Subordinate Emails)	.952	1.281	.125	.704	1.200	7.616	104	.000				

Note. SD = Standard Deviation Mean; SE = Standard Error Mean; CI = Confidence Interval of the Difference; Sig. = Significance

Table 20:  
Paired Samples T-Test: Subordinate Email with Netiquette – Superior Email without Netiquette

## Bartl, Impact of Netiquette on Email Communication

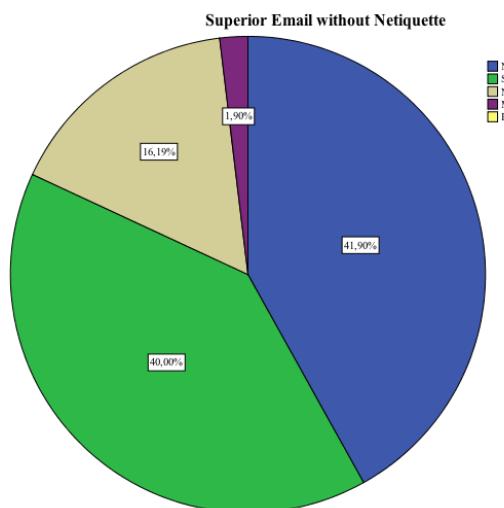


Figure 22:  
Impact on Uncertainty;  
Subordinate Email Sample w/o Netiquette

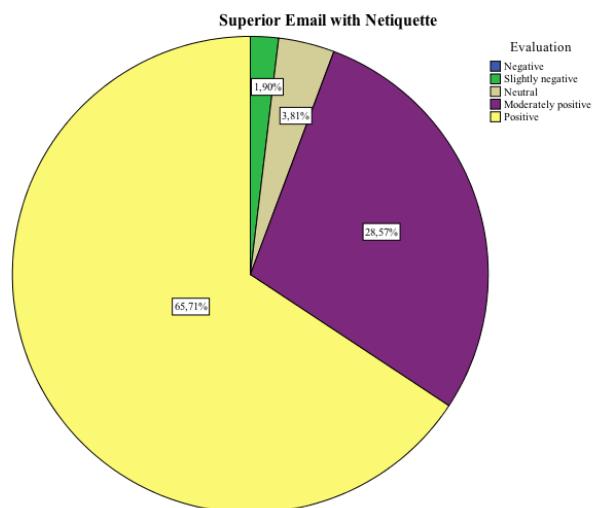


Figure 23:  
Impact on Uncertainty;  
Subordinate Email Sample with Netiquette

	Mean	SD	SE
Evaluation E-Mail 1 <sup>a</sup> (Superior Email w/o Netiquette)	1.78	.784	.077
Evaluation E-Mail 2 <sup>a</sup> (Superior Email with Netiquette)	4.58	.662	.065

Note. <sup>a</sup> N = 105; SD = Standard Deviation Mean; SE = Standard Error Mean

Table 21:

Descriptive Statistics: Netiquette \*Evaluation (Superior Email Samples)

	Paired Differences						t	df	Sig.			
	95% CI											
	Mean	SD	SE	Lower	Upper							
Evaluation. (Superior Emails)	2.800	1.069	.104	2.593	3.007	26.845	104	.000				

Note. SD = Standard Deviation Mean; SE = Standard Error Mean; CI = Confidence Interval of the Difference; Sig. = Significance

Table 22:

Paired Samples T-Test: Superior Email with Netiquette – Superior Email without Netiquette

## Bartl, Impact of Netiquette on Email Communication

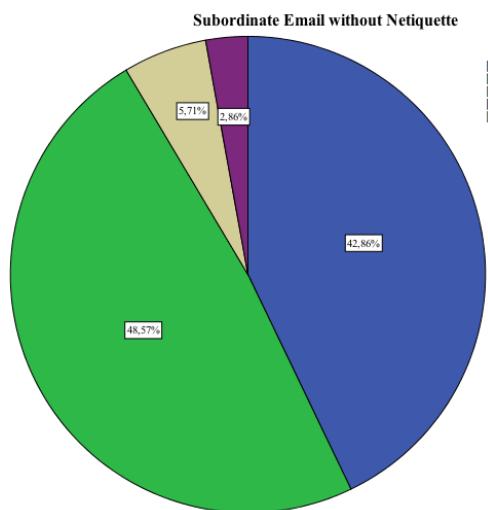


Figure 24:  
Impact on Uncertainty;  
Subordinate Email Sample w/o Netiquette

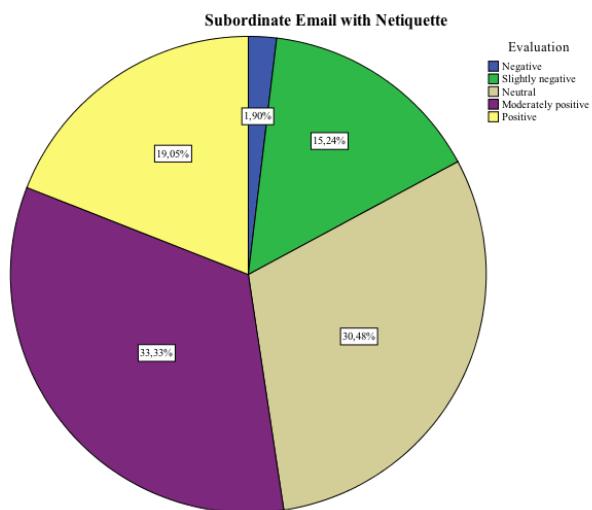


Figure 25:  
Impact on Uncertainty;  
Subordinate Email Sample with Netiquette

	Mean	SD	SE
Evaluation E-Mail 3 <sup>a</sup> (Subordinate Email w/o Netiquette)	1.69	.711	.069
Evaluation E-Mail 4 <sup>a</sup> (Subordinate Email with Netiquette)	3.52	1.029	.100

Note. <sup>a</sup> N = 105; SD = Standard Deviation Mean; SE = Standard Error Mean

Table 23:

Descriptive Statistics: Netiquette \* Evaluation (Subordinate Email Samples)

	Paired Differences						t	df	Sig.			
	95% CI											
	Mean	SD	SE	Lower	Upper							
Evaluation. (Subordinate Emails)	1.838	1.183	.116	1.609	2.068	15.883	104	.000				

Note. SD = Standard Deviation Mean; SE = Standard Error Mean; CI = Confidence Interval of the Difference; Sig. = Significance

Table 24:

Paired Samples T-Test: Subordinate Email with Netiquette – Subordinate Email w/o Netiquette

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