

**LEADERSHIP INFLUENCE ON THE RELATIONSHIP BETWEEN
COMMUNICATION SATISFACTION AND JOB SATISFACTION IN CMC
ENVIRONMENTS**

DOCTORAL DISSERTATION

By

EVER DE JESÚS BEDOYA BEDOYA

Presented to:

DR. ZSUZSANNA VITAI

Research Director

FACULTY OF BUSINESS AND ECONOMICS

UNIVERSITY OF PÉCS

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DECLARATION OF ORIGINALITY

This is to certify that:

The thesis comprises my original work towards the PhD except where indicated, and appropriate reference has been made in the text to all other material used.

ABSTRACT

The growth of computer-mediated communication (CMC) in today's organizations, as a consequence of the expansion of the technology market worldwide, has influenced the communication process channels and the possible effects of the interaction among job satisfaction, communication satisfaction and leadership. Therefore, the purpose of this research is to observe how transactional, transformational, and level 5 leadership styles influence the relationship between communication satisfaction and job satisfaction in organizational environments impacted by internet-based communication. The study was carried out on a sample of 103 from SMEs from the service sector in Colombia. To achieve a broad understanding of the phenomenon, four hypotheses were tested; To test hypotheses 1, 2 and 3, four questionnaires were used; thus, to measure leadership styles, the MLQ (5X) and the L5LS instrument were administered; communication satisfaction was measured with the CSQ questionnaire; JSS was used for job satisfaction; to test hypothesis 4, the Internet-based communication questionnaire was designed. Results show that 65.4% of organizational communication is done via Internet, with WhatsApp, E-mail, and the Institutional Intranet being the most widely used Internet-based tools; for hypothesis 1, it is tested that there is a positive and significant relationship between the three leadership styles and job satisfaction in CMC environments; for hypothesis 2, it is found that there is a significant and positive relationship between communication satisfaction and job satisfaction in CMC environments; for hypothesis 3, the findings tested that transactional and transformational leadership styles do not exert any moderating influence on the relationship between communication satisfaction and job satisfaction in CMC environments, however, level 5 leadership tested to have a moderator effect on the relationship between communication satisfaction and job satisfaction in CMC environments; for hypothesis 4, the results show that leader's refusal to communicate via Internet-Based channels with employees does not have a negative impact on communication satisfaction.

Implications of the current study are relevant, particularly, during the present global Covid19 outbreak crisis when people have been abruptly obliged to move to virtual work; therefore, results of the study are an important input to expand the leadership and organizational communication literature for research, evaluation, decision-making, and policy generation purposes that help better understand and improve communication satisfaction, job satisfaction,

and leadership practices in CMC organizational environments; similarly, for scholars, researchers, and organizations that want to expand their knowledge about the effect of communication, job satisfaction, and leadership in CMC environments, the current findings may be interesting and useful.

Keywords: Computer-mediated communication, job satisfaction, leadership, communication satisfaction, Internet-based communication channels, networking tools.

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INTRODUCTION

The current organizational environment has been highly influenced by new technologies; subsequently, the channels of the communication process in organizations have also been affected by technology due to increasing investments in social networking tools (Bughin & Chui, 2013). Scientific literature has displayed wide evidence of positive relationship between the communication satisfaction and the employee's job satisfaction; nevertheless, nowadays, when the Internet-Based communication is considered as a real and undeniable effective resource that can positively impact all type of industry (Stanko & Sena, 2019), some studies have demonstrated the relationship to impact employees' health negatively (Stich, et al., 2017), (Stich, et al., 2018). Also, some other studies have shown how the influence of Internet technology has improved job satisfaction in terms of access to data and information, creating new activities, and simplifying communication and social interactions. Yet, as job satisfaction is related to communication technology, the positive effects may be distorted since the use of ICT's varies according to occupations, income and educational level (Castellacci & Viñas-Bardolet, 2019).

It is a fact that Internet and social media communications, together with the global market and competition, are new variables that leaders have used to improve effectiveness (Brandfog, 2016, p. 3). The expansion of internet networks, together with the increase in the use of mobile communication devices and the rise in interactions through computed-mediated communication, has changed the panorama of the way people share information. On this issue, Derks, D. and Bakker, A. (2010), agree that computer-mediated communication (CMC) has turned to be a common exercise in work life, and a preferred channel of communication by employees (Stevens, et al., 2000). Eurofound and the International Labour Office (2017) asserted that the new information and communications technologies (ICT) have changed dramatically people's lives and work environment in the 21st century.

The incorporation of ICT technologies in organizations has achieved great penetration during the last 50 years. The development of new applications has shown benefits that are evidenced in restructuring processes inside and outside the organization, improvements in the quality of products, support for innovation, and improvement of salary quotas; similarly, it is expected an

increase in new technology developed by the industries, and the subsequent extensive offer of possibilities and solutions it may bring along (Bresnahan & Yin, 2017).

The growth in the supply and use of Internet-based applications has led organizations to identify which social networks to use according to their characteristics for specific purposes, for example, a study carried out in 317 organizations found that when the purpose is the communication with their clients, organizations recourse to the use of an application; however, if visualization, virtualization, or collaboration functions are pursued, organizations use multiple social media applications (Go & You, 2016); likewise, the use of different social network applications, in addition to helping to enhance organizational purposes, has also allowed leaders in organizations to understand their uses more clearly and to enhance their benefits; in this way, as shown in a study carried out in 567 Malaysian organizations, firms benefit from the use of social networks through possible pressures perceived by competitors, the two-way communication with the public that could help to gain new customers quickly, as well as the positive impact on organizations that may be translated into cost reduction, enhanced customer relations, and improved information accessibility (Tajudeen, et al., 2018).

In addition, when referring to the strict sense of communication, it can be inferred that the increase in the study of internet-based communication tools and their relationship with organizations, with different purposes and different tools, are facts supported by current studies; For example, a study conducted in profit and non-profit organizations, where after analyzing 6678 tweets, authors found that dialogic organizational communication impacts the relationship with customers; it is to say that a direct communication among the organization and the customer influences the customer's engagement (Wang & Yang, 2020).

Consequently, the growing use of information and communication technology at work and the impact it may have on the employee's job satisfaction (Eurofound and the International Labour Office, 2017) brings huge challenges to modern leadership moderation in order to satisfactorily communicate instructions, feedback and ideas.

ICT's and economies

It is undeniable that ICT's have provided development and productivity solutions to the nations. The increasing use of technology coupled with the increase in efficiency derived from information technology has contributed to the resurgence of productivity (Oliner & Sichel,

2002, p. 15). In some countries, productivity growth in recent years has occurred as a result of the expansion of the use of ICT's to sectors other than manufacturing (Chung, 2018, p. 88), thus, allowing the strengthening of GDP, and , in some cases, a positive impact on development (Njoh, 2018). Consequently, the expansion of the ICT's infrastructure has served as a driver in increasing productivity in all areas of the industry, reducing costs in labor and materials and increasing private capital (Nadiri, et al., 2018). Similarly, although on a larger scale for developed economies than for developing and emerging countries, investment in ICT has shown a positive relationship with their economic development during the first decade of the 21st century (Niebel, 2018).

ICT'S coverage in Colombia

The growth in the investment in the Colombian ICT infrastructure during the 21st century has been a joint effort between the State and private enterprise. Government policies on issues related to ICT's aim to expand coverage throughout the Colombian territory. Currently, Colombia invests in a wide variety of alternatives for the use of new information technology and communication (ICT) platforms (OECD, 2017).

In Colombia, the Ministry of Information and Communication Technologies, which, in accordance with the provision of article 18 of Law 1341 of 2009, is the entity in charge of all the issues related to the policies aiming at implementing, growing, promoting and expanding the access to ICT's all over the Colombian territory (Ministry of Information and Communication Technologies, 2019).

In the most recent census carried out by the Colombian government about the current coverage of ICT's (Ministry of Information and Communication Technologies, 2017), it was observed that out of the 45.5 million people that inhabit the national territory (DANE, 2018), 64% of housing has access to the internet, and 72% has access to smartphones. Likewise, it was determined that 97% of Colombian People use the Internet as the main *medium* to communicate with each other. Thus, with 90% daily use, social networks are the basic tool for communication (see table 1).

Table 1: The most used social networks and platforms by people

| The most used social networks and platforms | |
|---|-----|
| Facebook | 88% |
| WhatsApp | 87% |
| YouTube | 48% |
| Instagram | 34% |
| Twitter | 20% |

Source: (Ministry of Information and Communication Technologies, 2017)

Regarding the organizations, the census showed that 68% of the companies have access to the Internet, which they justify to obtain competitiveness in the market, thus, 3 out of 5 SME's have access to internet. As a result, it was observed that organizations distribute a large part of their tasks in activities related to the use of ICT's as follows:

Table 2: Activities related to the use of ICT's

| Transactions and Interactions | |
|-------------------------------------|-----|
| Selling products or services online | 35% |
| Buying products or services online | 34% |
| Paying Salaries | 31% |
| Finding information | 35% |

Source: (Ministry of Information and Communication Technologies, 2017)

A survey conducted on 801 owners and managers of small and medium-sized enterprises in Colombia, Costa Rica, Ecuador, and Panama (Brother International Corporation, 2019), showed similar results in terms of acquisition and use of technology by Colombian SME's.

Table 3: Essential technology used mobile applications by SME's

| Which of the following technologies, if any, are essential to your business? | |
|--|-----|
| Laptop or Desktop | 85% |
| Printer | 68% |
| Mobile phone | 73% |
| Landline Telephone | 64% |
| WiFi | 72% |
| Cloud Storage | 42% |
| Tablet | 32% |

Source: (Brother International Corporation, 2019)

Table 4: The most used mobile applications by SME's

| Which of the following mobile applications, if any, is your company currently using? | |
|--|-----|
| Email App | 76% |
| Voice message app (e.g. Whatsapp, Messenger) | 70% |
| Social network App. (e.g. Facebook, Twitter) | 56% |
| Invoice App | 55% |
| Banking App | 55% |

Source: (Brother International Corporation, 2019)

Table 5: The most used social networks and platforms by SME's

| Does your company use any social media platform? If your answer is yes | |
|--|-----|
| Facebook | 54% |
| Instagram | 29% |
| Twitter | 14% |
| YouTube | 8% |
| LinkedIn | 6% |

Source: (Brother International Corporation, 2019)

Finally, Colombian government expresses its desire to continue investing in ICTs, and supporting organizations so that with efforts focused on training employees they can have a better use of social networks, digital marketing and promotions of their products and services through the websites.

Cultural features that influence organizational culture and leadership in Colombia

Colombia, a 100% Spanish-speaking country, is blessed by nature, it has two oceans, deserts, plains and forests, likewise, the triple mountainous ramification of the Andean mountain range when entering the country, make Colombia a country of 5 regions (Caribe, Pacífico, Amazonía, Llanos Orientales, and Andina), with marked differences in social and cultural traits; as a result, the concentration of labor in large cities results in a rich amalgamation of cultures, accents, and ways of seeing life; all these ingredients of cultures will become a challenge for leaders who must find leadership tools to manage their employees; likewise, challenges arise when new leaders come from abroad, which, in most cases, can be the result of increased foreign direct investment (FDI) in the country; consequently, two situations can pop up from this reality: firstly, a repatriation of managers (Torres, et al., 2015) ; secondly, hiring foreigners to lead their teams, as a result, both scenarios add high degrees of complexity when leading local employees.

In addition, the growth of foreign labor and the impact of cross-cultural diversity influence organizational culture; Although it is true that the government's projections for 2017 warned 118,000 foreign employees in the country (OIM, 2017, p. 44), these figures could be affected by the migration phenomenon. The particular case of the migration of Venezuelans to Colombia has increased steadily in recent years; thus, there are currently 1'488,373 Venezuelan citizens legally living in the country, a figure that increased 39% between 2018 and 2019 (Migración Colombia, 2019); as a consequence, the rise of foreign labor in the country contributes with cross-cultural elements that influence the organizational culture of Colombian SMEs and their relationship with leadership.

Another characteristic that shapes organizational culture, which must be carefully analyzed by organizations when leading work teams, is based on the fact that the number of family SMEs constitutes a large percentage of the total number of Colombian national organizations. According to the report by Confecámaras, 86.5 per cent of Colombian businesses are family organizations (PricewaterhouseCoopers, 2019). Leading this type of SMEs has particular conditions that arise from the fusion of different generations, who, as they evolve and grow, encounter new beliefs, challenges, new expectations, or new values that could end up in internal conflicts that affect institutional goals, commitments to expand, and the organization's energy (Ward, 2016), as well as the organizational communication (Binz Astrachan & Botero, 2018).

In conclusion, it is necessary to emphasize the challenges faced by leaders in SMEs in Colombia force leaders to face particular organizational cultural situations to achieve high performance and harmonious work environments in organizations.

Leadership in SME's research

Defining small and medium-sized enterprise (SME) has been a controversial issue. Much effort has been made to find a universal term for the concept, in part, because of the diverse regional and cultural realities as the size of the country's population, industry sector, and the level of international economic integration (Kushnir, 2010); although the size of these three variables can differ from country to country, the best formula to define the concept is based on the number of employees, the turnover, and balance sheets.

The Organization for Economic Co-operation and Development (OECD) adopts the European Union's definition for SME's (OECD, 2005, p. 17).

As a way of understanding what an enterprise is or is not, and for a clear classification of SME's, the European Union Commission categorized businesses in three:

Table 6: European Union Commission' business categorization

| CATEGORY | DEFINITION |
|--------------------------|---|
| Autonomous | if the enterprise is either completely independent or has one or more <u>minority partnerships (each less than 25 %) with other enterprises</u> |
| Partner s | if holdings with other enterprises rise to at least 25 % but no more than 50 %, the relationship is deemed to be between partner enterprise |
| linked enterprise | if holdings with other enterprises exceed the 50 % threshold, these are considered linked enterprises |

Source: (European Comission, 2019, p. 7)

Once the categorization is made, thresholds were established to classify SME's into three enterprises: micro, small, or medium-sized enterprise.

Table 7: EU Thresholds

| Enterprise category | Headcount: annual work unit (AWU) | Annual turnover | Annual balance sheet total |
|----------------------------|--|------------------------|-----------------------------------|
| Medium-sized | <250 | ≤EUR 50 million or | ≤EUR 43 million |
| Small | <50 | ≤EUR 10 million or | ≤EUR 10 million |
| Micro | <10 | ≤EUR 2 million or | ≤EUR 2 million |

Source: (European Commission, 2019, p. 11)

Although Colombia is an active member of OECD, the government has not adopted its categorization yet. Colombian government defines the thresholds in number of employees, total assets measured in current minimum wages (Monthly based).

Table 8: Colombia Thresholds

| Enterprise category | Headcount: annual work unit (AWU) | Total assets measured in current minimum wage values |
|----------------------------|--|---|
| Medium-sized | 51≤200 | 5001≤1500 |
| Small | 11≤50 | 501≤5001 |
| Micro | ≤10 | <501 |

Source: (Republic of Colombia - República de Colombia, 2000)

According to The World Bank, SME's are very important for modern economies, 90% percent of businesses are done by them, and provide 50% of formal jobs in the world. They are also crucial contributors of the National GDP in emerging economies. It is predicted that, by 2030, they will be needed to meet the job demand of approximately 600 million people. (The World Bank Group, 2019).

As Regards the Colombian case, the micro, small, and medium enterprises in Colombia contribute 35% to the National GDP, they represent 80% of the country's employment and 90% of the national productive sector, according to DANE (2019).

Consequently, the importance of the SME's in global and local economies is a matter that has been studied from different perspectives. In this regard, the concerns of scholars about the role and the influence of leaderships on them, as part of the analyses, has also been documented.

A research conducted in small construction businesses from Pennsylvania and West Virginia tested relationships between transformational, transactional, and laissez-faire leadership style and organizational profitability (based on employee effectiveness) and success (based on employee satisfaction). Results concluded that transactional and transformational leadership styles had stronger positive relationships with the criterion variables than laissez-faire leadership

style with the dependent variables (Valdiserri & Wilson, 2010). Another research performed in 40 leaders from SME's in Bangladesh concluded influential people could provide effective leadership; the study also suggested that small businesses must be carefully managed by leaders in order to achieve organizational goals (Kayemuddin, 2012). In addition, a study conducted on 151 chief executives and their small and medium size enterprises examined the possible differences between founder and non-founder CEO's. Interpretation of the results showed that founders CEO's had some significantly proactive disposition than non-founders CEO's, which could be indirectly related to the managerial style (Langowitz & Allen, 2010). Similarly, a research, which was carried out on three Portuguese SME's, aimed to identify the leadership styles in SME's by administering the MLQ. The study concluded that leadership plays an important role in small and medium size enterprises (Franco & Matos, 2015).

As it was observed, the concern about the impact of different styles of leaderships on SME's has awakened the interests of scholars. Having understood that SME's play a direct and valuable role in the modern economy arises the attention about the role of leaders.

To conclude the introduction, there are some clarifying issues regarding the niche of the study. Firstly, the current study will focus on SMEs because they are the backbone of the global economy; secondly, although some studies about leadership are performed in context different from organizations, the most leadership studies are focused on enterprises; hence, the current study seeks to understand leadership variables in relation to job satisfaction and communication satisfaction, which are variables that can be better explained in organizational environments; consequently, CEO's, entrepreneurs, organizational communication experts, and researchers can be potential readers of the results.

Hypotheses: Leadership, communication satisfaction, and job satisfaction relationships in computer-mediated communication channels

Regarding the relationship between leadership and job satisfaction, a study conducted in a sample of 200 nurses and medical assistants from large public and private hospitals in Malaysia, in order to examining the mediating role of job empowerment on the relationship between transformational leadership and job satisfaction, found that employee empowerment mediates the relationship between transformational leadership and job satisfaction; also, researchers found a significant relationship between transformational leadership and job satisfaction; to

obtain the mediating effect, applied a partial least squares-structural equation modeling (Choi, et al., 2016); additionally, researchers from ISM University of Management and Economics in Vilnius, Lithuania; examined the impact leadership style has on job satisfaction in higher education institutions (HEI) in Lithuania. After analyzing the data from a sample of 72 between faculty members and supervisors, it was found a significant positive impact of leadership style on job satisfaction (Alonderiene & Majauskaite, 2016); some researchers have compared the impact transactional and transformational have on job satisfaction individually; for instance, a study conducted on 270 employees from selected retail outlets of Slough, United Kingdom, investigating the impact of transformational and transactional leadership styles on job satisfaction, concluded that transactional leadership does not have a significant influence on job satisfaction, while transformational leadership showed a significant positive on job satisfaction (Asghar & Oino, 2018); similarly, in order to examine the influence of leadership styles on job satisfaction, an investigation conducted on 121 participants, both staff and managers, from 16 local Vietnamese organizations in Hanoi, Da Nang, and HoChiMinh City, found that transformational leaders had a higher influence on job satisfaction than transactional leaders (Ho, et al., 2016).

Regarding the relationship between leadership and job satisfactions in the virtual environments, (Computer-Mediated Communication environment), few research results have been found in scientific journals about this issue; even though, a studied conducted on 375 professional-level employees found that employees with lower quality relationships with the leaders showed a lower job satisfaction, it means that leadership had a positive relationship with job satisfaction (Hoyt & Blascovich, 2003)

As consequence of the previous studies, it can be assumed that there is a positive relationship between leadership and job satisfaction at Computer-Mediated Communication environments (*CMC environments*), then the following hypotheses arises:

H1.a. There is a significant, positive relationship between the transactional leadership and job satisfaction in CMC environments

H1. b. There is a significant, positive relationship between transformational leadership and job satisfaction in CMC environments

H1. c. There is a significant, positive relationship between level 5 leadership and job satisfaction in CMC environments

One of the strengths of this study is based on the assumption that the CMC involving new applications, devices, and social networking tools has dramatically increased in Latin America, specifically, in Colombia. This issue has turned the technology an unavoidable tool to ease the communication within organizations. For the relationship between communication satisfaction and leadership, a recent research conducted on 362 primary school teachers in Serbia showed a very high positive relationship between leadership and communication satisfaction (Terek, et al., 2015); likewise, investigating the correlation between the Transformational Leadership, Interpersonal Communication, Organizational Conflict, and Organizational Effectiveness, researchers conducted a study on 90 Indonesian teachers from the province of Aceh. By applying a path analysis, researchers concluded a positive influence of transformational leadership, interpersonal communication, and organizational conflict towards organizational effectiveness; regarding the relationship between communication and leadership variables, the study found a strong positive correlation between interpersonal communication and transformational leadership (Mukhtar, et al., 2020).

Regarding the relation in a CMC work environment, a study of a 157 sample full time telecommuters from American companies suggested that leaders engaged more in task-oriented than relational-oriented leadership style; additionally, task-oriented leadership showed to be the greatest predictor of the communication satisfaction, among other variables (Madlock, 2012). Scholars suggest that task-oriented leaders center their efforts on production, task clarification, and efficiency, while relationship-oriented leaders are interested in trust building, enhancing cooperation by team members, and increasing commitment (Manyak & Mujtaba, 2013); it is important to say, that for the purpose of the current study, transactional leadership characteristics are more related to task-oriented leadership, and transformational leadership characteristics are similar to relationship-oriented leadership.

Subsequently, based on the previous findings, the following hypotheses emerge:

H2.a. There is a significant, positive relationship between transactional leadership and communication satisfaction in CMC environments

H2.b. There is a significant, positive relationship between transformational leadership and communication satisfaction in CMC environments

H2.c. There is a significant, positive relationship between level 5 leadership and communication satisfaction in CMC environments

Evidence of the relationship between leadership, communication satisfaction, and job satisfaction have resulted from different studies.

A study, aiming to test the moderation effect of Confucian work dynamism on the relationship between communication satisfaction and job satisfaction, conducted on 408 full time employees from 53 five-star hotels in Hainan both domestic and franchised international hotels. Results tested a significant relationship between communication satisfaction and job satisfaction, the moderator effect of Confucian work dynamism on the relationship was weak though (Hua & Omar, 2016). Likewise, a research to identify the factors influencing job satisfaction was carried out on 145 ICU nurses from 2 Korean hospitals found that there was a significant correlation between job satisfaction and communication satisfaction; similarly, the study concluded the impact communication satisfaction had on job satisfaction for participants working at a surgery ICU, and dissatisfaction with nursing (Park & Lee, 2018). Similarly, a recent study, conducted at the healthcare sector on a sample of 303 intensive care nurses from three different hospitals in Belgium, aiming at understanding the relationship between communication and job satisfaction and the relationship with intention to leave, evidenced a moderate relationship between all dimensions of communication satisfaction and job satisfaction; in addition, the study demonstrated high levels of communication and job satisfaction (Vermeir, et al., 2018)

By categorizing participants by generations, a study conducted on 334 Indian managers from public and private sectors, aimed to determine the relation between generation and job satisfaction, and on satisfaction with organizational communication. Results showed a positive relationship between communication and job satisfaction, as well as a moderation effect of the generational category on the relationship between organizational communication and job satisfaction (Mehra & Nickerson, 2019).

Regarding the communication and job satisfaction relationship on Internet-based work environments, it is important to highlight that, according to (Eurofound and the International Labour Office, 2017), teleworking is defined as the use of ICT tools, namely, smartphones,

tablets, laptops, and desktop computers, so as to perform any job outside the employer's premises (p. 7); it is to say, teleworking is performed by utilizing ICT tools out of the employer's place (Belzunegui-Eraso & Erro-Garces, 2020); based on this definition, it is concluded that teleworking is partially performed on CMC; consequently, the results of the following research by Smith, Patmos, and Pitts turn to be relevant for the purpose of the current research. The authors conducted a study on 384 full time American teleworkers, aiming at exploring how personality traits and communication channel satisfaction of e-mail, instant messaging, phone, and video communication could affect job satisfaction. Among several findings, researchers could test a strong correlation between job satisfaction and communication channel satisfaction for e-mail instant messaging, phone, and video (Smith, et al., 2018).

Studies have also tested the multivariable relationship between leadership, communication, and job satisfaction. A study conducted on 225 people from Turkish deposit banks showed that interactive leadership style and communication competency have a stronger relationship with job satisfaction (Çetin, et al., 2012). A study focused on gender side opportunities in organizations on 200 employees at Indonesian universities, aiming at understanding the relationship between leadership styles, communication skills, and employee satisfaction, revealed that either communication skills, or task and relationship-oriented leadership styles are specially influential in determining employees' satisfaction with communication relationships with leaders, and their satisfaction with work (Wikaningrum, et al., 2018). Similarly, A research carried out on 826 non-managerial employees at an international airport from a Turkish Private Security Company in Turkey, aiming at testing the mediation effect of transformational leadership and communication competence on job satisfaction by considering the mediating role of communication satisfaction. Results showed that when analyzing individually, communication satisfaction and transformational leadership demonstrated significant positive relationships with job satisfaction; also, the SEM model tested a partial mediation effect of transformational leadership on the relationship between communication satisfaction and job satisfaction (Ulutürk & Tayfun, 2019).

No studies conducted by business and academic scholars about the influence of leadership as moderators on the relationship between communication satisfaction and job satisfaction at CMC environments have been found; nevertheless, findings seem to support the notion that leadership

styles influence the relationship between communication satisfaction and job satisfaction; consequently, the following hypotheses emerge:

H3. Communication satisfaction has a positive and significant relationship with Job Satisfaction in CMC environments

H3.a. Transactional leadership influences the relationship between communication satisfaction and employees' job satisfaction in CMC environments

H3.b. Transformational leadership influences the relationship between communication satisfaction and employees' job satisfaction in CMC environments.

H3.c. 5-level leadership influences the relationship between communication satisfaction and employees' job satisfaction in CMC environments.

Literature review suggests that the use of Internet-based communication channels have a positive impact on communication satisfaction; for instance, a Serbian study conducted on 380 middle managers from 102 companies, aiming at examine the influence of information technologies on communication satisfaction and organizational learning in companies, tested a statistically significant positive relationship between the information technologies items have with the dimensions of communication satisfaction and the dimensions of organizational learning (Miti, et al., 2017); likewise, in order to examine how the choice of internal communication media affects internal communication satisfaction, a group of researchers conducted a study on 1524 employees from 10 large companies in Croatia. After classifying commonly used internal communication channels in three groups (rich media, moderate media, and lean media), researchers tested a high and statistically significance, with the link slightly stronger between communication channels (in general) and communication satisfaction; subsequently, it was predicted that internet based channel of communication is connected with communication satisfaction (Tkalac Verčič & Špoljarić, 2020); similarly, a study conducted on employees, managers, and competent officials for development of organizational communication from different firms, in the Republic of Macedonia, concluded that face-to-face communication cannot be replaced by Internet-based communications, yet the use of social networks increases job satisfaction (Siljanovska, 2015). Nevertheless, a previous Serbian study concluded that the use communication technology in terms of social networking tools has no influence on communication satisfaction (Lalic, et al., 2012), which may imply that the absence

of Internet-based communication in the organization would not affect communication satisfaction.

Consequently, the following hypothesis emerges:

***H4.** Leader's refusal to communicate via Internet-based channels with employees has no influence on communication satisfaction.*

Research Questions

Based on the CMC environment context, the effects of leadership on job satisfaction and communication satisfaction pop up a series of concerns to be found out:

RQ1. Which leadership style – transactional, transformational, and level 5 - has a greater effect on job satisfaction when they interact within the organization in CMC environments?

RQ2. Which leadership style – transactional, transformational, and level 5 - has a greater effect on communication satisfaction when they interact within the organizations in CMC environments?

RQ3. What moderation effects do transactional, transformational, and level 5 leadership have on the relationship between communication satisfaction and job satisfaction in CMC environments?

RQ4. Does the leader's refusal to communicate via Internet-Based communication with employees have influence on communication satisfaction?

In summary, the way in which each of the hypotheses is raised follows a logical pattern that will observe how the variables of communication satisfaction, job satisfaction, and leadership are related to each other. This progressive analytical elaboration will allow the construction of a joint relationship of the variables to test the central hypothesis of the research and understand if some contemporary leadership styles influence the relationship between communication satisfaction and job satisfaction; also it may demonstrate how the relationship occurs, and which leadership styles impact it; likewise, the progressive testing of the hypotheses may help provide answers to the research questions supporting the study; finally, hypothesis 5 will seek to respond to an organizational reality that is characterized by divergent behaviors to the use of internet-based communication in the internal organizational communication process; such concern is based on the rejection of some leaders to technological change, and their preference for the

traditional forms of communication, as a consequence, the hypothesis and the subsequent research question would answer the effect that it may have on organizational communication satisfaction.

LITERATURE REVIEW

Leadership

What is leadership?

Trying to understand how different leaders, in all fields, have managed to motivate their followers throughout history has been a multidisciplinary topic that has gained great interest during the last decades (Yukl, 1989, p. 251). Mythical characters in literature, as well as the cases of world leaders, have helped to recreate different kinds of leaders and arouse curiosity about their actions to attract and retain their followers (Yukl, 2013, p. 2), (Bass, 1990, p. 2).

The concept of leader has been used in English literature since 1300, however, it was not until the 20th century when the word leadership appeared formally in writings related to the political field in England (Bass, 1990, p. 11)

For decades, considerable literature has grown up around the theme of leadership definition (Rost, 1993, pp. 69-75); as a consequence, there are as many definitions as different people have tried to give (Bass, 1990, pp. 3-4). Although some discrepancy arises when arguing the influence aspect of leadership on followers (Yukl, 2013, pp. 4-5), most theorists agree that it is an influential process on other to make them achieve an individual or collective goal (Yukl, 2013, p. 7), (Manning & Curtis, 2007, p. 2), (Pierce & Newstrom, 2011, p. 10).

Under this influential process reasoning, leadership is seen as an individual or social process deliberately exercised by one person over others to perform organizational and relational activities in a group (Yukl, 2013, p. 3). Similarly, it is considered that this influential act leads to real changes to echo a mutual aim (Rost, 1993, p. 102).

It is a need to highlight that although many theoreticians agree on the existence of an influential process on the act of the leader, schools have deep differences in common, as who exerts the influence, or how, and why the influence is exerted. These deep differences generate serious discrepancies among academics in trying to identify the leader and the leadership processes;

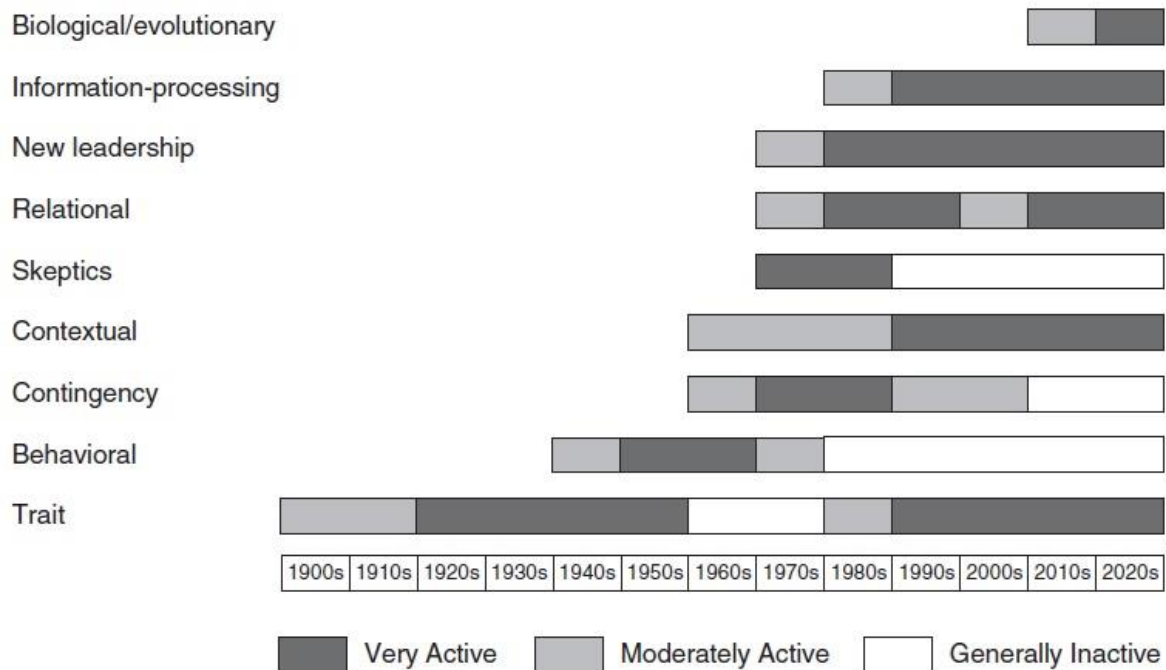
hence, there is little consensus among researchers to choose the phenomenon to investigate and the most convenient formula to interpret the results (Yukl, 1989, p. 254) .

For Holladay and Coombs (1993, p. 407), leadership is a behavior transmitted through communication. They based the idea on the assumption that communication outlines perceptions of the charismatic leaders. For the aim of this study, it is a need to underscore that there is a tight relationship between the conceptual approach between charismatic and transformational leaderships; according to Bass (1990, p. 11) and (2013, p. 7), the proximity conceptual definitions of charismatic and transformational leadership can be considered as a whole for research purposes.

As related to communication, leadership has presented different definitions, for this research, it will be defined as “human (symbolic) communication that modifies the attitudes and behaviors of others in order to meet shared group goals and needs” (Hackman & Johnson, 2018, p. 26), which is closed in meaning to the definition given by (Tannenbaum, et al., 1961) who stated that leadership is an “interpersonal influence exercised in a situation and directed through the communication process, toward the attainment of a specific goal or goals” (p. 21). Faris, (1981), considers leadership as “communication and other forms of behavior which elicit among peers or subordinates voluntaristic behaviors which are consonant with the intent of the leader and congruent with the manifest goals of the organization and which otherwise would not have occurred. (p. 150). In addition, it is a need to say that “leadership is first, and foremost, a communication-based activity” (Hackman & Johnson, 2018, p. 21).

The 20th century was a very fruitful period for the modern study of leadership. A large number of books and publications supported the study of the phenomenon (Yukl, 1989, pp. 251-252). Several schools made their way and from different perspectives they approached to understand the subject. The literature review has allowed the classification of numerous contemporary schools of leadership, (see table 3) (Antonakis & Day, 2018, p. 8).

Graph 1: A Brief History and Look Into the Future of Leadership Research



Source: (Antonakis & Day, 2018, p. 8)

Trait School

The theoretical genesis to understand the phenomenon of leadership focused on characterizing the personality traits of a leader, also called the theory of the great man. This is how the approach of this school sought to argue that these individual traits were the cause for some leaders to be more effective than others. In this way, theorists stated that leadership could not be learned, since it was an innate condition of the person (Antonakis & Day, 2018, p. 8). In this approach, it is assumed that leaders are different because of particular traits they have; then, perception plays an important role because people connect traits with gifts given to leaders (Northouse, 2013, p. 30).

Traits and their relation to the efficiency of leadership were widely studied during the 30's and the 40's; however, results presented by (Stogdill, 1948) caused a strong demotivation in researchers to continue digging into the theory. Stogdill's study compiled 128 researches carried out by several researchers who tried to determine traits and characteristics of the leader: chronological age, stature, physique, energy and health, appearance, fluency of speech, intelligence, knowledge, judgment and decision, insights, originality, adaptability, introversion

and extroversion, self-sufficiency, dominance, initiation, persistency, industry, ambition, responsibility, integrity and conviction, liberalism and conservatism, self-confidence, moods, optimism and sense of humor, emotional control, socioeconomic status, social activity and mobility, popularity and prestige, and cooperation. The results suggested that personal traits were not decisive elements to guarantee leaders' success; if it was true that there were general patterns that could be associated with the traits of people though, these traits may vary according to the requirements or situations (Bass, 1990, p. 14).

Behavioral school

Adverse findings suggesting the weaknesses of trait theory led researchers to study leadership from a different approach; thus, researchers went from the analysis of traits to the understanding of leader's behaviors as the key to analyze leadership success. The attention now focused on observing what the person did at the work environment, and how that behavior related to the managerial effectiveness (Yukl, 1989, p. 257).

The main problem of this school is the extensive and inaccurate classification of the categories and definitions of leadership behaviors (Fleishman, et al., 1991, pp. 247-252). The taxonomic inconvenience has not allowed a reliable interpretation of the results when they are to be integrated or compared. The difficulty to establish the taxonomic clarity lies in the fact that behaviors are abstract manifestations lacking of any tangible construct of the real world, therefore, their descriptions are limited to interpretations based on subjective perceptions (Yukl, 2013, p. 49).

It was Lewin, during his studies at the University of IOWA, who established the first foundations on the study of leadership from behavior. His first studies (Lewin, 1936), although they did not seek to understand the phenomenon of leadership, but intended to provide answers to issues related to culture, provided valuable information about the importance of behaviors to understand cultural differences and the impact of them on the society. Inspired by these early findings, researchers from OIWA University were able to determine three leadership styles: One coercive that focused authority and decision-making on the leader (Autocratic), another that encourages the participation of the collaborators in the organizational objectives and in the making of decisions (Democratic), and one that gives the group complete freedom to elaborate the tasks and make the decisions (Laissez-Faire) (Lewin, et al., 1939).

Subsequently, by 1950s, researchers at Ohio State University were interested in identifying the leader's behaviors and observing the frequency they were used (Fleishman, 1953), (Hemphill, 1950), (Hemphill & Coons, 1957), (Halpin & Winer, 1957). As results of the studies, researchers classified two main categories: the Consideration category that included aspects concerning relationships in which the leader's behaviors were evaluated in terms of respect for the follower's ideas to create bonds of trust, and the Initiating Structure category that focused on topics related to the task. Although in later studies they changed the denomination of both categories, conceptually, these were conserved to classify the types of behaviors that could lead to an effective leadership; for instance, the Four factor theory of Leadership, from The University of Michigan, named Employee Orientation the human approach centered on behaviors, and Production Orientation the task approach centered on behaviors (Bowers & Seashore, 1966). In the same way, the Performance-maintenance (PM) theory of leadership (Misumi & Peterson, 1985) group the employee-oriented behaviors in the Personal Support and Interaction Facilitation dimensions, and the task-oriented behaviors in the Goal Emphasis and Work Facilitation dimensions; Finally, keeping the same taxonomic logic, researches from the University of Texas, based on the Universities of Ohio and Michigan's findings, developed the Leadership Grid (Blake & Mouton, 1985), that consisted of behaviors: the concern for people and concern for production dimensions.

Contingency Theories

Theories of traits and behaviors were ineffective in trying to identify a successful leadership style when presented in different situations or contexts. That is, behaviors that were effective under certain circumstances may not be effective when conditions varied; therefore, the effectiveness of the leader's behavior is contingent because it depends on different situations of the organization. It led the researchers to rethink a different solution that would add more variables to the model; In this way, Contingency theories focused on analyzing how the leader's exposure to different situations could modify the leader's influence and effectiveness. Thus, the contingency theory model allowed the observation of more situations that could be expressed in at least one variable predictor, at least one dependent variable, and one or more situational variables. (Yukl, 2013, p. 163). Eventually, Contingency theories brought new variables to broaden the spectrum of understanding leadership effectiveness when related to performance (James & Brett, 1984), (Howell, et al., 1986), Yukl (2008), (2009).

Fiedler can be considered as the first developer of the contingency models. He and his colleagues started connecting the link between leadership and variables associated to the organizational situation (leader–member relations, task structure, and the position power) to find the most accurate style a leader needs to exert to achieve effectiveness (Fiedler, 1967), (1971). Researchers applied the questionnaire Least Preferred Coworker, then, the leader had to describe the LPC; On the one hand, a positive concept about the LPC implies a relationship-oriented condition that involves sensitiveness for followers; on the other hand, a negative concept implies task-oriented condition which is reflected in a leader who focuses on tasks rather than people; Similarly, the Path-goal theory of leadership (House, 1971) was developed regarding the links of supportive, directive, achievement-oriented, and participative styles over satisfaction and performance. The primary aim of this model was to find out the leader's roles to motivate followers, either by clarifying the paths or increasing the rewards, for followers achieving their goals. By (1977), Hersey and Blanchard popped up with the Situational Leadership Theory as an attempt to identify a leadership type at different situations; in addition to the previous models, two more relevant model have augmented the literature about the contingency school; first, the focus of interest turns to understanding the leadership and the decision making process at different situations, Vroom (1976), (Vroom & Yetton, 1973), and finally, the substitutes for leadership theory (Kerr & Jermier, 1978) provided the contingency school with a different focus by trying to prove that situational variables were relevant enough to omit any type of leadership either task oriented or people oriented.

Relational School of Leadership

The school of relational theories changes the perspective in which the leader is seen; Now, the leader becomes a being that is capable of creating relational ties, that is, forming leadership processes based on interpersonal relationships that allow the deployment of an effective motivational leadership for the achievement of organizational objectives; in this way, significant relationships can improve leadership effectiveness (Ferch & Mitchell, 2001, p. 70).

One of the first theories to understand that leadership was based on a dyadic relationship between followers and leaders, in which the leader should treat each of his followers individually, is the Leader-Member Exchange Theory, which grounded its beginnings on the theory of roles and, then, enriched by the Social Exchange theory , (Liden, et al., 1997), (Graen,

1976) (Graen & Uhl-Bien, 1995), (Schriesheim, et al., 2001), (Dansereau, et al., 1975), (Graen & Cashman, 1975).

This approach suggests that the leader categorizes the relationships according to the degree of affinity that he or she has with the followers; hence, those who are in a close trust group, Ingroup, receive privileges, while those who are not inside the circle of trust, Outgroup, receive punishments. It is not clear how the leader achieves this classification; however, it results from a mutual effort between both parties. As a result, this relational exchange turns into a complete procedure that constructs the leadership progressively along four stages (Graen & Uhl-Bien, 1995).

Immerse in the relational school of leadership, it is found what the world has known as the transformational leadership that shows up as an improvement of the transactional leadership.

Transactional and Transformational Leaderships

It was Burns, (1978), who, to understand the socio-political context at that time, managed to establish the basic conceptual differences between transactional and transformational leaderships. In that environment, he was able to observe how some leaders managed to get followers from two different perspectives. On the one hand, he observed how the political leader achieved the mobilization of followers through a simple way of exchanging votes for promises of employment, or contributions to the political campaign, for future subsidies that he compared with those leaders in the organizations who offered or removed rewards according to the employees' level of productivity, what turned to be the product of a basic form of work by a leader with small and constant doses of change. On the other hand, Burns could observe there was another type of leadership that represented a deeper commitment with followers, and allowed an empowerment in the followers to obtain a development of their leadership capacity, and an alignment of personal objectives to organizational objectives and leader's objectives (Burns, 1978, pp. 3-4). In both cases, leaders and followers focus their effort in getting the objective based on a common agreement.

Bernard Bass has publicly recognized the importance of James Burns for the seminal contribution of transactional and transformational leadership approaches that have given birth to numerous doctoral dissertations, scientific publications, and books inside and outside the United States, in different sectors of the economy (Bass, 1985), (Bass, 1993, p. 376). Likewise,

Bass has used Burn's theoretical scope on the characterizations of transactional and transformational leadership to support the theoretical bases of their models and questionnaires (Bass & Riggio, 2006, p. 19).

However, contrary to Burn's approach, Bass has developed the conceptualization of transactional and transformational leadership, that he named the transactional-transformational paradigm by taking the military training as a field of study; in this way his definitions give leadership a distinction of knowledge transmitter, which is supported in multiple motivation strategies to achieve managerial goals; thus, Bass interprets the transactional leadership no longer as an exchange of mutual benefit between the leader and the follower, but as a delimitation of awards and punishments that aim at generating results derived from managerial tasks. Therefore, Bass suggests that the function of the transactional leader is limited to making the follower perform tasks, preserving their performance, and seeking solutions to possible particular resistances (Bass, 1985, p. 7).

In other words, Bass assumes that rewards and punishments are tightly related to the adequacy of the follower's performance. It is how the transactional leadership depends on contingent reward (CR) or management-by-exception (MBE-A or MBE-P).

Contingent Reward (CR)

This reinforcement works as an agreement between the leader and the followers in which the types of rewards and tasks are considered; hence, it is a constructive and positive transaction based on negotiations where the leader's demands and the rewards that he is willing to grant are privileged. Both negotiating sides agree on what it is required to achieve them. The reinforcement is tested to be effective to make followers feel motivated, yet it not as effective as any other related to the transformational leadership (Bass & Riggio, 2006, p. 8), (Bass, et al., 1996, p. 10)

Management-by-Exception (MBE)

Contrary to Contingent Reward, which has a constructive character, Management-by-Exception is a corrective transaction that tends to be less effective (Bass, et al., 1996, pp. 10-11).

Two factors are disaggregated from the corrective transaction: active (MBE-A) and passive (MBE-P) (Hater & Bass, 1988, p. 697), (Howell & Avolio, 1993, p. 891). In MBE-A, the leader

makes arrangements to actively monitor standards deviations and errors in follower's tasks, and to take corrective action when necessary. MBE-A may be necessary and effective resource in some situations, such as when ensuring security becomes a matter of the utmost importance. Leaders sometimes must practice MBE-P, as when there are numerous groups under supervision that report directly and constantly. The passive corrective transaction happens when there is a total absence of leadership during the process, so that errors or deviations will not be considered, then, the leader's intervention will only manifest at the end of the process through corrective actions.

In terms of transformational leadership, the key word is awareness, Bass states that it acts as an expansion of the transactional leadership, which responds to leaders with the ability to increase the level of awareness of followers, customers, colleagues and subordinates. In this way, the transformational leader must have enough self-confidence and objectivity to argue points of view without being vitiated by the environment. Likewise, a real transformational leader manages to inject a dose of motivation to followers so that they reach goals beyond what they could have ever imagined, by accompanying a process of empowerment of followers for satisfaction and commitment, thus, followers may overcome their individual needs, as well as develop the potential level of leadership they have (Bass & Riggio, 2006, p. 4), (Bass & Avolio, 1990, p. 22), (Bass, 1990, p. 21), (Bass, 1985).

Bass, based on Zaleznik's work on clinical evidences (Zaleznik, 1977), suggests that these types of leaders exhibit the four basic components or the four "I's, idealized influence (charisma), individualized consideration, intellectual stimulation, and inspirational motivation.

Idealized Influence (II)

For Bass, the transformational leader represents an ideal person with a vision and sense of mission that arouses admiration and generates respect from their followers. In this way, this idealized influence is divided in two factors: Idealized influence (behavior) that has to do with charismatic abilities of the leader, and Idealized influence (attributed) which is obtained from the admiration and the imagination of the followers who see, in the leader, extraordinary attributes of capabilities, persistence, and determination; these types of leaders achieve that their followers obtain high levels of performance (Bass & Avolio, 1990, p. 3), (Bass & Riggio, 2006, p. 6), (Antonakis, et al., 2003, p. 264).

Inspirational Motivation (IM)

The example given by the leader with his/her behaviors becomes a motivating element for followers, who feel injected with the leader's optimism and energy. The enthusiasm, together with the involvement of followers in the tasks and planning of the organization, as well as a clear communication of desirable expectations, lead them to work as a team, and achieve commitment that harmonizes with the vision of the organization. (Bass & Avolio, 1990, p. 3), (Bass & Riggio, 2006, p. 6).

Intellectual Stimulation (IS)

The leader is a person in whom followers can trust. They motivate them to be innovative and creative. Followers approach voluntarily to leaders to share their ideas or present results; hence, intellectual stimulating leaders do not act such as judges, instead, they encourage their followers to find out solutions through their own innovative perspective; even those ideas which differ from the leader's are welcome. The leader has the ability to act as a guide that directs followers to see problems from another perspective where difficulties are seen as problems to be solved by pondering rational solutions. (Bass & Avolio, 1990, p. 3), (Bass & Riggio, 2006, p. 7), (Bass, 1990, p. 21).

Individualized Consideration (IC)

The leader takes the role of a mentor or a coach to accompany followers in obtaining their highest potential. For this, the leader observes everyone as a unique case to make particular decisions when delegating, training, advising, and providing feedback that serve the growth of followers. The leader must be willing to listen carefully and accept a two-way communication structure. Tasks to improve their potential must be monitored by the leader to see the improvement, nevertheless, these improvements are not evaluated, but assessed (Bass & Avolio, 1990, p. 3), (Bass & Riggio, 2006, p. 7).

Laissez-Faire Leadership (LF)

According to previous research, this type of leadership lacks authority, decision making, activeness, effectiveness, and leadership responsibilities. It is the poorest style of leadership where the leader does not get involved when needy. In the same way, laissez-faire leaders do not care about their followers' development (Bass, et al., 1996, p. 11), (Bass & Riggio, 2006, pp. 9-10), (Bass & Avolio, 1990, p. 22).

Level 5 Leadership

Between 1996 and 2000, a group of 220 researchers led by Collins, (2001), began a study to find answers about the way organizations turned from being good companies to positioning as excellent and enduring in the market. For this, the researchers selected an initial sample of 1435 companies from all fields of industry, and of all sizes, for 30 years (1965 to 1995); finally, after a rigorous selection, 11 companies which met the requirements were chosen. Once the sample was selected, the researchers applied mixed techniques to collect data that included interviews, analysis of internal reports and analysis of the company, analysis of financial indicators, information on executive turnover and behavior of the firms' actions. The findings, which the researchers acknowledged to be empirical and not ideological, turned out to be surprising since they went against any theoretical logic that was defended at that time. For Dr. Collins and his colleagues, it was evident that the element of success for these companies was a style of leadership, unknown by theorists at that moment, which was called 5 level leadership.

In this way, researchers established a 5 level hierarchical table (see table 7); at the top level, they located leaders who were able to lead the organizations to excellence and endure the excellence over time; an ambitious leader, not that ambitious concept that represents greed and selfishness, but an ambition that translates into a collective purpose for the common good of the organization; an ambition that results from the blending of three main behaviors: fanatical discipline, empirical creativity, and productive paranoia (Collins & Hansen, 2011). For the researchers, the key to success for level 5 leaders lies in an equation represented by the duality of humility and will ($\text{Humility} + \text{Will} = \text{level 5}$). As a result of the interviews and the observation made, researchers were able to identify these two dimensions of the leader and classify them as personal humility and professional will; Therefore, leaders who were classified as level 5 showed an eloquent modesty at the moment of talking about the successful results of the organization, which they attributed to their work team or luck, and a strong determination when establishing the objectives to achieve the goals that catapulted and endured the organization at the peak of excellence.

Table 9: level 5 hierarchical table

| | |
|-----------------------------|---|
| Level 5 Executive | A leadership that builds enduring greatness through a paradoxical blend of personal humility and professional will. |
|-----------------------------|---|

| | |
|---|--|
| Level 4 Effective Leader | A leadership that catalyzes commitment to and vigorous pursuit of a clear and compelling vision, stimulating higher performance standards. |
| Level 3 Competent Manager | A leadership that organizes people and resources toward the effective and efficient pursuit of predetermined objectives. |
| Level 2 Contributing Team Member | A leadership that contributes individual capabilities to the achievement of group objectives and works effectively with other in a group setting |
| Level 1 Highly Capable Individual | A leadership that makes high quality contributions through talent, knowledge, skills, and good work habits |

Source: (Collins, 2001, p. 20)

It is important to highlight that researchers, while emphasizing the type of leadership to achieve excellence and endure it over time, admit that there are other factors that harmonize a symbiotic environment, and ease to reach level 5. The first factor is based on focusing companies on human talent, and in this way, far from nepotistic practices, selecting the most suitable personnel according to the demands of the post; the second factor refers to the level of optimism that must be maintained at the most difficult times; the third factor involves a constant attitude to go on that avoids the loss of the initial impulse; the fourth factor is the harmonic fusion that the firm knows how to do better than any other company, and the spark of its employees; the fifth factor has to do with the wisdom to invest and innovate in equipment and technology at the right time and need; finally, researchers argue that a strict discipline in all the environments of the company will be manifested as the fifth element of the symbiosis. Nevertheless, despite the fortunate and powerful finding, researchers could not scientifically demonstrate how to reach that level, or answer the question of whether this type of leader is bred or born (Collins, 2005).

Transactional, transformational, and level 5 Leadership styles research nowadays

The global world brought challenges to current leaders, as a consequence, scholars continue showing interest in transactional and transformational leaderships; that is, current organizational studies keep on paying special attention to the way in which leadership intervenes and contributes to organizations. Researchers have underscored the importance of shaping leadership styles to current realities to face global challenges, and bringing the concepts closer to modern coaching studies, benefits of action learning, projects and exercises for group and individual development, in order to achieve individuals with high leadership potential (Crosby

& Zlevor, 2010). Based on interests, some researches have studied various relationships such as emotional intelligence and leadership to understand the nature of leaders (López-Zafra, et al., 2008, p. 37), (Curtis, et al., 2017); relationships that help to understand how the leader's work impacts followers in terms of job satisfaction (Cerni, et al., 2008), (Walumbwa, et al., 2005); relationships between personality traits of the leader (agreeableness, openness to experience, conscientiousness, and extraversion) and communication (Salter, et al., 2010, p. 6); relationships between leadership, climate, and employee involvement (Richardson & Vandenberg, 2005); relationships between leadership and teams' effectiveness (Choi, et al., 2017); Similarly, researchers have studied the impact of leadership practices on the organization (Rowold & Rohmann, 2009), (Spreitzer, et al., 2005). Similarly, concerns about understanding the role of leadership in virtual work environment have emerged; for instance, researchers have studied the perception employees have about the effects of transformational and transactional leadership styles, and communication media on team interaction styles, and outcomes on virtual work environment (Hambley, et al., 2007); likewise, researchers have studied the roles of effective emergent leaders in virtual scenarios (Sutanto, et al., 2011).

On the level 5 leadership side, which is a relatively recent leadership style, research about the impact it has on individuals and organizations still requires more empirical evidence. So far, much of the contributions are focused on understanding the style from the theoretical contribution of the scholars (Caldwell, et al., 2017), (Lexa, 2017), some researchers have started to understand how level 5 leaders are related to some variables such as innovation behavior (Strobl, et al., 2019), in order to find more evidence to strengthen the literature about characteristics of level 5 leaders. So far, no studies have been conducted about level 5 leadership related to Internet-Based work environment.

In conclusion, the interest in the study of these leadership styles is still a relevant issue, with which, it can be inferred that scholars support their importance and validity as elements of the organizational study to face modern challenges.

Organizational Communication

Although it existed evidence of various approaches to the study of organizational communication during the first half of the twentieth century, (Heron, 1942), interest in the consistency of the conceptual framework of this issue arises from a series of academics during

the 60's (Thayer, 1968), (Tompkins, 1967), (Tompkins, 1984), (Guetzkow, 1965). One of the most important proponents of the conceptual framework was Redding (1979), (1988), who stated that organizational communication was made up of 4 characteristics, namely, interdependence, differentiation of tasks and functions, goal orientation, and control; what is paradoxical in his argument is that he did not include communication as one of the characteristics.

Hence, it can be concluded that it has not been easy to find an appropriate definition for the concept. However, recent theoretical and empirical compilations have allowed us to find a strong relationship between communication and organizations (Putnam & Nicotera, 2009), (Kuhn, et al., 2019).

For (Mumby & Kuhn, 2019, pp. 35-39), the difficulty to define organizational communication lies on the combination of two complex phenomena, communication and organization. To understand it, the authors extend the concept spectrum as a relationship where communication occurs in organizations. From that point of departure, when talking about communication within the organization, the communication process must not be understood as an event that is limited to the simple transmission of information person to person; for them, the communication process should aim to generate meaning instead; in this way, people within organizations are communicative beings, then, organizations are no longer simple containers of information, but a complex system of meanings that is dynamically created by the agents involved in it, that is, communication in the organization comes alive and ceases to be a simple phenomenon of communication; thus, the authors compare a simple meeting as a communicational phenomenon, where decision making will be the real meaning of it, the meaningful communication. From this perspective, people in organizations, as beings who participate in the creation of ideas, make sense of their environment; therefore, communication goes from being a descriptive phenomenon of the environment, to becoming a creator of realities. Based on this reasoning, the authors build what will be the definition of organizational communication to follow in this study: *“the process of creating and negotiating collective, coordinated systems of meaning through symbolic practices oriented towards the achievement of organizational goals”* (p. 37).

Recent proposals for the understanding of organizational communication have been derived from different approaches to the understanding of Discourse. Dennis K. Mumby, (2012), observes the discourse as a system of possibilities to generate knowledge. In this way, the author characterizes 5 types of discourses:

1. Functionalism: a discourse of representation
2. Interpretivism: a discourse of understanding
3. Critical theory: It is a discourse of suspicion
4. Postmodernism: a discourse of vulnerability
5. Feminism: a discourse of empowerment

Table 10: Types of discourses

| Discourse Perspective | Model of Communication | View of Organization | Conception of Comm-Org Relationship | Literature and research |
|------------------------------|--|---|---|--|
| Functionalist | Communication as information transmission | Goal-oriented structures independent from members' actions | Communication takes place in organizations; organization as container for communication | (Eagly & Johannesen-Schmidt, 2001) (Yukl, 2013) (Jablin, 2001) |
| Interpretivist | Communication as dialogic creation of meaning systems | Social/symbolic creations of collective and coordinated actions | Organizations and communication coproduced | (Boudens, 2005) (Putnam & Pacanowsky, 1985) |
| Critical | Communication as creation of ideological meaning systems mediated by power relations | Social/symbolic products of different political interests and power struggles | Organizations and communication coproduced; both are medium and product of deep structure power relations | (Mumby, 1993) (Nadesan, 2001) (Felts, 1992) (Mumby, 2004) |
| Postmodern | Communication as unstable and shifting system of meanings | Organizations consist of multiple, competing, and fragmented realities | Organizations as products of shifting and unstable systems of signification and texts | (Ganesh, 2008) (Mease, 2017) |
| Feminist | Communication as creation of gendered meanings and identities; humans "do | Organizations as gendered, coordinated systems of power relations and | Communication as accomplishment of gendered, collective | (Marshall, 1993) (Buzzanell, 1994) (Ashcraf, 2004) |

| | | | | |
|--|-------------------------------|------------------------|--------------------------|--|
| | gender” through communication | patriarchal structures | structures and practices | |
|--|-------------------------------|------------------------|--------------------------|--|

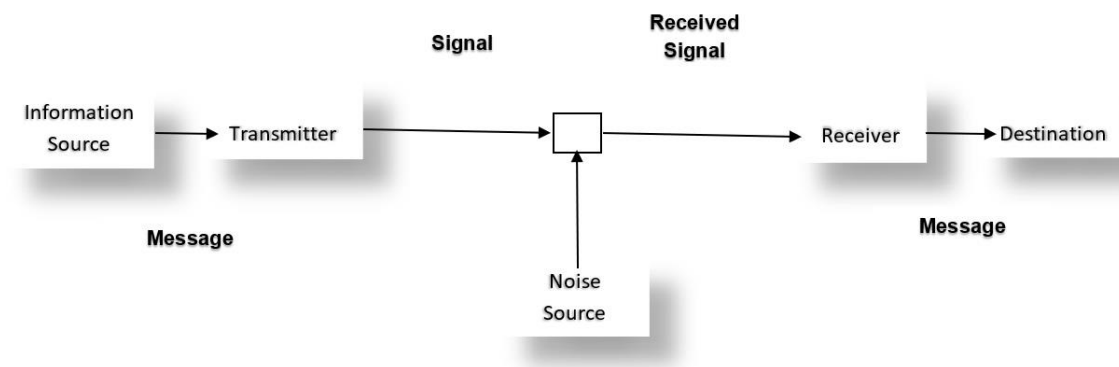
Source: Adapted from (Mumby, 2012, p. 26)

The new approaches, trends and criticisms, generated from different points of view, not only reaffirm the complexity of the understanding of organizational communication, but also enrich and update the literature, bringing the concept closer to modern realities, adjusting the theory to constant change in organizational logic, and unstable economic and social contexts.

Communication process

Mathematicians, Claude Elwood Shannon and Warren Weaver, (1948), conceived communication as a linear model called a *communication system*. The model was composed of 5 parts. The first part was the *information source* that initiated the communication process with a message or series of messages that could arise in the form of letters, images or sounds that were produced by a technology, *transmitter*, after a process of adequate sampling, compression, quantification, coding, and interleaving. Subsequently, researchers introduced the channel, as the means by which the message was led to the *receiver* that performed the opposite function of the transmitter so that the message sent by the signal could be reconstructed and delivered to the device or person, *destination*, for whom the message was elaborated. Additionally, researchers detected that during this process, it was possible that a noise source that disturbed the message could emerge.

Figure 1: Shannon and Weaver's Communication Process

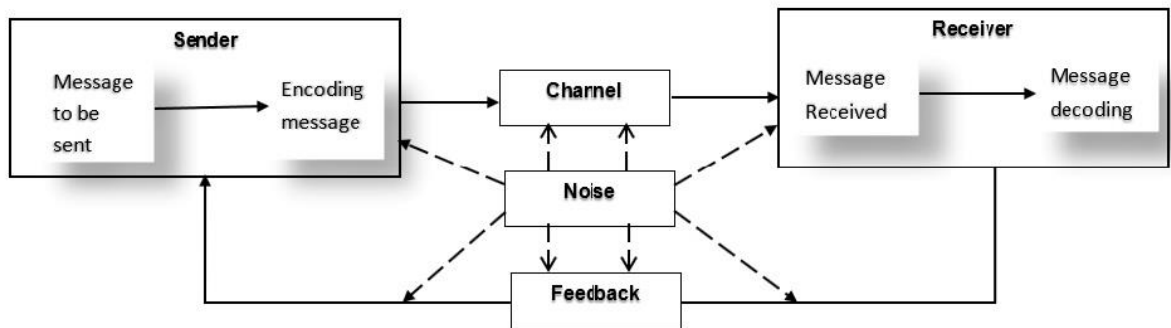


Source: (Shannon & Weaver, 1948, p. 380)

On the other hand, researchers (Hackman & Johnson, 2018, p. 6) state that communication must be seen as a process rather than a thing, and circular rather than linear; in addition, communication is vital and essential for the behavior of organizations, groups and people. In

general, communication fulfills four basic functions in an organization, group or person: control, motivation, emotional expression, and information (Robbins & Judge, 2017, p. 337).

Figure 2: The Communication Process



Source: (Robbins & Judge, 2017, p. 338)

Although there are different models which gather the same characteristics, this one, includes elements exposed in a simple and clear way for its interpretation. It can be observed that every communication process begins with the aim of expressing a message that emerges from the source or sender's imagination by using a common code to connect with the receiver; such message goes through a channel; besides, the model presents three variables of immense value for a complete understanding: feedback, and noise which could affect the process in any of its stages.

From a Traditional Communication Process to the Communication process in an Internet-Based Environment

This model, although effective and active in some environments, is enriched at its channels when the new information and communication technologies add Internet-based communication tools. It is to say that the new information and communication technologies have opened the door to a whole logic of data transmission completely different from those existing until much of the 20th century. In this way, the traditional channels of communication progressively got richer with the technological revolution, creating an amalgam of possibilities in the search for more efficient communication. This is how the 21st century benefits from these tools that are incorporated into the daily lexicon of people both socially and professionally.

In its beginnings, information and communication technologies were represented as 'computer-based-technology' because the functionality of the computer facilitated the structural supports for communication in diverse contexts; at the same time, other definitions were, and are, used

to represent it, such as computer-mediated communication (CMC), and computer-assisted communication (Jackson, 1996, p. 259). CMC is a way to communicate between networked devices by giving interactive alternatives of communication, which are not possible when using mass media or physical environment (McQuail, 2020), in format of text messages, chats, forums, social networking, instant messages, among others (Thurlow, et al., 2004); subsequently, CMC will be used for the current research purpose.

The emergence of new technologies has forced the integration of more elements for a greater understanding of the communication phenomenon, this is how the spectrum of Information and Communications Technologies (ICT) was extended to make room for Mobile Information and Communication Technology (Wang, 2011), and in this way, moving from laptops and desktops connected to the Internet to a broader spectrum that involves smartphones and tablets.

The wider range of electronic devices has brought new opportunities for people to get in contact at the workplace, so the connection of a huge variety of mobile phones, tablets, workstation computers, and laptops opened the gate to the social media technology, or social networking tools to share information.

Growing literature has brought concepts on this field that may have similar definitions; as they are a relevant issue on the current research, Internet Social Media and Internet Social Networking are defined:

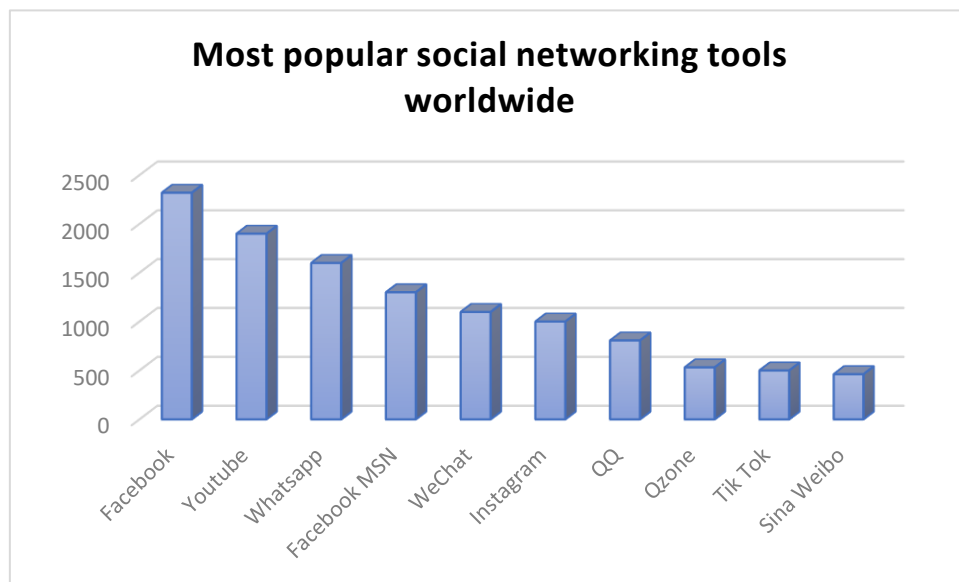
Social media is defined as “a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content” (Kaplan & Haenlein, 2010, p. 61). It is also defined as “activities, practices, and behaviors among communities of people who gather online to share information, knowledge, and opinion using conversational media” (Safko & Brake, 2009, p. 6); On his book *Social Media: A critical introduction*, Christian Fuchs considers social media as a way to “to engage with the different forms of sociality on the Internet in the context of society” (Fuchs, 2014, p. 6). Finally, Boyd (2009, as cited in Fuchs, 2014), argues that it is “often used to describe the collection of software that enables individuals and communities to gather, communicate, share, and in some cases, collaborate or play.” (p.35).

In addition, the Internet social networking is defined as “the activity of creating personal and business relationships with other people especially by sharing information, personal messages,

etc., on the Internet (Merriam-Webster, Inc., 2018)”; all the social networking interaction happens on social networking sites (SNSs) whose main purpose is making relationships with acquaintances, friends, family, or professional contacts easier (Richter, et al., 2011, p. 89). To achieve the aim, SNSs employ social networking tools, which, for the purpose of the current research, will be defined as Internet-based applications used to fulfill the aim of the social networking sites.

At present, the ranking of the most used social networking tools can be seen in graph 2. Facebook and YouTube are the first and second position respectively, and WhatsApp and Messenger, which are two text messaging applications, are the third and fourth positions.

Graph 2: Most popular social networks worldwide as of April 2019, ranked by number of active users (in millions)



Source: (Statista, 2019)

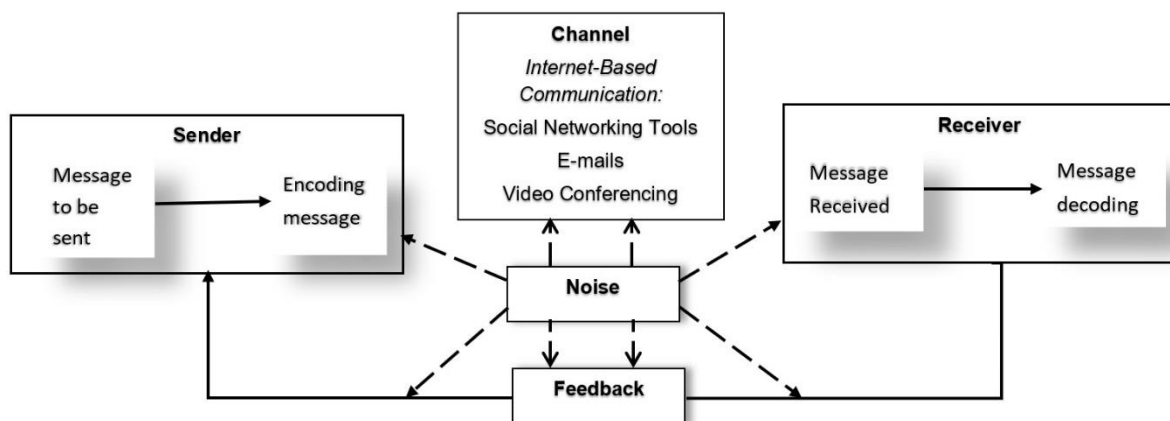
Together with the Internet, groupware, and videoconferencing, the e-mail is a valuable tool that facilitates knowledge sharing through technologies (Hackman & Johnson, 2018, p. 251). The e-mail is a powerful tool that “uses the Internet to transmit and receive computer-generated text and documents” (Robbins & Judge, 2017, p. 345)

All the technological development has allowed the mass use of Internet-based communication channels such as email, text messages, social networking tools (WhatsApp or Messenger), from which people and organizations have taken advantage. In the specific case of business, organizations have found internet based communication to be an exemplary ally that simplifies the possibilities of being competitive at a low cost; thus, the CEOs can be in contact with their

customers, employees, or potential candidates from any part of the planet; also, the use of communications technology has allowed them to supervise their employees, track their performance, and train them (Iannarelli & O'Shaughnessy, 2015, pp. 94-95).

It is clear how the traditional communication has evolved into Internet-based communication through all types of computer-mediated communication that people use to exchange synchronous or asynchronous messages individually or in groups (Martins & Ferro, 2008). Consequently, as an active phenomenon, it intervenes in the modern communication process, making a room in the core of the process by adding tools to ease faster and more effective communication. As a result, it can be concluded that channels of the Internet-based communication process could be filled by social networking tools (Chats), e-mails, video conferencing and text messages.

Figure 3: Internet-based Communication Process



Source: Adapted from (Robbins & Judge, 2017, p. 338)

Communication Satisfaction

Employees perceive a positive or negative communication satisfaction when they are in contact with their leaders, customers and colleagues in the entire working environment, as observed by Redding (1978, p. 429), who described the communication satisfaction as a general degree of satisfaction related to the employee's perception over the whole communication atmosphere. In addition, Thayer (1968, p. 144) argues that communication satisfaction emerges out of a successful communication fulfilment; regarding the work environment, Putti, Aryee, and Phua (1990, p. 45), agree on suggesting that communication satisfaction is the "available information that fulfills the individual's requests for information pertaining to the task-role or for simply being about organizational activities", which is reinforced by Steele and Plenty (2015, p. 299),

who define employee communication satisfaction as communication that satisfactorily fulfills tasks and meets relational needs of employees at work; similarly, regarding the job environment Downs and Hazen (1977, p. 64) state that communication satisfaction is multidimensional construct that is related to job satisfaction. As a result, researchers claim that the communication satisfaction construct is compound by 7 dimensions, namely: satisfaction with communication climate, satisfaction with supervisors, satisfaction with organizational integration, satisfaction with media quality, satisfaction with informal horizontal communication, satisfaction with general organizational perspective, and satisfaction with communication with subordinates. In detail:

Satisfaction with communication climate: It involves organizational issues such as the extent to which communication in the organization motivates employees to achieve organizational goals, and personal ones as the extent to which attitudes towards communication influence leaders to understand the problems that subordinates face and information about how they are judged.

Satisfaction with supervisor: It is related to the leader's attitude to listen to followers and provide guidance to solve problems at work.

Satisfaction with organizational integration: It deals with the information about the organization received by the employee, and the environment he/she is surrounded by.

Satisfaction with Media Quality: It is the perception about the effective use of media inside the organization to communicate events, procedures, or messages.

Satisfaction with Horizontal Informal Communication: It is related to the perception of fluency and accuracy on formal and informal communication in the organization.

Satisfaction with General Organizational Perspective: It refers to the information employees receive about administrative decisions that may affect the corporate goals, plans, financial standings, or policies.

Personal feedback: it deals with the communication related to employee's goals and achievements.

Satisfaction with Communication with Subordinates: It involves the responsiveness and responsibilities employees' have upward and downward communication, and the feeling the leaders have about the communication overload (Downs & Hazen, 1977, pp. 66-69).

Job Satisfaction

The twentieth century was the most prolific period in the emergence of managerial theories in an attempt to give answers to the dizzying industrial growth and the growing demand for productivity that new production technologies and techniques were requiring to meet the demands to survive in the market; then, theorists from different perspectives looked for the most appropriate ways to understand human behavior, and establish strategies that allowed them increase levels of motivation to their employees, as well as increase their productivity level (Taylor, 1911), (Fayol, et al., 1930), (Maslow, 1943), (Herzberg, et al., 1959), (McGregor, 1960), Porter, (1962) (1963), (Vroom, 1964), (Böckerman & Ilmakunnas, 2012); in fact, among all of the organizational concerns, job satisfaction became one of the most researched during the 20th century (Judge, et al., 2017).

It could be said that one of the first theorists to be interested in knowing the level of perception that employees had about motivation in their workplace was Elton Mayo, (1924) (1933), with his Hawthorne experiment, which, incidentally, gave origin to the Human Relations School. However, it was Hoppock (1935), with the publication of 3 of his research, who laid the groundwork for the understanding and study of Job Satisfaction. Results of his first research allowed him to identify that the interpersonal relationships with supervisors and colleagues, the job autonomy, and the quantity of social status provided by the job, were variables that could act as potential threats to job satisfaction. In the second study, he found that age, higher social status, better interpersonal relationships with colleagues and bosses, and lower work monotony increased satisfaction; finally, in the 3rd study, he concluded that 85% of the sample was satisfied with the jobs; Additionally, he could determine that satisfaction and dissatisfaction depended on the type of jobs. The fundamental contribution of his studies lies in the understanding that job satisfaction is a multidimensional phenomenon that derives from the perception of feelings resulting from the convergence of internal (Psychological and Physiological) and external (environmental circumstance) factors (Hoppock, 1935, p. 47).

Finding a single definition of job satisfaction has not been an easy task, due, in large part, to the taxonomic impact that derives from the different areas and points of view from which the literature is addressed.

To a large degree, one of the causes of complexity responds to the fusion of positions that arise from the multidisciplinary theoretical intervention on the determinants that affect job satisfaction, as can be seen in the following studies, e. g. (Lakhani, 1989), (Clark & Oswald, 1996). The situation widely displays the spectrum of significance that, on the one hand, strengthens the literature, but on the other hand, hinders the theoretical framework delimitation to obtain a precise definition of the phenomenon.

Similarly, complexity is related to different perspectives that have emerged for the construction of job satisfaction determinants, such as situational and dispositional approaches.

Much of the research performed from the situational approach uses a model that emerged from theoretical guidelines established from studies conducted by Hackman and Lawler (1971) and Hackman and Oldham (1976), which focused on studying the relationships between the individual and the workplace; thus, the approach proposes that work design generates situational forces that impact people's attitude and working life, which are reflected in job satisfaction (Campion, et al., 2005), (Dierdorff & Morgeson, 2013), (Humphrey, et al., 2007), (Meyer, et al., 2010), (Cooper & Withey, 2009).

Unlike the situational approach that considers the impact of work design on the organizational environment as the element that generates forces that impact the behavior of the individual, the dispositional approach suggests that the disposition tendencies of the individual determine the way in which they perceive the organization and the environment; that is to say, with a more positive disposition, individuals recreate a more positive interpretation of the environment, (Staw, et al., 1986), (Schminke, 1992), (Adler & Weiss, 1988), (George, 1992). According to academics, the individual responds to mental states of a genetic, psychological and neuronal order (Johnson, et al., 2005) that shapes their behavior in different contexts of job performance, work motivation, job attitudes, leadership; power, politics, and influence; stress, adaptability and coping, team effectiveness, counterproductive / deviant workplace behaviors, workplace accidents; and conflict and negotiation (Judge, et al., 2008, p. 1982). Nested to the dispositional approach, the model of the big-five factor structure has also been used for the interpretation of personality as a generating effect of positive or negative feelings that shape the perception of the individual towards their environment (Goldberg, 1990). It is important to underscore that interest in this model remains valid and its interpretation is extended to gender and age

characterizations (Marsh, et al., 2010), (Soto, et al., 2008), (Laverdière, et al., 2013). Finally, in order to bring the approach closer to job satisfaction, that is, strictly organizational, researchers have studied the relationship of the individual behavior with the environment based on 4 individual characteristics self-esteem, generalized self-efficacy, locus of control, and non-neuroticism (Judge, et al., 1998), (Judge & Bono, 2001) to determine the positive and negative predisposition of the individual with their organizational environment (Judge, et al., 2000), (Judge & Larsen, 2001) .

After observing the causes of the conceptual complexity to determine a semantic representation that allows a definition of job satisfaction, it is concluded that the multiple definitions that have emerged must be adjusted to different contexts. From that reasoning, some definitions are presented.

For Schaffer (1953, p. 2), based on the premise that employee's job satisfaction or dissatisfaction in the work environment is related to the same psychological mechanisms that cause them within and outside work, job satisfaction is the possibility of individual's needs, that can be satisfied in the work environment, can be truly satisfied. In addition, he contemplates dissatisfaction as a state of tension to reach those needs, or the perception about the degree of tension to use the opportunities to achieve that satisfaction. That is to say, job satisfaction is the perception that work fulfills, or allows the fulfillment, of important values of work (Locke, 1976, p. 1342). Similarly, Paul Spector, agrees on the duality of the concepts of satisfaction and dissatisfaction for the understanding of the phenomenon, thus, he explains job satisfaction as "the extent to which people like (satisfaction) or dislike (dissatisfaction) their jobs" (Spector, 1997, p. 2).

From another perspective, the individual's attitudinal behavior is a subject that has gained wide attention for decades (Breckler, 1985), (Newby-Clark, et al., 2002), as well as the relationship between the individual's attitude and organizations; hence, some theorists define the term as the relationship of job satisfaction with an attitudinal state of the individuals towards their work, that is, employees who perceive a high level of satisfaction at their work environment demonstrate a positive attitude towards it, which is interpreted in the opposite way when the level of satisfaction is low (Schleicher, et al., 2004), and the form in which these attitudes affect their behaviors (Harrison, et al., 2006). Other academics prefer to approach and define the

subject from a psychological state of the individual that is represented with indicators of knowledge and affections simultaneously (Brief & Weiss, 2002).

In conclusion, the abundant literature that emerges from different approaches related to the concept of job satisfaction and its applications in multiple contexts within organizations force scholars to adopt the option that most closely matches their research interest. For the purpose of this study, the definition provided by Spector is taken; he argues that job satisfaction is the feeling of satisfaction that the individual has about their jobs, and different aspects of their jobs; It is the extent to which people like (satisfaction) or dislike (dissatisfaction) their jobs (Spector, 1997, p. 2).

Dimensions of the study

As previously mentioned, since the genesis of their study, theorists have considered the understanding of job satisfaction as multi- dimensional; the theoretical evolution also shows how the spectrum of its understanding has allowed to expand its range by introducing new dimensions. That is how, to the 3 initial dimensions proposed by Hoppock (1935), (See Table), the researchers have managed to add, present, or adapt new ones to adjust them to their theoretical models. For example, Herzberg, in his study that gives birth to the Two-Factor Theory, starts from the premise that there are elements related to job content that function as satisfiers and elements related to job context that prevent dissatisfaction; the first ones called ‘Hygiene factors’, and the second ones ‘Motivators’ (Herzberg, 1965, p. 369); therefore, the researcher states that satisfaction and dissatisfaction are not antagonists, instead, they complement each other (Herzberg, 1965, p. 395).

Table 11: Hoppock’s Job Satisfaction Dimensions

| Hoppock’s Job Satisfaction Dimensions |
|--|
| Relationships with supervisors and colleagues, |
| Job autonomy |
| Quantity of social status provided by the job |

Source: Adapted from (Hoppock, 1935)

Table 12: Herzberg’s Job Satisfaction Factors

| Herzberg’s Job Satisfaction Factors | |
|--|-----------------------------------|
| Motivators | Hygiene Factors |
| Task achievement | Company policy and administration |
| Recognition for achievement | Supervision |
| Intrinsic interest in the task | Working conditions |
| Increased task responsibility | Salary |

| | |
|--|---|
| Advancement or occupational growth | Personal life |
| The possibility of occupational growth | Status |
| | Interpersonal relationships with subordinates |
| | Interpersonal relationships with peers |
| | Interpersonal relationships with superiors |
| | Job security |

Source: Adapted from (Herzberg, 1965, p. 395)

In addition to the theory, the model for measuring job satisfaction introduced by Edwin A. Locke differs from Herzberg in the way they understand satisfaction and dissatisfaction; Locke (1976) argues that satisfaction and dissatisfaction are two concepts antagonistic one to another; however, job satisfaction factors from Locke's model closely resemble Herzberg's. See table 13

Table 13: Locke's Job Factors in Satisfaction

| Locke's Job Factors in Satisfaction |
|--|
| Work |
| Pay |
| Promotions |
| Peers, colleagues |
| Supervisor |
| Top Leadership |
| Benefits & policies |

Source: Adapted from (Locke, 1976)

Finally, Paul E. Spector develops the Job Satisfaction Survey (JSS) instrument (1985), which measures 9 aspects or facets of job satisfaction. In the beginning, Spector sought to develop an instrument to be mainly administered in service companies, however, the author warns that it can also be applied in other sectors of the industry. The table shows the facets evaluated in the Spector's model.

Table 14: Spector's Job Satisfaction Facet Scales

| Spector's Job Satisfaction Facet Scales | | |
|--|-----------------|---|
| | Facet | Description |
| 1 | Pay | It relates to the motivation of an employee in relation to their wages and pay policies. |
| 2 | Promotion | It is the perception that the employee has about the opportunity for upward mobility in the organization. |
| 3 | Supervision | It mainly focuses on the perception that the employee has about his/her direct supervisor |
| 4 | Fringe Benefits | Perceptions about items provided by third party, such as health insurance, retirement plans or other non-monetary benefits. |

| | | |
|---|----------------------|---|
| 5 | Contingent Rewards | It is the perception employees have about incentives awarded in values other than salaries. |
| 6 | Operating Procedures | It is the perception that the employee has about the conditions and rules established by the organization to perform the tasks. |
| 7 | Coworkers | It refers to the perception of the internal relationships between employees and their colleagues in the workplace. |
| 8 | Nature of Work | It is the perception of employees towards their particular tasks and duties within the organization. Dissatisfaction arises when employees' job obligations are not commensurate with their experience or talent. |
| 9 | Communication | It is the perception that arises about the effect that the employee perceives on how well or badly informed he/she feels. |

Source: (Spector, 1985), (Spector, 1997)

As a conclusion, the interest of this empirical exercise is to observe a wide spectrum that gives sufficient analysis tools to the phenomenon of job satisfaction in SMEs; therefore, the instrument designed by Spector presents a broad scope for understanding the dimensions that are the object of study in this research, so its administration will be necessary to provide answers to the nine dimensions shown in table 14.

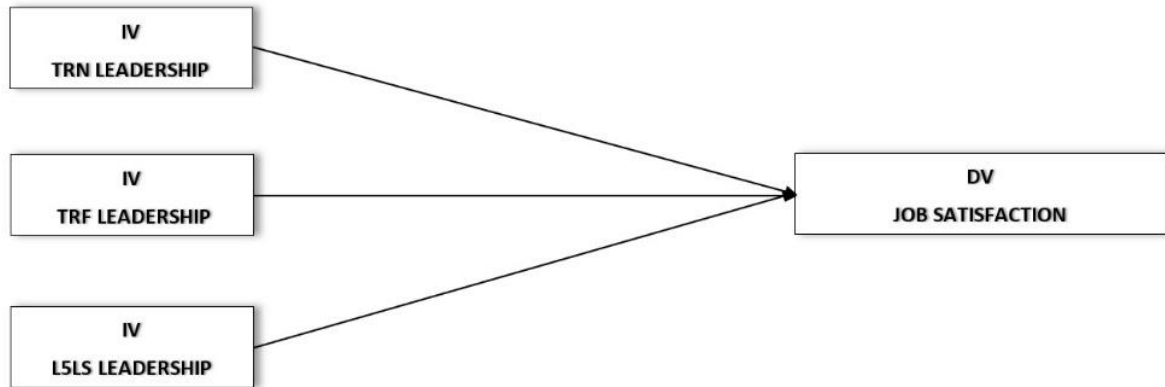
METHODOLOGY

Methodological model and Procedure

Statistics

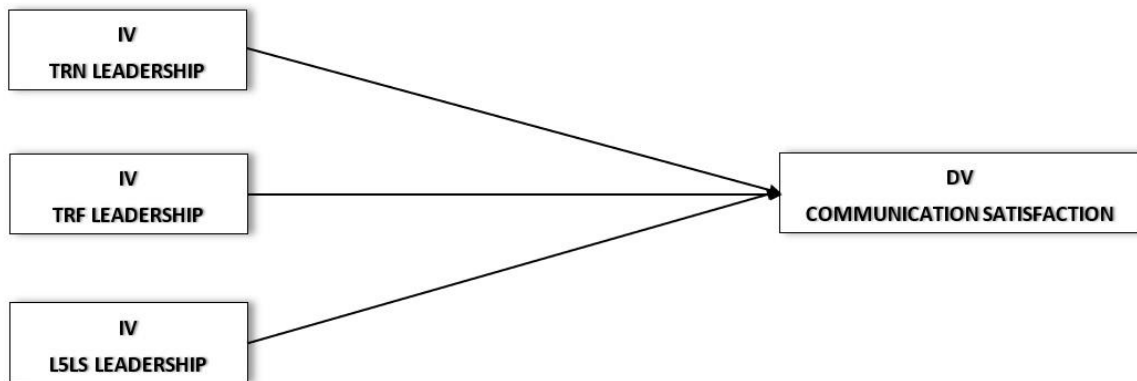
To test hypotheses 1 and 2, Pearson's correlation coefficient is observed; subsequently, linear regressions are used to underscore the direction and size effect of every relationship. IBM SPSS Statistics 22 is used to test hypotheses.

Figure 4: H1 model



Source: Own construction

Figure 5: H2 model



Source: Own construction

To test hypothesis 3, a Pearson coefficient correlation analysis is performed; subsequently, a linear regression is performed to understand the size of the effect of the independent variable on the dependent variable.

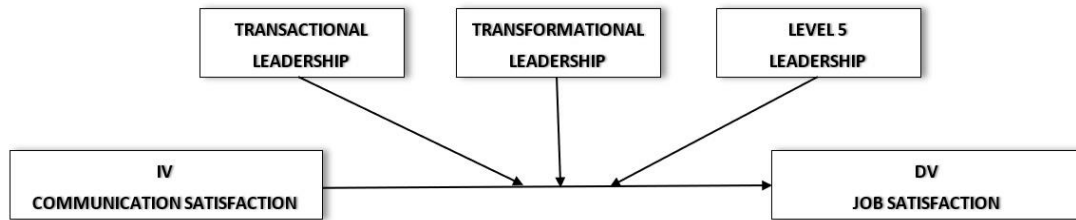
Figure 6: H3 model



Source: Own construction

Therefore, the moderating effect is analyzed; to this end, Pearson's correlation coefficient is observed; subsequently, a moderated multiple regression model is used.

Figure 7: Moderation H3 model

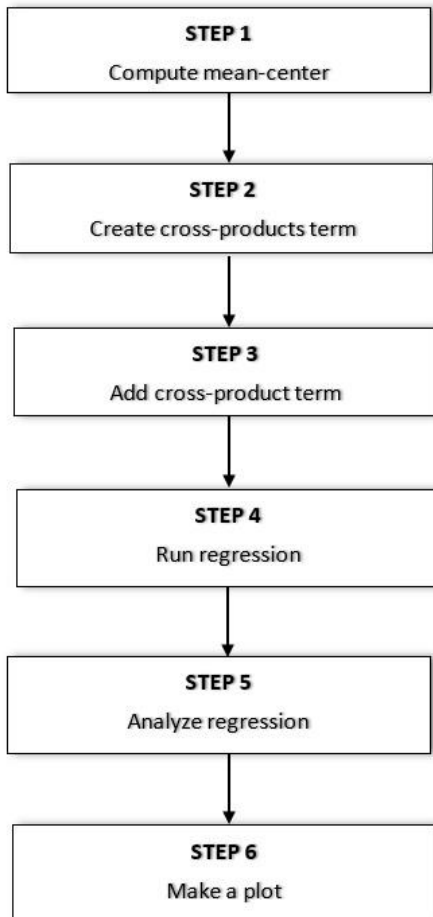


Source: Own construction

At this point, the hypotheses are tested by using IBM SPSS Statistics 22; CODE: PROCESS version 3.4 (Hayes, 2019), (Hayes, 2018).

The following scheme is followed to verify each of the hypotheses:

Figure 8: Moderation scheme



Source: own based on (Cohen & Cohen, 1983, pp. 255-300)

Step 1: Mean Center

In order to avoid confusing nonessential multicollinearity issues (Cronbach, 1987), the independent variable, as well as the moderators (predictors) are mean-centered (Cohen & Cohen, 1983, p. 267), (Field, 2017, p. 400). For that purpose, the independent and moderating vectors are computed to obtain their scores (for each variable), then, their means are subtracted (for each variable) (Field, 2017, p. 400). Thus:

MCIV: mean-centered independent variable

MCMV: mean-centered moderator variable

$$MCIV = Predictor - Mean$$

$$MCIV = Predictor - Mean$$

From that stage, mean-centered vectors are used in all operations that are executed:

Step 2: cross-product terms (Interaction terms)

To create the cross-product term (CPT), the mean-centered independent variable (MCIV) is multiplied by the mean-centered moderator (MCV).

$$CPT = MCIV \times MCM$$

Step 3: Add the interaction term

Subsequently, the cross-product term is added to the regression

$$DV = b_0 + b_1MCIV_1 + b_2MCM_2 + b_3CPT_3 + u$$

Step 4: Run a regression

At that stage, the regression is run.

Step 5: Analyze the linear regression

Statistical significance values are interpreted

Step 6: Make a plot

Finally, if the model has significant statistical values, a plot will help understand the patterns of the moderation and interpret if the effects of the independent variable on the dependent variable are influenced by the moderator.

To test the hypothesis 4, a sociodemographic questionnaire and the Internet-Based Communication Satisfaction Questionnaires are administered, next, IBM SPSS Statistics 22 is used to observe descriptive statistics.

Interview

To support the results of the questionnaire, interviews are designed and administered.

Interview guideline and design

After obtaining the findings, an interview was designed to back up the data collected at the questionnaire stage. The construction of the guidelines for the interview followed the next 12 steps suggested by (Creswell, 2012, pp. 218-219):

- Identify the interviewees.

For this study, 10 interviewees were randomly and proportionally selected from strata. For this purpose, the exact method to select the sample for the study was followed.

Stratum 1: 3 Interviewees

Stratum 2: 3 Interviewees

Stratum 3: 2 Interviewees

Stratum 4: 2 Interviewees

- Determine the type of interview you will use.

For the collection of information, researchers conducted a semi-structured, open-ended interview.

In this type of interviews, the researcher made the participants questions which later were typed for data analysis. This type of open-ended questions gave the interviewee the possibility to provide free answers about the topic, far from the limits or constraints by the interviewer.

During this first stage of the research, one-on-one interviews were conducted, what clearly demanded a lot of time consumption, but it could extract more accurate information for the confidence provided by privacy (Creswell, 2012, pp. 217-218). Besides, it was chosen a semi-structured interview technique since the purpose was to have the same set of questions for all the participants (Gay, et al., 2012, p. 387).

For understanding the topics, the interviewer employed 10 minutes maximum to ask each participant the following questions:

Important, *All the questions are referred to the work field and for work purposes.*

- 1. How often do you use Internet-based tools when communicating with your boss? (email, institutional Intranet, social networks such as Messenger, WhatsApp, Viber, among others)*
- 2. What do you use it with the boss for?*
- 3. How do you perceive the speed of response of your boss via Internet-based communication channels for the fulfillment of the task? Diligence, Delay, Not responding.*
- 4. How is the quality of the messages that your boss sends you via Internet-based channels?*
- 5. How important is it that your boss communicates via Internet-based communication channels for the satisfactory fulfillment of your task? Why?*
- 6. How important is it that your boss communicates with you via Internet-based communication channels to achieve organizational goals? Why?*
- 7. Does the Internet-based communication by your boss impact your relationship with your colleagues? How?*
- 8. Do you consider that there is an overload or lack of electronic information by the boss? How does it affect you?*
- 9. Do you feel that the Internet-based communication by your boss in the organization is necessary? Why?*

During the interview, video-record the questions and responses

All interviews were made on Skype. After previous consent by interviewee to be recorded. All interviews were recorded; then, a group of collaborators typed all the information into data to be analyzed.

Take brief notes during the interview.

The interviewer took notes as a backup option of contingency measurement in case something went wrong with the recordings.

Locate a quiet, suitable place for conducting the interview.

All interviews were conducted in a suitable place for both the interviewers and the participants, previously agreed. It was suggested to find a quiet place to avoid interfering noise at the recordings, together with some privacy that allowed the participants to feel confident when answering the questions.

Obtain consent from the interviewee to participate in the study.

Previously to the interview, an informed consent was read and accepted by each of the participants, in which information about the procedures, including recordings and management of the information, were clearly detailed.

Have a plan, but be flexible.

As an option to maximize time, the interviewer had a set of questions previously aligned to a purposed order, but as a semi-structured interview was conducted, there was always flexibility to change the main questions orders.

Use probes to obtain additional information.

This set of questions was in handed for the interviewers every time they considered necessary to extend or complete the answers given by the participants. They were not necessarily asked at every time with each interviewee. At this point, the interviewer had to be carefully unbiased to avoid making judges about the participants' responses. 'could you tell me more?', 'could be more specific?', 'Could you provide more details?', and 'what do you mean when you say...?' were some of the probes used.

Be courteous and professional when the interview is over

At the beginning and the end of each interview, the interviewer used courtesy forms to say 'hello' or 'goodbye', as well as to thank participants for having cooperated with the research.

At the end of the each interview, the interviewer did the next checklist, suggested by (Gay, et al., 2012, p. 387), and adapted by Creswell (2012).

Table 15: Checklist

| A Checklist for Interviewing | |
|-------------------------------------|--|
| 1 | Who will participate in your interviews? |
| | What types of interviews are best to conduct? |
| | Is the setting for your interview comfortable and quiet? |

| | |
|--|---|
| | If you are audiotaping, have you prepared and tested the equipment? |
| | Did you obtain consent from the participants to participate in the interview? |
| | Did you listen more and talk less during the interview? |
| | Did you probe during the interview? (ask to clarify and elaborate) |
| | Did you avoid leading questions and ask open-ended questions? |
| | Did you keep participants focused and ask for concrete details? |
| | Did you withhold judgments and refrain from debating with participants about their views? |
| | Were you courteous and did you thank the participants after concluding the interview? |

Source: (Creswell, 2012, p. 222)

Atlas TI for the data analysis

To test hypothesis number 4, “the leader's refusal to communicate via *Internet-based communication channels* with employees would have a negative impact on communication satisfaction”, a methodological complementation is carried out from the conduct of structured interviews to 10 participants from 4 different organizations. This complementation allows to describe the reasons, characteristics, and effects that led the participants to consider the use of Internet-based communication with the boss in the workspace.

The methodological complementation focuses on presenting qualitative data derived from semi-structured interviews that support the hypothesis 4 of the study. It does not seek to be quantitatively generalizable, but to detail the answers given by the participants about the perception of the Internet-based communication satisfaction with the boss in the workplace. For this reason, the description that is presented in the analysis is not based on frequencies, but directly on the testimonies given by them.

Once the interview is conducted, Atlas Ti (version 8.0) is used for its subsequent transcription and codification for qualitative data analysis. Coding consists of gathering, analyzing, and theorizing the data provided by the interviewees (Taylor, et al., 2016, p. 181), so that it can generate an inductive explanation to the questions given, and identify patterns or trends. In this sense, these patterns in the data allow to accept or reject the hypothesis. Coding includes “Groundedness” that referred to the number of citations that supported it, and the “Density” that corresponds to the existing number of links between different codes.

The trustworthiness of the study

One of the toughest criticisms positivists make to naturalistic researchers is the weakness in validity and reliability in the instruments and techniques used in qualitative studies (Shenton, 2004, p. 63). As a response to the critics, Guba (1981 cited in Gay, et al., 2012, pp. 392-393) have developed some criteria to validate qualitative research which naturalistic researchers have adopted.

For this research, the next table shows the strategies adopted in this research:

Table 16: trustworthiness strategy

| Criteria | Strategies |
|-----------------|--|
| Credibility | <ul style="list-style-type: none">- All the field notes from the actions and interactions during the research were carefully protected.- Recorded interviews were carefully typed as a backup for interpretations of the results.- A random sample and selection process of interviewees followed strict measures to assure an unbiased procedure.- Suitable, private, and quiet places were chosen to apply the interviews and allow the participants to feel free to answer with confidence.- Interpretations of the analysis were discussed among other researchers.- Information collected from observations, interviews, and fieldwork was used for triangulation. |
| Transferability | <ul style="list-style-type: none">- Interpretations of results were compared with the epistemological approach from the theoretical framework.- Physical, interpersonal, and social contexts were clearly described in the report- All information collected, analysis and results, as observation notes taken at the fieldwork were free to be accessed by other researchers. |
| Dependability | <ul style="list-style-type: none">- A detailed report of the process was typed, saved, and shared as useful input for future research to be replied. |
| Confirmability | <ul style="list-style-type: none">- Triangulation in data collection (Questionnaires and Interviews) was applied to determine the correspondence between the results.- As Information was carefully typed and saved, diagrams of each step of the research can be used by the observers to perform an 'audit-trail'. |

Source: adapted from (Gay, et al., 2012, p. 393)

Questionnaires and reliability tests

Questionnaires were rigorously selected by considering two criteria; firstly, that they responded to the theoretical approach purpose of the study, and secondly, that they have proved to have previous consistent reliability measures; along with previous reliability tests from previous research, questionnaires were also measured during the current study; therefore, 6

questionnaires were utilized. At the beginning a series of socio-demographic questions were asked to participants; the socio-demographic section included questions related to the use of CMC tools and average use at the organizations.

Therefore, Job Satisfaction Survey instrument (JSS) (1985) was administered to measure job satisfaction. Communication satisfaction was measured by Communication Satisfaction Questionnaire. MLQ 5X was used to measure transactional and transformational leadership styles, and L5LS instrument was administered to measure level 5 leadership. To test the hypothesis 5, the Internet-Based Communication Satisfaction Questionnaire was designed.

Multifactor Leadership Instrument MLQ

The theoretical basis of the first version of the Multifactor Leadership Instrument (MLQ), (Bass, 1985), was the result of Burns' approach (Burns, 1978), together with and application of a survey directed to 70 executives who were asked to describe some attributes to characterize the transactional and the transformational leaderships. As a result, 273 statements were found, which, later, were reduced to 73 by 11 reliable graduate experts. The result of the study showed Charisma, Individualized Consideration and Intellectual Stimulation as transformational factors, and Contingent Reward and Management-by-Exception as transactional factors (Hater & Bass, 1988, p. 696). A survey, consisted of the 73 statements and 5 factors, was later applied to military officials who rated how these statements suited their immediate superiors' descriptions.

Adding the non-transactional laissez-faire leadership as a third behavioral typology to create a more comprehensive understanding of leadership (full-range leadership theory -FRLT-), (Avolio & Bass, 1991), had the instrument got a broader dimension with 9 factors.

The instrument was revised due to strong criticisms regarding the component of behaviors (Yukl, 2013, p. 341), (Hunt, 1991), and structure and subscales (Bass & Riggio, 2006, p. 21). A new version of the questionnaire (Bass & Avolio, 1990c), consisted of 67 items was published; after being revised, the version MLQ 5X, with 45 items, was published (Bass & Avolio, 1997).

Table 17: Structure of MLQ (5X)

| TRANSFORMATIONAL LEADERSHIP | | |
|------------------------------------|---------------|------------------|
| DIMENSION | ITEMS | |
| | Number | Statement |

| | | |
|----------------------------------|----|--|
| Idealized Influence (Behavior) | 6 | Talks about their most important values and beliefs |
| | 14 | Specifies the importance of having a strong sense of purpose |
| | 23 | Considers the moral and ethical consequences of decisions |
| | 34 | Emphasizes the importance of having a collective sense of mission |
| Idealized Influence (Attributed) | 10 | Instills pride in me for being associated with him/her |
| | 18 | Goes beyond self-interest for the good of the group |
| | 21 | Acts in ways that builds my respect |
| | 25 | Displays a sense of power and confidence |
| Inspirational Motivation | 9 | Talks optimistically about the future |
| | 13 | Talks enthusiastically about what needs to be accomplished |
| | 26 | Articulates a compelling vision of the future |
| | 36 | Expresses confidence that goals will be achieved |
| Intellectual Stimulation | 2 | Re-examines critical assumptions to question whether they are appropriate |
| | 8 | Seeks differing perspectives when solving problems |
| | 30 | Gets me to look at problems from many different angles |
| | 32 | Suggests new ways of looking at how to complete assignments |
| Individual Consideration | 15 | Spends time teaching and coaching |
| | 19 | Treats me as an individual rather than just as a member of a group |
| | 29 | Considers me as having different needs, abilities, and aspirations from others |
| | 31 | Helps me to develop my strengths |

| TRANSACTIONAL LEADERSHIP | | |
|----------------------------------|--------|--|
| DIMENSIONS | ITEMS | |
| | Number | Statement |
| Contingent Reward | 1 | Provides me with assistance in exchange for my efforts |
| | 11 | Discusses in specific terms who is responsible for achieving performance targets |
| | 16 | Makes clear what one can expect to receive when performance goals are achieved |
| | 35 | Expresses satisfaction when I meet expectations |
| Management-by-Exception (Active) | 4 | Focuses attention on irregularities, mistakes, exceptions, and deviations from standards |
| | 22 | Concentrates his/her full attention on dealing with mistakes, complaints, and failures |
| | 24 | Keeps track of all mistakes |
| | 27 | Directs my attention toward failures to meet standards |

| PASSIVE/AVOIDANT LEADERSHIP | | |
|-------------------------------------|--------|---|
| DIMENSION | ITEMS | |
| | Number | Statement |
| Management - by-Exception (Passive) | 3 | Fails to interfere until problems become serious |
| | 12 | Waits for things to go wrong before taking action |
| | 17 | Shows that he/she is a firm believer in “If it ain’t broke, don’t fix it” |
| | 20 | Demonstrates that problems must become chronic before taking action |
| Laissez-faire | 5 | Avoids getting involved when important issues arise |
| | 7 | Is absent when needed |
| | 28 | Avoids making decisions |
| | 33 | Delays responding to urgent questions |

| OTHER OUTCOMES | | |
|----------------|--------|---|
| DIMENSION | ITEMS | |
| | Number | Statement |
| Extra Effort | 39 | Gets me to do more than I expected to do |
| | 42 | Heightens my desire to succeed |
| | 44 | Increases my willingness to try harder |
| Satisfaction | 38 | Uses methods of leadership that are satisfying |
| | 41 | Works with me in a satisfactory way |
| Effective | 37 | Is effective in meeting my job-related needs |
| | 40 | Is effective in representing me to higher authority |
| | 43 | Is effective in meeting organizational requirements |
| | 45 | Leads a group that is effective |

Source: (Bass & Avolio, 1997)

Reliability of the Instrument

Although the factor structure of the instrument has been widely tested (Table 15), and has shown a strong construct validity for the differentiation between transactional and transformational leadership to be used, some results have shown that the component behaviors lacked consistency when results of different studies were confronted (Avolio, et al., 1999), (Den Hartog, et al., 1997), (Carless, 1998, pp. 356-357), (Bycio, et al., 1995, p. 474).

Table 18: Summary of published studies testing the factor structure of the MLQ

| AUTHOR/S | VERSION | COUNTRY | SAMPLE DESCRIPTION | NUMBER OF FACTORS COMPRISING MODEL |
|----------------------|--------------|---------|--------------------|------------------------------------|
| (Hater & Bass, 1988) | Form 5, 1985 | USA | Delivery firm | 6 (CH, IS, IC, CR, MBEA, MBEP) |

| | | | | |
|--|-------------------|-------------|----------------------------------|--|
| (Yammarino, et al., 1993) | 1985, modified | USA | Military | 5 (CH/IM, CR/IC, MBEA, MBEP, LF) |
| (Tepper & Percy, 1994) | Form X, 1990 | USA | Students, financial institution | 2 (CH/IM, CR) |
| (Druskat, 1994) | Form 8Y | USA | Church | 5 (CH/IC, IS/IM, CR, MBEA, MBEP/LF) |
| (Bycio, et al., 1995) | Form 1, 1985 | Canada | Health Service | 5 (CH, IS, IC, CR, MBE) |
| (Koh, et al., 1995) | Form 5S, 1985 | Singapore | Educational institutions | 5 (CH, CR, MBEA, MBEP, LF) |
| (Den Hartog, et al., 1997) | Form 8Y, 1989 | Netherlands | Various private and public firms | 3 (TF, TR, LF) |
| (Lievens, et al., 1997) | Form 8Y, 1997 | Netherlands | Various private and public firms | 4 (IS/IC/IM, CR, MBEA) |
| (Hinkin, et al., 1997) | Form 5X, 1990 | USA | Students, hotels | 4 (II/IM/IS/IC) |
| (Tracey & Hinkin, 1998) | Form 5X, 1990 | USA | Hotels | 4 (II/IM/IS/IC) |
| (Geyer & Steyrer, 1998) | Form 5R | Germany | Banks | 9 (CH/IS/IM/IC, IC/CH, CR/IC, MBEP/LF) |
| (Carless, 1998) | Form 5X Primarily | Australia | Banks | 3 (CH, IS, IC) |
| (Avolio, et al., 1999) | Form 5X Primarily | USA | Various business firms | 7 (CH/IM, IS, IC, CR, MBEA, MBEP/LF) |
| (Tejeda, et al., 2001) | Form 5X, 1993 | USA | Various business firms | 9 (IIA, IIB, IM, IS, IC, CR, MBEA, MBEP, LF) |
| CH = charisma; MBEA = active management by exception; MBEP = passive management by exception; IIA = idealized influence attributed; LF = Laissez faire; IIB = idealized influence behavior; IM = inspirational motivation; IS = intellectual stimulation; IC = individualized, CR =contingent reward | | | | |

Source: (Antonakis, et al., 2003, p. 263)

Table 19: Summary of recent published studies testing the factor structure of the MLQ

| AUTHOR/S | VERSION | COUNTRY | SAMPLE DESCRIPTION | NUMBER OF FACTORS COMPRISING MODEL |
|----------|---------|---------|--------------------|------------------------------------|
|----------|---------|---------|--------------------|------------------------------------|

| | | | | |
|--|----------------|-------------|-------------------------------|--|
| (Cerni, et al., 2008) | Form 5X, 1997 | USA | School | 9 (IIA, IIB, IM, IS, IC, CR, MBEA, MBEP, LF) |
| (Rowold & Rohmann, 2009) | Form 5X, 2000 | Germany | Non Profit Orchestras | 7 (CR, MBEA, IIA, IIB, IM, IS, IC) |
| (Walumbwa, et al., 2005) | 1995, modified | USA - Kenya | financial and insurance firms | 4 (CH, IM, IS, IC) |
| (López-Zafra, et al., 2008) | 1998, modified | Spain | Health Science Students | (IIA, IM, IS, IC, MBEA, CR, LF) |
| (Salter, et al., 2010) | Form 5X, 1994 | USA | University Students | 9 (IIA, IIB, IM, IS, IC, CR, MBEA, MBEP, LF) |
| (Yaghoobipoor, et al., 2013) | Form 5X, 1991 | Iran | Automobile Industry, | 5 (IIA, IC, IIB, IM, IS) |
| (Choi, et al., 2017) | Form 5X, 1994 | Korea | financial and insurance firms | 4 (IIB, IM, IS, IC) |
| (Curtis, et al., 2017) | Form 5X, 1997 | Australia | Schools | 9 (IIA, IIB, IM, IS, IC, CR, MBEA, MBEP, LF) |
| CH = charisma; MBEA = active management by exception; MBEP = passive management by exception; IIA = idealized influence attributed; LF = Laissez faire; IIB = idealized influence behavior; IM = inspirational motivation; IS = intellectual stimulation; IC = individualized, CR =contingent reward | | | | |

Source: Own construction

Although researchers have applied different dimensions to measure transactional and/ or transformational leaderships with other qualitative approaches (Tichy & Devanna, 1986), (Bennis & Nanus, 1985), (Marion & Uhl-Bien, 2001), and quantitative approaches (Kouzes & Posner, 1987), (Podsakoff, et al., Summer 1990), (Alimo-Metcalfe & Alban-Metcalfe, 2005), the MLQ (Form 5X) is the only questionnaire that measures the 9 full range leadership factors, which is a valid and reliable instrument to understand new leaderships models (Antonakis, et al., 2003, p. 286).

Current reliability test

As the purpose of the research is to analyze the impact of transactional and transformational leadership in the interaction between Internet-based communication and job satisfaction, 2 sections of the questionnaire were avoided. Consequently, section passive/avoidant leadership

styles, consisted of factors Management -by-Exception (Passive) (Item numbers 3, 12, 17, 20) and Laissez-faire (Item numbers 5, 7, 28, 33) and section other outcomes consisted of factors extra effort (Item numbers 39, 42, 44), satisfaction (Item numbers 38, 41), and effective (Item numbers 37, 40, 43, 45) were eliminated. As a result, the final questionnaire is compound by 28 items.

The general Cronbach's Alpha was .940 (M=81.93; DS=19.24).

Dimensions (factor) were analyzed individually as shown in the table:

Table 20: Current MLQ reliability test

| FACTOR | CRONBACH'S ALPHA | STANDARD DEVIATION | MEAN |
|---|-------------------------|---------------------------|-------------|
| Idealized Influence (Behavior) | .658 | 3.16 | 11.55 |
| Idealized Influence (Attributed) | .735 | 3.25 | 12.45 |
| Inspirational Motivation | .875 | 3.33 | 12.98 |
| Intellectual Stimulation | .810 | 3.38 | 12.10 |
| Individual Consideration | .658 | 3.47 | 11.04 |
| Contingent Reward | .715 | 3.21 | 11.94 |
| Management-by-Exception (Active) | .533 | 3.14 | 9.9 |

Source: Own construction

L5LS instrument

After conducting a rigorous review of the literature, a group of researchers (Reid, et al., 2014) observed that the attributes given by Collins and his colleagues to level 5 leaders could be homologous to the attributes assigned to leaders belonging to the school of servant leadership. To get into this conclusion, researchers reviewed theoretical concepts emitted by Collins and his colleagues, (Collins, 2001), (Collins, 2005), (Collins, 2006), (Collins, 2009), (Finnie & Abraham, 2002), about characteristics that a level 5 leader should gather in concepts of personal humility and professional will; As a result of this literature review, the research group found 99 possible attributes describing the level 5 leader, 55 corresponding to personal humility and 44 to the professional will.

The research group decided to adopt the semantic differential scaling method from 1 to 10 as a format of measurement for the instrument. Consequently, participants were invited to answer the question “On a scale of 1 to 10, to what extent do the following characteristics describe your boss?” Where “1 indicates that this characteristic does not describe your boss at all, whereas a 10 indicates that it describes him/her exactly”

Not at All 1 2 3 4 5 6 7 8 9 10 Exactly

Then, the attributes were put into consideration to a panel of experts who eliminated 25 attributes due to ambiguity or lack of clarity.

Later, they made a taxonomic homologation of the definitions, supported on a wide list of authors including (Maslow, 1943), (Ryan & Deci, 2000), (Deci & Ryan, 1985), (Lim, et al., 2003). Subsequently, researchers validated the theoretical findings with other business leaders such as (Lichtenwalner, 2010), (Patterson, et al., 2003), (Wong & Davey, 2007), (Morris, et al., 2005), (Winston & Fields, 2015) who agreed on the fact that there was a strong similarity between level 5 leadership and servant leadership.

Thus, researchers constructed a pool of items to analyze:

“74 attributes of Level 5 leaders, taken from Collins’s literature, speeches, and interviews; and then affirmed by the experts; 10 items from the servant leadership scale (Winston & Fields, 2015); Eight questions that Collins claimed can identify Level 5 leaders (Collins, 2006), (Reid, et al., 2014, p. 23)”

After performing the factor analysis, researchers removed items with values below 0.5 and cross-loaded items. Therefore, the personal humility dimension ended with 30 attributes and the professional will with 19. After that, researchers shortened the scale by removing duplicate concepts with lower factor loading and those with an Alpha Cronbach lower than ,900. The result became in the construction of the Level 5 Leadership Scale (L5LS) 10-item instrument that showed Cronbach alphas equaled ,83 for personal humility and .83 for professional (Reid, et al., 2014, p. 29)., where an average score of at least 7.5 for both the personal humility and professional will items indicates a level 5 leader.

An average of less than 7.5 on either indicates a lack of level 5 leadership, then, as Jim Collins, (Collins, 2005) considered only a binary category for level 5 leaders all scores above the average are 5 level leaders, and all scores below are not.

Current reliability test

Cronbach's Alpha was applied to the instrument in a sample of 103 participants. A coefficient of .944 was observed ($M = 79.49$; $SD = 18.02$). Subsequently, a reliability test was performed to the dimensions independently. Personal humility presented a Cronbach's Alpha of .919 ($M = 38.33$; $SD = 10.49$) and Professional Will showed a Cronbach's Alpha coefficient of .913 ($M = 41.16$; $SD = 8.52$).

Table 21: Current Level 5 reliability test

| FACTOR | CRONBACH'S ALPHA | STANDARD DEVIATION | MEAN |
|--------------------------|-------------------------|---------------------------|-------------|
| Personal Humility | .919 | 10.49 | 38.33 |
| Professional Will | .913 | 8.52 | 41.16 |

Source: Own construction

Communication Satisfaction Questionnaire

Several instruments have been designed to understand the impact communication has on the organizational environment such as the International Communication Association Communication Audit (Goldhaber & Krivonos, 1977), Organizational Communication (Roberts & O'Reilly, 1974), the Interpersonal Communication Relationship Inventory (Bienvenu, 1971).

Having considered the analysis of communication satisfaction as a phenomenon related to job satisfaction, not as a part of a single dimension, but the result of a multidimensional construct, has been a great theoretical contribution to the understanding of the topic, and perhaps, one of the greatest strengths for this tool. It has allowed researchers not only to observe employee's positions at different levels of satisfaction that go beyond understanding whether employees are satisfied or dissatisfied with a global communication, but also to express the results in a more precise way at specific dimensions. Due to this fact, and regarding the level of use and solidity, the CSQ is considered as the best tool for measuring communication satisfaction in organizations (Clampitt & Downs, 1993, p. 6).

The development of the CSQ is the result of a study carried out in three stages (Downs & Hazen, 1977). The first stage started from a pool of 88 items of a seven-point scale where "very satisfied" and "very dissatisfied" were the extreme answering options. The questionnaire was

answered by 181 employees at the managerial and professional level, linked to organizations in various fields of the industry. Subsequently, researchers performed a data analysis and an item validity analysis. The initial result yielded 10 factors, of which only factors that had more than one primary loading above 0.50 were considered, each accounted for at least 4% of the original variance. In this way, 7 dimensions of communication satisfaction were chosen, namely:

- Satisfaction with communication climate: employees are assumed to relate the organizational climate when they are asked about their perception on communication at the workplace. In this dimension, from the organizational level, communication is considered as a motivating element to achieve the institutional objectives; while from the personal level, leaders are interested in the reality and welfare of the employee.
- Satisfaction with superiors: in this dimension, employees perceive communication in terms of the interest superiors have with subordinates to listen to them, talk to them, and give instructions to solve problems related to tasks.
- Satisfaction with organizational integration: the dimension measures the perception employees have on the information they receive about the organization and the job environment.
- Satisfaction with media quality: the dimension is related to the perception employees have on the effectiveness of the media used by the organization to share information.
- Satisfaction with horizontal informal communication: the dimension explores the degree of perception that employees have in terms of the fluency in the use of informal communication with their colleagues.
- Satisfaction with general organizational perspectives: this dimension reflects the degree of perception that the employee has about the organizational information related to the operation of the organization, such as their financial standings, plans and projects, among others.
- Satisfaction with communication with subordinates: Expresses the degree of perception that they have regarding upward and downward communication between employees and supervisors.

The result of this exercise allowed to verify that communication satisfaction is multidimensional. Based on the verification of this hypothesis, and observing the statistical analysis of the data, researchers elaborated an eight-factor questionnaire composed of

communication climate, personal feedback, organizational integration, corporate perspective communication with superiors, communication with subordinates, informal communication, and media quality.

During the second stage, the reliability of the instrument was measured, for which, the document was administered twice to a sample of 20 subjects, with a week time interval, resulting in a coefficient of reliability of .94. Subsequently, the questionnaire was administered to 510 subjects from 4 different firms. After performing the statistical analysis, the stability of the questionnaire could be demonstrated. Finally, during stage 3, the researchers measured the correlations between communication satisfaction and job satisfaction. The analysis of the stage 3 allowed researchers to conclude that situations between the organizations and their employees varied according to the organization; additionally, it was possible to verify that the communication satisfaction dimensions with the highest correlation with job satisfaction are personal feedback, relation with supervisor, and communication climate.

Current reliability test

Communication satisfaction questionnaire has been widely applied and has shown a consistent Cronbach's Alpha coefficient in its original English language. Nevertheless, as data were collected in a Spanish speaking environment, the questionnaire was translated and reviewed by a panel of experts, subsequently, it was administered to 103 participants. The original questionnaire had 8 dimensions, however, as the dimension *relationship with subordinates* was directed to participants who had people in charge, just a few questions were answered; therefore, the decision to remove the dimension was made. Thus, items number 36, 37, 38, 39, and 40 were removed; consequently, the final questionnaire consisted of 7 dimensions and 35 questions.

Data was analyzed on IBM SPSS Statistics 22; the reliability test provided 103 valid cases, none being excluded, and the general Cronbach's Alpha was .976 (M=179.78; SD=40.55).

The Cronbach's Alpha per dimension also presented highly acceptable coefficients, as shown in the table.

Table 22: Current Communication Satisfaction Questionnaire reliability test

| DIMENSION | CRONBACH'S ALPHA | STANDARD DEVIATION | MEAN | ITEMS |
|------------------------------|-------------------------|---------------------------|-------------|--------------|
| Communication climate | .929 | 7.05 | 25.35 | 5 |

| | | | | |
|-------------------------------------|------|------|-------|---|
| Relationship with supervisor | .883 | 5.97 | 27.64 | 5 |
| Organisational integration | .864 | 5.96 | 25.77 | 5 |
| Media quality | .930 | 6.58 | 26.27 | 5 |
| Horizontal communication | .880 | 6.19 | 25.90 | 5 |
| Corporate perspective | .883 | 6.98 | 25.20 | 5 |
| Personal feedback | .884 | 6.96 | 23.63 | 5 |

Source: Own construction

Job Satisfaction Survey

Existing instruments to measure job satisfaction presented critical weaknesses; for instance, they provided an incomplete range of dimensions required for the studies; similarly, they had an excess of items; also, they were not designed to be used in the service sector; as a consequence, the Job Satisfaction Survey instrument (JSS) was developed (Smith, et al., 1969), (Spector, 1985). The JSS was designed to cover 9 facets, which resulted in a broader spectrum for the understanding of variables of job satisfaction. For the development of the instrument, a sample of 3,148 from different companies from human services, public, and non-profit sector, or organization, was used. Finally, to obtain the 9 subscales, 5 domains were evaluated, as shown in the table.

Table 23: Job Satisfaction Survey

| MEASURES | |
|---------------------------|--|
| DIMENSION | INSTRUMENT |
| Organizational Commitment | The Organizational Commitment Questionnaire (Mowday, et al., 1979) |
| Job Characteristic | The Job Diagnostic Survey (Hackman & Oldham, 1975) |
| Leader Behavior | The Leader Behavior Descriptive Questionnaire (Stogdill, 1963) |
| Employee Withdrawal | 6-Point Scale Measurement: turnover, intention and quitting job (Spector, 1985, p. 697) |
| Personal Characteristics | A single Self Report Question: Age, Annual Salary and Level in the Organisation Were Measure (Spector, 1985, p. 698) |

Source: Adapted from: (Spector, 1985)

As a result, 9 facets were selected: Satisfaction with Pay, Promotional Opportunity, Fringe Benefits, Contingent Rewards, Supervision, Co-Workers, Nature of Work itself, Communication, and Work Conditions; 74 items of these facets were initially assessed in a 6-point Likert scale, in a small pilot test of 49 participants. After that, items that presented a part-

whole of less than .45 were removed, and 2 more were added to build the instrument with 36 items. Subsequently, with a 2,780 sample, a high internal consistency reliability was obtained between .60 and .78 for all subscales, and .91 for the total scale. Nevertheless, at the test-retest, taken 18 months later, the subscales ranged between .37 and .74, and the total scale was .71, which was considered acceptable by the author because the sample was just 43 from an organization affected by some changes during that 18-month period. Similarly, correlations were all highly acceptable ($r > .26$) for both Test and Test retest (Spector, 1985).

Table 24: Job Satisfaction Survey reliability test

| SUBSCALE | MEAN INTER ITEM CORRELATION | COEFFICIENT ALPHA | TEST-RETEST RELIABILITY |
|----------------------|-----------------------------------|----------------------|----------------------------|
| Pay | .43 | .75 | .45 |
| Promotion | .40 | .73 | .62 |
| Supervision | .53 | .82 | .55 |
| Benefits | .40 | .73 | .37 |
| Contingent Rewards | .44 | .76 | .59 |
| Operating Procedures | .29 | .62 | .74 |
| Co-workers | .33 | .60 | .64 |
| Nature of Work | .50 | .78 | .54 |
| Communication | .38 | .71 | .65 |
| Total Satisfaction | .21 | .91 | .71 |
| <i>n</i> | 2,870 | 2,870 | .43 |

Source: Adapted from (Spector, 1985).

The JSS consists of nine facets of 4 items each of them:

Table 25: Job Satisfaction Survey

| FACET NAMES, DESCRIPTIONS AND ITEMS FOR THE JOB SATISFACTION SCALE | | |
|--|--------|--|
| FACET | ITEMS | |
| | Number | Statement |
| Pay (Satisfaction with pay and pay raises) | 1 | I feel I am being paid a fair amount for the work I do |
| | 10 | Raises are too few and far between |
| | 19 | I feel appreciated by the organization when I think about what they pay me |
| | 28 | I feel satisfied with my chances for salary increases |
| Promotion | 2 | There is really too little chance for promotion on my job |
| | 11 | Those who do well on the job stand a fair chance of being promoted |
| | 20 | People get ahead as fast here as they do in other places |
| | 33 | I am satisfied with my chances for promotion |

| | | |
|--|----|--|
| (Satisfaction with promotion opportunities) | | |
| Supervision (Satisfaction with person's immediate supervisor) | 3 | My supervisor is quite competent in doing his/her job. |
| | 12 | My supervisor is unfair to me |
| | 21 | My supervisor shows too little interest in the feelings of subordinates |
| | 30 | I like my supervisor |
| Fringe Benefits (Satisfaction with fringe benefits) | 4 | I am not satisfied with the benefits I receive |
| | 13 | The benefits we receive are as good as most other organizations offer |
| | 22 | The benefit package we have is equitable |
| | 29 | There are benefits we do not have which we should have |
| Contingent Rewards (Satisfaction with rewards -not necessarily monetary- given for good performance) | 5 | When I do a good job, I receive the recognition for it that I should receive |
| | 14 | I do not feel that the work I do is appreciated |
| | 23 | There are few rewards for those who work here |
| | 32 | I don't feel my efforts are rewarded the way they should be |
| Operating Conditions (Satisfaction with rules and procedures) | 6 | Many of our rules and procedures make doing a good job difficult |
| | 15 | My efforts to do a good job are seldom blocked by red tape |
| | 24 | I have too much to do at work |
| | 31 | I have too much paperwork |
| Co-workers Satisfaction with co-workers | 7 | I like the people I work with |
| | 16 | I find I have to work harder because of the incompetence of people I work with |
| | 25 | I enjoy my co-workers |
| | 34 | There is too much bickering and fighting at work |
| Nature of Work (Satisfaction with the type of work done) | 8 | I sometimes feel my job is meaningless |
| | 17 | I like doing the things I do at work |
| | 27 | I feel a sense of pride in doing my job |
| | 35 | My job is enjoyable |
| Communication (Satisfaction with communication within the organization) | 9 | Communications seem good within this organization |
| | 18 | The goals of this organization are not clear to me |
| | 26 | I often feel that I do not know what is going on with the organization |
| | 36 | Work assignments are not fully explained |

Source: (Spector, 1997, p. 8)

The JSS has been widely administered (Mesarosova, 2016), (Ofei-Dodoo, et al., 2018), (Alharbi, et al., 2016), (Malik & Yukun, 2019), and translated into a number of languages (Spector, 2018).

Current reliability test

During the current research, the total scale of the Spanish translation of JSS was tested on IBM SPSS Statistics 22 and had a consistent Cronbach's Alpha coefficient of .865 (M=69.17; SD=12.09). All facets had a reliable Alpha coefficient, except for the facet *operating procedure* that had a low Cronbach's Alpha of .460 (M=13.82; SD=3.85). Similarly, for results on translations and administrations to other languages, the facet operating procedure has shown a weak Cronbach's Alpha coefficient at several reliability tests; yet, the reliability of the questionnaire has been recognized as satisfactory (Tsounis & Sarafis, 2018), (Lamond & Spector, 2000).

The Cronbach's Alpha for each facet also presented highly acceptable coefficients, as shown in the table.

Table 26: Current Job Satisfaction Survey reliability test

| FACET | CRONBACH'S ALPHA | MEAN | ST. DEVIATION | ITEMS |
|-----------------------------|-------------------------|-------------|----------------------|--------------|
| Pay | .812 | 15.43 | 4.89 | 4 |
| Promotion | .630 | 15.07 | 4.02 | 4 |
| Supervision | .746 | 19.06 | 3.92 | 4 |
| Benefits | .730 | 15.17 | 4.59 | 4 |
| Contingent Rewards | .746 | 15.78 | 4.58 | 4 |
| Operating Procedures | .460 | 13.82 | 3.84 | 4 |
| Co-workers | .756 | 19.34 | 3.54 | 4 |
| Nature of Work | .732 | 20.94 | 3.12 | 4 |
| Communication | .607 | 16.48 | 3.98 | 4 |

Source: Own construction

Internet-Based Communication Satisfaction Questionnaire (Construction and design)

As stated before, CMC has shown a great expansion in organizations, as a consequence, the Internet-Based communication technology has become crucial; hence, the aim of the current instrument is to measure how employees perceived communication when the Internet-Based communication is not used by the leaders; the instrument merges the CMC with the following definitions of communication satisfaction:

Redding (1978, p. 429) considers the communication satisfaction as a general degree of satisfaction related to the employee's perception over the whole communication atmosphere; Thayer (1968, p. 144), enriches the concept by arguing that communication satisfaction is the result of successful communication fulfilment; finally, based on work environment, Putti, Aryee, and Phua (1990, p. 45), agree on suggesting that communication satisfaction is the "available information that fulfills the individual's requests for information pertaining to the task-role or for simply being about organizational activities".

Consequently, the author summarizes the previous approaches in 3 main aspects related to the message itself, the organizational climate, and the task; consequently, the questionnaire evaluates the fluency of the information, clarity of the message, task fulfilment, organizational goal fulfilment, and the job atmosphere by observing the employees' relationships with others, as critical issues of the communication satisfaction.

A set of questions was developed that resulted in a total of 15:

1. It is necessary for my immediate boss to use Internet-based communication channels.
2. My boss knows how to use the Internet-based communication channels.
3. My boss frequently uses Internet-based communication channels.
4. I feel more comfortable if my boss uses Internet-based communication channels.
5. The communication is not fluid if my boss does not use the Internet-based communication channels.
6. The information is not clear if my boss does not use the Internet-based communication channels.
7. The feedback is not clear when done via Internet-based communication channels.
8. The tasks are difficult for me if my boss does not feed me through the Internet-based communication channels.
9. Instructions to fulfill the tasks are not accurate via Internet-based communication channels.
10. The fulfillment of the goals is delayed if my boss does not use the Internet-based communication channels.

11. The organization communicates the policies for the use the Internet-based communication channels.

12. The relationship with my colleagues is not pleasant if my boss does not use the Internet-based communication channels.

13. The communication is effective via Internet-based communication channels.

14. The horizontal communication is effective via Internet-based communication channels.

15. I feel demotivated when the communication is done via Internet-based communication channels.

Subsequently, questions were put into the consideration of a panel of experts that consisted of 4 research lectures in the field of HRM at the Faculties of Economics Sciences from the University of Antioquia and El Politécnico Colombiano JIC in Medellín, Antioquia, Colombia.

In consensus, the panel of experts determined to eliminate 8 items since they were considered inaccurate, redundant, weak, duplicated, or outside the purpose of the study.

In this way, the deleted items were:

1. My boss knows how to use the Internet-based communication channels.

2. My boss frequently uses Internet-based communication channels.

3. I feel more comfortable if my boss uses Internet-based communication channels.

4. The feedback is not clear when done via Internet-based communication channels.

5. The organization communicates the policies for the use Internet-based communication channels.

6. The communication is effective via Internet-based communication channels.

7. The horizontal communication is effective via Internet-based communication channels.

8. I feel demotivated when the communication is done via Internet-based communication channels.

Experts that 8 of the items were weak and did not respond to the aim of the study.

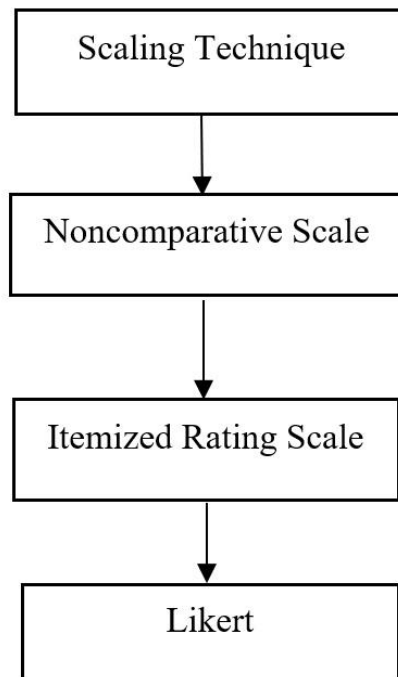
As a result of the exercise, the following items were agreed:

1. It is necessary for my immediate boss to use Internet-based communication channels.
2. I feel more comfortable if my boss uses Internet-based communication channels.
3. The communication is not fluid if my boss does not use Internet-based communication channels.
4. The information is not clear if my boss does not use Internet-based communication channels.
5. The tasks are difficult for me if my boss does not feed me through Internet-based communication channels.
6. The fulfillment of the goals is delayed if my boss does not use Internet-based communication channels.
7. The relationship with my colleagues is not pleasant if my boss does not use Internet-based communication channels.

In this way, the result was a 7 item-questionnaire based on a scaling technique from 1 to 5:

First item reduction

Figure 9: Scaling Technique



Source: adapted from (Malhotra, 2010, p. 257)

The scaling technique used was noncomparative, since the purpose of the research is not to compare groups to other groups or any standard, in addition, each object responded to independent scales (Malhotra, 2010, p. 257). For this purpose, itemized rating scales were adopted. Participants chose the option that best fit their perceptions related to questions given. In this design, the Likert scale from 1 to 5 was used to ask employees how in agreement or disagreement they were with the requests made (Likert, 1932). The use of the Likert scale evaluated attitudes related to the use of Internet-based communication channel in terms of communication satisfaction. During the design of the scale, special attention was given in reversing scores since affirmative or negative questions were asked on purpose. At this point, it is a need to clarify that attitudes refers to “evaluative statements—either favorable or unfavorable—about objects, people, or events. They reflect how we feel about something. When I say, -I feel more comfortable-” (Robbins & Judge, 2013, p. 70).

On a scale of 1 to 5, One (1) indicates that you completely disagree, whereas five (5) indicates that you completely agree.

1. Strongly disagree 2. Disagree 3. Neutral 4. Agree 5. Strongly Agree

1. It is necessary for my immediate boss to use Internet-based communication channels.
2. I feel more comfortable if my boss uses Internet-based communication channels.
3. The communication is not fluid if my boss does not use Internet-based communication channels.
4. The information is not clear if my boss does not use Internet-based communication channels.
5. The tasks are difficult for me if my boss does not feed me via Internet-based communication channels.
6. The fulfillment of goals is delayed if my boss does not use the Internet-based communication channels.
7. The relationship with my colleagues is not pleasant if my boss does not use the Internet-based communication channels.

Sample

The sample for the design and reliability tests of the questionnaire was Colombian employees from SMEs from the service sector.

Reliability Test - Retest

The reliability of the instrument was measured by applying the test -retest.

First, the instrument was tested on 34 participants working for a service sector organization:

Table 27: Test

| Case Processing Summary | | | |
|--------------------------------|-------|-----------------------|-----------|
| | | N | % |
| Cases | Valid | 34 | 100.0 |
| Excluded ^a | | Excluded ^a | 0 |
| Total | | Total | 34 |

| Reliability Statistics | |
|-------------------------------|------------|
| Cronbach's Alpha | N of Items |
| .770 | 7 |

The Cronbach's Alpha coefficient for the test was .770 (M=19.38, SD=5.37) which is considered acceptable for the study.

One month later, the questionnaire was retested. It was administered to the same 34 employees.

Table 28: Retest

| Case Processing Summary | | | |
|--------------------------------|-------|-----------------------|-----------|
| | | N | % |
| Cases | Valid | 33 | 97.1 |
| | | Excluded ^a | 1 |
| Total | | Total | 34 |

| Reliability Statistics | |
|-------------------------------|------------|
| Cronbach's Alpha | N of Items |
| .838 | 7 |

The Cronbach's Alpha coefficient for the retest was ,838 (M=,838, SD=5,70) and one case was excluded.

The questionnaire showed a reliable Cronbach's Alpha coefficient:

Table 29: Test-Retest results

| Cronbach's Alpha coefficient | |
|-------------------------------------|------|
| Test | .770 |
| Retest | .838 |

Subsequently, the questionnaire was administered a sample of 103 participants, (a process that was previously documented), and the Cronbach's Alpha coefficient was measured again.

Table 30: Retest

| Case Processing Summary | | | |
|-------------------------|-------|-----------------------|-------|
| | | N | % |
| Cases | Valid | 103 | 100.0 |
| Excluded ^a | | Excluded ^a | 0 |
| Total | | Total | 103.0 |

| Reliability Statistics | | |
|------------------------|----------------|------------|
| Cronbach's Alpha | | N of Items |
| .857 | | 7 |
| Scale Statistics | | |
| Mean | Std. Deviation | Items |
| 19.33 | 5.86 | 7 |

The result was a Cronbach's Alpha coefficient of .857 (M = 19.33; SD = 5.86)

The Item-Total statistics for the instrument was:

Table 31: Item-Total statistics

| Item-Total Statistics | | | | |
|--|----------------------------|--------------------------------|----------------------------------|----------------------------------|
| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Cronbach's Alpha if Item Deleted |
| 1. It is necessary for my immediate boss to use Internet-based Communication channels. | 15.068 | 28.240 | .457 | .858 |
| 2. I feel more comfortable if my boss uses Internet-based communication channels. | 15.466 | 28.330 | .460 | .858 |
| 3. The communication is not fluid if my boss does not use Internet-based communication channels. | 16.796 | 25.399 | .603 | .840 |
| 4. The information is not clear if my boss does not use Internet-based communication channels. | 17.049 | 25.223 | .735 | .821 |
| 5. The tasks are difficult for me if my boss does not feed me via Internet-based communication channels. | 17.243 | 24.048 | .730 | .820 |

| | | | | |
|---|--------|--------|------|------|
| 6. The fulfillment of goals is delayed if my boss does not use the Internet-based communication channels. | 16.913 | 23.786 | .699 | .825 |
| 7. The relationship with my colleagues is not pleasant if my boss does not use the Internet-based communication channels. | 17.447 | 25.897 | .680 | .829 |

Source: Own construction

Second item reduction

Observing the Corrected Item-Total Correlation, items 1 and 2 (*1. It is necessary for my immediate boss to use Internet-Based communication channels and 2. I feel more comfortable if my boss uses Internet-Based communication channels*) tested a low reliability with an Alpha's Cronbach coefficient below .5; consequently, items were withdrawn.

After removing items 1 and 2, SPSS was run again:

Table 32: Reliability test 5-items

| Case Processing Summary | | | |
|-------------------------|-------|-----------------------|-------|
| | | N | % |
| Cases | Valid | 103 | 100.0 |
| Excluded ^a | | Excluded ^a | 0 |
| Total | | Total | 103 |

| Reliability Statistics | |
|------------------------|------------|
| Cronbach's Alpha | N of Items |
| .880 | 5 |

| Scale Statistics | | |
|------------------|----------------|-------|
| Mean | Std. Deviation | Items |
| 10.83 | 4.82 | 5 |

The result was a Cronbach's Alpha coefficient of ,889 (M = 10.83, SD = 4,82).

The final questionnaire presented the following results:

Table 33: 5-Items Total Statistics

| Item-Total Statistics | | | | |
|-----------------------|----------------------------|--------------------------------|----------------------------------|----------------------------------|
| Items | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Cronbach's Alpha if Item Deleted |

| | | | | |
|---|-------|--------|------|------|
| 3. The communication is not fluid if my boss does not use the Internet-based communication channels. | 8.670 | 16.361 | .585 | .885 |
| 4. The information is not clear if my boss does not use the Internet-based communication channels. | 8.922 | 15.876 | .771 | .843 |
| 5. The tasks are difficult for me if my boss does not feed me through the Internet-based communication channels. | 9.117 | 14.771 | .782 | .838 |
| 6. The fulfillment of goals is delayed if my boss does not use the Internet-based communication channels. | 8.786 | 14.856 | .709 | .857 |
| 7. The relationship with my colleagues is not pleasant if my boss does not use the Internet-based communication channels. | 9.320 | 16.161 | .750 | .848 |

Source: Own construction

Scoring key:

The complete impact of the questionnaire is obtained by summing the mean of every question and dividing by 5 (grand mean), then the values are rounded to the nearest whole number. Subsequently, the scores will be interpreted according to the scales:

Table 34: Scoring interpretation

| Scale | | Interpretation |
|--------------|--------------------------|--|
| 1 | Strongly disagree | Employees have a strong perception that the lack of use of Internet-based communication by the boss does not affect communication satisfaction |
| 2 | Disagree | Employees perceive that the absence of Internet-based communication by the boss does not affect communication satisfaction |
| 3 | Undecided | The employees perceive a neutral position about the impact that the non-use of Internet-based communication channels by the boss has on communication satisfaction |
| 4 | Agree | Employees perceive that the absence of Internet-based communication by the boss affects communication satisfaction |

| | | |
|---|----------------|--|
| 5 | Strongly agree | Employees have a strong perception that the lack of use of Internet-based communication by the boss affects communication satisfaction |
|---|----------------|--|

Source: Own construction

Translation process of questionnaires into Spanish

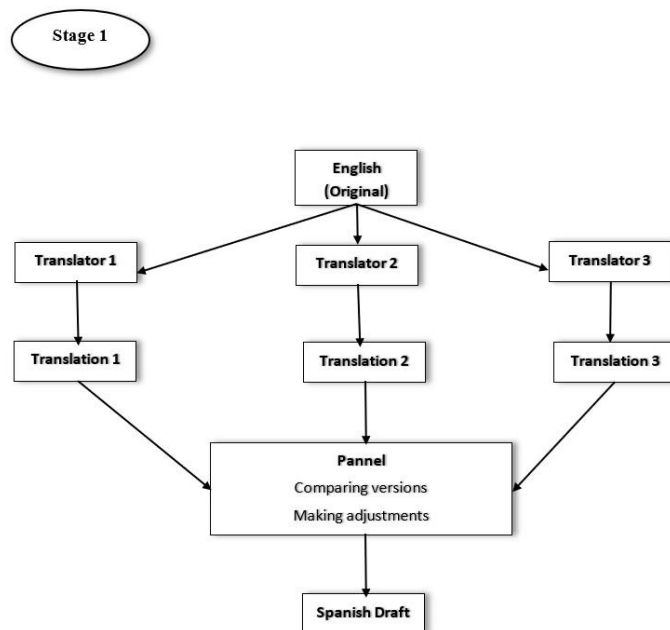
For the translation of the questionnaires the forward-backward translation method was applied for all questionnaires. It is a method of translating scientific measurement questionnaires that has been widely used (Guillemin, et al., 1993), (Yu, et al., 2004), (Tsang, et al., 2017). The JSS questionnaire had a Spanish version suggested by the authors of the instrument, carried out by Conrado Marion-Landais (Spector, 2018), then, later contrasted with the Spanish draft.

All the process was developed in 5 stages:

Stage 1: Forward translation

Six translators graduated from Colombian universities were invited to do the translation individually. Three of the translators were given the questionnaires in English to perform the forward translation. Once the translation was finished, the translators discussed about them, and delivered a first draft. At this stage, the Spanish draft was compared with the Spanish version of the JSS questionnaire suggested by the authors of the instrument.

Figure 10: Stage 1

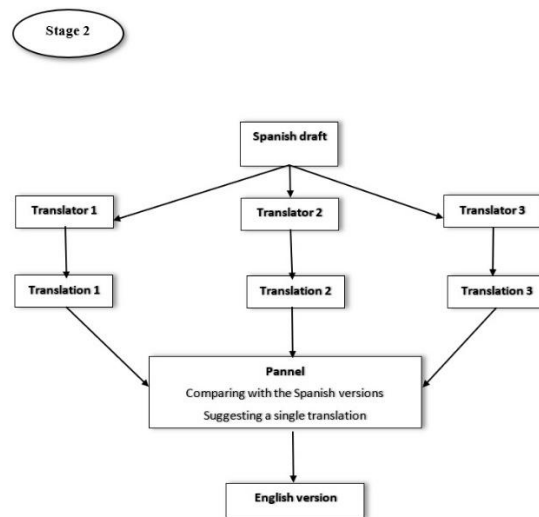


Source: Own construction

Stage 2: Backward translation

Subsequently, the Spanish translation was delivered to the other three translators who, after carrying out the translation process individually, discussed about the translations, contrasted them with the original, and delivered a single English version.

Figure 11: Stage 2



Source: Own construction

Stage 3: Committee review

After that, the six translators gathered and debated the inconsistencies between forward and backward translations. Participants made the necessary decisions to adopt the translation that best fit the reality of the context of the sample. They also reviewed the syntax, grammar, vocabulary, and spelling of the text.

At this stage, it is important to highlight that the CSQ instrument presented an intense debate regarding the translation of the term “extend to”, which after being analyzed as a degree rather than a level of measurement, it was decided to translate it as “grado en que...” for the Colombian context.

Stage 4: Expert review

The document was reviewed by three expert researchers in the field of human resources and organizational behaviour who evaluated the semantics and pragmatics of the final questionnaire to be administered in the Colombian work environment.

Stage 5: Pre-testing

The questionnaires were administered to a sample of 33 participants; Subsequently, the Cronbach's Alpha coefficient was used to measure reliability.

The results are in the following table:

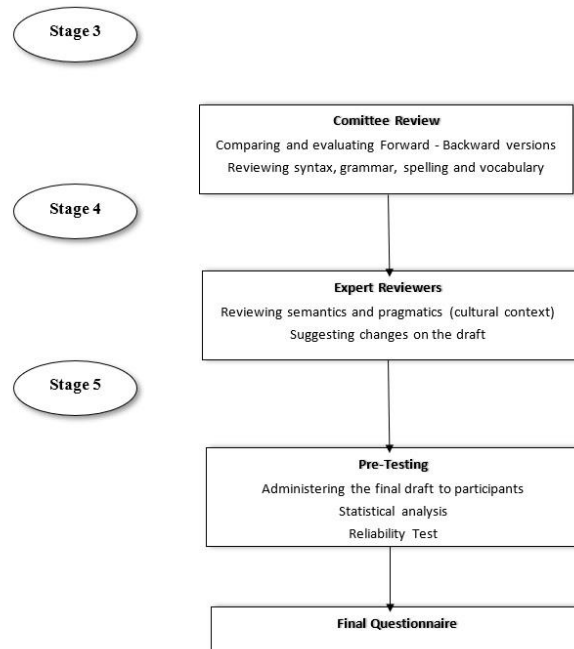
Table 35: All instruments reliability tests

| QUESTIONNAIRE | ALPHA COEFFICIENT | MEAN | STANDARD DEVIATION | NUMBER ITEMS |
|---------------|-------------------|--------|--------------------|--------------|
| L5S5 | .939 | 87.42 | 12.34 | 10 |
| MLQ | .875 | 128.55 | 17.55 | 45 |
| CSQ | .963 | 188.36 | 31.78 | 35 |
| JSS | .884 | 150.12 | 20.59 | 36 |

Source: Own construction

Finally, after observing the reliability of the questionnaires, the translations of the instruments to be administered in the research were not rejected.

Figure 12: Stages 3, 4, and 5



Source: Own construction

Sampling

For this study, the probability sampling technique was used, since it is agreed that it is a reliable technique to be applied when highly precise information is required to understand a phenomenon (Malhotra, 2010, p. 359).

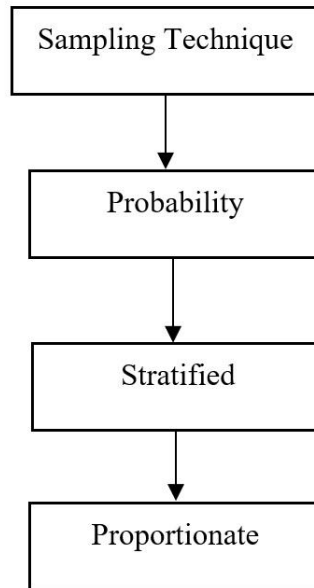
As the purpose of this research does not belong to a case study, different ways to take the perceptions of employees who worked for four different organizations were sought. The selection of organizations was based on three basic characteristics: the first one was that they were organizations from the service sector, the second one was that they were small and medium-sized enterprises, and the third that they were located in the same country.

For this reason, a proportional stratified sampling was constructed, since it was considered that the use of it would guarantee accurate divisions of the relevant subgroups (Strata / Stratum) (Gay, et al., 2012, p. 133).

Thus, each organization represented a subgroup. Subsequently, given the fact that every possible candidate had an equal probability of selection to participate, the simple random sampling technique was utilized in every stratum, which guaranteed that every participant was selected independently of the other participants, as well as a reliable procedure that responded to a proportional stratified sampling (Malhotra, 2010, p. 350); consequently, an equal representation in proportion for every stratum of the population was guarantee (Gay, et al., 2012, p. 133).

The stratum 1, consisted of staff employed by the organization 1, the stratum 2 were employed by the organization 2, the stratum 3 from the organization 3, and the stratum 4 were employees working for the organization 4.

Figure 13: Sample technique



Source: Own construction

In order to calculate the sample size by simple random sampling design for finite populations with two response options, it was calculated with the following formula:

$$n = Z_{\alpha}^2 \frac{N * p * q}{E^2 * (N - 1) + Z_{\alpha}^2 * p * q}$$

The procedure for each of the organizations gave the following result:

Stratum 1

By replacing the values established in the equation with a proportion (p), and (q) of 50% each, a sampling error (E) of 0.05, a confidence level (Z) of 95%, which in a normal distribution with two tails has a reference value of 1.96, a sample size (n) of 34 participants was calculated out of a total population (N) of 37.

Table 36: Sample size Stratum 1

| | | |
|---|-----------------------------|------|
| P | Proportion | 50% |
| E | Margin of error | 5% |
| Z | Level of confidence del 95% | 1.96 |
| N | Population | 37 |
| n | Sample size | 34 |

Source: Own construction

Stratum 2

By replacing the values that are established in the equation with a proportion (p), and (q) of 50% each, a sampling error (E) of .05, a confidence level (Z) of 95%, which in a normal distribution with two tails has a reference value of 1.96, a sample size (n) of 29 participants was calculated out of a total population (N) of 31.

Table 37: Sample size Stratum 2

| | | |
|---|-----------------------------|------|
| P | Proportion | 50% |
| E | Margin of error | 5% |
| Z | Level of confidence del 95% | 1.96 |
| N | Population | 31 |
| n | Sample size | 29 |

Source: Own construction

Stratum 3

By replacing the values that are established in the equation with a proportion (p), and (q) of 50% each, a sampling error (E) of 0.05, a confidence level (Z) of 95%, which in a normal distribution with two tails has a reference value of 1.96, a sample size (n) of 16 participants was calculated, out of a total population (N) of 15.

Table 38: Sample size Stratum 3

| | | |
|---|-----------------------------|------|
| P | Proportion | 50% |
| E | Margin of error | 5% |
| Z | Level of confidence del 95% | 1.96 |
| N | Population | 16 |
| n | Sample size | 15 |

Source: Own construction

Stratum 4

By replacing the values that are established in the equation with a proportion (p), and (q) of 50% each, a sampling error (E) of 0.05, a confidence level (Z) of 95%, which in a normal distribution with two tails has a reference value of 1.96, a sample size (n) of 25 participants was calculated, out of a total population (N) of 27.

Table 39: Sample size Stratum 4

| | | |
|---|-----------------|-----|
| P | Proportion | 50% |
| E | Margin of error | 5% |

| | | |
|---|--------------------------------|------|
| Z | Level of confidence del 95% | 1.96 |
| N | Population | 27 |
| n | Sample size | 25 |

Source: Own construction

Finally, the three samples were added, resulting in a general sample of 103 participants.

Table 40: Total sample size

| GENERAL SAMPLE | |
|------------------|------------|
| Stratum 1 | 34 |
| Stratum 2 | 29 |
| Stratum 3 | 15 |
| Stratum 4 | 25 |
| Total | 103 |

Source: Own construction

Sampling process execution

To select the participants, employees were distributed by strata, then, all employees were organized in alphabetical order according to their last names on the database, once organized, each one was given a number. Subsequently, for stratum 1, one (1) was the first person, and 37 was the last one; for stratum 2, 1 was the first person, and 31 was the last one; for stratum 3, 1 was the first person, and 16 was the last one; finally, for stratum 4, 1 was the first person, and 27 was the last one; then, a random number generator tool (CalculatorSoup, LLC, 2019) was used to generate random numbers from the list of each stratum.

The questionnaires were later typed on Microsoft Excel and analyzed on IBM SPSS Statistics 22.

RESULTS

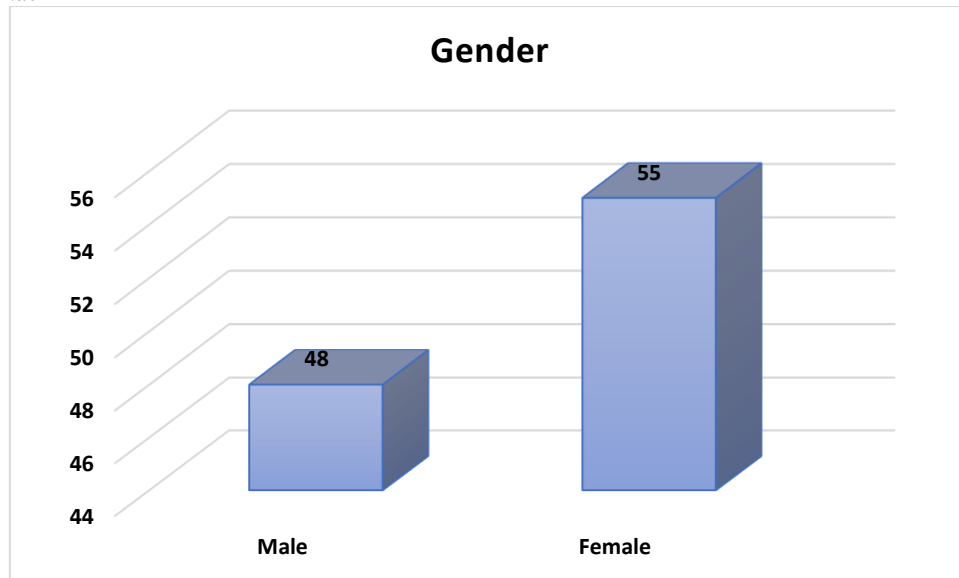
First, before carrying out the analysis of all data, it is necessary to know if the organizations, sample of the study, employ, work, and communicate in an environment mediated by ICTs and Internet-based communication channels.

Socio-demographic results

Regarding the gender, out of the participants who answered the questionnaires (n=103), 46.6% of respondents (n=48) were male and 53.4% (n=55) were female. Job tenure ranged from 1 to

38 years ($M=6.83$, $SD=7.0$), and the time in charge of the same position ranged from 1 to 38 years ($M= 4.90$, $SD=5.99$).

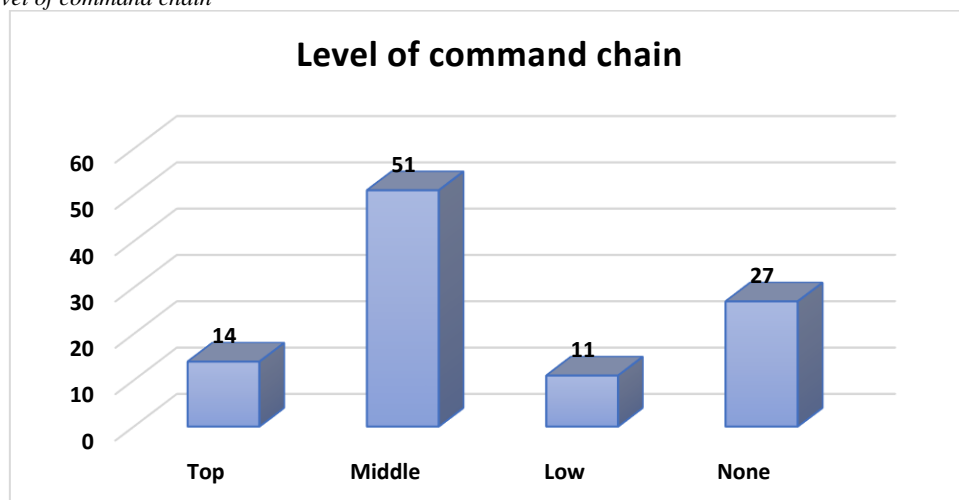
Graph 3: Gender



Source: Own construction

49.5% ($n=51$) belong to the middle level at the chain of command in the organization, 13.6% ($n=14$) to the top level, 10.7% ($n=11$) to the low level of command, and 26.2 % ($n=27$) don't belong to any level of command.

Graph 4: Level of command chain

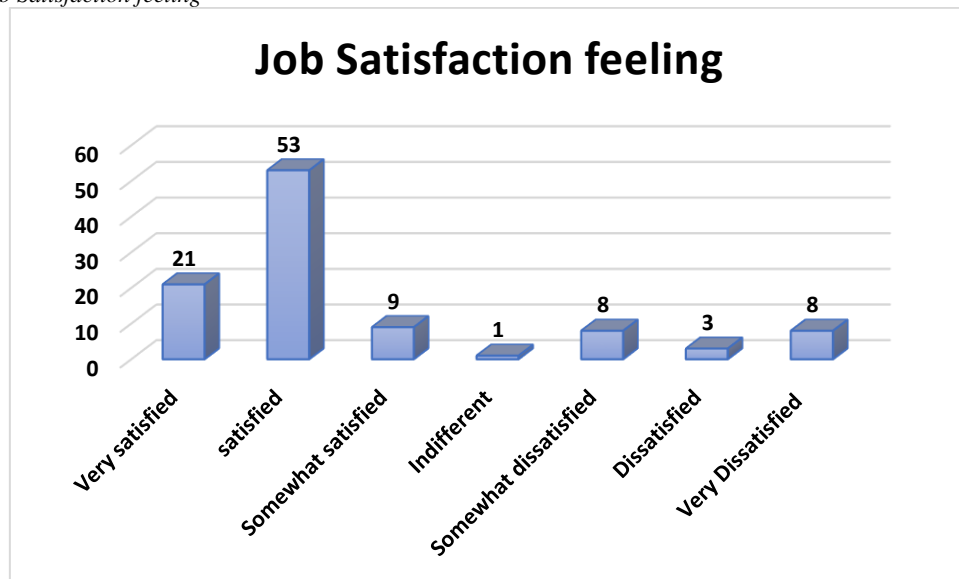


Source: Own construction

The number of daily hours employees spend on the internet or Smart Phone to carry out their work ranges from 0 to 20 ($M=5.39$; $SD=4.02$).

In terms of job satisfaction, participants were asked how satisfied they felt with their work. 51,1% ($n=53$) agree on feeling satisfied, 20,4 ($n=21$) are very satisfied, 7,8% ($n=8$) feel very unsatisfied, 7,8% ($n=8$) are somewhat unsatisfied, 8,7% ($n=9$) feel somewhat satisfied, 2,9% ($n=3$) feels unsatisfied, and 1,0% ($n=1$) is indifferent.

Graph 5: Job Satisfaction feeling

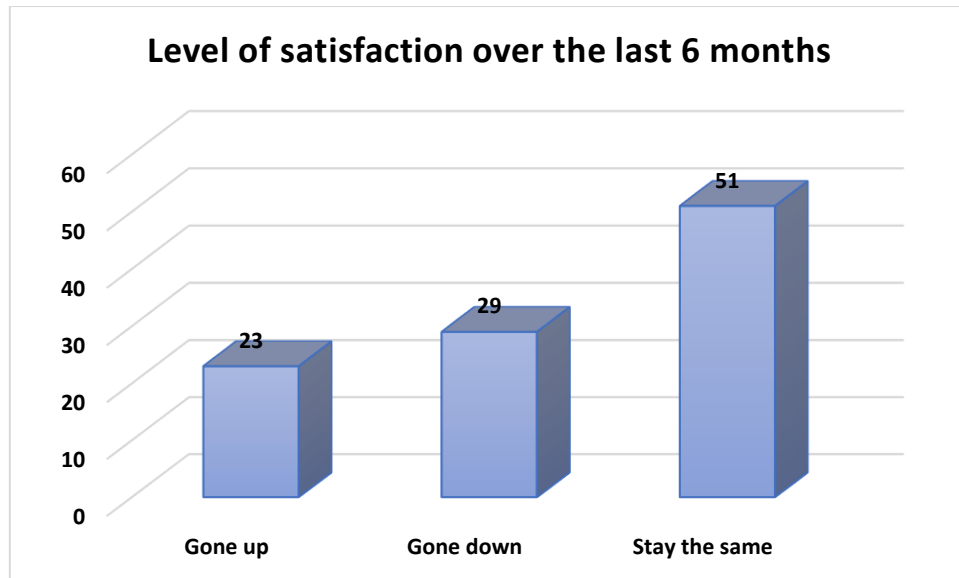


Source: Own construction

Subsequently, they were asked to answer about the behavior of the level of satisfaction over the last 6 months.

49.5% ($n=51$) states that it stayed the same, 28.2% ($n=29$) feel it went down, and 22.3% ($n=23$) say it went up.

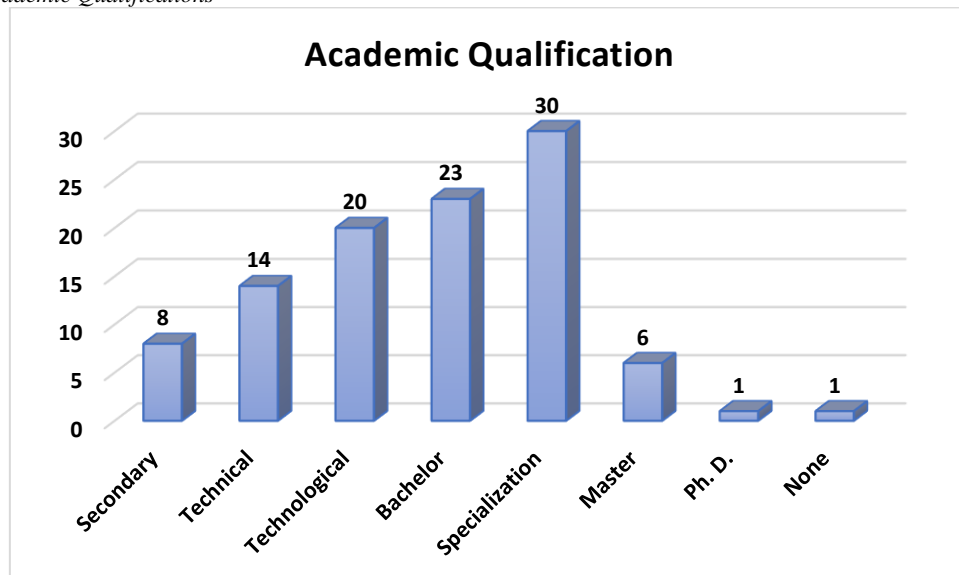
Graph 6: Level of satisfaction over the last 6 months



Source: Own construction

Regarding the highest academic qualifications participants have got, 29% of employees (n=30) have a specialization degree; 22.3% (n=23) answered to have a bachelor degree; 19.4% (n=20) responded to have obtained a specialization degree; 13.6% (n=14) have a technical degree; 7.8% (n=8) replied they have got a secondary degree; 5.9% of participants (5.9%) admitted to have obtained a master degree; just 0.98% (n=1) has obtain a Ph.D. degree, and 0.98% (n=1) has not reached any academic qualification.

Graph 7: Academic Qualifications



Source: Own construction

Internet-based communication at the organizations

To understand the context of Internet-based communication, as well as the use of tools linked to the CMC for the performance of tasks at work, some questions were asked to 103 participants.

To this study, employees responded that they spend an average of 5.4 hours a day using the internet to carry out their work activities; likewise, they assure that 65.4% of the organizational communication is done through the CMCs. The information allows us to infer that ICTs have been sufficiently used by organizations; likewise, that 65.4% of Internet-based communication channels are used for organizational communication is relevant information to understand that Internet-based communication is the predominant way in these organizations.

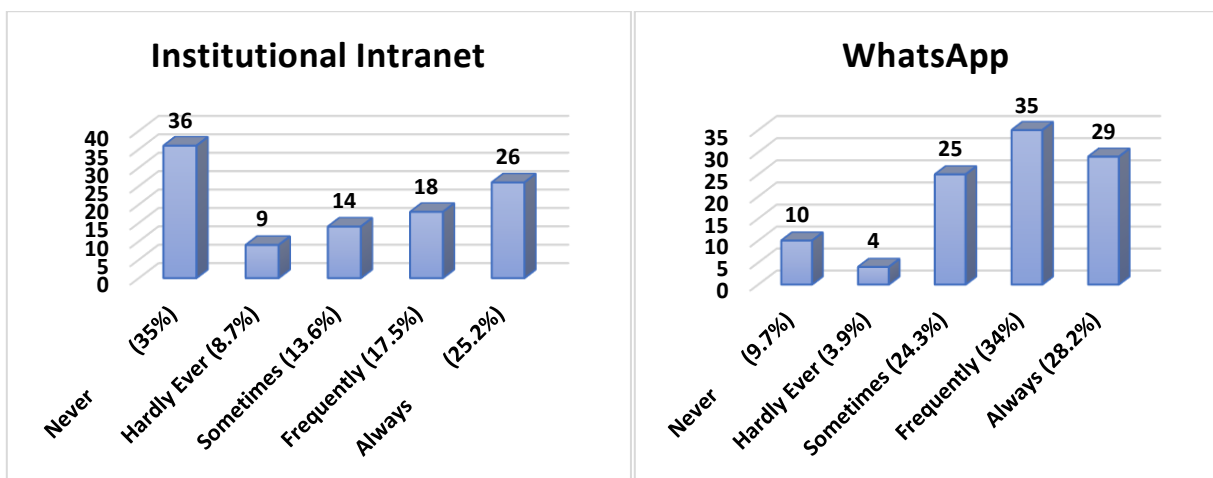
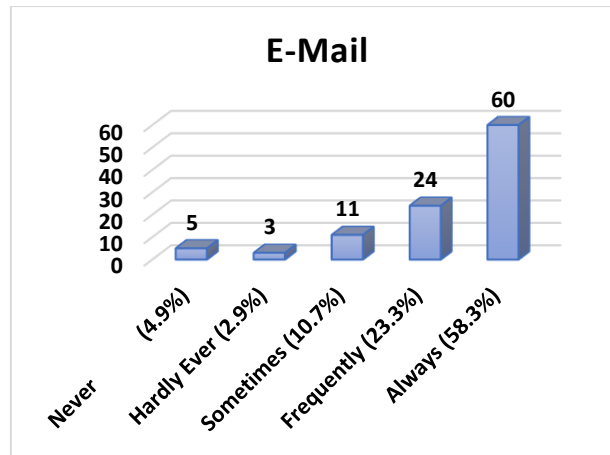
As additional information to support the previously mentioned data, participants were also asked what the most used Internet-based communication tools for the communication and execution of the tasks were. The results are shown below.

The 103 participants answered that WhatsApp, E-mail and the Institutional Intranet were the most widely used tools. According to employees, E-mail was the most used Internet-based tool for communication within the organization, 58.3% said they always used it, while 23.3% used it frequently, 11% used it sometimes, 2.9% hardly ever used it, and 4.9% answered that they never used it.

Regarding WhatsApp, it was observed that 28% of participants admitted they always used it for organizational communication purposes, 34% said they used it frequently, 24.3% answered that they sometimes used it, while a low percentage of 3.9 hardly ever used it and 9.7% never used it.

The third most used Internet-based tool by the sample is the institutional intranet; answers given by participants show that 35% never use it, 8.7% hardly ever used it; while 58% used it as follows: 14% sometimes, 18% frequently, and 26% always.

Graph 8: Most used social networking tools

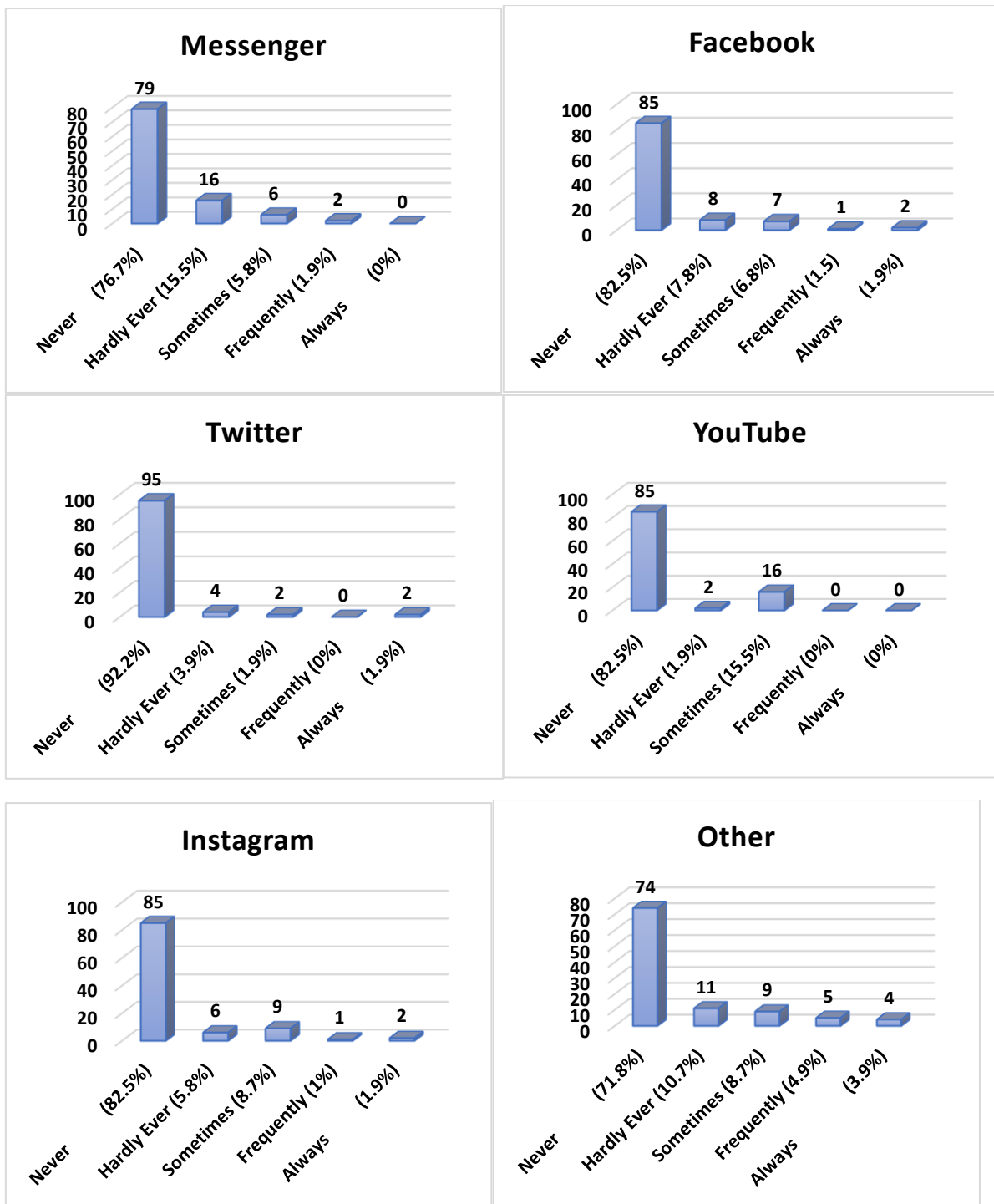


Source: Own construction

On the other hand, there are the communication tools that, although popular for communication purposes, reflected little use in the organizational environment.

Regarding Messenger, 76.7% of the sample said they never used the tool, and 15.5% answered that they hardly ever used it; it suggests that, although Messenger is a tool with pure communication features, it does not have an impact on these Colombian organizations; likewise, according to participants, categorically, 92.2% said that they never used Twitter as a communication tool in the organization; finally, 82.5% of the sample agreed that they never used Instagram, Facebook, and YouTube to communicate in the organization; similarly, for any other different tools, 71.8% said they never used them, and 10.8% answered that they hardly ever used them.

Graph 9: The least used social networking tools



Source: Own construction

In conclusion, it is sufficiently demonstrated that people from the organizations, sample for this study, interact via Internet-based communication channels to carry out their tasks within the work environment; for this purpose, they use social networking tools as Internet-based communication channels to transmit messages. The use of Internet-based channels, used by the

sample, indicates that 65.4% of organizational communication is done via electronic channels, which is a proof that most of the communication is Internet-based. Likewise, it can also be concluded that Internet-based communication constitutes a real phenomenon for the transmission of messages between command lines and subordinates, and between colleagues.

Hypotheses test and analysis

The vectors for the models to prove the hypotheses were obtained as follows:

Communication satisfaction: To measure this variable, the average mean of each of the constructs was obtained; subsequently, the grand mean was obtained.

Job satisfaction: the vector was obtained by calculating the mean of each subscale; subsequently, they were added, and the total value of the job satisfaction was obtained.

Transformational leadership: The mean of each of the constructs was obtained; then, the total value of leadership was obtained by calculating the grand mean.

Transactional leadership: The total value of transactional leadership was obtained by calculating the average mean of the constructs to obtain the grand mean.

Level 5 leadership: This vector resulted from the calculation of the average means of each of the two dimensions of the questionnaire; then, the total value was obtained by computing the grand mean.

To test hypotheses H1 and H2, Pearson's correlation coefficient was observed; Subsequently, linear regressions were used to underscore the direction and size effect of every relationship.

The effect of Pearson's correlations will be described according to the following scale:

Table 41: Pearson's correlations effect Interpretation

| R SIZE | R EFFECT |
|-----------|-------------|
| 0.00-0.19 | Very weak |
| 0.20-0.39 | Weak |
| 0.40-0.59 | Moderate |
| 0.60-0.79 | Strong |
| 0.80-1.0 | Very strong |

Source: (Evans, 1996)

The R^2 interpretation for the linear regressions is based on the following table:

Table 42: R^2 Effect interpretation

| R^2 SIZE | EFFECT |
|------------|--------|
|------------|--------|

| | |
|-----------------|-----------|
| < 0.3 | Very weak |
| $0.3 < r < 0.5$ | Weak |
| $0.5 < r < 0.7$ | Moderate |
| $r > 0.7$ | Strong |

Source: (Moore, et al., 2013, p. 138)

All variables were written as follows:

Table 43: Variable abbreviation

| VARIABLE | ABBREVIATION |
|----------------------------|--------------|
| JOB SATISFACTION | JS |
| COMMUNICATION SATISFACTION | ECS |
| TRANSACTIONAL LEADERSHIP | TRN |
| TRANSFORMATIONAL | TRF |
| LEVEL 5 | L5LS |

Source: Own construction

Hipotesis 1

H1.a. There is a significant, positive relationship between the transactional leadership and job satisfaction in CMC environments.

H1. b. There is a significant, positive relationship between transformational leadership and job satisfaction in CMC environments.

H1. c. There is a significant, positive relationship between level 5 leadership and job satisfaction in CMC environments.

Pearson's correlations

Table 44: Pearson's correlations H1

| PEARSON'S CORRELATION COEFFICIENT | | | | |
|-----------------------------------|--------|--------|--------|---|
| VARIABLE | 1 | 2 | 3 | 4 |
| 1. JS | - | - | - | - |
| 2. TRN | .391** | - | - | - |
| 3. TRF | .537** | .796** | - | - |
| 4. L5LS | .521** | .672** | .794** | - |

** . Correlation is significant at the 0.01 level (2-tailed).

As shown in the table above, results of Pearson correlations indicate that hypotheses H1. a., H1. b., and H1. c. have statistically significant positive relationships between the dependent and independent variables.

Additionally, according to the scale for the strength of correlations by (Evans, 1996), a weak relationship was observed for the relationship between job satisfaction and transactional leadership $r=.391$, $p<0.01$; a moderate relationship was observed between job satisfaction and

transformational leadership $r=.537$, $p<0.01$, and between job satisfaction and level 5 leadership $r=.521$, $p<0.01$.

Linear Regressions

H1.a. There is a significant, positive relationship between the transactional leadership and job satisfaction in CMC environments.

The following linear regression was used

$$y = b_0 + b_1x_1 + u$$

where:

Y=Job Satisfaction (JS)

X=Transactional Leadership (TRN)

Then,

$$JS = b_0 + b_1TRN_1 + u$$

Table 45: Model Summary H1.a

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1 | .391 ^a | .153 | .144 | 24.041 |

a. Predictors: (Constant), TRANSACTIONAL

Table 46: Coefficients H1.a

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|-------|---------------|-----------------------------|------------|---------------------------|--------|------|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 110.999 | 9.719 | | 11.421 | .000 |
| | TRANSACTIONAL | 14.741 | 3.455 | .391 | 4.267 | .000 |

a. Dependent Variable: JOB SATISFACTION

Then,

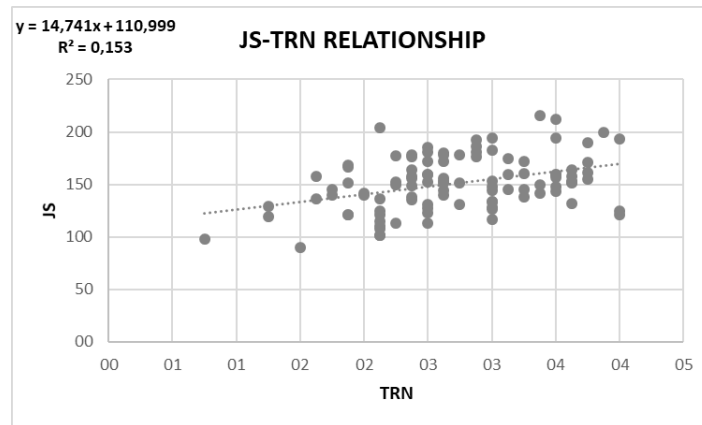
$$b_0=110.999$$

$$b_1=14.741$$

Consequently,

$$JS = 110.999 + 14.741 TRN_1 + u$$

Graph 10: JS-TRN relationship



Source: Own construction

It was observed that the model summary shows a very weak effect of the coefficient of determination ($r^2=.153$), what implies that just 15.3% is the proportion of variance of job satisfaction that can be explained by transactional leadership variable. (See table: model summary). Similarly, it can be concluded that both the constant coefficient ($b=110.999$, $t=11.421$) and the transactional leadership coefficient ($b=14.741$, $t=4.267$) are significant at $p<.001$. Additionally, the coefficient of the independent variable ($b_1=14.741$, $p <.001$) shows that there is a positive relationship between job satisfaction and transactional leadership; it is concluded that the level of Job satisfaction is expected to increase 14.741 units, when the transactional leadership perception increases by one.

As a result, the H1.a. is supported.

H1. b. There is a significant, positive relationship between transformational leadership and job satisfaction in CMC environments.

The following linear regression was used

$$y = b_0 + b_1x_1 + u$$

where:

Y=Job Satisfaction (JS)

X=Transformational Leadership (TRF)

Then,

$$JS = b_0 + b_1 TRF_1 + u$$

Table 47: Model Summary H1.b.

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1 | .537 ^a | .288 | .281 | 22.036 |

a. Predictors: (Constant), TRANSFORMATIONAL

Table 48: Coefficients H1.b.

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|-------|------------------|-----------------------------|------------|---------------------------|-------|------|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 92.564 | 9.427 | | 9.819 | .000 |
| | TRANSFORMATIONAL | 19.898 | 3.112 | .537 | 6.394 | .000 |

a. Dependent Variable: JOB SATISFACTION

Then,

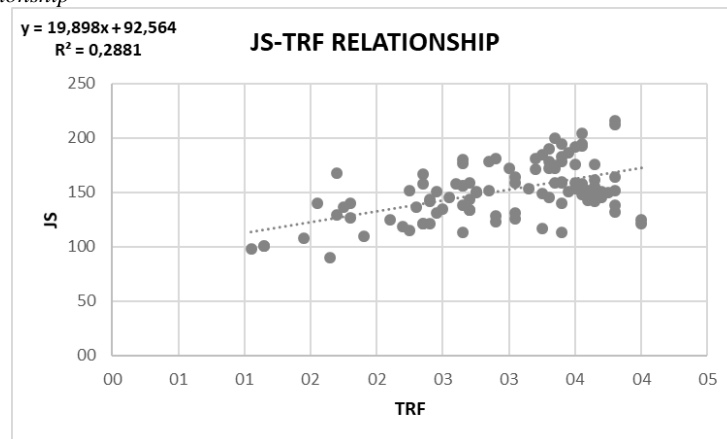
$$b_0 = 92.564$$

$$b_1 = 19.898$$

Subsequently,

$$JS = 92.564 + 19.898 TRF_1 + u$$

Graph 11: JS-TRF relationship



Source: Own construction

The result of the model indicates a very weak effect of the coefficient of determination ($r^2 = .288$); it means that just 28.8% is the proportion of variance of job satisfaction that can be explained by the transformational leadership variable. (See table: model summary). Similarly, it can be concluded that both the constant coefficient ($b=92.564$, $t=9.819$) and the predictor coefficient ($b=19.898$, $t=6.394$) are significant at $p<.001$. Additionally, the coefficient of the

independent variable ($b_1=19.898$, $p<.001$) demonstrates that there is a positive relationship between job satisfaction and transformational leadership; it is concluded that the level of Job satisfaction is expected to increase 19.898 units, when transformational leadership increases by one.

As a result, the H1. b. is not rejected.

H1.c. There is a significant, positive relationship between level 5 leadership and job satisfaction in CMC environments.

The following linear regression was used

$$y = b_0 + b_1x_1 + u$$

where:

Y=Job Satisfaction (JS)

X=Level 5 Leadership (L5LS)

Then,

$$JS = b_0 + b_1L5LS_1 + u$$

Table 49: Model Summary H1.c.

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1 | .521 ^a | .271 | .264 | 22.295 |

a. Predictors: (Constant), LEVEL 5

Table 50: Coefficients H1.c.

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|-------|------|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 91.482 | 9.985 | | 9.162 | .000 |
| | LEVEL 5 | 7.515 | 1.225 | .521 | 6.133 | .000 |

a. Dependent Variable: JOB SATISFACTION

Then,

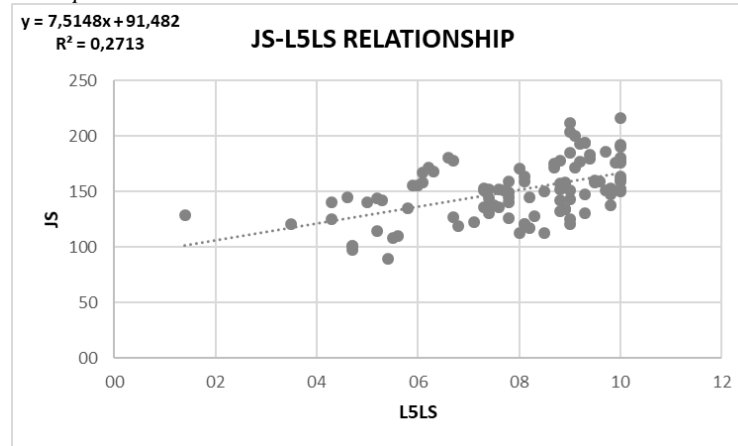
$$b_0=91.482$$

$$b_1=7.515$$

Then,

$$JS = 91.482 + 7.515 L5LS_1 + u$$

Graph 12: JS-L5LS relationship



Source: Own construction

The model has a very weak effect of the coefficient of determination ($r^2=.271$), which indicates that just 27.1% is the proportion of variance of job satisfaction that can be explained by the predictor. (See table: model summary). Similarly, it can be concluded that both the constant coefficient ($b=91.482$, $t=9.162$) and the predictor coefficient ($b=7.515$, $t=6.133$) are significant at $p<.001$. Additionally, the coefficient of the independent variable ($b_1=7.515$, $p<.001$) shows that there is a positive relationship between job satisfaction and level 5 leadership; it is concluded that the level of Job satisfaction is expected to increase 7.515 units, when the level 5 leadership increases by one.

As a result, the H1. c. is supported.

In conclusion, the analysis of Pearson's correlation and the linear regression have demonstrated that H1.a., H1.b., and H1.c. can be supported.

Research Question 1

Which leadership style – transactional, transformational, and level 5 - has a greater effect on job satisfaction when they interact within the organization in CMC environments?

To answer this question, the following multiple linear regression was used:

$$DV = b_0 + b_1x_1 + b_2x_2 + b_3x_3 + u$$

Where,

$$DV = JS$$

$$X_1 = TRN$$

$$X_2 = TRF$$

$$X_3 = L5LS$$

Then,

$$JS = b_0 + b_1TRN_1 + b_2TRF_2 + b_3L5LS_3 + u$$

Table 51: Model Summary H.1

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | Change Statistics | | |
|-------|-------------------|----------|-------------------|----------------------------|-------------------|----------|-------------------|-----|---------------|
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | .564 ^a | .319 | .298 | 21.777 | .319 | 15.426 | 3 | 99 | .000 |

a. Predictors: (Constant), LEVEL 5, TRANSACTIONAL, TRANSFORMATIONAL

Table 52: ANOVA H.1

| | Model | Sum of Squares | df | Mean Square | F | Sig. |
|---|------------|----------------|-----|-------------|--------|-------------------|
| 1 | Regression | 21946.020 | 3 | 7315.340 | 15.426 | .000 ^b |
| | Residual | 46949.281 | 99 | 474.235 | | |
| | Total | 68895.301 | 102 | | | |

a. Dependent Variable: JOB SATISFACTION

b. Predictors: (Constant), LEVEL 5, TRANSACTIONAL, TRANSFORMATIONAL

Table 53: Coefficients H.1

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|-------|------------------|-----------------------------|------------|---------------------------|-------|------|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 87.065 | 10.221 | | 8.518 | .000 |
| | TRANSACTIONAL | -4.892 | 5.204 | -.130 | -.940 | .349 |
| | TRANSFORMATIONAL | 15.770 | 6.224 | .425 | 2.534 | .013 |
| | LEVEL 5 | 3.902 | 1.979 | .270 | 1.972 | .051 |

a. Dependent Variable: JOB SATISFACTION

Therefore,

$$JS = 87.065 - 4.892 TRN_1 + 15.770 TRF_2 + 3.902 L5LS_3 + u$$

Results

All three leadership variables aggregated explain the 31.9% proportion of variance of the dependent variable Job satisfaction $r^2=.319$, $F=15,426$, $p<.001$.

To answer the research question, the value of each of the beta coefficients and their level of significance are interpreted. Although the coefficient of the transactional leadership vector shows a negative relationship with job satisfaction, this relationship is not statistically

significant in the model $b=-4.892$. $P>.05$; therefore, the transactional leadership did not have a significant effect on job satisfaction when the 3 leadership styles interact. Regarding the transformational leadership style, it can be noticed that the variable has a positive and significant value of coefficient $b=15.770$, $p<.05$, therefore it is concluded that there is a significant effect on the relationship with job satisfaction when the three leadership variables are aggregated. Finally, the effect of the relationship of level 5 leadership with job communication showed a coefficient that is not statistically significant when the three leaderships styles interact $b=3.902$, $p>.05$.

In this way, it is concluded that transformational leadership is the style that has a greater effect on job satisfaction in the organization when the three variables interact within the organization.

Hypothesis 2

To test hypotheses H2 a., H2. b, and H2. c. Pearson's correlation coefficient was determined, then, the relationships were observed using simple linear regressions.

H2.a. There is a significant, positive relationship between transactional leadership and communication satisfaction in CMC environments.

H2.b. There is a significant, positive relationship between transformational leadership and communication satisfaction in CMC environments.

H2.c. There is a significant, positive relationship between level 5 leadership and communication satisfaction in CMC environments.

Pearson's correlation coefficient H2

Table 54: Pearson's correlation coefficient H2

| PEARSON'S CORRELATION COEFFICIENT | | | | |
|-----------------------------------|--------|--------|--------|---|
| VARIABLE | 1 | 2 | 3 | 4 |
| 1. CS | - | - | - | - |
| 2. TRN | .596** | - | - | - |
| 3. TRF | .690** | .796** | - | - |
| 4. L5LS | .725** | .672** | .794** | - |

** . Correlation is significant at the 0.01 level (2-tailed).

Pearson's correlation coefficient identified that there is a significant and positive relationship between the independent variable and the independent variables.

Similarly, it can be seen that the degree of the strength of the correlation for the value of the coefficient of determination, “r” recommended by (Evans, 1996), indicates that there is a moderate degree of relationship between the transactional leadership vector and communication satisfaction $r=.596$, $p<0.01$; whereas, a strong positive relationship was found between both communication satisfaction and transformational leadership $r=.690$, $p<0.01$, and communication satisfaction and level 5 leadership $r=.725$, $p<0.01$.

Linear regression

H2.a. There is a significant, positive relationship between transactional leadership and communication satisfaction in CMC environments.

The following linear regression was used

$$y = b_0 + b_1x_1 + u$$

where:

Y= Communication Satisfaction (CS)

X= Transactional Leadership (TRN)

Then,

$$CS = b_0 + b_1TRN_1 + u$$

Table 55: Model Summary H2.a.

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------|----------|-------------------|----------------------------|
| 1 | .596a | .356 | .349 | .934 |

a. Predictors: (Constant), TRANSACTIONAL

Table 56: Coefficients H2.a.

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|-------|---------------|-----------------------------|------------|---------------------------|-------|------|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 2.400 | .378 | | 6.353 | .000 |
| | TRANSACTIONAL | 1.003 | .134 | .596 | 7.469 | .000 |

a. Dependent Variable: COMMUNICATION SATISFACTION

Then,

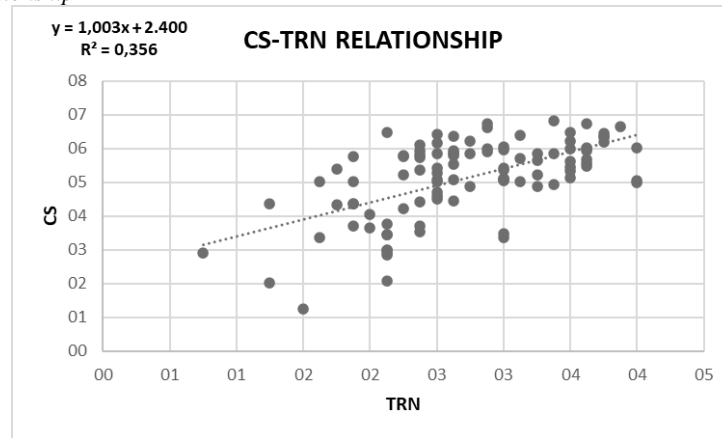
$$b_0=2.400$$

$$b_1=1.003$$

Subsequently,

$$CS = 2.400 + 1.003 TRN_1 + u$$

Graph 13: CS-TRN relationship



Source: Own construction

The coefficient of determination ($r^2=0.356$) is weak; it indicates that the proportion of variance of communication satisfaction is explained 35.6% by the transactional leadership variable. Regarding the statistical significance, it is found a significant difference between b_0 ($b=2.400$, $t=6.353$) and b_1 ($b=1.003$, $t=7.469$) at $p<0.001$. About the coefficient, it is found that the independent vector coefficient ($b_1=1.003$, $p<0.001$) indicates a significant and positive relationship between the communication satisfaction and the transactional leadership. Thus, it is explained that the level of communication satisfaction will increase 1.003 units, when the transactional leadership increases by one. Consequently, the hypothesis H2.a. is not rejected.

H2.b. There is a significant, positive relationship between transformational leadership and communication satisfaction in CMC environments.

The following linear regression was used

$$y = b_0 + b_1x_1 + u$$

where:

Y= Communication Satisfaction (CS)

X= Transformational Leadership (TRF)

Then,

$$CS = b_0 + b_1 TRF_1 + u$$

Table 57: Model Summary H2.b

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------|----------|-------------------|----------------------------|
| 1 | .690a | .477 | .472 | .842 |

a. Predictors: (Constant), TRANSFORMATIONAL

Table 58: Coefficients H2.b

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|-------|------------------|-----------------------------|------------|---------------------------|-------|------|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 1.773 | .360 | | 4.922 | .000 |
| | TRANSFORMATIONAL | 1.141 | .119 | .690 | 9.592 | .000 |

a. Dependent Variable: COMMUNICATION SATISFACTION

Then,

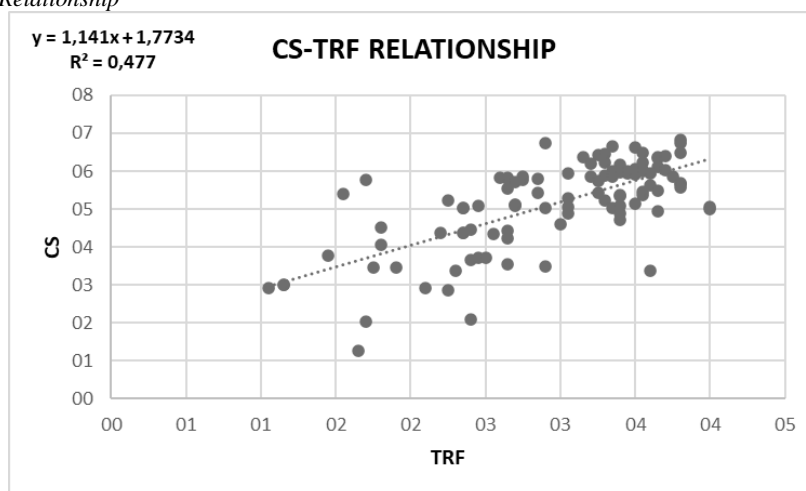
$$b_0 = 1.773$$

$$b_1 = 1.141$$

Consequently,

$$CS = 1.773 + 1.141 TRF_1 + u$$

Graph 14: CS-TRF Relationship



Source: Own construction

As shown in the table above, according to the model summary, $r^2=.477$ indicates that 47.7% of the variance of the communication satisfaction is explained the transformational leadership. Hence, it is a weak effect.

A high significance was observed from the model where b_0 ($b=1.773$, $t=4.922$) and b_1 ($b=1.141$, $t=9.592$) at $p < .001$. About the coefficient, it is found that the independent coefficient ($b_1=1.141$, $p < .001$) shows a significant and positive relationship between communication satisfaction and transformational leadership. Therefore, it is explained that the level of communication satisfaction is expected to be increased by 1.003 units, when transactional leadership increases by one. Consequently, the hypothesis H2. c. is supported.

H2.c. There is a significant, positive relationship between level 5 leadership and communication satisfaction in CMC environments.

$$y = b_0 + b_1x_1 + u$$

where:

Y= Communication Satisfaction (CS)

X= Level 5 Leadership (L5LS)

Then,

$$CS = b_0 + b_1L5LS_1 + u$$

Table 59: Model Summary H2.c

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1 | .725 ^a | .525 | .521 | .802 |

a. Predictors: (Constant), LEVEL 5

Table 60: Coefficients H2.c

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|--------|------|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 1.431 | .359 | | 3.985 | .000 |
| | LEVEL 5 | .466 | .044 | .725 | 10.572 | .000 |

a. Dependent Variable: COMMUNICATION SATISFACTION

Then,

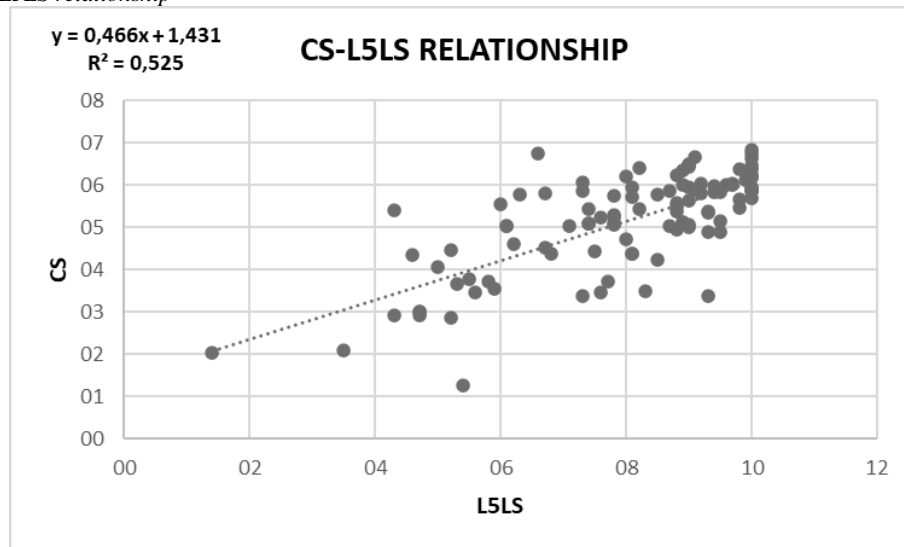
$$b_0=1.431$$

$$b_1=.466$$

Hence,

$$CS = 1.431 + .466 L5LS_1 + u$$

Graph 15: CS-L5LS relationship



Source: Own construction

The result of the model indicates a moderate effect of the coefficient of determination ($r^2=.525$); what expresses that 52.5% is the proportion of variance of job satisfaction that can be explained by the level 5 leadership variable. (See table: model summary). Similarly, it was found that the constant coefficient ($b=1.431$, $t = 3,985$) and the predictor coefficient ($b=.466$, $t = 10,572$) are significant at $p < .001$. Additionally, the coefficient of the independent variable ($b_1 = .466$, $p < .001$) shows a positive relationship between communication satisfaction and 5 level leadership; it can be concluded that the level of communication satisfaction is expected to increase 0.466 units, when level 5 leadership increases by one.

As a result of the linear regression, the H2.c. is supported.

Research question 2

Which leadership style – transactional, transformational, and level 5 - has a greater effect on communication satisfaction when they interact within the organizations in CMC environments?

To answer this question, the following multiple linear regression was used:

$$DV = b_0 + b_1x_1 + b_2x_2 + b_3x_3 + u$$

Where,

$$DV = CS$$

$$X_1 = TRN$$

$$X_2 = TRF$$

$$X_3 = L5LS$$

Then,

$$CS = b_0 + b_1TRN_1 + b_2TRF_2 + b_3L5LS_3 + u$$

Table 61: Model Summary H2

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | Change Statistics | | |
|-------|-------|----------|-------------------|----------------------------|-------------------|----------|-------------------|-----|---------------|
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | .751a | .563 | .550 | .777 | .563 | 42.569 | 3 | 99 | .000 |

a. Predictors: (Constant), LEVEL 5, TRANSACTIONAL, TRANSFORMATIONAL

Table 62: ANOVA H2

| Model | Sum of Squares | df | Mean Square | F | Sig. |
|--------------|----------------|-----|-------------|--------|-------------------|
| 1 Regression | 77.114 | 3 | 25.705 | 42.569 | .000 ^b |
| Residual | 59.780 | 99 | .604 | | |
| Total | 136.893 | 102 | | | |

a. Dependent Variable: COMMUNICATION SATISFACTION

b. Predictors: (Constant), LEVEL 5, TRANSACTIONAL, TRANSFORMATIONAL

Table 63: Coefficients H2

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|-------|------------------|-----------------------------|------------|---------------------------|-------|------|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 1.134 | .365 | | 3.109 | .002 |
| | TRANSACTIONAL | .128 | .186 | .076 | .691 | .491 |
| | TRANSFORMATIONAL | .425 | .222 | .257 | 1.913 | .059 |
| | LEVEL 5 | .302 | .071 | .469 | 4.276 | .000 |

a. Dependent Variable: COMMUNICATION SATISFACTION

Therefore,

$$CS = 1.134 + 0.128 TRN_1 + 0.425 TRF_2 + 0.302 L5LS_3 + u$$

Results

The linear regression aggregated the three leadership variables. It was observed that the interaction of the three independent variables explained 56.3% of the proportion of variance of the dependent variable Job satisfaction ($R^2=.563$, $F=42.569$, $p<.001$).

Using multiple linear regression, communication satisfaction was regressed on a linear combination of three leadership variables; the unstandardized beta coefficients and the significance were interpreted. The transactional leadership vector coefficient showed the lowest positive effect of the three variables with communication satisfaction, however, that result was not significantly influential in the model ($b=.128$, $P>.05$); therefore, transactional leadership was not found to have a significant effect on communication satisfaction when the 3 leadership styles interact.

Similarly, regarding the transformational leadership style, it can be observed that the variable did not encounter a positive and significant value of the beta coefficient ($b=.425$, $p>.05$), therefore, it was concluded that it did not have a significant effect on the relationship with communication satisfaction when the three variables of leadership are aggregated. Finally, it was observed that the effect on the relationship between level 5 leadership and communication satisfaction showed a beta coefficient that is statistically significant when the three leadership styles interact ($b=.302$, $p <.05$).

Consequently, it was concluded that level 5 was the leadership style that had a greater effect on communication satisfaction in the organization when the three variables interact.

Hypotheses 3

H3. Communication satisfaction has a positive and significant relationship with Job Satisfaction in CMC environments.

Table 64: Pearson's correlation coefficient H3

| PEARSON'S CORRELATION COEFFICIENT | | |
|-----------------------------------|--------|---|
| JS | - | - |
| CS | .725** | - |

** . Correlation is significant at the 0.01 level (2-tailed).

As can be seen in the table above, Pearson's correlation coefficient shows that there is a strong and significant relationship between the dependent variable job satisfaction and the independent communication satisfaction $r=.725$, $p <0.01$.

Linear Regression

After that, the following linear regression was performed to determine the effect size and direction:

$$y = b_0 + b_1x_1 + u$$

where:

Y=Job Satisfaction (JS)

X= Communication Satisfaction (CS)

Then,

$$JS = b_0 + b_1CS_1 + u$$

a. Predictors: (Constant), COMMUNICATION SATISFACTION

Table 65: Model Summary H3

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1 | .721 ^a | .520 | .515 | 18.094 |

a. Predictors: (Constant), COMMUNICATION SATISFACTION

Table 66: Coefficients H3

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|--------|------|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 68.121 | 8.141 | | 8.368 | .000 |
| | CS | 16.178 | 1.546 | .721 | 10.461 | .000 |

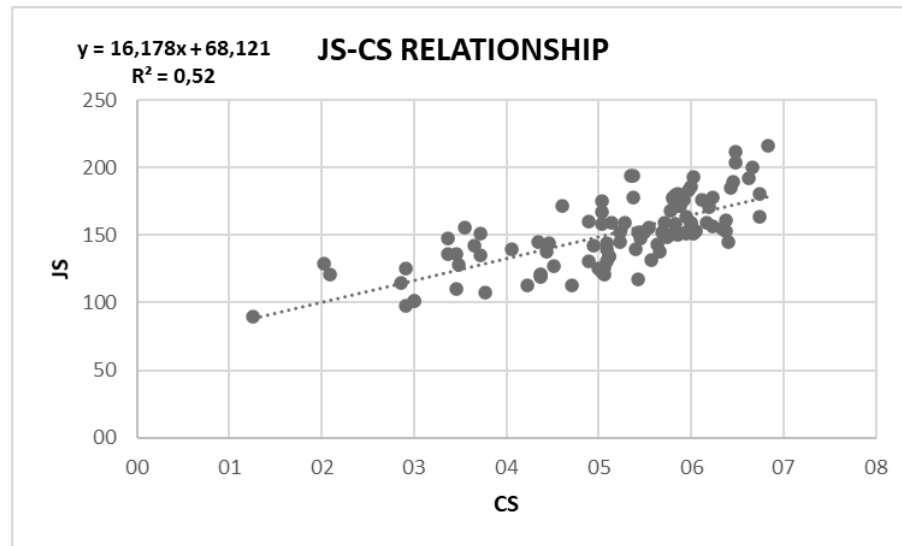
a. Dependent Variable: JOB SATISFACTION

Consequently,

$$JS = 68.121 + 16.178 CS_1 + u$$

What is graphically represented in the following scatter plot:

Graph 16: JS-CS relationship



Source: Own construction

It was observed that the model summary shows a moderate effect of the coefficient of determination ($r^2=.520$), what indicates that 52% is the proportion of variance of the dependent variable (JS) that can be explained by the predictor (CS). (See table: model summary). Similarly, it can be concluded that both the constant coefficient ($b=68.121$, $t=8.368$) and the CS coefficient ($b=16.178$, $t=10.461$) are significant at $p < .001$. Additionally, the coefficient of the independent variable ($b=16.178$, $p < .001$) indicates a positive relationship between job satisfaction and communication satisfaction; it is to say, that the level of job satisfaction is expected to increase 16,178 units, when communication satisfaction increases by one.

As a result, H3 is not rejected.

Moderation

Once the relationship and the effect size of communication satisfaction with job satisfaction was found, it was observed if the effect of this relationship could be influenced by the three leadership styles by testing the following sub-hypotheses:

H3.a. Transactional leadership influences the relationship between communication satisfaction and employees' job satisfaction in CMC environments.

H3.b. Transformational leadership influences the relationship between communication satisfaction and employees' job satisfaction in CMC environments.

H3.c. 5-level leadership influences the relationship between communication satisfaction and employees' job satisfaction in CMC environments.

Table 67: Pearson's correlation coefficient moderation H3

| VARIABLE | 1 | 2 | 3 | 4 | 5 |
|----------|--------|--------|--------|--------|---|
| 1. JS | - | - | - | - | - |
| 2. CS | .721** | - | - | - | - |
| 3. TRN | .391** | .596** | - | - | - |
| 4. TRF | .537** | .690** | .796** | - | - |
| 5. L5LS | .521** | .725** | .672** | .794** | - |

** . Correlation is significant at the 0.01 level (2-tailed).

As it can be seen, Pearson's correlation indicated a significant and strong relationship between the criterion variable job satisfaction and the predictor variable communication satisfaction ($r=.721$, $p<0.01$); between the job satisfaction dependent variable and the transactional leadership moderating variable, a significant and moderate relationship was shown ($r=.391$, $p<0.01$); similarly, a significant and moderate correlation was observed between the dependent variable job satisfaction and the moderator variable transformational leadership ($r=.537$, $p<0.01$); finally, Pearson's coefficient indicated a significant and moderate correlation between the criterion variable job satisfaction and the moderator variable Level 5 leadership ($r=.521$, $p<0.01$).

Moderated Multiple Regression Model.

H3.a. Transactional leadership influences the relationship between communication satisfaction and employees' job satisfaction in CMC environments

Step 1: Mean Center

- **MC_CS**: mean-centered of the communication satisfaction variable

$$MC_CS = CS - Mean$$

Then,

$$MC_CS = CS - 5.14$$

- **MC_TRN**: mean-centered of the transactional leadership variable

$$MC_TRN = TRN - Mean$$

Then,

$$MC_TRN = TRN - 2.73$$

Step 2: cross-product terms (Interaction terms)

Cross-product term (CSxTRN) = MC_CS multiplied by MC_TRN

Then,

$$CSxTRN = MC_CS \times MC_TRN$$

Step 3: Add the interaction term

$$JS = b_0 + b_1MC_CS_1 + b_2MC_TRN_2 + b_3CSxTRN_3 + u$$

Step 4: Run the linear regression

Model : 1

Y : JS

X : CS

W : TRN

Sample Size: 103

OUTCOME VARIABLE: JS

Table 68: Model Summary H3.a

| R | R sq | MSE | F | df1 | df2 | p |
|------|------|----------|---------|--------|---------|-------|
| .725 | .526 | 330.0511 | 36.5804 | 3.0000 | 99.0000 | .0000 |

Table 69: Model H3.a

| | coeff | se | t | p | LLCI | ULCI |
|----------|----------|--------|---------|-------|----------|----------|
| constant | 150.3129 | 2.0943 | 71.7713 | .0000 | 146.1573 | 154.4685 |
| CS | 17.8400 | 2.1866 | 8.1590 | .0000 | 13.5014 | 22.1786 |
| TRN | -2.4581 | 3.2581 | -.7545 | .4524 | -8.9229 | 4.0067 |
| Int_1 | 1.9103 | 2.3057 | .8285 | .4094 | -2.6647 | 6.4854 |

Product terms key: Int_1 : ECS x TRN

Subsequently,

$$JS = 150.37 + 17.844 MC_CS_1 - 2.451 MC_TRN_2 + 1.910 CSxTRN_3 + u$$

Step 5: Analyze the linear regression

The model summary showed a significant moderate coefficient of determination ($r^2=.526$, $F=36.580$; $p<.001$). Nevertheless, the interaction term coefficient was not significant ($b=1.91$,

$t=0.829$, 95% CI. [-2.6647, 6.4854], $p>.05$). It indicated that the relationship between job satisfaction and communication satisfaction was not moderated by transactional leadership.

Step 6: Make a plot

As the effect was insignificant, plots were not required.

Result:

As a result, the hypothesis *Transactional leadership influences the relationship between communication satisfaction and employees' job satisfaction in CMC environments* was rejected.

H3.b. Transformational leadership influences the relationship between communication satisfaction and employees' job satisfaction in CMC environments.

Step 1: Mean Center

- **MC_EC**: mean-centered of the communication satisfaction variable

$$MC_CS = CS - Mean$$

Then,

$$MC_CS = CS - 5.14$$

- **MC_TRF**: mean-centered of the transactional leadership variable

$$MC_TRF = TRF - Mean$$

Then,

$$MC_TRF = TRF - 2.95$$

Step 2: cross-product terms (Interaction terms)

Cross-product term (CSxTRF) = MC_CS multiplied by MC_TRF,

Then,

$$CSxTRF = MC_CS \times MC_TRF$$

Step 3: Add the interaction term

$$JS = b_0 + b_1MC_CS_1 + b_2MC_TRF_2 + b_3CSxTRF_3 + u$$

Step 4: Run the linear regression

Model : 1

Y : JS

X : CS

W : TRF

Sample Size: 103

OUTCOME VARIABLE: JS

Table 70: Model Summary H3.b

| R | R sq | MSE | F | df1 | df2 | p |
|------|------|----------|---------|--------|---------|-------|
| .723 | .523 | 331.8350 | 36.2064 | 3.0000 | 99.0000 | .0000 |

OUTCOME VARIABLE: JS

Product terms key: Int_1 : CS x TRF

Table 71: Model H3.b

| | coeff | se | t | p | LLCI | ULCI |
|----------|----------|--------|---------|-------|----------|----------|
| constant | 150.9317 | 2.1870 | 69.0133 | .0000 | 146.5922 | 155.2711 |
| CS | 15.2023 | 2.2876 | 6.6454 | .0000 | 10.6631 | 19.7415 |
| TRF | 2.9159 | 3.6287 | .8036 | .4236 | -4.2841 | 10.1160 |
| Int_1 | .5077 | 2.2500 | .2256 | .8220 | -3.9568 | 4.9721 |

Product terms key: Int_1 : CS x TRF

Subsequently,

$$JS = 150.931 + 15.202 MC_CS_1 - 2.916 MC_TRF_2 + 0.508 CSxTRF_3 + u$$

Step 5: Analyze the linear regression

The model summary showed a significant moderate coefficient of determination ($r^2=.523$, $F=36.206$; $p<.001$). Yet, the interaction term coefficient was not significant ($b=0.508$, $t=0.226$, 95% CI. [-3.9568, 4.9721], $p>.05$). It indicated that the relationship between job satisfaction and communication satisfaction was not moderated by transformational leadership.

Step 6: Make a plot

As the effect was insignificant, plots were not required.

Results

As a result, the hypothesis *Transformational leadership influences the relationship between communication satisfaction and employees' job satisfaction in CMC environments* was rejected.

H3.c. 5-level leadership influences the relationship between communication satisfaction and employees' job satisfaction in CMC environments.

Step 1: Mean Center

- **MC_EC**: mean-centered of the communication satisfaction variable

$$MC_CS = CS - Mean$$

Then,

$$MC_CS = CS - 5.14$$

- **MC_L5LS**: mean-centered of the transactional leadership variable

$$MC_L5LS = L5LS - Mean$$

Then,

$$MC_L5LS = L5LS - 7.95$$

Step 2: cross-product terms (Interaction terms)

Cross-product term (CSxL5LS) = MC_CS multiplied by MC_L5LS,

Then,

$$CSxL5LS = MC_CS \times MC_L5LS$$

Step 3: Add the interaction term

$$JS = b_0 + b_1MC_CS_1 + b_2MC_L5LS_2 + b_3CSxL5LS_3 + u$$

Step 4: Run the linear regression

Model : 1

Y : JS

X : CS

W : L5LS

Sample Size: 103

OUTCOME VARIABLE: JS

Table 72: Model Summary H3.c

| R | R sq | MSE | F | df1 | df2 | p |
|------|------|----------|---------|--------|---------|-------|
| .737 | .543 | 317.7775 | 39.2679 | 3.0000 | 99.0000 | .0000 |

Product terms key: Int_1 : CS x L5LS

Table 73: Model H3.c

| | coeff | se | t | p | LLCI | ULCI |
|----------|----------|--------|---------|-------|----------|----------|
| constant | 148.7497 | 2.0702 | 71.8530 | .0000 | 144.6419 | 152.8574 |
| CS | 17.7114 | 2.3063 | 7.6794 | .4107 | 13.1351 | 22.2877 |
| L5LS | .7669 | 1.4682 | .5223 | .6026 | -2.1464 | 3.6802 |
| Int_1 | 1.6449 | .7315 | 2.2488 | .0267 | .1935 | 3.0962 |

Product terms key: Int_1 : CS x L5LS

Test(s) of highest order unconditional interaction(s):

Table 74: Moderator

| | R2-chng | F | df1 | df2 | p |
|-----|---------|--------|--------|---------|-------|
| X*W | .0233 | 5.0570 | 1.0000 | 99.0000 | .0267 |

Focal predict: CS (X)

Mod var: L5LS (W)

Subsequently,

$$JS = 148.750 + 17.711 MC_CS_1 - 0.7669 MC_L5LS_2 + 1.645 CSxL5LS_3 + u$$

Step 5: Analyze the linear regression

The model summary showed a significant moderate coefficient of determination ($r^2=.543$, $F=39.268$; $p<.001$). Similarly, the relationship between the interaction term and the dependent variable (JS) was significant ($b=1.645$, $t=2.249$, 95% CI [.1935, 3.0962], $p<.05$). Also, when the moderator term was added, the change in r^2 was significant ($r^2=.023$, $p<0.05$). It indicates that the relationship between Job Satisfaction and communication satisfaction was moderated by the level 5 leadership.

As a result, the hypothesis H3.c. was supported: *5-level leadership influences the relationship between communication satisfaction and employees' job satisfaction in CMC environments*

Step 6: Make a plot

Table 75: Descriptive Statistics H3.c

| | N | Minimum | Maximum | Mean | Std. Deviation |
|--------------------|-----|---------|---------|------|----------------|
| CS | 103 | 1 | 7 | 5.14 | 1.158 |
| L5LS | 103 | 1 | 10 | 7.95 | 1.801 |
| Valid N (listwise) | 103 | | | | |

Conditional effects of the focal predictor at values of the moderator(s):

Table 76: Conditional effects

| L5LS | Effect | se | t | p | LLCI | ULCI |
|---------|---------|--------|--------|-------|---------|---------|
| -2.0845 | 14.2825 | 2.3764 | 6.0102 | .0000 | 9.5673 | 18.9978 |
| .5515 | 18.6184 | 2.4516 | 7.5945 | .0000 | 13.7540 | 23.4829 |
| 1.7875 | 20.6515 | 2.9565 | 6.9851 | .0000 | 14.7851 | 26.5179 |

To interpret the moderation effect, the simple slopes were examined based on the table above. The table contains the values of three regressions:

Regression 1: the regression of the relationship between job satisfaction (DV) and communication satisfaction (IV) when the relationship is influenced by the low value (-2.0845) of the level 5 leadership (Mod.).

Regression 2: the regression of the relationship between job satisfaction (DV) and communication satisfaction (IV) when the relationship is influenced by the moderate value (.5515) of level 5 leadership (Mod.).

Regression 3: the regression of the relationship between job satisfaction (DV) and communication satisfaction (IV) when the relationship is influenced by the high value (1.7875) of level 5 leadership (Mod.).

According to the data, the results were interpreted as follows:

Regression 1: When the influence of L5LS was low, there was a significant positive relationship between job satisfaction and communication satisfaction $b=14.283$, 95% CI [9.5673, 18.9978], $t=6.010$, $p<.001$.

Regression 2: When the influence of L5LS was moderate, there was a significant positive relationship between job satisfaction and communication satisfaction $b=18.618$, 95% CI [13.754, 23.483], $t=7.595$, $p<.001$.

Regression 3: When the influence of L5LS was high, there was a significant positive relationship between job satisfaction and communication satisfaction $b=20.652$, 95% CI [14.785, 26.518], $t=6.985$, $p<.001$.

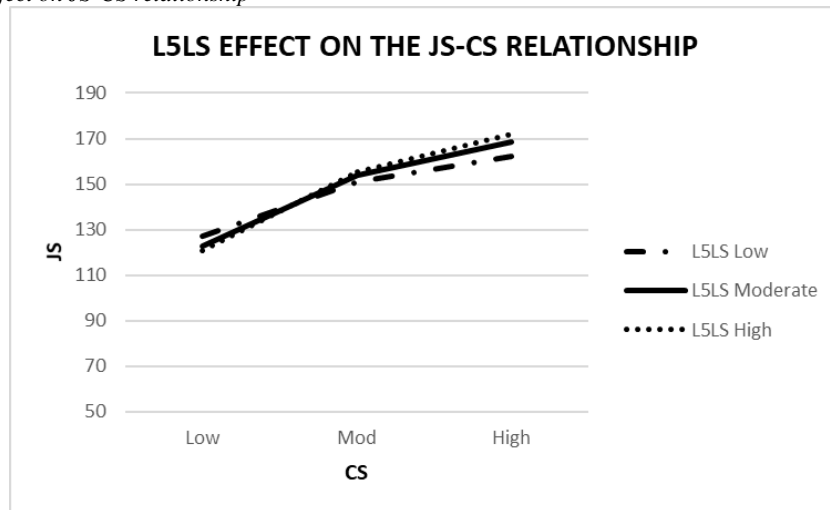
Subsequently, the scatter plot was used to examine the results graphically. The following data were used:

Data for visualizing the conditional effect of the focal predictor:

Table 77: Conditional effect data

| ECS | L5LS | JS |
|------------|---------|----------|
| BEGIN DATA | | |
| -1,4219 | -2,0845 | 126,8425 |
| ,2638 | -2,0845 | 150,9188 |
| 1,0455 | -2,0845 | 162,0836 |
| -1,4219 | ,5515 | 122,6987 |
| ,2638 | ,5515 | 154,0841 |
| 1,0455 | ,5515 | 168,6384 |
| -1,4219 | 1,7875 | 120,7558 |
| ,2638 | 1,7875 | 155,5684 |
| 1,0455 | 1,7875 | 171,7119 |
| END DATA. | | |

Graph 17: L5LS effect on JS-CS relationship



Source: Own construction

The plot showed the significant influence of level 5 leadership on the relationship between job satisfaction and communication satisfaction.

Result

The influence of level 5 leadership was significant at all values (low, moderate and high); nevertheless, when the value was high ($b = 20.652$, 95% CI [14.785, 26.518], $t = 6.985$, $p < .001$) the conditional effect of L5LS was higher than at low value ($b=14.283$, 95% CI [9.5673, 18.9978], $t=6.010$, $p<.001$) or at moderate value ($b=18.618$, 95% CI [13.754, 23.483], $t=7.595$, $p<.001$).

Therefore, the hypothesis H3.c. was supported; 5-level leadership influences the relationship between communication satisfaction and employees' job satisfaction in CMC environments.

Research question 3

What moderation effects do transactional, transformational, and level 5 leadership have on the relationship between communication satisfaction and job satisfaction in CMC environments?

It was observed that transactional leadership ($b=1.91$, $t=0.829$, 95% CI [-2.6647, 6.4854], $p>.05$) and transformational leadership ($b=0.508$, $t=0.226$, 95% CI [-3.9568, 4.9721], $p>.05$) had no moderating effect on the relationship between communication satisfaction and job satisfaction. On the contrary, 5 level leadership had a significant and positive moderating effect on the relationship. The higher the value of the moderator ($b=20.652$, 95% CI [14.785, 26.518], $t=6.985$, $p < .001$), the greater the effect on the job satisfaction and communication satisfaction relationship.

Hypothesis 4

The leader's refusal to communicate via Internet-based channels with employees has a negative impact on communication satisfaction.

After using SPSS, the results of the Descriptive Statistics obtained are shown in the following

Table 78: Descriptive Statistics H4

| ITEMS | N | Minimum | Maximum | Mean | Std. Deviation |
|--|-----|---------|---------|-------|----------------|
| 1. The communication is not fluid if my boss does not use Internet-based communication channels. | 103 | 1.0 | 5.0 | 2.534 | 1.2273 |
| 2. The information is not clear if my boss does not use Internet-based communication channels. | 103 | 1.0 | 5.0 | 2.282 | 1.0794 |

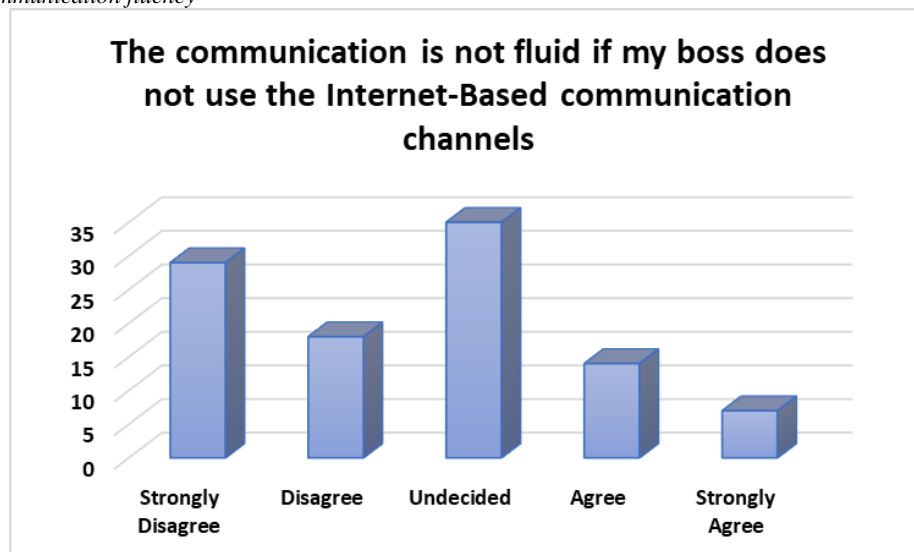
| | | | | | |
|---|-----|-----|-----|-------|--------|
| 3. The tasks are difficult for me if my boss does not feed back to me via Internet-based communication channels. | 103 | 1.0 | 5.0 | 2.087 | 1.2296 |
| 4. The fulfillment of goals is delayed if my boss does not use Internet-based communication channels. | 103 | 1.0 | 5.0 | 2.417 | 1.3025 |
| 5. The relationship with my colleagues is not pleasant if my boss does not use Internet-based communication channels. | 103 | 1.0 | 5.0 | 1.883 | 1.0600 |
| Grand Mean: 2.24 | | | | | |

Analysis

1. The communication is not fluid if my boss does not use Internet-based communication channels

The descriptive statistical analysis ($M = 2.5$; $SD = 1.2$) shows that 29% of respondents completely disagree with this proposition and 18% disagree, while 25% are neutral. Likewise, 14% agree and 7% agree completely. Thus, it can be concluded that the Internet-based communication with the boss would not be necessary to have a fluid communication.

Graph 18: Communication fluency

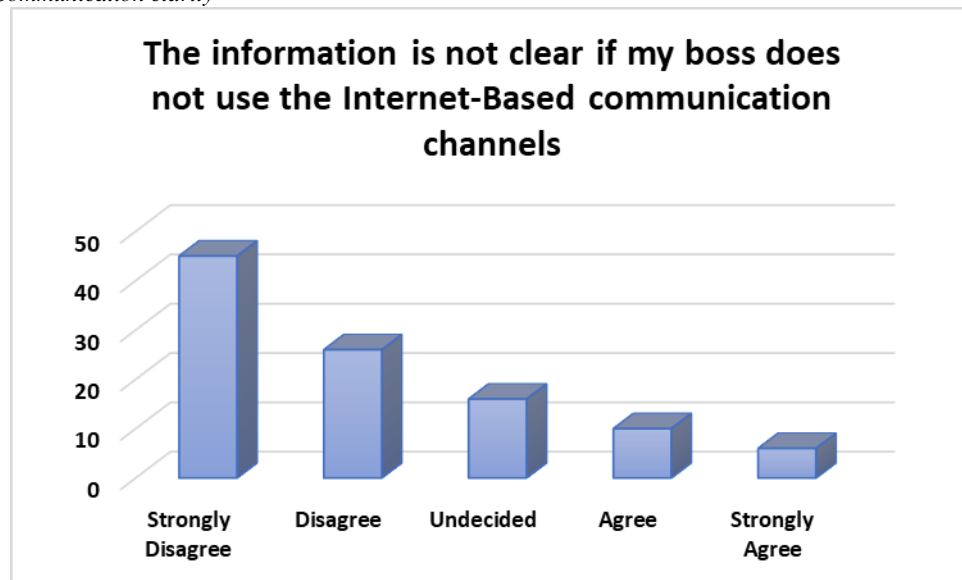


Source: Own construction

2. The information is not clear if my boss does not use Internet-Based communication channels.

Regarding the clarity of the information under the absence of Internet-based communication channels ($M = 2.3$; $SD = 1.1$), it can be observed that 29% completely agree and 32% agree, 30% are neutral, 8% agree and 4% totally agree. 61% represents a significant indicator to conclude that for most participants the absence of Internet-based communication channels to provide information by the boss did not affect the clarity of the message.

Graph 19: Communication clarity

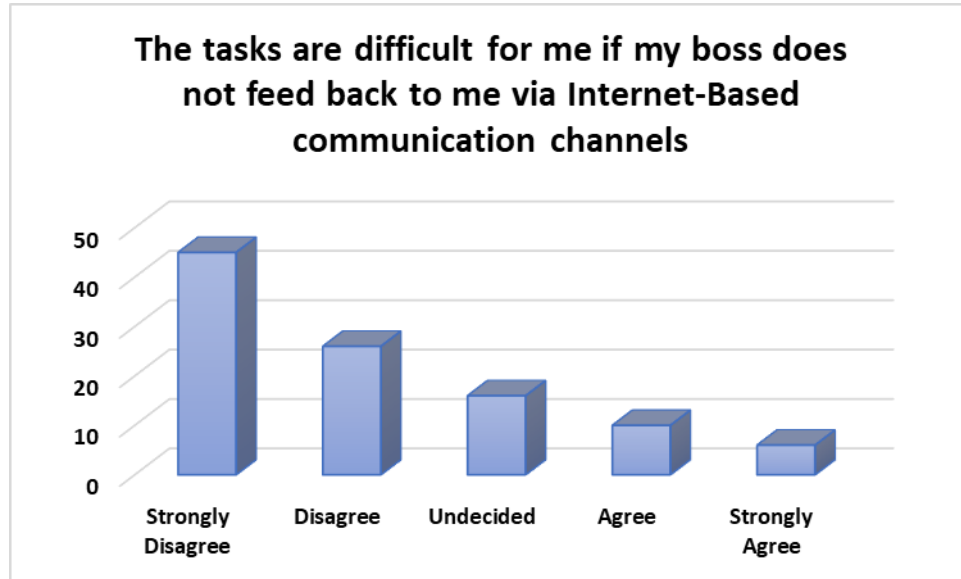


Source: Own construction

3. The tasks are difficult for me if my boss does not feed back to me through Internet-Based communication channels.

When observing the perception that employees have about the difficulty that could be generated to perform tasks when the boss does not use Internet-based communication channels, it was obtained that 45% completely disagree, 26% disagree, 16% are neutral, 10% agree and 6% completely agree ($M = 2.1$; $SD = 1.2$). As a result, it is evident that a large majority of participants do not require Internet-Based tools to receive feedback from the boss to fulfill their tasks.

Graph 20: Feedback

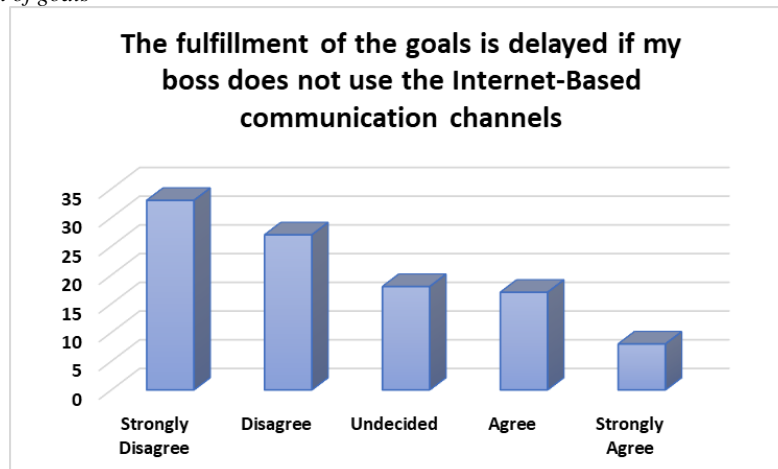


Source: Own construction

4. The fulfillment of goals is delayed if my boss does not use Internet-based communication channels.

Regarding the fulfillment of goals, ($M = 2.4$; $SD = 1.3$) 33% completely disagree, 27% disagree, 18% remain neutral, 17% agree, 8% completely agree. Thus, it could be observed that most respondents expressed that fulfillment of organizational goals was not delayed due to the lack of use of Internet-based communication channels by the boss.

Graph 21: Fulfillment of goals

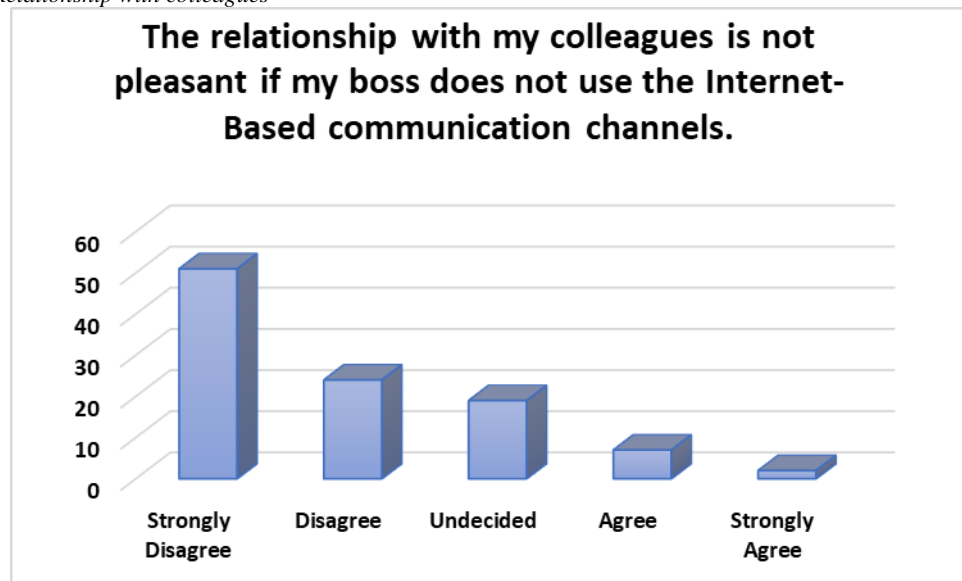


Source: Own construction

5. The relationship with my colleagues is not pleasant if my boss does not use Internet-Based communication channels.

On this issue, (M=1.9; SD=1.1) 51% completely disagree, 24% disagree, 19% are neutral, while 7% agree, and 2% completely agree. The responses show that the most employees feel the lack of use of Internet-Based channels by the boss to communicate does not represent a risk against the relationship with colleagues.

Graph 22: Relationship with colleagues



Source: Own construction

Conclusion

By observing the responses obtained, it can be clearly evidenced that the relationships between colleagues within the work environment, the scope of organizational goals, the clarity of the information shared with the boss, and the messages sent by the boss for the fulfillment of the task, are not affected when the boss communicates via non- Internet-Based channels. Likewise, it may be inferred that the fluency of the messages is not perceived to be affected when the communication between the boss and the employees is carried out without the intervention of the Internet-Based channels.

Final score

The final score is 2 (Disagree).

Table 79: Final score

| | | |
|---|----------|--|
| 2 | Disagree | Employees perceive that the absence of Internet-Based communication by the boss does not affect communication satisfaction |
|---|----------|--|

Source: Own construction

Interview analysis

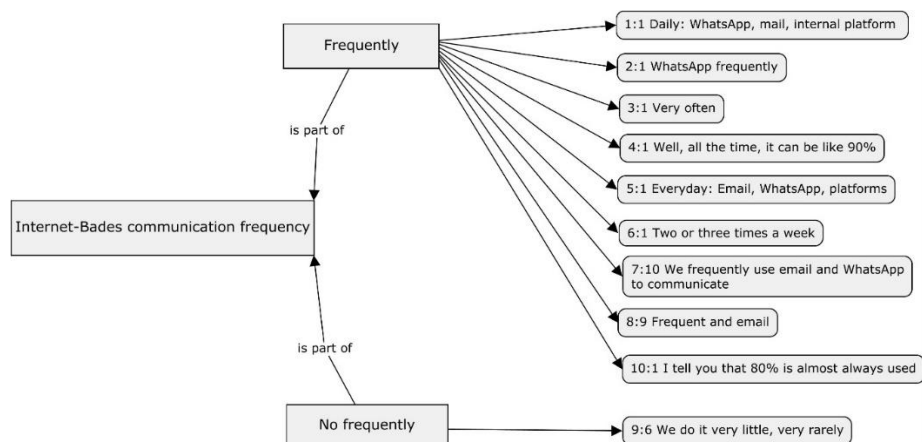
The following Schemes show the description of the findings. The codes and the quotations that support them will be displayed. The numbers in parentheses, within the wording, refer to the number of quotations or testimonials of the interviewees; it is important to highlight that a single interviewee can answer different options, so the sum of quotations does not correspond to the totality of the interviewees in some response segments.

1. *How often do you use Internet-based tools when communicating with your boss? (email, institutional Intranet, social networks such as Messenger, WhatsApp, Viper, among others)*

Most of the interviewees communicate with the boss by Internet-based channels “*frequently*” or several times a week (9). Only one respondent replied that they communicate by Internet-based channels very “*No frequently*” as seen in scheme 1. Likewise, they responded the most frequent Internet-based tools of communication were email (4), WhatsApp (4) and networks as an institutional intranet (2), see scheme 2.

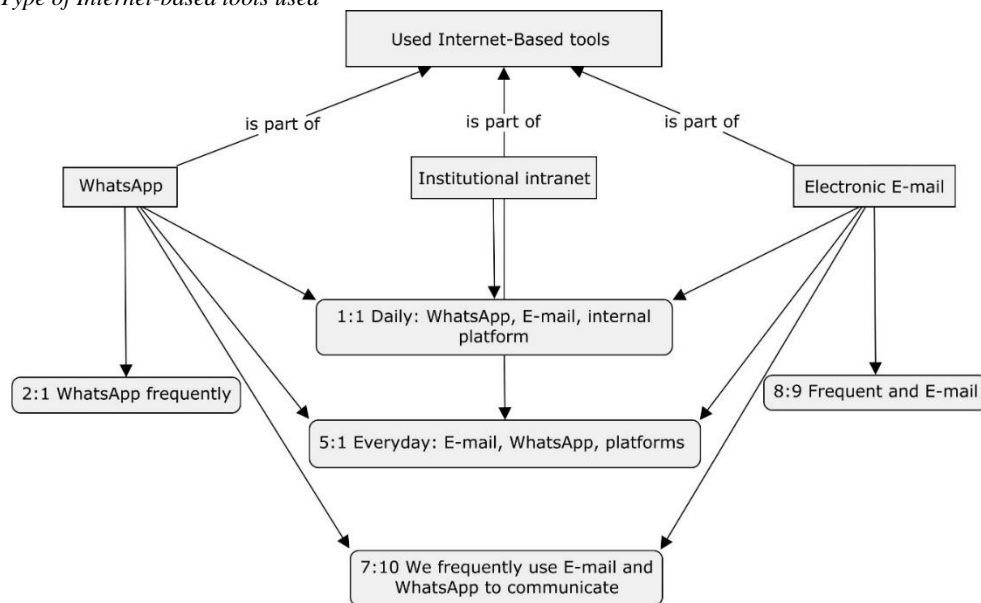
Findings also show how Internet-based channels are frequently and constantly used in the workspace. The use of WhatsApp indicates that there is an openness to direct and informal ways of communication with the boss; however, the use of email and institutional platforms are considered as formal channels of communication.

Scheme 1: Frequency of Internet-based communication with the boss



Source: Own construction

Scheme 2: Type of Internet-based tools used



Source: Own construction

2. What do you use it with the boss for?

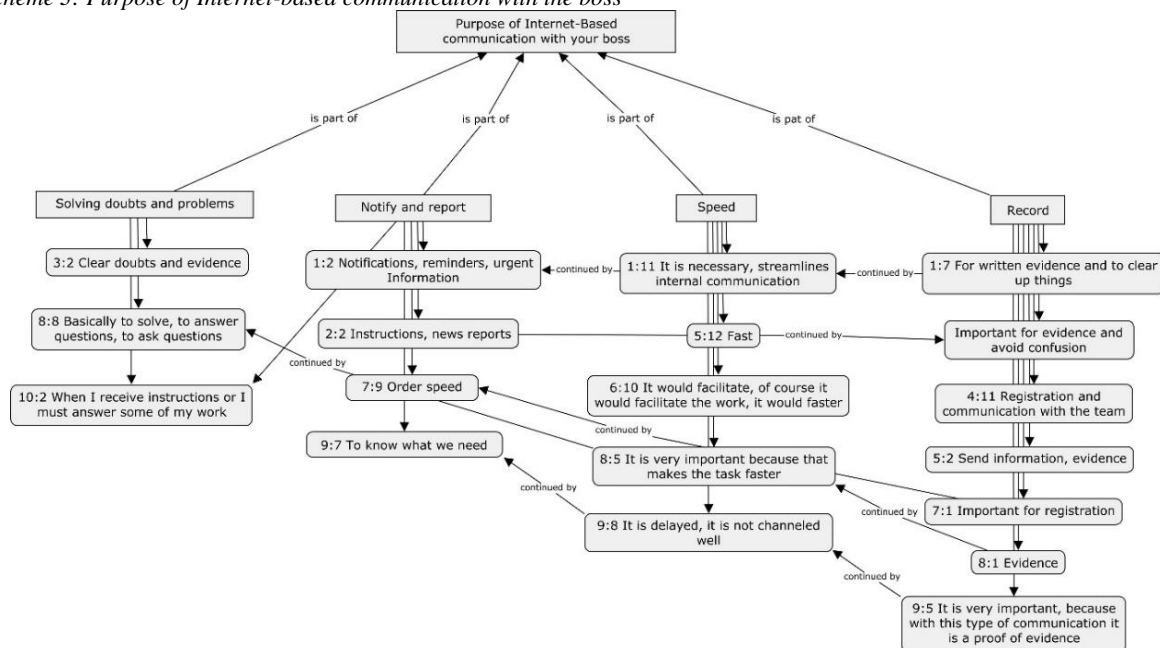
According to respondents, there are different purposes to use Internet-based communication, for instance, *problem solving* (3) such as clearing doubts, answering, and asking questions or receiving instructions about the job. Similarly, *notify and report* (4), specifically, urgent information, news reports, and saying what is required in a timely manner.

Speed is also an important element in the purposes of Internet-based communication (5), respondents suggest that it generates more agility to deal with internal matters, facilitates work, and makes it faster. Finally, most of interviewees agree that this type of communication is useful to keep *records* to generate evidence and keep support for the actions carried out in the workspace (7), for them, the chance to record information is a type of guarantee and safeguard which allows them to clarify doubts and have specific guidelines regarding the work they can visualize at the required time.

Therefore, it can be stated that the Internet-based communication is important as long as it informs about required actions in the workspace that need to be supported in formal and informal ways to generate a greater clarity. It does not mean that Internet-based communication acts as a retainer of all work processes, rather, it serves as an alternative channel that provides support and helps accelerate them. In this regard, scheme 3 shows that speed and evidence are predominant answers.

This question about the purpose is connected to the question about the need for Internet-based communication by the boss in scheme 10, which also shares the previous answers on *the evidence, the speed* and, additionally, *clear instructions*, specifically, the need of feedback, giving instructions, and defining priorities.

Scheme 3: Purpose of Internet-based communication with the boss



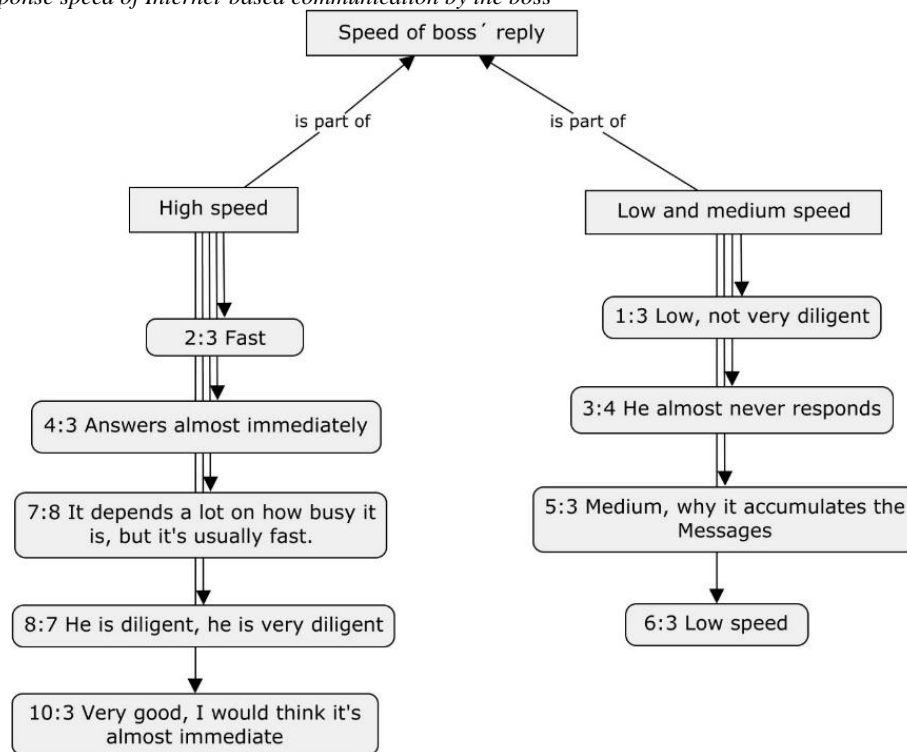
Source: Own construction

3. How do you perceive the speed of response of your boss via Internet-based communication channels for the fulfillment of the task? Diligence, Delay, Not responding.

Regarding the speed the boss communicates via Internet-based communication, it is found that half of interviewees say that the speed is high (5); that is, it is fast, immediate, and diligent.

On the contrary, other interviewees (4) state that the speed is low and medium, not very diligent, the messages accumulate, or the boss never responds to them. It leads to state that although, in the previous question about the purpose, the speed generated by Internet-based communication was highlighted, it is not fulfilled for the totality of the interviewees, specifically in relation to the boss's level of response; that is, the employee can send messages in an agile and frequent manner, but he or she does not, necessarily, receive immediate response. Access to Internet-based communication does not guarantee its effectiveness.

Scheme 4: Response speed of Internet-based communication by the boss



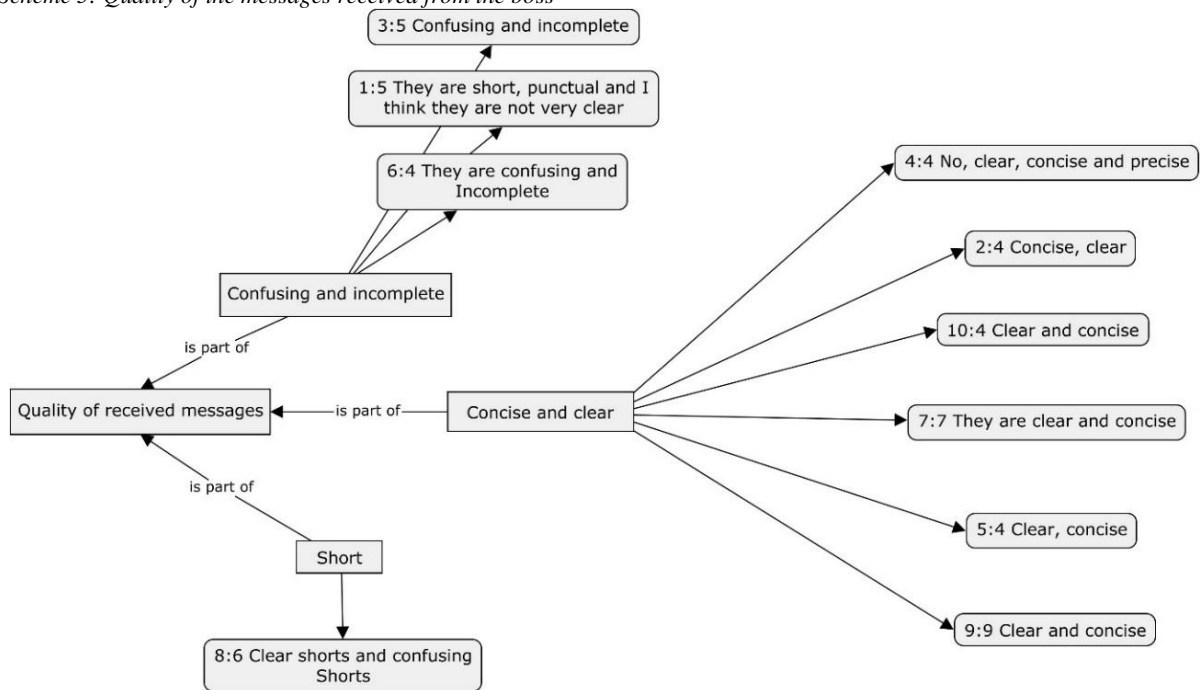
Source: Own construction

4. How is the quality of the messages that your boss sends you via Internet-based channels?

Regarding the quality of messages, more than half of interviewees (6) answer that messages are *concise* and *clear*, 3 participants say they are confusing and incomplete (3), and one participant

says they are short. It can be directly related to the Internet-based tools selected to carry out the communication; to illustrate, in the case of WhatsApp, the messages are usually accurate, so communication is direct and timely, also, frequently, if communication is performed on a daily basis, its purpose is very specific and concrete for the execution of tasks; nevertheless, when messages are short, they may lack of clarity. If it is observed that almost half (4) of interviewees state that messages are confusing, incomplete and short, it indicates that Internet-based communication is not effective *per se*, nor does it provide clarity just because the organization has chosen that way as a medium of communication.

Scheme 5: Quality of the messages received from the boss

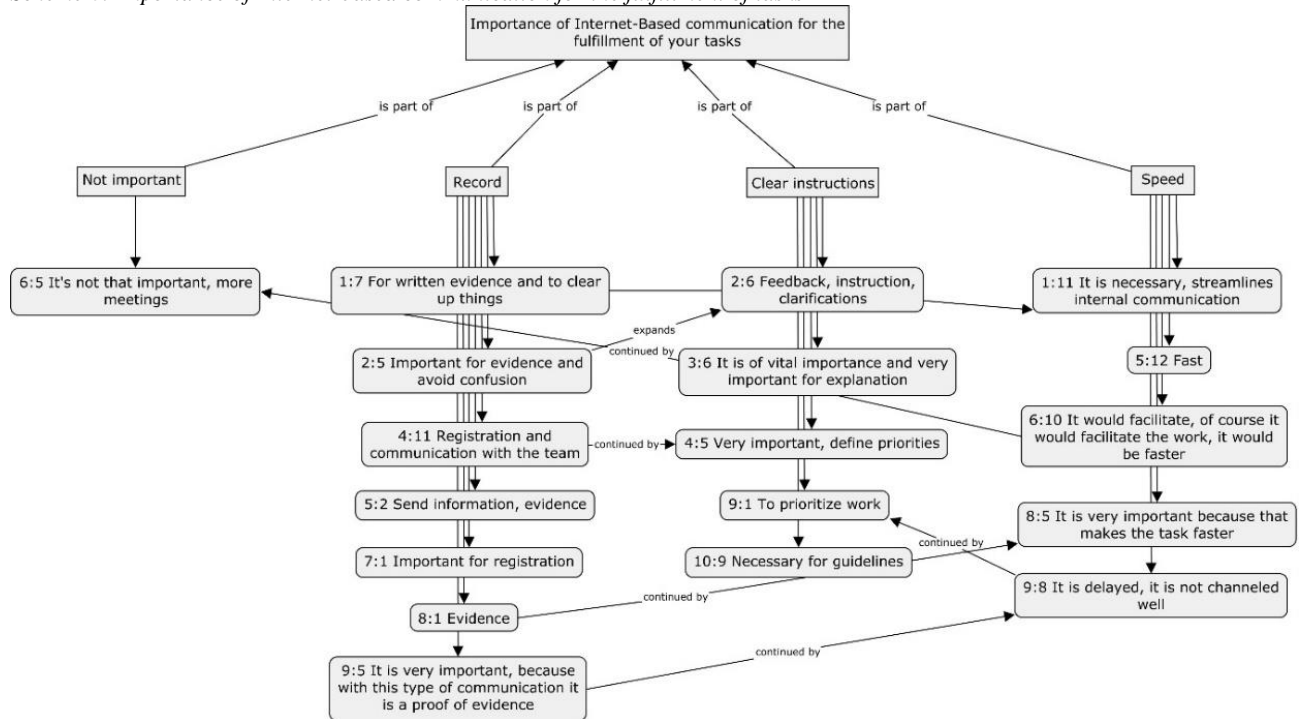


Source: Own construction

5. How important is it that your boss communicates via Internet-based communication channels for the satisfactory fulfillment of your task? Why?

Some of the answers given by participants agree on responses from previous questions; that is, *record* (7), *speed* (5) and *clear instructions* (5) are considered important for the fulfillment of daily tasks by interviewees. Just a person thinks that it is not directly important.

Scheme 6: Importance of Internet-based communication for the fulfillment of tasks



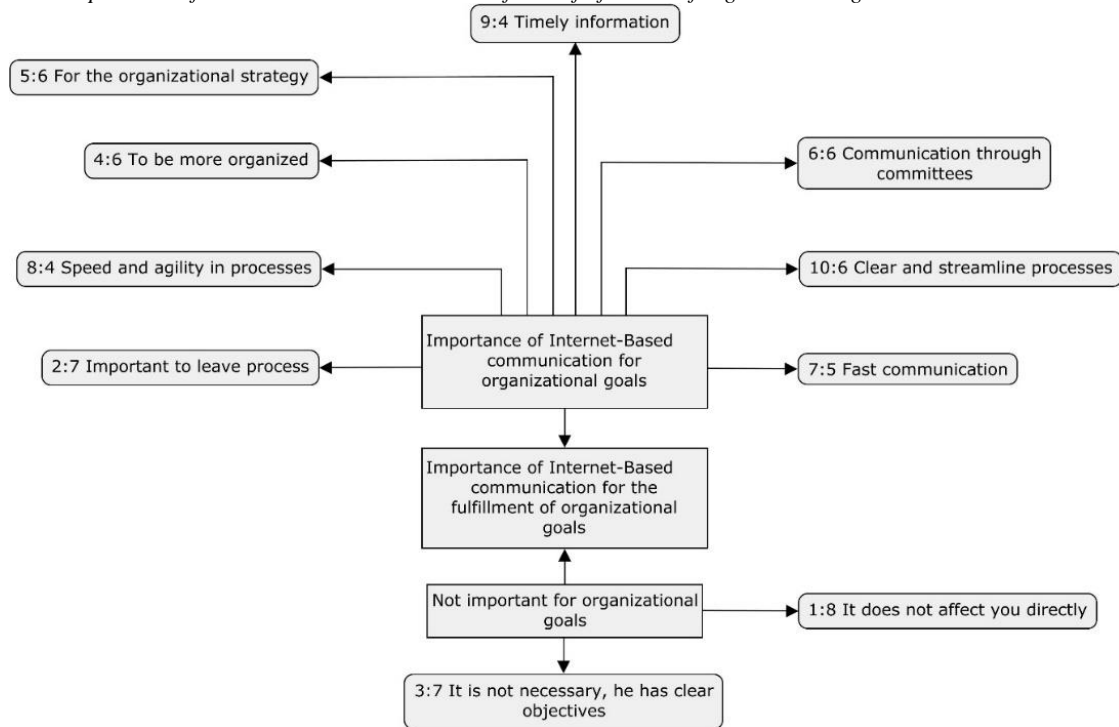
Source: Own construction

6. How important is it that your boss communicates with you via Internet-based communication channels to achieve organizational goals? Why?

Interviewees (8) specify that Internet-based communication with the boss is important for the achievement of organizational goals for various reasons; on the one hand, they affirm that it helps processes to be more agile, timely, more organized, and with a greater proof of evidence; on the other hand, they think it is important for the development of the organizational strategy and communication through different committees.

However, two interviewees think Internet-based communication is not important at this issue. It may arise because they find other ways such as meetings, face-to-face communication, and independent work, without direct supervision.

Scheme 7: Importance of Internet-based communication for the fulfillment of organizational goals



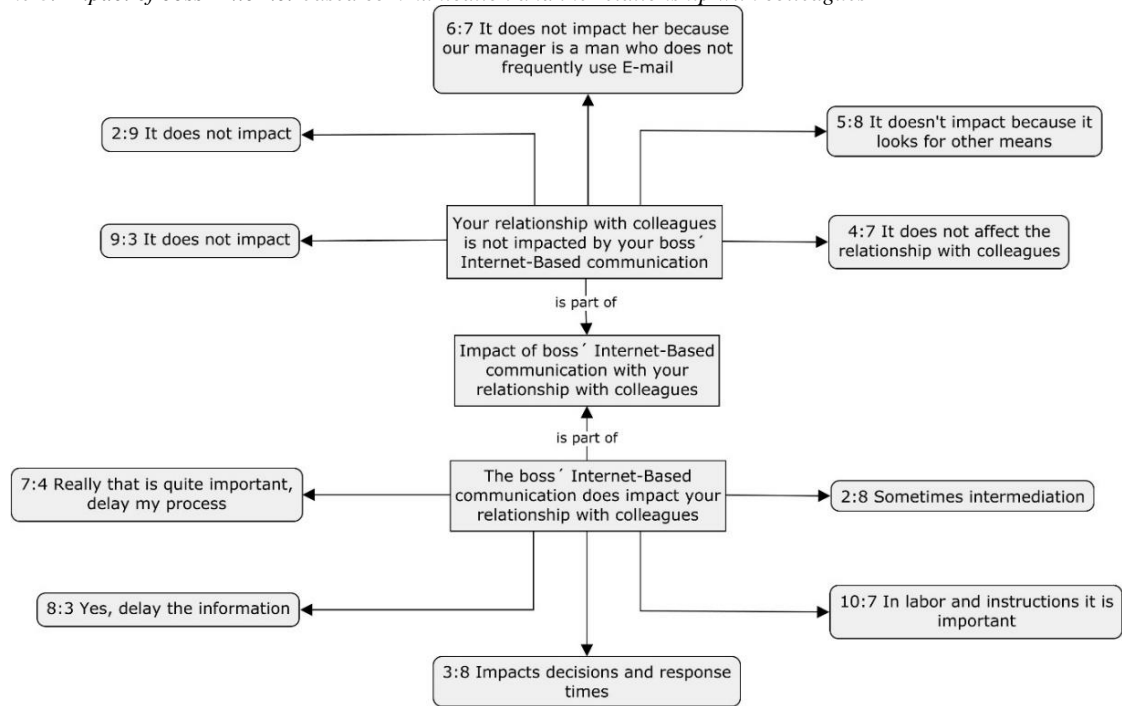
Source: Own construction

7. Does the Internet-Based communication by your boss impact your relationship with your colleagues? How?

Half of interviewees say that Internet-based communication with the boss impacts the relationship with their colleagues or co-workers; they argue that the absence of Internet-based communication by their boss can delay the work process; similarly, they think that when the boss does not interact with them through Internet-based channels, interviewees become the link between the boss and their colleagues, to give instructions, or to impact decision making.

In contrast, the other half states that the Internet-based communication by their boss does not impact the relationship with their colleagues or co-workers since they use other channels. See scheme 9. Consequently, it can be concluded that the Internet-based communication is an alternative way to organizational communication such as face-to-face meetings.

Scheme 8: Impact of boss' Internet-based communication and the relationship with colleagues



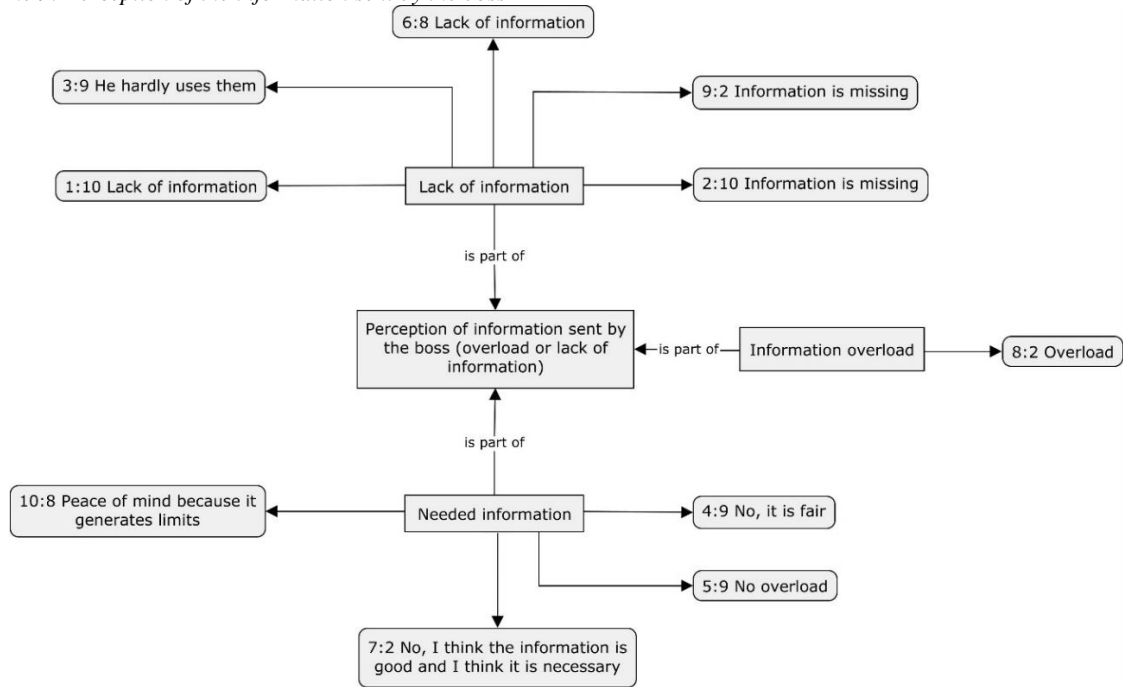
Source: Own construction

8. Do you consider that there is an overload or lack of electronic information by the boss? How does it affect you?

Half of respondents agree on the fact that there is an absence of information; on the contrary, less than half states that they receive the necessary information (4), and one interviewed perceives *information overload*.

Additionally, on the one hand, it can be observed that Internet-based communication does not generate the information required for decision making, or actions at work for all respondents. In this respect, other channels of communication with the boss are used. On the other hand, the use of Internet-based channels is often difficult for many of them and, therefore, it may not be the appropriate way to establish the flow of communication with employees.

Scheme 9: Perception of the information sent by the boss

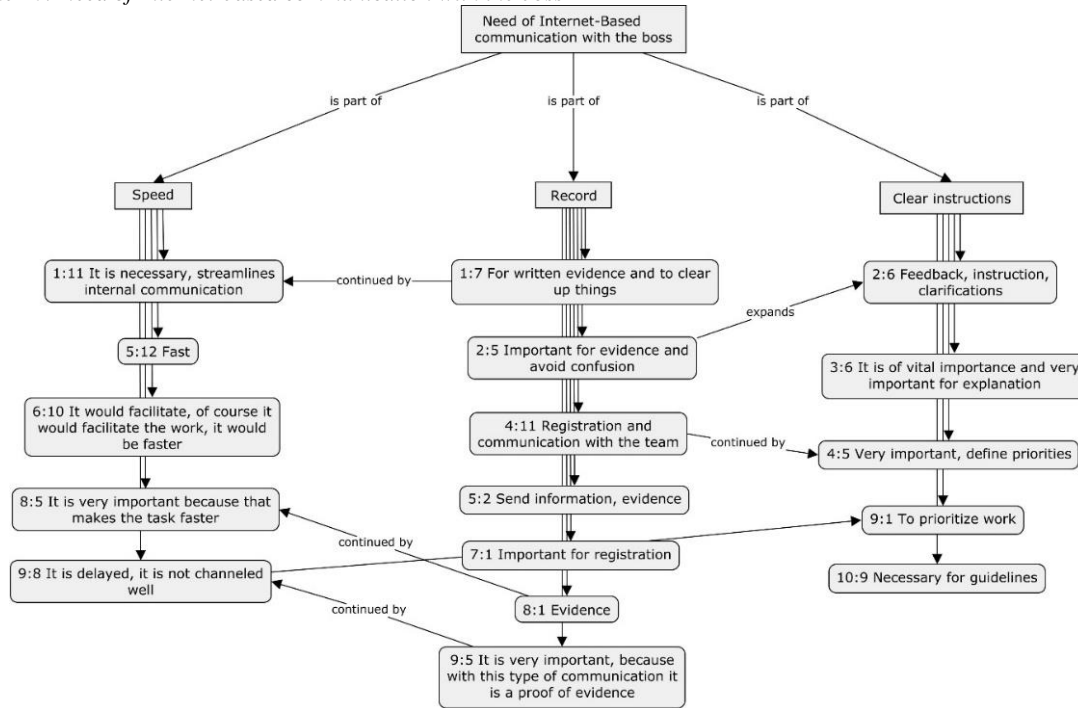


Source: Own construction

9. Do you feel that the Internet-based communication by your boss in the organization is necessary? Why?

As noted, there are different questions that show equivalent answers; specifically, the questions regarding the purpose, the importance, and the need for Internet-based communication with the boss share *the speed* (7), *proof of evidence* (5) as answers. For this question, regarding the need for the Internet-based communication, *clear instructions* is additionally answered (5).

Scheme 10: Need of Internet-based communication with the boss



Source: Own construction

Conclusion

In the findings described above, it is observed that the Internet-based communication process among interviewees and their boss is considered an important channel in the fulfillment of their tasks, organizational goals, and work environment; however, it can be seen as an alternative channel to speed it up, or keep it as a proof of evidence, rather than a determinant way to impact or improve tasks. In addition, the absence of Internet-based communication does not prevent the fulfillment of the tasks or the achievement of goals; in fact, it is confirmed that, although Internet-based channel exists, the communication is not satisfactory in its entirety; as a consequence, some limitations such as the absence of information and lack of clarity are overcome through other ways such as meetings in person or face-to-face conversations; that is, Internet-based communication is considered important, but when it fails or is not used, other non-Internet-based mediums come in handy.

In conclusion, the absence of Internet-based communication does not have a negative influence on communication satisfaction; therefore, the hypothesis 4 *The leader's refusal to communicate via Internet-based channels with employees has a negative impact on communication satisfaction is rejected.*

Research question 4

Does the leader's refusal to communicate via Internet-based communication with employees have a negative impact on the leader's communication satisfaction in CMC environments?

Both the questionnaire and the interview analyses concluded that it does not affect communication satisfaction.

DISCUSSION, IMPLICATIONS, AND LIMITATIONS

Discussion 1: Hypothesis 1

Using regressions, job satisfaction was regressed on a simple linear regression with each of the three leadership predictors. Regarding the relationship between leadership styles and job satisfaction, the study validates the findings of previous research that demonstrated the existence of a positive relationship between the variables leadership and job satisfaction, (Choi, et al., 2016), (Alonderiene & Majauskaite, 2016). The current study found that the three leadership styles, when evaluated individually, showed a significant and positive relationship with job satisfaction.

Another important finding of the current study arises from the comparison of the level of influence that transactional, transformational, and level 5 leadership styles have on job satisfaction. Results showed that the individual relationships between job satisfaction, and transactional and transformational leadership styles were weak, while the relationship between job satisfaction and level 5 leadership style was moderate. Finding positive and weak relationship by the predictor reinforces Bass's argument, (1985), who states that being transactional a leadership style that is based on achieving objectives in exchange for rewards, the role of the leader is focused on the task, that is, designing strategies that guarantee the completion of the task, performance, and persuasion against possible resistance from the followers; the weak level of influence on behavior may be due to the fact that job satisfaction does not depend only on the rewards people expect to obtain, but also on other dimensions contained in the instruments.

Results also found that transformational leadership style has a greater influence on improving job satisfaction than transactional leadership, which may be due to the fact that transformational leadership seeks to achieve the institutional goals differently from transactional leadership style;

transformational leadership style allows followers to feel empowered and committed to the organization by aligning their individual goals with the organizational; thus, followers' skills are developed (Bass & Riggio, 2006, p. 4); the finding validates results found by (Asghar & Oino, 2018) and (Ho, et al., 2016) who concluded that transformational leadership has a greater effect on job satisfaction than transactional leadership, which implies that a leader who motivates followers to align their personal goals with organizational goals is more suitable for Leading SMEs than a leader who just focuses strategies on rewards-based motivational maneuvers.

Similarly, findings showed that the influence by leaders on job satisfaction has a positive impact on the dimensions of the study; however, the effect it has on improving employees' perception of job satisfaction is weak. Consequently, it is concluded that it is needed more than the strategies deployed by the transactional or transformational leaders to make followers increase job satisfaction.

On the other hand, results tested that level 5 leaders had a moderate influence on job satisfaction. The fact that this leadership style has a greater impact on job satisfaction than transactional and transformational styles, may be related to the way in which these leaders establish lasting and strong bonds with their followers through a blending of personal humility and professional will (Collins, 2001). Now, one question remains to be answered, which could be perfectly part of another study, it is to know which behaviors and distinctive characteristics of level 5 leaders drive followers to feel more satisfied in their work environment.

The fact that results tested that transformational leadership has a greater impact than transactional, also, that level 5 leadership has the greatest impact of the three styles, reflects a consistency with the theoretical constructs established by the authors; therefore, it allows, on the one hand, to validate the descriptive categories of each of the three leadership styles; on the other hand, the finding resulting from this comparative exercise can be considered as an important theoretical input to help organizations create differentiated strategies to improve employees job satisfaction.

Additionally, the hypothesis tests led to answer the following research question:

Which leadership style - transactional, transformational, and level 5 - has a greater effect on job satisfaction when they interact within the organizations?

To answer the research question, job satisfaction was regressed on a multiple linear combination of the three leadership predictors. In other words, the three leadership styles were interacting, just as it happens in organizations daily. The finding is a completely new contribution to the study of the three leadership styles in terms of their interaction analysis and their effect on the perception that employees have on job satisfaction.

First, it is important to state that the level of significance is not relevant to the coefficient of the transactional leadership variable $b=-4,892$. $P>.05$, however, as a resource to enrich the discussion and contrast the theory, it is important to state that by observing the interaction of the three leadership styles, it can be noted that the value of b is negative which means, that in the presence of the other leadership styles, transactional leadership would adversely affect job satisfaction.

The interaction of the three leadership styles showed that the influence of the transactional and level 5 leadership styles were not statistically significant on job satisfaction, while transformational leadership turned out to be the only one of the three styles that can improve the perception that employees have on job satisfaction. Hence, it can be concluded that these organizations better interpret leaders who are able to motivate employees by the way they treat, value and motivate followers to achieve that personal goals get aligned with institutional goals, rather than by leadership strategies aiming at obtaining rewards, or by typical actions of leaders who arise admiration for their characteristics of knowledge and humility. The finding is interesting to the extent that it is evident how among the three leadership styles, leaders with transformational characteristics are shown to be a greater influence, which implies that transformational leaders are able to deliver a more motivating leadership message in SMEs to increase job satisfaction.

Discussion 2: Hypothesis 2

Using regressions, communication satisfaction was regressed on a simple linear regression with each of the three leadership predictors. Regarding the relationship between leadership styles and internet-based communication satisfaction, the study validates the findings of the research carried out by (Terek, et al., 2015) and (Mukhtar, et al., 2020) who tested the existence of a positive relationship between leadership and communication satisfaction. The current study showed that, when tested individually, the predictors of each of the leadership styles showed a

positive and significant relationship with communication satisfaction in internet-based environments.

An important finding of this study is that when studying leadership styles individually, and then comparing them among themselves, it was observed that employees perceive a weak influence by transactional and transformational leadership on communication satisfaction, while Level 5 leadership has a moderate influence. It is necessary to highlight that the 3 leadership styles impact communication satisfaction, however, the way employees perceive it could mean that transactional and transformational leaders require more training to get more out of Internet-based channels; likewise, regarding level 5 leaders, although they showed a greater impact on communication satisfaction, the impact level should be expected higher since level 5 leaders must take the organization to higher levels and keep them on top, which should require more rigorous motivation, control, and management exercises that involve communication.

Similarly, when observing the findings of the leadership variables individually, it was found that transformational leadership showed to be a greater predictor than transactional leadership to communication satisfaction; as consequence, the finding does not validate the results by (Madlock, 2012), who concluded that transactional leadership (more centered on the task) has greater influence than transformational leadership (more centered on the relation) in CMC environments.

To answer the research question, communication satisfaction criterion was regressed on a multiple linear combination of the three leadership predictors; it means that the interaction of the three predictors was observed within the organizations in CMC environments. The results tested that transactional and transformational leadership have no influence on communication satisfaction, while the level 5 leadership predictor showed to be the only one, out of the three, that influenced communication satisfaction. The current finding is unique in leadership research. It shows that level 5 leadership is the only one that influences the Internet-based communication satisfaction and has the greatest influence on communication outcomes.

The finding is important because when the predictors were both individually and aggregated tested, it was observed that level 5 leaders had greater influence on communication satisfaction in CMC environments. The finding may be because level 5 leaders have a better knowledge of how to use internet-based communication channels to interact with their employees and to create

empathic ties that allow followers to feel accompanied; additionally, the level 5 leader is capable of assuming responsibilities with humility, to assume and correct their mistakes, which would indicate that their abilities to learn how to deal with new challenges, such as technological ones, can lead to adapting to new forms of internet-based communication faster.

Discussion 3: Hypotheses 3

Using a regression analysis, job satisfaction was regressed on a simple linear regression with the communication satisfaction variable. Results tested a positive relationship between communication satisfaction and job satisfaction. Results validate previous findings by (Hua & Omar, 2016), (Park & Lee, 2018), (Vermeir, et al., 2018), and (Mehra & Nickerson, 2019); regarding the influence communication satisfaction has on job satisfaction; In addition to this, the current study validates previous results that found communication satisfaction had a moderate effect on job satisfaction (Vermeir, et al., 2018); in addition, from the Internet-based work environments, results validated the findings presented by (Smith, et al., 2018) who found a strong relationship between relationship between communication and job satisfaction in CMC.

Once the positive relationship between Internet-based communication and job satisfaction was found, Pearson's correlation coefficient analysis was used. The results proved that there is a positive relationship between the criterion variable and the predictor variables; the result validates previous findings (Çetin, et al., 2012), (Wikaningrum, et al., 2018); subsequently, to test how transactional, transformational, and level 5 leadership styles influenced the relationship, a multiple regression analysis was used. The linear combination was regressed to test the moderation effect leadership variables had on the relationship between job satisfaction and communication satisfaction.

Findings in the current study are unique in the theories of leadership, job satisfaction, and organizational communication since no studies conducted by business and academic scholars about the influence of leadership styles as moderators on the relationship between communication satisfaction and job satisfaction in CMC environments have been found previously.

In the context of SMEs when leadership styles act as moderators of the relationship between job satisfaction and communication satisfaction, results demonstrated that, transactional and transformational leadership styles have no effect on the relationship. It may be because the

current context of organizational communication is Internet-based, which could imply that SMEs should invest greater resources in the qualification of employees, and leaders, with transactional and transformational characteristics, on issues related to modern technological resources. On the contrary, when observing the results of the regression, and the moderating effect, results tested that level 5 leader influences the relationship between communication satisfaction and employees' job satisfaction in CMC environments. Among the three leadership styles, level 5 is the only one that influences the relationship, which implies that the characteristics of this leader, the combination of professionalism and humility meets the modern demands of internet-based communication in SMEs to improve organizational tensions from the relationship between communication satisfaction and job satisfaction. Another unique finding in the research was obtained by testing how level 5 leadership impacted the relationship when the effect was low, medium, and high. The three linear regressions tested that when the effect is greater, the influence of leadership on the relationship between communication satisfaction and job satisfaction grows progressively higher than the low and moderate effects; likewise, it was observed that the influence of level 5 leadership increased the relationship between communication satisfaction and job satisfaction; it implies that the better the perception employees have of the level 5 leader, the greater the impact he/she has on the relationship; that is, potential tensions in the relationship between communication satisfaction and job satisfaction in a CMC environment decreases when level 5 leadership intervenes.

Finally, as a conclusion, the data obtained allows us to answer the following research question:

What moderation effects do transactional, transformational, and level 5 leadership have on the relationship between communication satisfaction and job satisfaction in CMC environments?

Transactional and transformational leadership styles do not have influence on the relationship; it is level 5 leadership the only style that affects the relationship between communication satisfaction and job satisfaction in CMC environments.

Discussion 4: Hypothesis 4

Results of the current study do not validate the findings carried out by (Miti, et al., 2017), (Tkalac Verčič & Špoljarić, 2020), and (Siljanovska, 2015), who tested that the use of Internet-based tools in communication channels influence communication satisfaction. On the contrary,

findings validate the results by (Lalic, et al., 2012), it is to say, the absence of Internet-based communication channels do not affect communication satisfaction.

An important finding in this study tested that factors related to communication satisfaction in organizations, such as the clarity and fluency of the message, the relationships within members of the organization, the fulfillment of organizational goals and tasks, are not influenced by the absence of internet-based tools; the finding implies that employees and leaders use channels differently from Internet-based ones such as face-to-face meetings, meetings in persons, or phone calls to communicate the guidelines, argue their difficulties, give feedback, or clarify doubts in the organizational context. Finally, when observing the results, although participants perceived that the absence of internet-based channels does not affect communication satisfaction, it can be inferred that employees from SME in Colombia recognize the importance of using Internet-based tools as resources for organizational communication.

As a consequence of the observation and analysis of the findings, it is concluded that the research question that seeks to understand whether the leader's refusal to communicate via Internet-based communication with employees have influence on communication satisfaction is answered NO.

Discussion 5: Design of Internet-based communication satisfaction Questionnaire

The 5-item questionnaire showed very close consistencies in all reliability tests executed, it means very few changes in each of the tests, including those with sample below 100 participants. In all, the Cronbach's Alpha coefficients were greater than 0.7.

The magnitude of the result may vary depending on variables related to the use of internet-based communication channels in the organization; For this study, beforehand, the sample was asked what percentage of organizational communication was via Internet-based communication channels in the organization, the answer was 65.4%. The level of reliability is expected to change when the percentage of use of internet-based communication channels increases.

Likewise, the reliability could change when the sample size is larger. Given these observations, this first approach to the analysis of the influence of leaders' refusal to use the internet-based communication channels on communication satisfaction can be refined in future studies, by increasing the sample, or administering it in companies with greater use of Internet-based

communication channels. It likely occurs if companies belong to the technology industry, telework, or virtual work; or if the questionnaire is administered in periods such as those in which the health crisis due to Covid19 has forced organizations to design strategies for employees to do virtual work from home.

Implications of the study

First of all, it is important to underscore that the current crisis, as a consequence of the Covid19 outbreak, has forced nations to move abruptly to virtual work; consequently, employees and leaders from all sectors of the industry have been forced to work from home via Internet-based communication channels. These sudden circumstances, the characteristics of the change, and the little, if any, training that was carried out for the change to this type of work, should be studied for future research. In this scenario, findings of this study are valuable, and increase the importance of the implications as an input for literature, research, evaluation, decision-making, and, policy generations that help better understand and improve communication satisfaction, job satisfaction, and leadership practices in CMC organizational environments.

Second, findings of the current study are an input to enrich the leadership literature on SMEs immersed in Internet-based communication realities; the unique finding of leadership styles as moderators of the relationship between job satisfaction and communication satisfaction in SMEs in CMC environments is an important theoretical input to deepen the characteristics of leaders and their contributions in the current period of virtual work imposed by global health conditions.

Third, findings related to level 5 leaders are literature that can be used by researchers to delve into the characteristics of these leaders, and their influence on SMEs; thus, the new literature allows to broaden the spectrum of the level 5 leadership style, and observe how it contributes to employees' satisfaction at SMEs focusing their communication on CMC channels.

Finally, for the administrative staff, these findings can serve to create policies to improve the conditions of the firm's members; as well as the identification of level 5 leadership characteristics that help improve organizational achievements; likewise, to create training policies for transactional, transformational, and level 5 leaders, in topics related to technology and its integration into Internet-based communication.

Business practice proposals

Theories about satisfaction communication, job satisfaction, and leadership asserted that they are collective constructions, therefore, the current study required the participation of active members within the job environment regardless of the chains of command to which they belonged; consequently, the reading of the results must be associated with correlated variables and not individual ones, it is say that they should be read as a whole; hence, the results are important for SMEs' CEOs, entrepreneurs, and leaders as input from scientific literature to project personnel management scenarios based on CMC channels, which they will necessarily be forced to face during and after Covid19; similarly, understanding the current global challenge is an issue that impacts all countries and markets, in consequence, these results are relevant because they cover a gap of the knowledge in understanding how contemporary leadership styles influence organizational variables in a world that has accelerated its step towards home office; also, this work will serve as literary resources for SMEs to begin exploring new strategies to get closer to their employees and leaders, thus avoiding a drastic impact on job and communication satisfaction in the organization.

To be more specific, the results show that there is a positive relationship between communication satisfaction and job satisfaction in CMC environments; this implies that there are flaws in the way organizations are using social media tools to guarantee correct organizational communication; as a result, organizational communication experts and CEOs must establish interaction mechanisms with members of the organization to constantly assess the weaknesses of the communication process and the use of CMC channels.

Likewise, findings from this study show that 5 level is the only leadership style that influences the relationship between communication satisfaction and job satisfaction; particularly, level 5 leadership style shows characteristics that are summarized in professional will and humility; consequently, SME managers are recommended to identify 5 level leaders in organizations and allow them to participate actively in the modeling of organizational communication processes, listen to followers, and accompany them in the performance of their tasks to increase the level of job satisfaction.

Finally, the current study shed new light on the progressive growth of CMC and its connection to organizational communication; as CMC has become a necessary medium of communication

that uses emails as well as network tools, CEOs and communication experts should consider communication strategies together with training for all members of the organization on the use and implementation of social networks tools to achieve a better scope of organizational communication to tell directions and feedback for achieving tasks and organizational goals.

Limitations

Regarding the job satisfaction questionnaire, the facet operation procedure had a low Cronbach's alpha coefficient (.460), as the design of the questionnaire suggests scoring the overall facets, it was followed the author's recommendation to keep it.

Regarding the conceptual argument exposed by Collins (2001), level 5 leaders lead the firms from good to great and can be found in highly performing organizations. The current study was conducted in SME's in Colombia; it could be understood as a limitation, nonetheless, it is important to underscore that when referring to SME's, the categorization of a successful SME's needs to be redefined, since in emerging economy environments the SME's success should not always be observed in terms of financial growing, but in the way the sufficiently struggle to compete and create jobs.

Although results of the interview to support findings of the survey to test the hypothesis 4 were consistent, and match results of the survey analysis, there is a limitation in terms of the size of the sample for the interviews; yet, it is a good approach to validate the reliability of the questionnaire.

During the design of the Internet-based Communication Satisfaction Questionnaire, the initial sample of test-retest was low, the following tests of Alpha's Cronbach coefficient were over 100 participants though, it would have been better for the sample to be larger; likewise, the percentage of use of internet-based communication channels was 65.4%, although is a high result, a higher percentage would be more adequate.

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APPENDIX

Appendix 1: Questionnaires

Email Message

You are very important for this exercise. It is thanks to your answers that this research will provide objective information to bring us closer to understanding the phenomenon under study. I invite you to answer the questionnaire with patience and responsibility. With your participation, you are also doing science. Thanks for the collaboration in this study.

Introduction

The following exercise is part of a doctoral thesis study for the University of Pécs (Hungary). Its objective is to observe how leadership styles may moderate the impact of communication satisfaction on job satisfaction in CMC environments.

If you agree to participate in this study, you will be asked to answer some questionnaires. This will take approximately 30 minutes of your time.

For your peace of mind, the results will be completely anonymous, the participants or organizations where the questionnaire is applied will not be identified.

Likewise, you can ask questions about the project and / or quit at any time.

I appreciate your time and commitment.

Sincerely,

Ever Bedoya

Main Researcher

Demographic data

1. What is your genre?

M F don't want to say

2. What is your age?

18-28

29-39

40- 50

Older than 50

3. What is your academic qualification?

4. How long have you been in your current position?

From 1 year to 30 years

5. How long have you worked for this organization?

6. What is the level at the chain of command in the organization?

A. Top

B. Middle

C. Low

D. None

7. How satisfied are you with your job?

| Very dissatisfied | Dissatisfied | Somewhat dissatisfied | Indifferent | Somewhat satisfied | Satisfied | Very Satisfied |
|------------------------------|---------------------|----------------------------------|--------------------|-------------------------------|------------------|---------------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

8. In the past 6 months, what has happened to your level of satisfaction? (Check one)

A. Stayed the same

B. Gone up

C. Gone down

9. How many hours a day do you use on the internet or Smart Phone to carry out your work?

1 - 24

Internet Based Communication

Internet-based communication happens in the workplace using the computer, smart phones or tablets, through email, institutional platforms, social networks such as Messenger, WhatsApp, Viber, among others.

1. What percentage of organizational communication is done internet-based in your organization?

1. WhatsApp

| 0% | 10% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 100% |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| | | | | | | | | | | |

2. Messenger

| 0% | 10% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 100% |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| | | | | | | | | | | |

3. Email

| 0% | 10% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 100% |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| | | | | | | | | | | |

4. Twitter

| 0% | 10% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 100% |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| | | | | | | | | | | |

5. Facebook

| 0% | 10% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 100% |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| | | | | | | | | | | |

6. Instagram

| 0% | 10% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 100% |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| | | | | | | | | | | |

7. Other

| 0% | 10% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 100% |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| | | | | | | | | | | |

8. YouTube

| 0% | 10% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 100% |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| | | | | | | | | | | |

9. Institutional Intranet

| | | | | | | | | | | |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 0% | 10% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 100% |
| | | | | | | | | | | |

2. Of the following forms of internet-based communication: What is its level of use as a communication tool in the organization?

| | | | | |
|--------------|--------------------|------------------|-------------------|---------------|
| Never | Hardly Ever | Sometimes | Frequently | Always |
| 1 | 2 | 3 | 4 | 5 |

1. WhatsApp

| | | | | |
|--------------|--------------------|------------------|-------------------|---------------|
| Never | Hardly Ever | Sometimes | Frequently | Always |
| 1 | 2 | 3 | 4 | 5 |

2. Messenger

| | | | | |
|--------------|--------------------|------------------|-------------------|---------------|
| Never | Hardly Ever | Sometimes | Frequently | Always |
| 1 | 2 | 3 | 4 | 5 |

3. Email

| | | | | |
|--------------|--------------------|------------------|-------------------|---------------|
| Never | Hardly Ever | Sometimes | Frequently | Always |
| 1 | 2 | 3 | 4 | 5 |

4. Twitter

| | | | | |
|--------------|--------------------|------------------|-------------------|---------------|
| Never | Hardly Ever | Sometimes | Frequently | Always |
| 1 | 2 | 3 | 4 | 5 |

5. Facebook

| | | | | |
|--------------|--------------------|------------------|-------------------|---------------|
| Never | Hardly Ever | Sometimes | Frequently | Always |
| 1 | 2 | 3 | 4 | 5 |

6. Instagram

| | | | | |
|--------------|--------------------|------------------|-------------------|---------------|
| Never | Hardly Ever | Sometimes | Frequently | Always |
| 1 | 2 | 3 | 4 | 5 |

7. Other

| | | | | |
|--------------|--------------------|------------------|-------------------|---------------|
| Never | Hardly Ever | Sometimes | Frequently | Always |
| 1 | 2 | 3 | 4 | 5 |

8. YouTube

| | | | | |
|--------------|--------------------|------------------|-------------------|---------------|
| Never | Hardly Ever | Sometimes | Frequently | Always |
| 1 | 2 | 3 | 4 | 5 |

9. Institutional Intranet

| | | | | |
|--------------|--------------------|------------------|-------------------|---------------|
| Never | Hardly Ever | Sometimes | Frequently | Always |
| 1 | 2 | 3 | 4 | 5 |

On a scale of 1 to 5, One (1) indicates that you do not agree at all, whereas five (5) indicates that you completely agree.

1. Strongly Disagree 2. Disagree 3. Undecided 4. Agree 5. Strongly Agree

1. It is necessary for my immediate boss to use Internet-based communication channels 1 2 3 4 5
2. I feel more comfortable if my boss uses Internet-based communication channels. 1 2 3 4 5
3. The communication is not fluid if my boss does not use the Internet-based communication channels. 1 2 3 4 5
4. The information is not clear if my boss does not use the Internet-based communication channels. 1 2 3 4 5
5. The tasks are difficult for me if my boss does not feed me through the Internet-based communication channels. 1 2 3 4 5
6. The fulfillment of the goals is delayed if my boss does not use the Internet-based communication channels. 1 2 3 4 5
7. The relationship with my colleagues is not pleasant if my boss does not use the Internet-based communication channels. 1 2 3 4 5

Leadership Questionnaires

L5LS

**On a scale of 1 to 10, to what extent do the following characteristics describe this person?
A 1 indicates that this characteristic does not describe this person at all, whereas a 10
indicates that it describes him/her exactly.**

Personal Humility

- | | |
|---------------------------|--------------------------------|
| 1. Genuine | 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. |
| 2. Humble | 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. |
| 3. Team Player | 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. |
| 4. Servant Attitude | 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. |
| 5. Doesn't Seek Spotlight | 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. |

Professional Will

- | | |
|--|--------------------------------|
| 1. Intense Resolve | 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. |
| 2. Dedication to the Organization | 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. |
| 3. A Clear Catalyst in Achieving Results | 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. |
| 4. Strong Work Ethic | 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. |
| 5. Self-Motivated | 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. |

MLQ (5x-Short)



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The above-named person has made a license purchase from Mind Garden, Inc. and has permission to administer the following copyrighted instrument up to that quantity purchased:

Multifactor Leadership Questionnaire

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Sample Items:

As a leader

- I talk optimistically about the future.
- I spend time teaching and coaching.
- I avoid making decisions.

The person I am rating....

- Talks optimistically about the future.
- Spends time teaching and coaching.
- Avoids making decisions

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Sincerely,

Robert Most
Mind Garden, Inc.
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Communication Satisfaction Questionnaire

(CSQ)

A. Listed below are several types of information often associated with a person's job. Indicate how satisfied you are with the quantity and / or quality of:

| Very dissatisfied | Dissatisfied | Somewhat dissatisfied | Indifferent | Somewhat satisfied | Satisfied | Very satisfied |
|-------------------|--------------|-----------------------|-------------|--------------------|-----------|----------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

1. Information about my progress in my job. 1 2 3 4 5 6 7
2. Personnel news. 1 2 3 4 5 6 7
3. Information about company policies and goals. 1 2 3 4 5 6 7
4. Information about how my job compares with others. 1 2 3 4 5 6 7
5. Information about how I am being judged. 1 2 3 4 5 6 7
6. Recognition of my efforts. 1 2 3 4 5 6 7
7. Information about departmental policies and goals. 1 2 3 4 5 6 7
8. Information about the requirements of my job. 1 2 3 4 5 6 7
9. Information about government regulations affecting the Organization. 1 2 3 4 5 6 7
10. Information about changes in the Organization. 1 2 3 4 5 6 7
11. Reports on how problems in my job are being handled. 1 2 3 4 5 6 7
12. Information about employee benefits and pay. 1 2 3 4 5 6 7
13. Information about profits and/or financial standing. 1 2 3 4 5 6 7
14. Information about achievements and/or failures of the Organization 1 2 3 4 5 6 7

B. Please indicate how satisfied you are with the following by circling the appropriate number at the right

15. Extent to which my managers/supervisors understand the problems faced by staff. 1 2 3 4 5 6 7
16. Extent to which the Organization's communication motivates me to meet its goals. 1 2 3 4 5 6 7
17. Extent to which my supervisor listens and pays attention to me. 1 2 3 4 5 6 7
18. Extent to which Organization employees have great ability as communicators. 1 2 3 4 5 6 7
19. Extent to which my supervisor offers guidance

- | | |
|---|----------------|
| for solving job-related problems. | 1 2 3 4 5 6 7 |
| 20. Extent to which communication in the Organization makes me identify with it or feel a vital part of it. | 1 2 3 4 5 6 7 |
| 21. Extent to which the Organization communications are interesting and helpful. | 1 2 3 4 5 6 7 |
| 22. Extent to which my supervisor trusts me. | 1 2 3 4 5 6 7 |
| 23. Extent to which I receive in time the information needed to do my job. | 1 2 3 4 5 6 7 |
| 24. Extent to which conflicts are handled appropriately through proper communication channels. | 1 2 3 4 5 6 7. |
| 25. Extent to which the grapevine is active in the Organization. | 1 2 3 4 5 6 7 |
| 26. Extent to which my supervisor is open to ideas. | 1 2 3 4 5 6 7 |
| 27. Extent to which communication with other employees at my level is accurate and free flowing. | 1 2 3 4 5 6 7 |
| 28. Extent to which communication practices are adaptable to emergencies. | 1 2 3 4 5 6 7 |
| 29. Extent to which my work group is compatible. | 1 2 3 4 5 6 7 |
| 30. Extent to which our meetings are well organized. | 1 2 3 4 5 6 7 |
| 31. Extent to which the amount of supervision given me is about right. | 1 2 3 4 5 6 7 |
| 32. Extent to which written directives and reports are clear and concise. | 1 2 3 4 5 6 7 |
| 33. Extent to which the attitudes toward communication at the Organization are basically healthy. | 1 2 3 4 5 6 7 |
| 34. Extent to which informal communication is active and accurate. | 1 2 3 4 5 6 7 |
| 35. Extent to which the amount of communication at the Organization is about right. | 1 2 3 4 5 6 7 |

C. For the next five questions, indicate your satisfaction with the following only if you are responsible for staff as a manager or supervisor.

36. Extent to which my staff are responsive to
downward-directive communication. 1 2 3 4 5 6 7
37. Extent to which to which my staff anticipate
my needs for information. 1 2 3 4 5 6 7
38. Extent to which I can avoid having
communication overload. 1 2 3 4 5 6 7
39. Extent to which my staff are receptive to evaluations,
suggestions and criticisms. 1 2 3 4 5 6 7
40. Extent to which my staff feel responsible for
initiating accurate upward communication. 1 2 3 4 5 6 7

JOB SATISFACTION SURVEY

Please circle the one number for each question that comes closest to reflecting your opinion about it.

| Disagree very much | Disagree moderately | Disagree slightly | Agree slightly | Agree moderately | Agree very much |
|-------------------------------|--------------------------------|------------------------------|---------------------------|-----------------------------|----------------------------|
| 1 | 2 | 3 | 4 | 5 | 6 |

1. I feel I am being paid a fair amount for the work I do. 1 2 3 4 5 6
2. There is really too little chance for promotion on my job. 1 2 3 4 5 6
3. My supervisor is quite competent in doing his/her job. 1 2 3 4 5 6
4. I am not satisfied with the benefits I receive. 1 2 3 4 5 6
5. When I do a good job, I receive the recognition for it that I should receive. 1 2 3 4 5 6
6. Many of our rules and procedures make doing a good job difficult. 1 2 3 4 5 6
7. I like the people I work with. 1 2 3 4 5 6
8. I sometimes feel my job is meaningless. 1 2 3 4 5 6
9. Communications seem good within this organization. 1 2 3 4 5 6
10. Raises are too few and far between. 1 2 3 4 5 6
11. Those who do well on the job stand a fair chance of being promoted. 1 2 3 4 5 6

| | |
|--|-------------|
| 12. My supervisor is unfair to me. | 1 2 3 4 5 6 |
| 13. The benefits we receive are as good as most other organizations offer. | 1 2 3 4 5 6 |
| 14. I do not feel that the work I do is appreciated. | 1 2 3 4 5 6 |
| 15. My efforts to do a good job are seldom blocked by red tape. | 1 2 3 4 5 6 |
| 16. I find I have to work harder at my job because of the incompetence of people I work with. | 1 2 3 4 5 6 |
| 17. I like doing the things I do at work. | 1 2 3 4 5 6 |
| 18. The goals of this organization are not clear to me. | 1 2 3 4 5 6 |
| 19. I feel unappreciated by the organization when I think about what they pay me. | 1 2 3 4 5 6 |
| 20. People get ahead as fast here as they do in other places. | 1 2 3 4 5 6 |
| 21. My supervisor shows too little interest in the feelings of subordinates. | 1 2 3 4 5 6 |
| 22. The benefit package we have is equitable. | 1 2 3 4 5 6 |
| 23. There are few rewards for those who work here. | 1 2 3 4 5 6 |
| 24. I have too much to do at work. | 1 2 3 4 5 6 |
| 25. I enjoy my coworkers. | 1 2 3 4 5 6 |
| 26. I often feel that I do not know what is going on with the organization. | 1 2 3 4 5 6 |
| 27. I feel a sense of pride in doing my job. | 1 2 3 4 5 6 |
| 28. I feel satisfied with my chances for salary increases. | 1 2 3 4 5 6 |
| 29. There are benefits we do not have which we should have. | 1 2 3 4 5 6 |
| 30. I like my supervisor. | 1 2 3 4 5 6 |
| 31. I have too much paperwork. | 1 2 3 4 5 6 |
| 32. There is too much bickering and fighting at work | 1 2 3 4 5 6 |
| 33. My job is enjoyable | 1 2 3 4 5 6 |
| 34. Work assignments are often not fully explained | 1 2 3 4 5 6 |
| 35. I don't feel my efforts are rewarded the way they should be. | 1 2 3 4 5 6 |
| 36. I am satisfied with my chances for promotion | 1 2 3 4 5 6 |

| |
|---|
| Regarding the order of the items, In the Spanish questionnaire: |
|---|

Number 32 took the place of number 34 of the original English one

Number 33 took the place of number 35

Number 34 took the place of number 36

Number 35 took the place of number 32

Number 36 took the place of number 33

Informed Consent for Research Participants

I have been told that I will have to answer questionnaires, which will take approximately 20 minutes.

I acknowledge that the information I provide in the course of this research is strictly confidential and will not be used for any purpose other than those of this study without my consent. At the beginning, I have been informed that I can ask questions about the project at any time and that I can quit at any time.

I agree to participate voluntarily in this research, conducted by researcher Ever Bedoya.

Yes

No

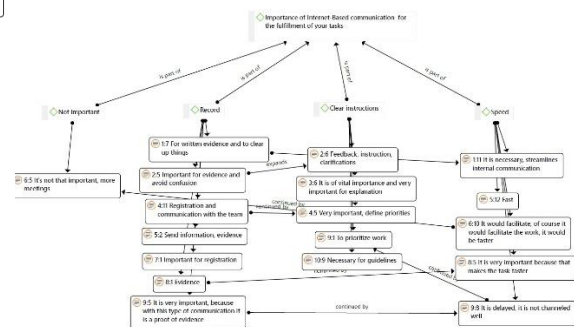
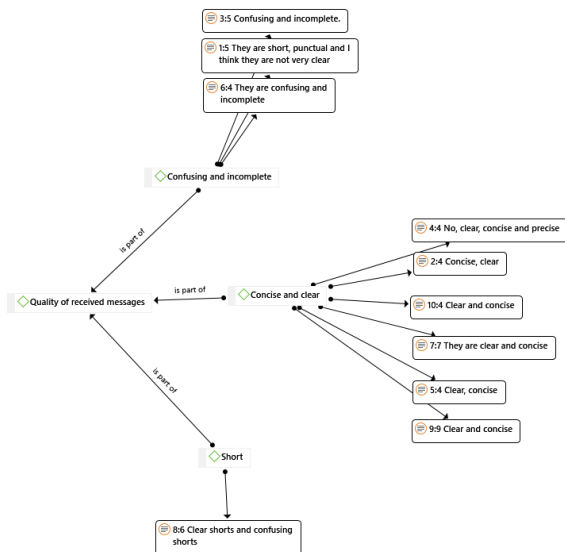
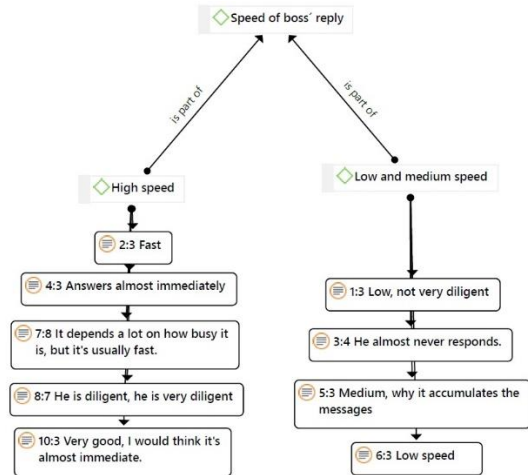
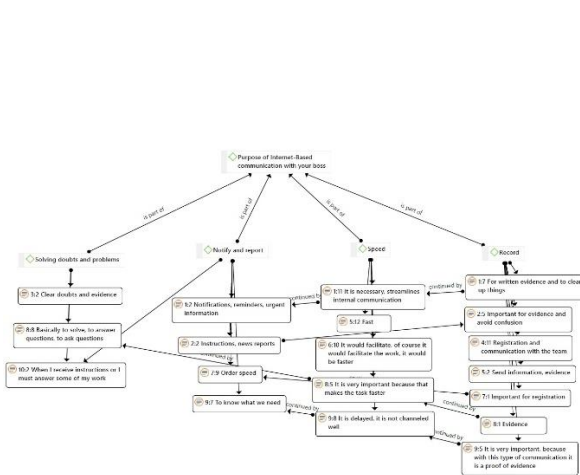
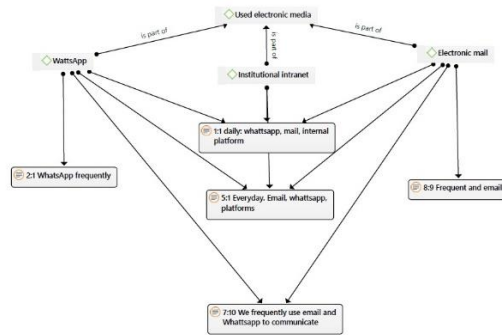
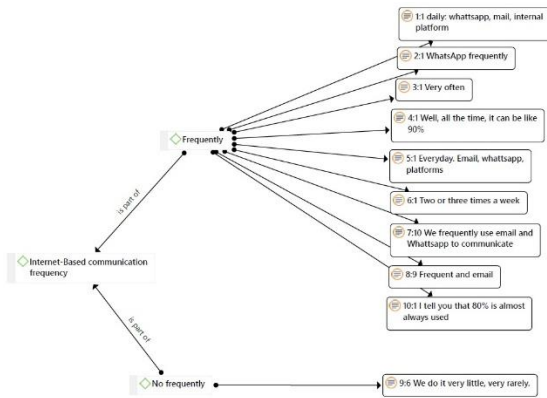
I have been told that the aim of this study is to observe how leadership styles may moderate the impact of electronic communication on job satisfaction

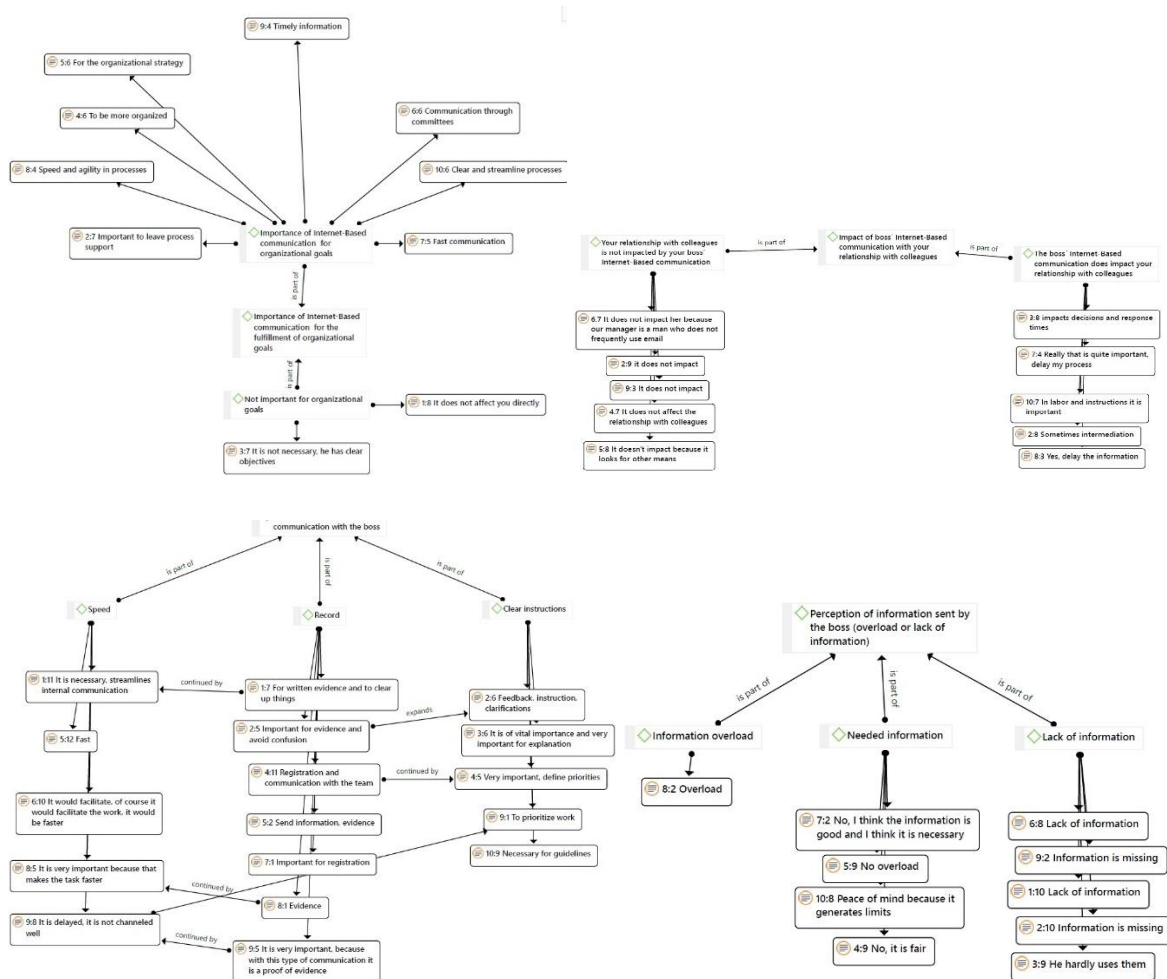
Yes

No

Thanks for your cooperation!

Appendix 2: Atlast Ti Schemes





Appendix 3: Demographic data by stratum

| Participants' Demographic Data | | | | |
|--------------------------------|-----------|-----------|-----------|-----------|
| Strata | Stratum 1 | Stratum 2 | Stratum 3 | Stratum 4 |
| n | n=34 | n=29 | n=15 | n=25 |
| Gender | | | | |
| Male | 4 | 24 | 6 | 14 |
| Female | 30 | 5 | 9 | 11 |
| Age | | | | |
| 18 - 28 | 6 | 2 | 6 | 6 |
| 29 - 39 | 17 | 12 | 7 | 15 |
| 40 - 50 | 8 | 7 | 1 | 3 |
| Older than 50 | 3 | 8 | 1 | 0 |

| Job Tenure Range | | | | |
|--|------------|-------------|------------|------------|
| Years | 3,9 | 8,6 | 3,1 | |
| Job Position Range | | | | |
| Years | 5,3 | 12,8 | 3,2 | 4,3 |
| Level of Job Satisfaction | | | | |
| Very Satisfied | 5 | 9 | 1 | 6 |
| Satisfied | 19 | 14 | 8 | 12 |
| Somewhat Satisfied | 3 | 4 | 1 | 1 |
| Indifferent | 1 | 0 | 0 | 0 |
| Somewhat Dissatisfied | 2 | 0 | 2 | 4 |
| Dissatisfied | 0 | 0 | 1 | 2 |
| Very Dissatisfied | 4 | 2 | 2 | 0 |
| Job Satisfaction over the last 6 months | | | | |
| Gone up | 7 | 9 | 3 | 9 |
| Gone down | 11 | 3 | 6 | 4 |
| Stay the same | 16 | 17 | 6 | 12 |
| Average Time spent on Internet at work | | | | |
| Years | 8,3 | 2,2 | 4,7 | 5,5 |
| Academic Qualifications | | | | |
| Secondary degree | 0 | 8 | 0 | 0 |
| Technical degree | 5 | 3 | 1 | 5 |
| Technological degree | 7 | 8 | 1 | 4 |
| Bachelor degree | 9 | 5 | 5 | 4 |
| Specialization degree | 12 | 4 | 4 | 10 |
| Master degree | 0 | 1 | 3 | 2 |
| Ph. D. degree | 0 | 0 | 1 | 0 |
| None | 1 | 0 | 0 | 0 |

