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**IMPACT OF FEMININE LEADERSHIP IN INFORMATION
TECHNOLOGY PROJECTS**

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Abstract. This research aims to contribute, through data, analysis, and conclusions, to the current knowledge about the impact of the leadership performed by women in information technology (IT) projects in Argentina. Starting from the bibliographic review, work has been carried out, firstly, on a qualitative research, through semi-structured interviews to female project leaders of this industry, where their experiences and perceptions were captured. Those findings enriched the design of the measuring instrument for subsequent quantitative research, carried out through surveys to 115 members of information technology project teams, led by women in Argentina. The main results of the study, which allowed to validate the hypothesis, describe that woman, IT project leaders, exercise a transformational leadership style, servant leadership, with a strong focus on people and relationships, which motivates their collaborators to develop good performance in their projects. It has also been proven that the female leaders' aptitudes and competencies are considered by their collaborators as the most accurate to motivate them, especially to young people of the so-called "Generation Y" or "Millennials". The purpose of this research is to challenge the beliefs and stereotypes that hinder women's access to leadership roles and the choice of their professional careers, seeking to generate awareness, in organizations and the community in general, of the biases and obstacles that, nowadays, persist.

Keywords: Feminine Leadership, Project Management, Information Technology, Argentina.

**EL IMPACTO DEL LIDERAZGO FEMENINO EN PROYECTOS
DE TECNOLOGÍA DE LA INFORMACIÓN**

Resumen. Este trabajo busca aportar conocimiento, a través de datos, su análisis y las conclusiones, acerca del impacto del liderazgo que ejercen las mujeres en los proyectos de tecnología de la información (TI) en Argentina. Partiendo de la revisión bibliográfica, se ha trabajado, en primer lugar, sobre una investigación cualitativa, a través de entrevistas semi-estructuradas a mujeres líderes de proyectos de esta industria, en la que se han capturado sus vivencias y percepciones. Estos hallazgos enriquecieron el diseño del instrumento de medición para la investigación cuantitativa posterior, llevada a cabo a través de encuestas a 115 integrantes de equipos de proyectos de tecnologías de la información liderados por mujeres en Argentina. Los resultados principales del estudio, que permitieron comprobar la hipótesis, describen que las mujeres, líderes de proyectos de TI, ejercen un estilo de liderazgo transformacional, servicial, con fuerte foco en las

personas y en la relación, lo cual motiva a sus colaboradores a desarrollar un buen desempeño en sus proyectos. Se ha comprobado, también, que las aptitudes y competencias de las mujeres líderes son consideradas por sus colaboradores como las ideales para motivarlos, especialmente a los jóvenes de la denominada "Generación Y" o "Millennials". El propósito de esta investigación es desafiar las creencias y los estereotipos que dificultan el acceso de las mujeres a roles de liderazgo y la elección de sus carreras profesionales, buscando concientizar a las organizaciones y a la comunidad en general, sobre los sesgos y obstáculos que aún persisten en la actualidad.

Palabras clave: Liderazgo Femenino, Dirección de Proyectos, Tecnología de la Información, Argentina.

Introduction

Since the beginning of management theories, definitions of leadership have been related to masculine traits and skills. Books and studies on leadership studied and described men, their aptitudes and behaviors. The idea of female leaders was not conceived. Women were not considered for the studies and, in case a woman was presented in the role of leader, she was underqualified for not fitting the male stereotypes. (Ramos López, 2005, 2011)

In her 1973 study, Dr. Virginia Schein described the phenomenon called "Think-Manager - Think Male", demonstrating that the characteristics, attitudes and temperaments considered necessary for successful leadership are more frequent in men than in women, overvaluing aspects associated with them, such as competitiveness, rationality and domination in the leader's role, and undervaluing aspects considered feminine, such as sensitivity, empathy and collaboration. This study proved that the phenomenon is global and that it generated a barrier for the access of women to leadership roles, being relegated to inferior positions. (Schein, 1973)

With the irruption of women in the business world and as they began to occupy leadership and decision-making roles, well into the 20th century, studies began to be carried out on the style of female leadership and the characteristics of women leaders.

A. H. Eagly (1987) in his "Social Role Theory" states that people tend to associate certain roles and behaviors to men and other roles and behaviors to women, attributing to women the so-called "communal" characteristics, such as "warmth, kindness and solidarity" and to men the so-called "agentic" characteristics, such as "assertiveness, competitiveness and independence".

In a later study, called "Role Congruence Theory", A. H. Eagly and Karau (2002) argue that such characteristics, attributed to women and men, cause people to be expected to behave in line with the "communal" or "agentic" attributions according to their gender, leading to unfavorable attitudes towards people who do not meet these stereotypes. With respect to women, when they perform in leadership roles, they are perceived as "unfeminine" and their effectiveness is hardly recognized, since leadership is considered more congruent with the male gender stereotype, "assertive, competitive and independent", than with the female one, "warm, kind, supportive".

Reinforcing this, Lupano Perugini (2009) quotes A. Eagly and Carli (2007), who argue that the prejudice towards women leaders is generated because people tend to associate the male gender mostly with leadership traits, assigning to men qualities such as "competence, control, rationality and assertiveness", while women are assigned characteristics such as "sensitive, friendly, expressive and concerned about others".

Likewise, Isabel Cuadrado (2004) mentions in her article entitled "Values and stereotypical gender traits of women leaders", that Virginia Schein's studies (2001) show

that stereotypes of managerial positions have characteristics assigned to men, which generates difficulties for women in accessing leadership roles.

Taking up the theory of "Role Congruence Theory" by Eagly and Karau (2002), Kirk (2009) states that, by relating leadership to masculinity, it becomes difficult for women to participate in leadership roles without receiving criticism for their behavior, no matter what traits they express. If she shows concern for people, she is seen as a good woman, but very emotional, very soft, i.e., she does not fit the characteristics of a leader. On the other hand, if she is very task-oriented, assertive and rational, she will be criticized for being too hard and unfeminine.

From the above, it can be deduced that, no matter how she behaves, a woman in leadership roles will always be questioned.

However, recent studies show that female leaders possess appropriate traits and competencies to exercise leadership, to a similar extent or even surpassing male leaders. In this regard, a study by Korn Ferry Institute and Rockefeller Foundation (2017) found that female CEOs possess, to a similar extent as their male peers, the traits required for high-level positions in organizations, including persistence, need for achievement, curiosity, focus, assertiveness, risk-taking, and empathy.

At the same time, the needs of 21st Century organizations, with today's environments of volatility, uncertainty, complexity and ambiguity, commonly referred to as VUCA environments, and in particular the context generated by the Covid-19 pandemic, have revealed that today's leaders need more people and relationship-focused, collaborative and team-oriented attributes and skills than those traditionally associated with the role of the autocratic leader/manager.

Precisely, in this context of change, conflict, stress and uncertainty, transformational leaders contain, support and reassure their collaborators, fostering tolerance for uncertainty, as expressed by Lupano Perugini and Castro Solano (2006).

Spears and Lawrence (2002) state that traditional leadership styles, autocratic or hierarchical, are beginning to disappear in the 21st century, to give way to servant leadership, based on teamwork and community, involving employees in decision making and strongly based on ethical and caring behavior, seeking to improve the personal growth of employees while improving the care and quality of institutions.

These new leadership role needs, more focused on relationships, empathy and caring for employees, are more closely associated with the characteristics typically attributed to women than those traditionally attributed to men.

In a study developed on 7,280 leaders of the most successful and progressive organizations in the world, presented in the article "Are Women Better Leaders than Men?" by Jack Zenger and Joseph Folkman (2012), published by Harvard Business Review, it was found that women have greater competencies in terms of focus on the growth and development of their collaborators and relationship building, integrity and self-development. In that study, female leaders have been rated by their peers, their bosses, their direct reports and other people with whom they interacted, as better leaders, in general, than their male colleagues, with the gap increasing as the higher the level of hierarchy corresponded to female leaders. (Zenger and Folkman, 2012).

On the other hand, Eagly and Johnson (1990) explain that women tend to adopt a more democratic or participative leadership style and a less autocratic or directive style than men.

Cuadrado (2004) cites Druskat (1994), who argues that women value relationship, collaboration and discussion more, differentiating their leadership style from that of men. This author also cites B. Bass and Avolio (1994), who suggest that women develop a more "transformational" leadership style than men, as a result of their greater dedication

to parenting and educational activities, their interest in others and their greater social sensitivity. The aforementioned authors argue that women have values aligned to care and responsibility, while men are more concerned with rights and justice. Reinforces the above, the research of María Teresa Bistué (2016) on women leaders of organizations in the private sector in Panama, which concludes that, "the style of female leadership in the private sector of activity in Panama is identified with the characteristics of transformational leadership". (Bistué, 2016, p. 211)

On the other hand, studying the impact exerted by female leadership in organizations, the article "Are Women Better Leaders than Men?" by Zenger and Folkman (2012), assures that their research shows that the leadership skills that stand out in the women studied, are strongly correlated with organizational success factors, such as talent retention, customer satisfaction, employee engagement and profitability.

The report "Women CEOs Speak. Strategies for the next generation of female executives and how companies can pave the road," by Korn Ferry Institute and Rockefeller Foundation (2017), states that, when companies have gender diversity and leaders with the skills to incorporate differences, increases in performance and innovation are present.

According to the report "What Women Want - And Why You Want Women - In the Workplace" by Cathleen Clerkin (2017), recruiting women into organizations, in addition to doubling the chances of finding the right talent, can also increase your company's financial performance. This author states that Fortune 500 companies with the highest representation of women on their boards outperform companies with the lowest representation of women, plus gender-diverse teams have higher sales and profits compared to male-dominated teams, and gender-diverse business units have higher average revenues than less diverse business units.

Clerkin's (2017) study of 750 women and men leaders highlights findings why organizations should want women:

- Participants from organizations with a higher percentage of women rated their organizations more favorably in terms of job satisfaction, organizational commitment, burnout and employee engagement.
- Participants with female leaders felt more supported, especially women, and experienced less job-related burnout. (Clerkin, 2017)

Considering the benefits of transformational leadership on the performance of employees, it could be deduced that project teams led by women who exercise a transformational leadership style will perform well, favoring the achievement of their objectives, as indicated by studies that relate the success of information technology (IT) projects with the leadership style of those who lead them. (LeBlanc, 2008; Thite, 2000), as well as other studies that found that, those leaders with predominantly transformational and servant style have a higher success rate in their information technology (IT) projects (Aga, Noorderhaven, & Vallejo, 2016; Harwardt, 2020; Afzal, Khan, & Mujtaba, 2018). In the same vein, Gerald M. Weinberg (1986) and Linda A. Hill, Greg Brandeau, Emily Truelove, and Kent Lineback (2014) assert that command-and-control type of leadership style does not prove to be appropriate in these projects, but rather leadership that promotes trust and favors collaboration is required, and additionally, there are studies that link the success of these projects to the emotional intelligence of project managers. (Afzal et al., 2018).

Another important factor to take into account in today's IT projects is that the teams are increasingly composed of young people from the new generations. These generations have quite different particularities than their predecessors and require leaders who allow them to develop, provide them with frequent feedback and value them for their

achievements and principles. (Espinoza and Ukleja, 2016). The most appropriate leadership style for teams integrated by the new generations seems to have more attributes related to leadership considered feminine than to leadership styles traditionally attributed to males.

On the other hand, Andrea Linardi (2020), in her doctoral thesis "La comunicación como herramienta de gestión de las líderes mujeres con sus equipos de trabajo en la República Argentina", states that new generations require a leadership style characterized by empathy, collaboration and bidirectional communication, giving and receiving frequent feedback.

Despite the above, at present, it is still men who have the greatest participation in high-level positions in organizations and the predominant criteria in the selection of leaders continue to be male traits. Likewise, both in project management and in the IT industry, there is still a high percentage of male leaders and workers.

With respect to the competencies shown by women leaders of information technology projects in Argentina and their impact on their collaborators of different generations, as well as on the performance of the projects, no precedents have been found.

For this reason, this research seeks to provide information to enrich the current knowledge on this subject and to promote the valuation of women, by organizations, to lead information technology projects, in case the hypothesis is proved, and to generate a basis for future research.

Methodology

The purpose of this study is based on the following objectives:

1. To identify the skills and competencies of women in project leadership positions in organizations of the information technology industry in Argentina.
2. To determine the level of motivation exercised by female leadership in their project team, in the different generations, and in the so-called Millennials, of information technology projects in Argentina.
3. To analyze the impact of female leadership on the performance of projects in the information technology industry in Argentina.

To carry out the research, the General Hypothesis was formulated with 3 sub-hypotheses:

General Hypothesis (GH): Women in leadership roles within IT projects in Argentina motivate their teams, especially younger generations, with their feminine leadership style, bringing greater efficiency to the organization.

Sub-hypothesis 1 (SH1): Women project leaders in the IT industry in Argentina have a servant, transformational leadership style, which is more focused on qualities, skills and competencies oriented to relationships, collaboration, and emotional intelligence.

Sub-hypothesis 2 (SH2): This female leadership style generates greater motivation in younger generations or Millennials.

Sub-hypothesis 3 (SH3): Female servant, transformational leadership positively impacts project performance in the IT industry in Argentina.

After an extensive literature review, the research was conducted in two phases, between April and October 2020, starting with a qualitative study, through semi-structured interviews with women leaders, and then concluding with a quantitative study, conducted through anonymous surveys of members of IT project teams led by women in organizations in Argentina.

The qualitative study was conducted through an applied and field research since it focuses on responding to the performance of women IT project leaders and is developed to collect information in the context of the study. To conduct the interviews, a guideline guide was prepared with the questions, created with the objective of covering the topics related to the research objective, giving a structural guideline and allowing, at the same time, to cross-examine or incorporate clarifying questions at any time during the conversations. The aim is to allow the interviewees to express their opinions freely, spontaneously, and at the same time to inquire into emerging topics while maintaining a natural conversation.

The interviews are aimed at women leaders of information technology projects with teams that have people from the Generation Y or Millennial generation, as well as women leaders who do not have young people from this generation in their teams, with the objective of finding out if they feel that their skills motivate their teams in a diverse way or not, and if this influences the results of the projects. To conduct the semi-structured interviews, 14 women leaders were selected, considering that 7 of them had young Generation Y or Millennials in their project teams, while the remaining ones only had teams with older people.

In order to obtain a heterogeneous sample of women leaders, a selection was made in different companies within the industry and several project leaders were invited to participate in the study, considering that they were of different ages and based in different parts of the country.

The questions in the Guidelines Guide focus on identifying the ideal skills of an IT project leader, the skills needed to motivate and inspire project teams, and the skills that the interviewees identify as their own. Also included are questions about the desired attitudes and behaviors of team members that have a positive impact on the outcome of the project, as well as the barriers or obstacles that prevent or hinder the achievement of project objectives. Interviewees are asked to suggest recommendations for training a good project leader to achieve good project performance. The interviewees are also asked about the communication techniques they use with their team and if they differentiate their communication style and techniques when interacting with people from different generations. Finally, they are asked if they consider that women leaders have a higher level of development in the leadership skills mentioned as ideal for IT projects.

The interviews with the women leaders were conducted through the Zoom platform and were recorded for later de-recording and analysis of the responses. The leaders interviewed belong to national and international organizations, such as Globant, IBM, Indra, Accenture, SAP, Baufest, Tenaris, Kinetic, BGH Tech and Datastar, and are based in the cities of Buenos Aires, Córdoba and Tandil.

In order to examine the interviewees' answers, a codification of recurring themes was generated, and the topics were investigated, according to each of the focus points designed, based on the objectives of this research.

With the information gathered in the qualitative phase, we proceed to the design of the questionnaire that will be the instrument of the quantitative phase of the research.

The quantitative study is carried out through an applied, field and synchronic or cross-sectional research, since it focuses on responding to the performance of the female leader of IT projects, it is carried out to collect information in the context of the study and is developed at a certain time, without considering the evolution of the variables over time. The objective of this phase is to investigate the impact of female leadership style on the motivation of collaborators and on the efficiency of IT projects. For this purpose, a battery of specific questions was created to capture the perceptions of people who are members of project teams in the IT industry, led by women, belonging to the

"Millennials" or older generation and working in organizations with more than 50 employees in Argentina.

The research variable "female leadership" is measured through a Likert scale and becomes a quantitative variable with an ordinal scale. Likewise, the effect of female leadership style is investigated according to differences in the age range of employees, considering Millennials and Non-Millennials groups.

To estimate the population, data are taken from different sources. First, the 2019 Annual Report on the Software and IT Services Sector of the Argentine Republic by CESSI (2020), states that the Software and IT Services Sector companies in Argentina in 2019 had 115,000 employees, and according to the same report, this sector, in 2016, was represented by 4288 organizations, of which 73% were micro companies, with less than 10 employees, 21% were small companies, with 10 to 49 employees, 4% were medium-sized companies with 50 to 200 employees and 2% were large companies, with more than 200 employees. In terms of the proportion of employees, micro-enterprises only account for approximately 20% of employment in the sector. The remaining 80% is distributed more or less equally among the other 3 categories (between 25% and 30% each). (CESSI, 2019). For the purposes of this study, it is considered that, among medium and large companies, 54% of the workers in the sector are employed.

Additionally, according to CESSI's Federal Strategic Plan for the Argentine Software Industry 20182030, only 20% of the sector's employees were women in 2018. (CESSI, 2018).

Based on the aforementioned sources, the population of IT project team members led by women in companies with more than 50 employees in Argentina is estimated as follows.

*Population: 115,000 employees in the sector * 54 % of employees in medium and large companies * 20 % of projects with female leaders = 12,420 people.*

The population consists of 12,420 people over 20 years of age, from IT project teams in Argentina led by women, working in organizations with more than 50 employees at the time of the study.

From this population, we proceeded to calculate the sample with a confidence level of 95%, resulting in a sample of 90 people.

Based on this information, a sample of 100 people was defined for the study, dividing 50% into young people of the Millennials generation and 50% older people.

For the design of the instrument, we first considered the collection of demographic and classificatory data to validate the defined inclusion criteria. It should be noted that in no section of the research instrument is it mentioned that the study is conducted exclusively on women leaders, nor is there any reference to "female leadership" in order to avoid influencing or biasing the responses of the respondents. On the contrary, they are asked about the sex of their leaders and continue with the following sections only if all the inclusion criteria are met.

In the second part, we aim to conduct a correspondence analysis between the competencies that motivate the leaders' collaborators, considered by them as *ideal* characteristics of *leadership itself*, versus their perceptions of the characteristics possessed by their own leaders. The leadership characteristics included in this questionnaire arise from the interviews conducted in the Qualitative Phase.

Next, the following sections are focused on classifying the type of leadership possessed by their leader, according to Bass' (1985) transformational leadership theory and Greenleaf's (1970) servant leadership, to find which style is more present in female leaders.

First, the questionnaire used in the Doctoral Thesis of María Teresa Bistué (2016) is used to measure the transformational, transactional and Laissez Faire leadership dimensions. For the design of the research questionnaire of Bistué (2016), the Multifactor Leadership Questionnaire MLQ, (Bass, 1985) was taken as a basis, adapting and adjusting the categories, to measure and evaluate the perception of men and women on the female Leadership style within companies, in that case, in Panama City. For the last section, a questionnaire was designed to obtain information about the servant leadership characteristics of women leaders. The statements regarding servant leadership are based on the characteristics of this type of leadership, according to the author Robert Greenleaf (1970) in his essay "The Servant as Leader" and the findings obtained from the interviews.

The validation of the research instrument is performed, measuring reliability, through five experts, with the exception of the section of statements about transformational, transactional and Laissez faire leadership, taken from the Doctoral Thesis of María Teresa Bistué (2016), which has already been validated, previously to be used in her research.

Experts in leadership issues are asked for their opinion about the statements contained in the form, to be used in the quantitative research of this doctoral thesis. The purpose of the is to validate the leadership statements to be used in the research.

Regarding the section that seeks to evaluate "Servant Leadership", in order to give a context to the experts, a brief description of the qualities and characteristics of servant leadership described by (Greenleaf, 1970) in his book "The Servant as Leader" is presented in the document sent and prior to the statements.

To verify the internal reliability of the instrument, Cronbach's alpha (α) was calculated. In the social sciences it is considered that a coefficient value greater than 0.70 implies that the instrument is reliable, i.e., if this questionnaire were applied to other similar samples, the results could be generalizable.

The calculation applied to the experts' responses yielded a Cronbach's alpha (α) value of 0.73, thus concluding that the dimensions and their respective items have internal reliability to be included in the questionnaire.

In addition, the experts consulted also confirmed that they are sufficient and clear statements.

After validation by the experts, and prior to the fieldwork, the complete questionnaire was reviewed by a group of specialists, in order to obtain their observations and find out how long it took them to answer the survey. As a response from these specialists, it was learned that answering the survey in its entirety required an average time of between 12 and 15 minutes.

The research instrument was developed with the Google Forms tool and sent to the respondents through e-mails with the corresponding link, with no possibility of being traced, in order to keep the identity of the respondents anonymous.

The field study lasted 5 weeks and managed to obtain, organically, 115 respondents who qualified with all the inclusion criteria designed, of which 52 were Millennials, representing 45.22 % and the remaining 63 were Non-Millennials, with 54.78 %. The average age of these respondents was 42 years old.

The data analysis of the quantitative phase was carried out based on the levels of measurement of the variables and by means of descriptive statistics, using measures of central tendency.

Results

The results obtained from the analysis of the Qualitative Phase interviews are summarized as follows.

When asked about the skills that a good leader should have, most of the interviewees responded that, for good project management, the so-called "soft skills", i.e., interpersonal skills, are the most valued, above technical skills. In general, the most valued skill is "understanding and knowing the team well". One of the tools they use most is "active listening" and "asking how they feel, what their concerns and needs are" and "empathy". The role of the leader is seen as that of a facilitator; he is the person who ensures that the project runs its course, by serving the needs of his team. Being a trait of the "servant leadership" type, the leader ensures that everything the team needs to carry out its tasks is available in a timely manner. Other competencies mentioned by the women interviewed are "flexibility" and "adaptability". Considering that this industry is growing at an accelerated pace, and the adoption of new technologies is required, leaders with these characteristics are needed. One difference between the responses of the leaders of teams with Millennials and those with older employees is that, for the latter, "technical skills" are more highly valued than for younger teams. The reason behind this difference is that technical knowledge inspires respect, provides status, demonstrates the experience of a track record in the industry, which is highly valued by people.

When the women leaders were asked to comment on the advice they would give to a future IT project leader, the interviewees especially mentioned that they would recommend "being attentive to what happens to your collaborators", referring to "active listening" and "observation". This serves to get to know the team better, to know their needs, their interests. In this way, the leader can fulfill his role of support and facilitator, solving problems that may arise during the project process. They also mentioned that it is important to maintain "good communication", to have an open channel through which to clearly transmit what is expected of the team in order to generate closeness with team members and to make people "feel part" of the project. Many interviewees spoke of maintaining "closeness" and "creating a bond" with their teams. For this, it is necessary to communicate well, know how to delegate and generate trust and autonomy.

Regarding the way to motivate the team, most of the interviewees talked about "Understanding what each one needs" and "Giving each one what he/she wants or needs". The way to achieve this is by getting to know each person and knowing what motivates them so that they feel like doing their job. They also agree that it is necessary to "work as a team", achieving cohesion so that they work collaboratively. Again, "active listening" and "asking questions" appear, skills that play an important role in motivation. The interviewees recommend "Generating spaces for cohesion and team dynamics" such as informal meetings, so that people feel comfortable communicating. It also emerges from the leaders that to keep the team motivated it is important to "communicate and remember purposes and objectives", keeping the objectives clear and shared, so that the collaborators feel part of the process and not as something imposed on them. Through the interviews, it is perceived that, in order to manage successful IT projects, leaders would need to focus on motivation at two levels: one focused on the individual differences of each team member and the other with an eye on the team as a whole, to understand what role each person occupies.

On the other hand, it is observed that there are motivational differences between generations. In the case of Millennial team leaders, they speak of a need to "generate a bond", a "connection", and "make the team feel like a family", to generate commitment

in this generation, which tends to be less loyal to work than more mature people. They recommend generating spaces for "professional development", making them feel "empowered".

These statements are in agreement with Daniel H. Pink (2010) that Millennials are motivated mostly by intrinsic factors, which give meaning to their work, a purpose, over economic retribution.

On the other hand, the leaders mentioned that people from other generations do not have the same aspirations, but that they look more for "recognition" for the work they do.

At the same time, some interviewees considered that the differences are more related to the family commitments of the employees than to their ages. For example, they mentioned that those who have a family and children, even though their age would be considered Millennials, are more interested in achieving stability in their professional development, and not so much in changing jobs or leaving them to take a sabbatical year and travel. For them, understanding these differences is key when generating incentives to increase productivity.

Responding to the question about the communication techniques that leaders use to motivate their teams, the first thing that comes up is "empathy" when talking to their teams. The leaders of teams of Millennials recommend "using different means of communication" depending on the objective of the message and the interlocutor. Many interviewees suggest "communicating very frequently", having a daily conversation with their teams, and keeping their doors open and even having scheduled face-to-face meetings in order to generate a closer bond. Several interviewees mentioned that they prefer an "honest and coherent communication with what they think", where they even show themselves to be vulnerable.

This coincides with what Andrea Linardi stated in her doctoral thesis "Communication as a management tool for women leaders with their work teams in Argentina", where she mentions that leaders highlight "clarity", "transparency" and "honesty" as their own qualities. (Linardi, 2020)

It also emerged that the interviewees prefer "to propose and not to impose" and "not to command" as their communication and leadership style, which is also in accordance with Linardi (2020), who states that, at present, "the leader is part of the team, works together with his collaborators looking for contributions and synergizing with their ideas. People are taken into account and decisions are co-constructed". (Linardi, 2020, p.109)

It is important to mention that the interviews were conducted at the time of the Covid-19 pandemic, with mandatory confinement in the Republic of Argentina, therefore, the leaders have considered the changes produced by this situation in the communication and motivation of their teams. In this sense, they have strengthened the need to be empathetic, to understand each of the members of their teams and to communicate frequently so that they feel the closeness. Even in communication techniques, the leaders talk again about how they adapt to the needs of their teams so that their messages are better heard, and thus achieve a greater bond and, consequently, a better productivity.

Finally, the leaders interviewed were asked if they considered that the leadership, motivation and communication skills, which they themselves had previously mentioned, were more common among women than among men. In this case, opinions were divided among respondents. Fifty-eight percent of respondents believe that the leadership skills

they consider most appropriate for IT projects, in general, are more common among women, while 42% believe that they are simply skills that can be developed by both genders.

It is worth noting that among the interviewees who mentioned not believing that these skills were more common in women, later, when asked directly, they stated that they believe that women are, by nature, more empathetic, more communicative, more emotional and attentive to what happens to others. These are precisely the soft skills they described as those most valued in a good leader.

In this sense, a contradiction is perceived among their answers; however, there is another interpretation according to which these women interviewed have had examples of male leaders with the desired characteristics of a leader, although they do not consider it as the most natural in their gender.

It is noteworthy that, among the most interesting findings observed during the interviews, practically all the interviewees related female leadership to something "maternal", in the sense that it is essential to take care of people, treat them well, take them into account, be aware of their needs and at the same time be able to mark them if there are mistakes.

As a summary of the interviews conducted, the items mentioned most frequently during the meetings with the leaders are "communication", "listening and asking questions", "building the team, working as a team and involving the team", "empathy" and "understanding the team", "knowing the people" and characteristics of "servant leadership", such as "helping, facilitating, caring and generating closeness".

Regarding the result of the Quantitative Phase research, the first question, which consists of asking respondents to prioritize the skills and competencies that they consider IT project leaders should have, to motivate them to be more efficient in the results of the projects, selecting from most to least importance the five most relevant among 15 options presented, it is observed that the employees consider as first priority - selection of greater importance - that the ideal leader "Encourages teamwork", selected by 38% of the respondents, "Communicates purposes and objectives of the project", 26%, "Listens to what I have to say and puts himself in my place" 14% and "Generates links in the team, communication spaces and informal relationships", representing 10%. Figure 1 shows the results of the first selection of desired skills and competencies in IT project leaders made by the respondents.



Figure 1. Ideal skills and competencies in IT Project Leaders. Priority 1.

Note: Source: Author's own creation.

The next question in the survey addresses the leadership skills and competencies that their own IT project leader possesses and/or uses to motivate their employees. Again, respondents are asked to prioritize, from first to fifth, the leadership skills and competencies they believe their leaders possess. It should be recalled that all the responses correspond to employees of female leaders, but the respondents were not aware that the study was restricted to female leadership.

The skills and competencies with the highest recurrence in this question, again, are: "Encourages teamwork", "Communicates project purposes and objectives", "Listens to what I have to say and puts herself in my place" and "Generates links in the team, spaces for communication and informal relationships", as shown in Figure 2.

As can be seen, there is a significant similarity between the skills and competencies that leaders should have, in order to motivate them and promote good performance in IT projects, and the actual skills and competencies of their leaders, according to the perception of the respondents.

This comparison allows to deduce that women leaders of real projects present the aptitudes of the ideal leaders, according to the collaborators' appreciations, proving the General Hypothesis (GH) of the study: "*Women in leadership roles within information technology projects in Argentina motivate their teams, especially younger generations, with their feminine leadership style, bringing greater efficiency to the organization*".

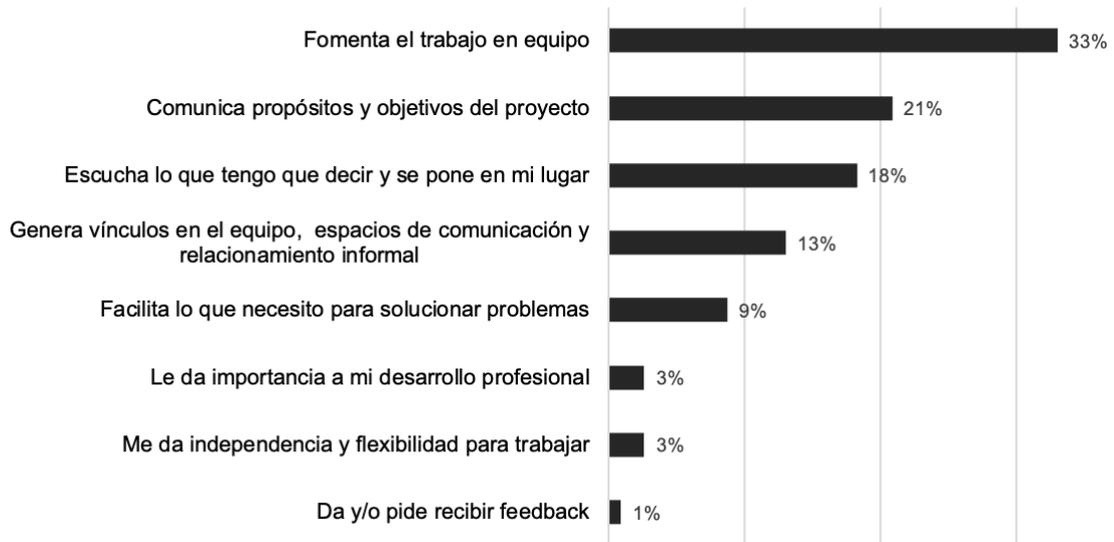


Figure 2. Skills and competencies of your IT Project Leaders. Priority 1.
 Note: Source: Author’s own creation.

The next question of the survey consists of a series of statements related to Transformational, Transactional and Laissez Faire leadership styles, in which respondents are asked to answer the frequency with which they agree with each statement, with respect to their project leader, using a Likert-type scale of 5 options: "Never", "Almost Never", "Sometimes", "Almost Always", "Always".

Analyzing the five dimensions of transformational, transactional and Laissez Faire leadership together, taking the responses "Always" or "Almost Always", it is found that, according to the perceptions of the collaborators, women leaders exhibit marked behaviors and aptitudes characteristic of transformational leadership, also observed, to a lesser extent, characteristics of transactional leadership, while showing a low correlation with leadership by Exception or Laissez Faire.

Figure 3 shows the above, also showing that the scores of the younger ones have been higher in all dimensions, except in "Intellectual Stimulation", where the older ones have valued them to a greater extent.

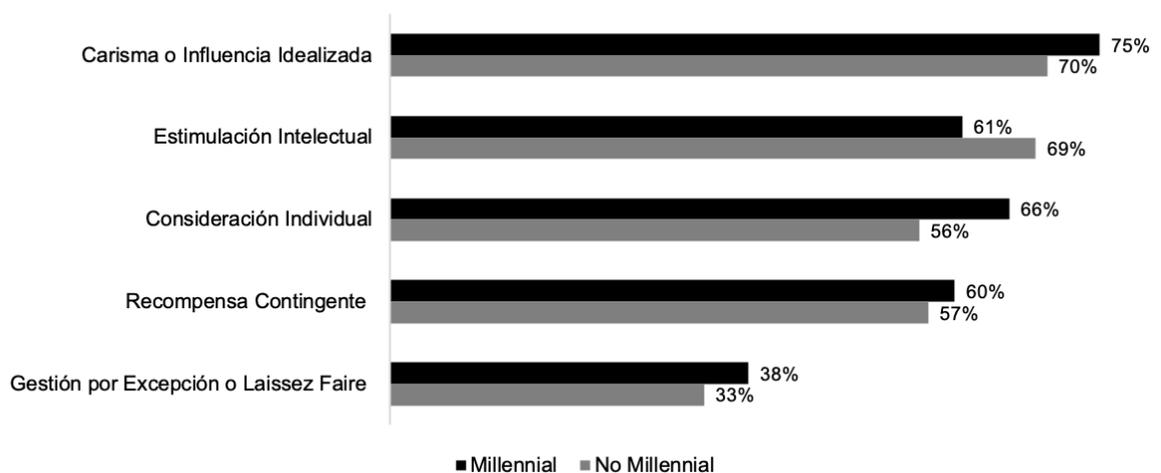


Figure 3. Transformational, Transactional and Exceptional Leadership Styles, by Ethnic Range.

Note: Source: Author's own creation.

These results are in line with Cuadrado (2004) regarding women developing a more "transformational" leadership style, as a result of their greater dedication to parenting and educational activities, their interest in others and their greater social sensitivity. Likewise, these data correspond with the findings of María Teresa Bistué's (2016) research regarding the "transformational" leadership style of women leaders of organizations in Panama.

The next section of the questionnaire addresses the characteristics and skills related to the Servant Leadership Style, through 13 statements that make up the four dimensions of this style, with a Likert-type scale of 5 options ranging from "Strongly Disagree" to "Strongly Agree".

Analyzing, as a whole, the dimensions of servant leadership, taking the responses "Agree" or "Strongly Agree", and differentiating by age range, as can be seen in Figure 4, it can be affirmed that, although all respondents have valued the skills and behaviors of the "Servant Leadership" style that their leaders possess at around 70%, the youngest have given special value to Empathic Communication and Persuasion.

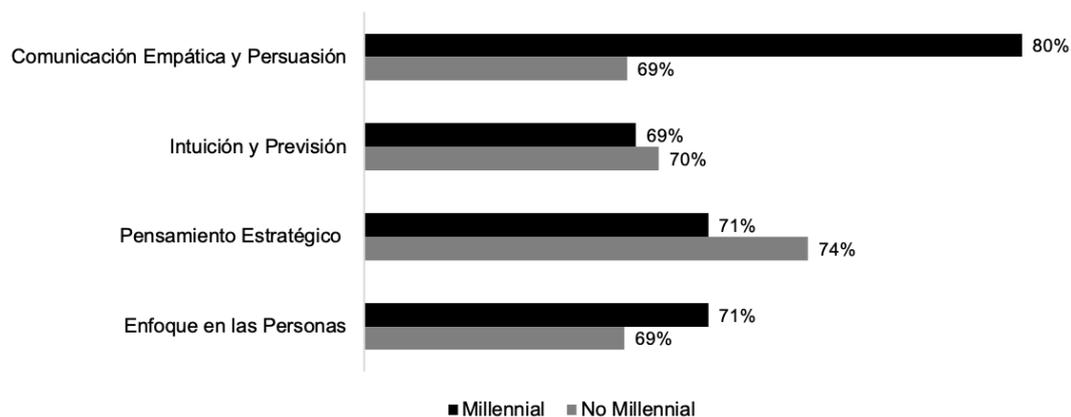


Figure 4. The Four Dimensions of Servant Leadership, by Age Range.

Note: Source: Author's own creation.

Interestingly, the surveys from the Quantitative Phase coincided with the results of the interviews with the leaders from the Qualitative Phase, who highlighted the skills of "communication", "listening and asking questions", "empathy" and "understanding the team", "knowing each person" and characteristics of "servant leadership", such as "helping, facilitating, caring and generating closeness".

As discussed in the analysis of the qualitative research data, the women interviewed defined the role of the leader as "facilitator", who takes care of the project by serving the needs of his team, so that they can focus on their tasks, without obstacles. Precisely, they have described the ideal leader with the traits of the "servant leadership" style.

Considering the results of the Transformational, Transactional and Laissez Faire Leadership Styles and Servant Leadership Styles Dimensions together, Sub-hypothesis 1 (SH1) is proven: "*Women project leaders in the IT industry in Argentina have a servant, transformational leadership style, which is more focused on qualities, skills and competencies oriented to relationships, collaboration and emotional intelligence*".

In parallel, taking into account the results of the statements Ideal and actual skills and competencies of their IT Project Leaders, which inquired about the leader's abilities

to motivate and achieve a good project performance, added to the results of the Transformational, Transactional and Laissez Faire Leadership Styles and Servant Leadership Styles Dimensions, Sub-hypothesis 3 (SH3) is also verified. *“Servant, transformational female leadership positively impacts project performance in the information technology industry in Argentina”*.

Discussion and Conclusions

From the interviews conducted with the women leaders, and analyzing the terms they mentioned most frequently, it can be highlighted that the IT project leaders focus on aspects such as "communication", "communication skills", "listening and asking questions", "team building, teamwork and team involvement", "empathy", "understanding the team", "knowing the people" and "helping, facilitating, caring and generating closeness", characteristics of "servant leadership".

This focus on communication and people on the part of the interviewees, aims to validate Sub-hypothesis 1 (SH1): *“Women project leaders in the IT industry in Argentina have a servant, transformational leadership style, which is more focused on qualities, skills and competencies oriented to relationships, collaboration and emotional intelligence”*.

On the other hand, through the results of the surveys conducted in the Quantitative Phase, it can be affirmed that the General Hypothesis (HO) has been proven: "Women in leadership roles within IT projects in Argentina motivate their teams, especially younger generations, with their feminine leadership style, bringing greater efficiency to the organization", as well as Sub-hypothesis 1 (SH1): *“Women project leaders in the IT industry in Argentina have a servant, transformational leadership style, which is more focused on qualities, skills and competencies oriented to relationships, collaboration and emotional intelligence”*, Sub-hypothesis 2 (SH2): *“This female leadership style generates greater motivation in younger generations or Millennials”* and Sub-hypothesis 3 (SH3): *“Servant, transformational female leadership positively impacts project performance in the information technology industry in Argentina”*.

In particular, the comparison between the results of the statements on the ideal and actual skills and competencies of the IT project leaders shows that the respondents consider that their IT project leaders possess the skills and competencies they consider ideal to motivate them and obtain good project performance, specifically, mentioning that their leader: "Encourages teamwork", "Communicates project goals and objectives", "Listens to what I have to say and puts himself in my place" and "Generates links in the team, communication spaces and informal relationships".

The analysis of the results of these statements, segmented by age range, shows that it is the youngest people who value the skills of their leaders the highest.

With these findings, it is affirmed that this study proves the General Hypothesis (GH): *“Women in leadership roles within information technology projects in Argentina motivate their teams, especially younger generations, with their feminine leadership style, bringing greater efficiency to the organization.”*, as well as the Sub-hypothesis 2 (SH2): *“This female leadership style generates greater motivation in the younger generations or Millennial”*.

These findings are extremely important considering that, according to the study "Managing in a complex environment", leadership skills are the most important factor for the success of projects. (Project Management Institute, 2013)

The results of the Transformational, Transactional and Laissez Faire Leadership Style Dimensions showed that women leaders mostly exercise a transformational leadership style, combined, to a lesser extent, with the transactional style. As expressed by Bistué (2016, p.210), "the transformational leader seeks to work with people so that they not only reach their needs, but also seek their most transcendent personal fulfillment".

On the other hand, the results of the Dimensions of Servant Leadership Styles show that women leaders of IT projects mostly exercise a servant leadership style, in accordance with what Greenleaf et al. (2002) describe, being concerned about the development and well-being of their collaborators, putting the needs of others first and helping them to grow and develop. Women leaders are willing to help others, to identify and satisfy their needs, and are concerned that they feel well and have greater autonomy in carrying out their tasks.

Reinforcing these results, Andrea Linardi, in her doctoral thesis, has found that women leaders promote high performance teams, inspire motivation, as well as the development of the talents of their collaborators. (Linardi, 2020)

Taken together, the above results allow us to affirm that Sub-hypothesis 1 (SH1) *"Women project leaders in the IT industry in Argentina have a servant, transformational leadership style, which is more focused on qualities, skills and competencies oriented to relationships, collaboration and emotional intelligence"*.

Incorporating to this analysis, the results of the survey regarding the statements on the skills and competencies that IT Project leaders should have to motivate and achieve a good performance in the project, where it was found that women leaders present, according to their collaborators, the ideal skills to motivate them and obtain a good performance, such as: *"Encourages teamwork"*, *"Communicates project goals and objectives"*, *"Listens to what I have to say and puts him/herself in my shoes"* and *"Generates links in the team, communication spaces and informal relationships"*, Sub-hypothesis is also tested 3 (SH3): *"Servant, transformational female leadership positively impacts project performance in the information technology industry in Argentina"*.

This result is in line with the studies mentioned in the Theoretical Framework of this document, which state that leaders with a predominantly transformational and helpful style, promoting trust and collaboration, have a higher success rate in their information technology (IT) projects. (Aga and cols., 2016; Harwardt, 2020; Afzal and cols., 2018; Gerald M. Weinberg, 1986; Linda A. Hill and cols., 2014)

Considering the statement by Avolio and Bass (1996), cited by Bistué (2016), regarding the convenience of training leaders to use more behaviors characteristic of transformational leadership and thus generate high performance, organizations may take advantage of this, incorporating women in leadership roles in general, and in information technology projects, in particular, since they naturally exercise this style.

In conclusion, it can be stated that this research corroborates its working hypothesis, demonstrating that women leaders of IT projects in Argentina, using a transformational and servant leadership style, motivate their collaborators, especially the younger ones, to obtain a good performance of their projects, thus benefiting their

organizations, especially in a context of anxiety and uncertainty, such as the time of mandatory confinement due to the Covid-19 Pandemic, when this study was conducted.

This work, as a complement to the various previous studies on similar topics that have served as background, seeks to generate awareness and commitment in organizations and in society in general, challenging the stereotypes that limit the possibilities of professional development of women, especially in project management and in information technology careers, where female talent is very scarce, losing the benefits of their skills, competencies, and leadership style.

Having fulfilled the purpose of this research to provide new knowledge on female leadership in project management, it is expected that this will evolve through further studies, to continue developing this concept. To this end, it is suggested to approach the study of women's leadership style and its results in projects in other industries and in different countries to enrich the general knowledge of project management.

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