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Intergenerational Leadership: A Leadership Style Proposal for Managing Diversity and New Technologies

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Abstract: Artificial intelligence, augmented, virtual, and mixed reality applications are improving business tools to increase their efficiency and ability to innovate. Technological innovation offers creative opportunities, but each generation values these advances differently. This study analysed the intergenerational differences and their leadership styles. The research questions are as follows: what are the main characteristics of each generation? And what leadership style is most appropriate for managing generational diversity in companies? Firstly, the main characteristics of each generation—Boomers, Generation X, Millennials, Generation Z, and Generation Alpha—were identified. Secondly, the most representative leadership styles of each generation were analysed. And thirdly, a proposal for a leadership style that can be used to better manage the intergenerational needs and technological demands of companies was presented. The development of leadership styles that take account of all generations can support economic growth and the creation of innovative and sustainable industries, as well as improve social welfare.

Keywords: talent; intergenerational; generation; leadership; technologies; metaverse



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1. Introduction

The reality that companies manage today integrates a large fraction of remote work or work with/in virtual spaces [1]. Remote work has developed exponentially since the pandemic and has become an important factor in the emotional wage of new generations. Thinking about remote work, one of the most important changes brought from the COVID-19 lockdown was the creation of multiple online platforms and services. Companies became open to exploring new environments, such as the metaverse as an independent space to communicate remotely and in which workers have their avatars [2]. They also began to take advantage of artificial intelligence tools and augmented, virtual, and mixed reality applications to add resources to improve their efficiency and ability to innovate.

In the workplace, metaverse applications are also beginning to be seen as a shift in the way we interact with technology to create Web 3.0, a combination of the digital and physical worlds. Technologies associated with the metaverse include web-based technologies, augmented and virtual reality, blockchain technologies, artificial intelligence (AI) applications, human–computer interaction tools, and applications in simulation environments, multiscale networks, and collaborative environments [2,3].

These technological changes in the work environment have created significant challenges for talent management, particularly considering the coexistence of different generations. Workforces include people from different generations [4]. Organisations need to adapt quickly and apply appropriate leadership-style techniques to achieve optimal performance, facing the changes brought by generational diversity [5]. Leaders play an important role in retaining, motivating, and improving employee performance. Wolor et al. [5] suggest that generational differences may require an adaptation of leadership

styles. For some generations, traditional leadership models may not be the best way to implement sustainable change [6]. Employers need to understand what each generation expects from their work and their leadership preferences. Understanding what makes one generation different from another is important for developing future leaders [4,5]. In this regard, leadership styles that naturally integrate technological advances play an important role in achieving a healthy and efficient work environment [7]. In this regard of a broader reflection on business leadership, it is important to take into account the concept of sustainable development based on the ecological limitations that surround us, the need to redistribute resources to guarantee life, and the concept of future generations, which assumes that resources must guarantee the quality of life in the long term [8] and economic development [9]. Younger generations have a key role to play in raising awareness for sustainable development and in contributing to a new understanding of this technological and economic change.

Technological innovation in the workplace is a creative opportunity. However, the acceptance of technological innovations is perceived very differently by each generation [10]. For example, the complexity that the metaverse may bring to generations such as the baby boomers (born between 1946 and 1964) is not an issue for the Gen Z social segment (born between 1995 and 2010), which consumes more online than offline media [11]. In that sense, one of the motivations for this research came from talking to people who manage teams of people from different generations. They told us about their difficulties in leading such diverse people and the need to understand the characteristics of each generation. Therefore, the first step was to see whether the literature had addressed the issue of leadership for intergenerational teams and whether the characteristics of each generation had been defined. It was observed that there are previous studies that partially defined some of the characteristics of one or more generations (e.g., [12–15]), but none was found that analysed the characteristics of all generations. Some studies have described important generational differences in users' use of new technologies [16], but these have not been explored in detail. There is also a lack of research on the relationship between leadership styles and intergenerational talent management. An analysis of leadership styles was also carried out (e.g., [13,17–20]), and it was found that previous studies had not analysed the problems that intergenerational teams pose for leaders.

Therefore, this study focused on two major challenges that organisations face if they are to successfully implement current technologies such as the metaverse: managing intergenerational talent and identifying new leadership styles. The aim of this study was twofold. On the one hand, we aimed to determine the characteristics that describe each generation including the variable adoption of new technologies in the work environment, and on the other hand, we aimed to create a leader scheme that adapts to all generations' potential needs and can incorporate the technological variable. The research questions are as follows: (RQ1) What are the main characteristics of each generation? and (RQ2) What leadership style is most appropriate for managing generational diversity in companies?

To answer these questions, a qualitative technique, the focus group, was used to validate and determine the characteristics of each generation and to identify the leadership styles that best suit each of them. Considering the results of the focus group sessions, it was concluded that it is most effective for leaders to consider the characteristics of each generation and see how to manage the needs and peculiarities of each generation. This is a challenge because of the great differences between the generations. It was observed that it could be useful to relate the already defined leadership styles to the generations and from there propose a flexible and modular leadership style that could serve as a guide for managing teams of people from different generations. This new leadership style is called intergenerational leadership. Its definition is interesting because it complements leadership styles from an academic perspective with one that is better adapted to the diverse reality of the company. It is also a contribution to the business world because it can serve as a guide for managers to adapt and improve their leadership styles.

This paper aims to make several contributions. First, it identifies a lack of scientific research on the adoption of technology according to each generation and summarises the main characteristics of each generation in the work environment. Secondly, it analyses the relationship between each leadership style and each generation. Thirdly, it proposes a new leadership style to help manage intergenerational talent in organisations facing the challenge of incorporating technological innovation in business projects.

2. Methodology

2.1. Procedure

Firstly, a non-systematic literature review was undertaken to analyse the characteristics of each generation and leadership style [11]. Through the development of a framework around the characteristics of each generation in the professional field, it was identified that the variable adoption of technology is a topic not addressed in the literature. With the double objective of developing an analysis of this variable adoption of technology along with identifying the leadership styles most appropriate to each generation, we performed exploratory research using the focus group technique.

Secondly, the qualitative technique, focus group, is a research method that allows for the complexity of lived experience to be understood from the point of view of the people who live it [21]. It is a subject-centred, inductive research method in which the researcher interacts with the participants and the data, seeking answers to questions that focus on social experience. The qualitative research method allowed for an in-depth characterisation of each generation, adding the importance of the technology variable, and for identifying the most appropriate leadership styles for each generation. The focus group technique was used through several face-to-face meetings held with different groups of people of different ages.

2.2. Sample

The selection of the research participants was carried out by inviting them to four training sessions related to technological topics applied to the business environment. Each of these training sessions ensured that the study participation included people from different contexts (professional, academic, and educational) with an interest in the topic under study. Attendees had to register for the training, which was free of charge. There were no exclusionary criteria for attendance. As for the number of participants, these trainings were not massive as they dealt with very specific topics, usually with less than 20 attendees. Thus, all those attending the training courses were included in the study.

To ensure diversity and working representativeness, two different locations were used to help in the study to connect to different profiles. The first two groups were held at the Madrid business incubators, a part of “Madrid Emprende” area that offers free trainings and workshops for professionals from the city of Madrid, among other services. The attendees who participated in the training sessions at the business incubators shared similar business profiles. They ranged from the entrepreneurial professional to unemployed participants and freelancers. The second groups took place at Rey Juan Carlos University (Madrid, Spain) in two different training courses. The participation in these two training sessions brought together academic profiles and students from the business area.

The first group met at The Puente de Vallecas business incubator on 8 September 2023 for a four-hour course on “Introduction to Artificial Intelligence in business”. They were asked to give their opinions on technology management for each generation and the most appropriate leadership styles. The second group of entrepreneurs met at The Moratalaz business incubator on 12 November 2023 to take part in another edition of this course. They were asked for their views on the incorporation of technologies and management styles according to each generation. The third group met online on 7 November 2023 during a three-hour activity of the 23rd Science and Innovation Week entitled “The parallel society that the Metaverse assures us”. The fourth group met on 16 November 2023 at the Rey Juan

Carlos University for a three-hour face-to-face seminar on “Generational coexistence in the business environment” (Figure 1).

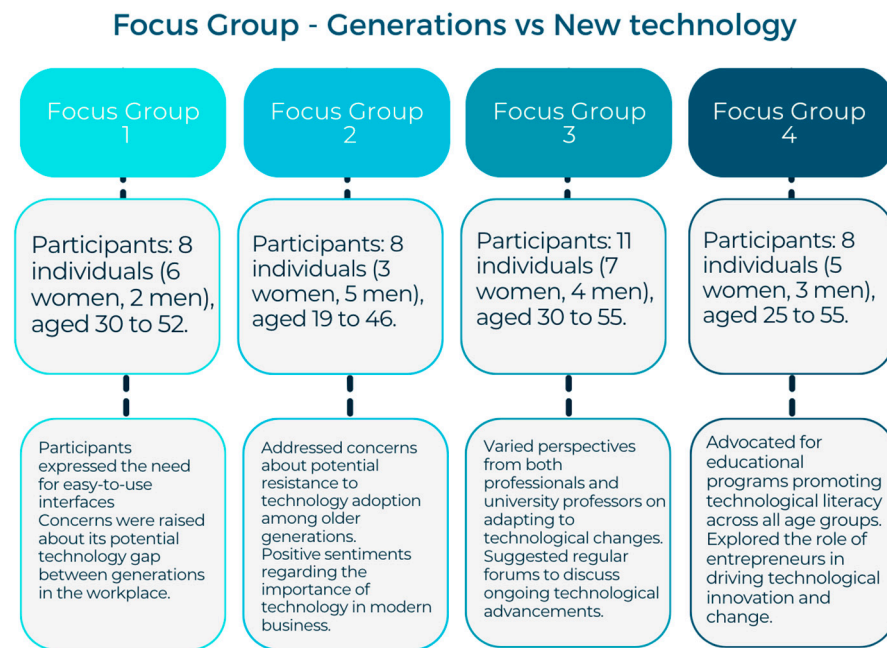


Figure 1. Focus group summary. Source: own elaboration.

2.3. Instruments

In each focus group, the proposed dynamic structure consisted of an explanatory introduction to the content of the training. After the theoretical content, the focus group had about half an hour before the end of the session. The participants were asked about their voluntary participation in the research, and in the case where there were no interests, at the end of the first part, they could freely leave the room. All participants were motivated to feel free in their decision with a clear objective of creating an environment of trust that facilitated participation. Both locations offered a comfortable and spacious space for the 8–9 participants of the study in each of the focus groups.

The theoretical explanation reserved a specific section about the previous research of the study regarding the characteristics of the generations that coexist in the work environment. A summary of the general characteristics of each generation is presented in Section 3.1.

The analysis phases carried out in the study included several key steps. First, some opening questions were asked to know about the profile of the participants (age and professional profile) and their interest in attending these sessions. In the second step, the topic of the focus group was introduced in relation to the information facilitated on the characteristics of the generation and the adoption of new technologies in the professional field. In the third step, the collaboration of the participants was more actively requested through answers that were consistent with their reality.

The facilitator led a discussion based on six themes: technological perception from each generation, intergenerational collaboration, challenges and opportunities, professional development, and leadership styles. The focus group questions were as follows: (1) How do you think each generation adapts to new technologies? (2) What is your attitude towards the adoption of new technologies at work? (3) Are there differences in the way each generation approaches teamwork, especially in technological projects? (4) What do you think is the biggest challenge and opportunity of integrating new technologies at work? (5) How do you perceive the updating of technological skills at work? (6) What is the role of leadership style in the management of multi-generational work teams and the improvement of their willingness to use new technologies?

There was a high level of interest and participation in the four focus group sessions. The initial theoretical framework was considered fundamental prior to the research, as there was an intense debate among the participants. Each concept was presented with a question to frame the discussion. The research team took notes of the participants' comments and opinions, without including any personal data.

2.4. Analysis

The qualitative analyses carried out in the four focus groups were aimed at expanding the aspects studied in the previous literature in order to understand in more detail the profiles of each generation and the most appropriate leadership styles for each of them.

The explanation of the background studied was the starting point. After this explanation, the themes to be developed were presented with the questions discussed in the previous section to frame the discussions. The research team took note of the comments and opinions of the participants, without including any personal details. At the end of all meetings, the researchers summarised the data collected (Figure 1), analysed the issues discussed, and presented the results. The analysis of the information was manual and exploratory. In the documents with the notes taken by the researchers, first of all, the key aspects were highlighted, which were, on the one hand, those that confirmed the baseline information for each generation, and, on the other hand, those that expanded the profiles for each generation. In this way, key points were defined, and recurrent opinions were identified that could be used to establish patterns of behaviour.

Based on these analyses and after a process of reflection, three graphs were drawn up, which are explained in the next sections. These graphs were created with the aim that they could be the starting point for more detailed and in-depth analyses of the topic. For future studies, they can be used for content analysis to systematically and/or quantitatively extract insights and patterns from information contained in various information sources [22].

3. Results and Discussion

This section is divided into two subsections. Section 3.1 answers RQ1 and explains the characteristics of each generation. Section 3.2, which answers RQ2, provides an analysis of leadership styles and their suitability for different generations.

3.1. Characterisation of Each Generation

The challenge in talent management within business projects is now facing another key variable of difficulty: the management of generational diversity. According to Rahardyan et al. [14], five generations are currently identified as living together at the same historical moment: Baby Boomers (1946–1964), Generation X (1965–1980), Generation Y or Millennials (1981–1994), Generation Z (1995–2010), and Generation Alpha (2011–2025). Diversity within teams reveals behavioural differences and motivations that are often aligned with the generations to which they belong. Generational diversity is, therefore, an important factor to consider in the workplace.

The sample of different generations in the focus groups facilitated the confirmation of specific characteristics. Answering the question: Are there differences in the way each generation approaches teamwork?, there were an open position to collaborate from older generations, as stated a 50-year-old participant with an academic profile that "Ongoing discussions are vital for the collaboration process", or considering another statement from a 38-year-old business man—"In my experience, tried-and-true processing stood the test of teamwork time"; instead the youngest participants mentioned innovation as a key argument for collaboration, as stated a 32-year-old entrepreneurial woman that "It is critical driving innovation to the daily routines at work".

Generational diversity identification constructed different groups of participants, which often led them to prefer different leadership styles. Mannheim [23], as a reference for studies on generations, stated that to identify different generations, it is essential to consider a common location in a historical period and the resulting awareness of important

events of that time. On the other hand, Joshi [24] developed the above idea by noting that the factors that influence the grouping of a generation are the date of birth and the common historical events experienced by individuals during their formative years.

Each of these generations influences society through its work values, work attitudes, and work expectations [13]. However, there is also some scientific evidence that generational stereotypes frame individuals into a set of overly inflexible characteristics and cause the stereotyped person to perform less effectively in the workplace because they believe in their stereotype [25]. The focus groups raised thoughts of a certain inability to collaborate in the younger generations, “In work meetings with young online teams, there is hardly any participation”—a 39-year-old female teacher; however, as stated from another participant, a 20-year-old student and entrepreneur, “We are the immediacy generation that is required to be capable of what almost no one is”. Each generation has a significant impact on the next and vice versa. Watson’s [26] empirical study explored how personal and social identities shape and influence each other. From this perspective, the exchange of values between generations is an interesting way to enhance diversity and effectiveness through the different professional leadership styles of each group [12].

One of the main confirmations from the research carried out on the professional reality of the 21st century is the technological adoption in the hands of professionals from different generations with different but complementary qualities. The talents of companies must be technologically permeable and complementary. In this sense, the study by Rattanapon et al. [27] explores how to achieve a work environment conducive to the retention of workers from different generations, in particular Generation X and Millennials. In these multi-generational work environments, it is important to understand how each generation interacts with technology and to develop leadership styles that combine the technological understanding and interest of each generation. A multi-generational point of view was achieved during the focus group research as it was important to understand how each generation interacts with technology and to develop leadership styles that combine the technological adoption and interest of each generation. To the question, “How do you think each generation adapts to new technologies?”, Boomers and Gen X responded from doubts and concerns: “Technology moves too fast; it is stressful to have to keep updated with all the innovations that are supposed to make our work easier..”, affirmed a 48-year-old freelance woman. Meanwhile, other declarations, such as “Technology is our efficiency booster with no doubt”, stated by a 30-year-old businesswoman, opened the analysis to a very different approach to the technology innovations at the workplace.

Based on the analysis of the literature on the different values, attitudes, and expectations of each generation and the analysis of the opinions of the participants in the focus groups, the main characteristics of each generation were proposed, including their trends in generational behaviour towards technology.

3.1.1. The Baby Boomers

Born between 1946 and 1954 after the Second World War, they were at the origin of major economic and cultural changes. The Baby Boomer generation grew up in a family environment with a mother and a father in the wake of the post-war era. This era is associated with new opportunities and progress, in line with the optimistic nature of this generation [28]. Their values include being a time- and material-oriented generation that respects hierarchies and authority. They live to work, are loyal to employers, and want to lead. They identify with following chains of command and do not adapt well to change. They see teamwork as essential and are not very sensitive to the challenges of rapid technological change.

This generation’s attitudes include the importance they attach to promotion, often based on seniority, and they expect their superiors to give them direction and lead them towards the organisation’s goals. They seek a balance between work and family life. They like rules and hierarchies in their projects [29]. They are committed to the companies in which they work and appreciate being able to lead.

And their main expectations are money and recognition. Baby Boomers seek rewards based on their professional skills and commitment to the project. They want job security and believe in growing the business by taking responsibility. They are highly competitive and expect a dynamic based on authority.

The Boomer generation has strong interpersonal communication and leadership skills. However, the work challenges of this generation are related to adapting to new technologies, as they tend to acquire them more slowly [30]. They require more time to assimilate technological additions and collaborate in the learning process.

3.1.2. Generation X

Born between 1965 and 1980, during a period of rapid socio-economic change, they grew up in a family environment where both parents had professional careers. Family divorce rates were a growing reality for this generation. At the same time, they entered the era of technological development and the information age.

Their values include a desire for freedom and change, with a priority on work–life balance. They are loyal to their profession rather than their employer. Gen X are always looking for ways to improve their work situation and skills [29]. They prefer to work alone and consider themselves to be very independent. They have a strong need for autonomy in the way they develop their careers, a quality that makes them not to require guidance. This generation is the first to adapt to major technological changes.

Their attitudes include the search for job satisfaction and recognition for good work. Gen X want quality of life, are impatient, and seek immediacy. They leave behind living to work and establish working to live. They look for an enjoyable work environment and are determined to negotiate necessary changes or decisions through communication [31]. They grow in rights and skills development, which is why they feel less vulnerable about not having long-term career goals.

And their main expectation is to get educational rewards; they value satisfaction more than internal promotion, and, therefore, it can be difficult to keep them in the organisation. They are entrepreneurial and creative and express themselves freely [14]. They assume that any job that comes into their lives is temporary, that each job is a bridge to another challenge, and they are multi-taskers, able to work on simultaneous projects if the organisation allows them to manage their own priorities.

Generation X shows greater flexibility in adapting to technological innovations, with efficient use of digital tools for work tasks. However, they may be initially reluctant to adopt major technological changes. This generation is characterised as self-sufficient, but they need support to integrate more complex technologies in the workplace [32]. An efficient approach that focuses on the appropriateness and practicality of innovation in the workplace could improve the retention of Generation X employees [26].

3.1.3. Millennials

Born between 1981 and 1994, they have Boomer and early Gen X parents. Fanatical users of social networking, their lives are inextricably linked to all technological advances. They are the second youngest group in the workforce and feel very much represented by technology.

Millennials' values include self-improvement, idealism, and individualism [33]. They value social status, want to be liked on social networks [34], and prefer to work remotely. Millennials support collaborative action and tend to challenge norms, believing it is possible to break or change them. They show an inherent dissatisfaction with the lack of achievement and creativity in the workplace [15], which is why mobility from one job to another is a natural dynamic for this generation. They are also the first digital natives. They are tech-savvy from an early age and are aware of the power of information technologies [35].

Their attitudes include being ambitious and hardworking, but not workaholics [33]. They are loyal to salary recognition and seek personal well-being [36]. They tend to be connected 24/7 [29], absorb data quickly, and multitask. They have high mobility rates and

are said to be “here today and gone tomorrow”. Change and innovation at work are a part of their identity, they value a specific career orientation [37], and they are idealistic [29].

Millennials’ key expectations are financial freedom and fair and respectful treatment from peers and senior managers. They, therefore, require a different kind of more regular and attentive recognition. They have a natural inclination to technologically document various facets of their lives and share them on various social networks [38]. This generation identify with a way of working that is more human and connected to their vulnerability; they have a creative character and are very empathetic. They expect accelerated growth and value teamwork and collaboration, and they believe in “the more the merrier”. They look for mentors and role models who can teach them how to grow as professionals in their field.

Millennials are a key group in the process of incorporating new technologies around metaverse technologies and artificial intelligence. They have interesting strengths in connected environments, applications, and mobile technology. However, their over-connectivity may make them more vulnerable to analogue reality. They need to be well informed about what is expected of them in the work environment [39]. And they may lack face-to-face communication skills and focus on data protection [40]. Greater supervisory support and management coaching, with less face-to-face group participation, could help retain millennial employees.

There were confirmations and evidence in every focus group to suggest that the millennial generation is the technologically pivotal generation. From their natural ability and interest in online video games [41], they have opened a limitless technological universe, creating the pillars of what we now understand as the metaverse. Millennials have sparked societal interest in various technologies, from virtual reality goggles [42] to electronic payment through mobile phones [43] as a unique payment alternative for the new generations.

3.1.4. Generation Z

This is the generation born between 1995 and 2010, referred to as the internet generation (Wijaya et al., 2020) [35]. It is seen as the generation of technology and instant information. This generation has only recently entered the labour market. Their expectations of work are unrealistic due to their lack of experience. Several studies have shown that Generation Z (Gen Z)’s brains are structurally different from previous generations due to the external environment and how their brains respond to it.

Their values include a concern for social justice, and the betterment of the underprivileged is a constant in their information consumption. They are interested in understanding and supporting any business or movement that promotes sustainability and care for the planet [44]. Gen Z claim to be mistreated by their peers and older bosses and seek consensus in their personal and professional lives. They visit all kinds of social networks several times a day, where they share their knowledge and opinions with others [45,46], sometimes activating ventures through the immediacy of the web. Their virtual selves are not far from their ideal selves [31].

Among their attitudes, they highlight that their motivation is related to fairness and kindness, and they demand more attention, especially in the onboarding processes. They like hybrid work [33]. They prefer to work independently, are comfortable in online and virtual spaces, and prefer to communicate using abbreviations [47]. They have a high technological predisposition, high self-esteem [45], and a strong sense of social justice [31].

And their main expectation is salary as their greatest work motivator [48]. Gen Z are advocates of the psychological contract [49] and value their career as an opportunity to develop their own lives by seeking a fair and respectful place in it. They have an innate interest in influencing global social and sustainability issues from an idealistic perspective [31] and expect the professional environment to address people’s emotional needs in an integrated way. Mental health is an important issue for this generation. They find it interesting to grow quickly in the workplace, and creativity is an expectation of

enormous value in all areas of their lives. Anything that is innovative and different attracts Z's attention [50].

Gen Z brings an agile and natural understanding of technology. Like Millennials, they are digital natives who adapt quickly to new technology platforms and challenges. Their activity on social media is daily, driven by the need to share their experiences, expectations, and views with others [48]. The challenge is to reduce this over-reliance on technology, which can interfere with face-to-face social interaction in work collaboration and focus on larger tasks.

3.1.5. Generation Alpha

Born between 2011 and 2025, they use technology as an essential way of communication and everyday life. Generation Alpha is a generation that is attached to technology and is considered the most educated generation because they are the children of the millennial generation [14]. They have not yet entered the labour market. The first are expected to enter the labour market around 2030 as they come of age [51].

Their values include networked co-creation, concern for sustainability, and awareness. This generation does not remember or store data but consult it in real time. They are tech-savvy and have virtual identities. They access connectivity through avatars or non-real names, following the cautious guidelines of their millennial parents.

The Alpha generation's attitudes include wanting to do things better than any previous generation, and anything that brings intellectual and creative innovation attracts their attention. Their life story is stored in the "cloud", and their working lives will necessarily be virtual. Their code of understanding is immediate, and they have an online creative DNA [52], and the means of cultural identification for this generation is immersive and virtual.

And their main expectations are economic stability [52], mental health, 360° virtuality, and online equality. They expect to be able to defend their knowledge by using real-time technologies around the metaverse: artificial intelligence, augmented reality, and mixed reality. Content creation has also spread to this generation, and, like GenZ, they have a strong interest in making quick money through interesting stories. Networking, gaming, knowledge, intellectuality, and family are everything. They function in work networks and are likely to extrapolate this way of working into the work environment.

Gen Alphas are not yet participating as workers and could not be part of the focus group due to the age limitations of the training and location, but debates around this generation took place in every session. Gen Alphas are consumers and a key segment in companies' technological innovation propositions. Unlike generations such as the Boomers or Gen X, whose childhoods were not commoditised by any platform, the Alpha generation is the target audience for the technologies of the future and is actively participating in multiple consumer fronts. This facilitates their agility as users and future 5.0 workers but poses a current challenge in the educational process in schools [52]. As with Gen Z, the lack of social interaction can lead to a decline in their soft skills. Active listening and assertiveness are some of the biggest challenges for this generation. Face-to-face co-creation with analogue generations could be an interesting laboratory for interpersonal development.

3.2. Leadership Styles and Generations

Based on the analysis carried out and the opinions of the participants in the focus groups, Figure 2 was drawn up, which proposes the leadership styles most closely associated or related to each generation, considering their qualities and characteristics. Figure 2 shows the timeline from the birth of the Boomer generation in 1946 to 2025, the year in which the period of the birth of the Alpha generation will end. Two blocks are shown, one describing the professional qualities of each group and the other describing the leadership styles most used in the working lives of each generation.

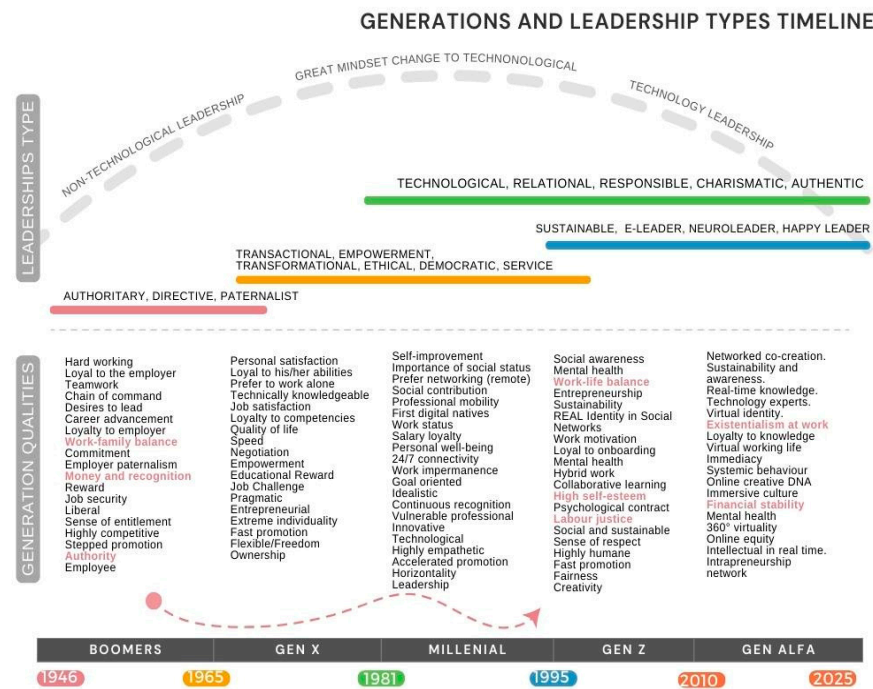


Figure 2. Timeline of generations and leadership types. Source: own elaboration.

Within the qualities of each generation, some of the defining characteristics of the Boomer generation have evolved over the decades and are once again characteristic of the younger generations (Gen Z and Alpha). Boomer values such as the balance between work and family or the expectation of authority are once again pillars for Gen Z, who also seek this balance and see themselves as having the determination to face any challenge. The Alpha generation, with no work experience, already focus on values through work and on achieving financial stability, like the Boomer generation.

On the other hand, the upper block shows the different types of leadership. The literature distinguishes many leadership styles, from traditional ones such as transactional leadership, included in Bass's [53] typology, to modern concepts such as agile leadership [19]. These theories fit within power-based leadership as they differentiate between leaders and followers [18,54]. But no single leadership approach is best.

In that sense, one of the results obtained from the focus group is the identification of the leadership styles that best fit the characteristics of each generation. Authoritarian, directive, or paternalistic leadership will be the profile of the leader found in the Boomer generation, which is a legacy of the values of the previous generation, the Silent Generation (1928–1945). This style was for a time combined with others such as transformational, ethical, or democratic styles, which characterised the Boomer and X generations. Later, the technological, relational, responsible, and authentic styles were the trend that began with Generation X and reached its peak with the Millennial generation.

The most classic leadership styles include four that the baby boomer generation has experienced to a greater or lesser extent: authoritarian, autocratic, directive, and paternalistic. Authoritarian leadership styles “involve the exercise of discipline, authority and control over followers” [55], p. 475. They require employees to meet high standards of work and reprimand employees for poor performance [17,56]. Authoritarian, autocratic, and directive leaders restrict “followers’ autonomy and self-determination, with leaders controlling followers through impersonal procedures and rules” [57], p. 931. They provide “clear instructions and expectations regarding compliance with instructions” [19], p. 840. They then tend to centralise decisions and limit subordinates’ opportunities to express their opinions [13].

Authoritarian leadership is often associated with the “dark side” of leadership and can induce feelings of fear or mistrust, whereas autocratic leaders are task-oriented and

accepted by subordinates [58], p. 1085. Transactional and autocratic leadership, along with power-based leadership theories, emphasise the authority and power of leaders over followers, a reward system managed by leaders, and tasks assigned to followers as directed by leaders [54,59]. On the other hand, according to Azizah [60], the bureaucratic leadership style follows procedures and rules and is useful in organisations where employees perform routine tasks. This style motivates people to apply procedures to their subordinates. Decisions that are made and related to work are determined by the superior who sets clear sanctions if subordinates do not act according to the applicable standard work procedures [61].

In addition to the above, there are other styles that are also classic but introduce some novelties that can help lead generations such as Baby Boomers and Gen X. One such style is the transactional style. For Wahidin [62], a transactional leader is one who uses incentives and punishments to guide followers to achieve their goals through job descriptions and job requirements. Transactional leadership is a leadership style that sees employees as hired and rewarded for their contributions and performance. It is also called managerial leadership because its main objective is to complete tasks efficiently without the need for imagination and innovation [54]. Transactional leadership emphasises extrinsic motivation while transformational leadership emphasises intrinsic motivation [5,63]. Another style is laissez-faire leadership, which is the absence of effective leadership [64]. Laissez-faire is used to avoid making decisions, to ignore problems, and to not follow up or intervene in problems, i.e., to avoid responsibility [65,66].

Among the most current styles are those based on empowerment, which are particularly associated with Generation X. These styles are transformational leadership, ethical leadership, democratic leadership, and servant leadership. In these styles, leaders demonstrate their willingness to share power, their efforts to develop their followers in a professional and ethical manner, and their desire to involve employees in the decision-making process. These leadership styles not only improve job satisfaction, job commitment, and employee performance, but also enhance the relationship between leaders and followers [54].

The transformational leadership model is one in which a leader can achieve organisational goals and help employees achieve their personal goals because it has a more individualistic approach [63]. It is a process of changing the values, beliefs, and attitudes of followers and aims to increase the confidence of individuals by revealing their talents and abilities [67]. The leadership style also focuses on longer-term goals and visions, as well as leader–follower relationships, and it encourages employees to develop commitment, involvement, and trust in the organisation [68]. The transformational leader has a clear vision of the future of the organisation [69], motivates employees [63], and provides training, coaching, and mentoring [70] to help followers grow and stay current [71].

On the other hand, ethical leaders are those who encourage normatively appropriate behaviour through their personal actions and interpersonal relationships and promote such behaviour among followers through two-way communication, reinforcement, and decision-making [72]. Ethical leadership includes characteristics such as honesty, integrity, openness, respect, and principled decision-making [73], setting clear ethical standards and using gifts and sanctions to ensure compliance [74]. Ethical leadership focuses on leaders influencing their followers to do the right thing [5,75]. Ethical leaders are seen as fair, honest, and trustworthy people who make decisions, behave ethically and care about others and society. The leadership approach creates a positive environment in which employees have the opportunity to develop and are perceived as key actors in the organisation. By sharing responsibilities, motives, and goals, followers and leaders participate in organisational change and determine the success or failure of the organization [54]. Democratic leadership and participative leadership allow other team members to participate in the organisation's decision-making process [5,62,76]. These leadership styles emphasise group loyalty, cooperative behaviour, inclusiveness, and democratic decision-making, thereby increasing follower satisfaction, creativity, involvement, productivity, and commitment [5,54,77]. Related to the above, servant leadership, introduced by Greenleaf [78],

prioritises the well-being and development of other people and the surrounding community. The goal of the servant leader is to serve his/her followers first, rather than lead them, to build trusting relationships [54], and to help them grow and learn by providing opportunities to experience and improve their material and spiritual conditions [72]. In the case of spiritual leadership, it aims to be a source of inspiration for high employee performance, increase cooperation, and promote shared learning, which has a positive effect on job satisfaction [67].

Other styles also related to empowerment and associated with the millennial generation are technological, relational, accountable, authentic, and charismatic leadership, etc. [66]. The technological leader makes decisions by guiding team members to automate much of the internal administration through technology [79]. It is through this automation that the technology leader creates a more comfortable and optimising environment for his or her team. On the other hand, relational leadership occurs when leaders and employees develop positive social relationships [70]. This leadership does not only focus on the work aspects, but also pays attention to the interpersonal aspects of employees [4]. When employees and leaders have a high exchange relationship, it has a positive impact on employees' career advancement, employee retention, and commitment to the organisation [5]. Accountability focuses on relationship building, relational governance, and sharing orientation [80], and it is a process through which a leader finds consensual solutions through discursive decision-making [72]. Authentic leadership shows concern for relational transparency, balanced processing, internalised moral perspective, and self-awareness [72]. According to Indrawan [81], a charismatic leadership style is one that inspires, encourages, motivates supporters of organisational change, and achieves common goals. It can provide a good vision for the best interests of the organization [61].

More modern leadership styles are adopting traits that can be useful in managing younger generations of workers, such as Gen Z and Gen Alpha. This is the case of sustainable leadership, which encourages novelty and the exchange of creative ideas, focuses on learning and continuous improvement, and accepts mistakes in a non-punitive way [72]. Environmental leadership has been defined by other authors as having strong environmental values, promoting environmental practices, and influencing both internal and external stakeholders [72,82]. On the other hand, we find e-leadership, which has roles and responsibilities where leaders can communicate with their employees even if they are not in the same office and need to understand new technologies to meet the needs of employees and build relationships between them [83]. Technology serves as a tool to promote collaboration and create knowledge sharing among employees, such as email and teleconferencing [5].

Among the most recent is neuroleadership, which aims to strengthen the field of leadership with the support of neuroscience [84] to analyse and understand the behaviour of leaders [85]. In addition, attention is being paid to studying the application of neuroleadership in the management of happiness. The pursuit of happiness is a good way to focus the changes that both individuals and the organisation are making or need to make. Neuroleadership can be understood as an asset that can promote organisational happiness through emotional intelligence, employee empowerment, positive emotions, and resilience [85]. Therefore, the most current leadership we find is the so-called happy leadership. In the continuum of leadership styles, there are some closer to the dark side and others closer to the light side. Happy leadership is a style that can be placed on the light side of leadership styles. It can be described as "those people who lead organisations taking into account internal factors such as positive emotions, enthusiasm, ethical judgement, affectivity, integrity, authenticity and emotional intelligence, without forgetting the importance of individual and organisational effectiveness" [86]. This type of leadership seeks, among other things, the happiness of the organisation through the implementation of actions that promote innovation, intrapreneurship, creativity, teamwork, internal communication, disruptive thinking, empowerment, and/or self-management [86].

The digital revolution and new lifestyles have brought about an unprecedented professional paradigm shift. Since the Millennials entered the workforce, a technological

curve has been observed due to the way they are connected 24/7. Generation X are the forerunners of a new, more humanised leadership model, but it will be the Millennials who, in addition to embracing real leadership, are looking for models such as sustainable and social leadership, e-leaders, neuro-leaders, and happy leaders. Generation Z coexists today with the previous leadership models, but their work and social dynamics are undoubtedly more in line with the Millennials' path. Generation Alpha, who are still in school, identify with this paradigm of technological leadership, as their educational environment has been digitised, especially due to the pandemic, an event that coincides with the childhood and birth of this generation. These results show that managing a team of different generations requires an understanding of the characteristics of each and the appropriate leadership style for each. Therefore, the following section proposes a new leadership style to respond to this challenge.

4. Proposal for a New Style of Leadership: Intergenerational Leadership

This section completes the answer to the second research question by suggesting a leadership style that may be appropriate for managing generational diversity teams.

In a technological and globalised world, it is necessary to improve and adapt the management processes of companies. Industrial processes are undergoing a process of transformation and change, mainly due to the incorporation and development of new paradigms centred on new technologies. In this context, decision-making processes are fundamental because they help to carry out the processes of transformation and change necessary to incorporate new technologies.

After observing the strengths and challenges faced by each generation in the adoption of technological innovations and their use in the work environment, it has been observed that it may be interesting to look for leadership styles that are more in line with the current reality, in which the professional and personal characteristics and the technological interest of each generation are combined. Based on the results and the reflections made in this section, this paper proposes a new leadership style called intergenerational leadership.

If companies want to incorporate new technologies, they need to understand their human factors and make decisions about the processes of change and adaptation that need to take place. These decisions are led by the company's leaders, so finding the right leadership style is a key element. Intergenerational leadership focuses on the incorporation of technology, especially new technologies such as artificial intelligence and others related to the metaverse, which pose a learning challenge for today's workers. The intergenerational approach seeks the logical and efficient integration of the characteristics and leadership styles most related to each generation (Figure 3). Based on this knowledge, it establishes learning dynamics based on respect and which transversally alternate different leadership tactics. In this sense, a good point of reference is the characteristics of technological leadership developed in the Millennial generation, which serve as an example for a healthy adaptation of technological innovation in companies.

Figure 3 describes the contribution each generation makes to leadership. Leadership styles are highly complementary in today's complex environment. Generation X has been trained in a type of leadership that is based on professional empowerment, from foundations such as the capacity for transformation, ethics, democratic dynamics, or attitudes of service. However, Gen X leadership needs to consider the digital context. The types of leadership that accompany the Millennial generation are characterised by the incorporation of the technological factor, added to the relational dynamic, reinforcing charismatic and authentic leadership. As a result of the change brought about by the types of the leadership characteristics of the Millennial generation, we can observe a continuity in the leadership of Generation Z, with values based on sustainability and virtual dynamics with the e-leader. It is also interesting to see the usefulness of original leadership styles such as the neuro-leader or happy leadership.

INTERGENERATIONAL LEADERSHIP

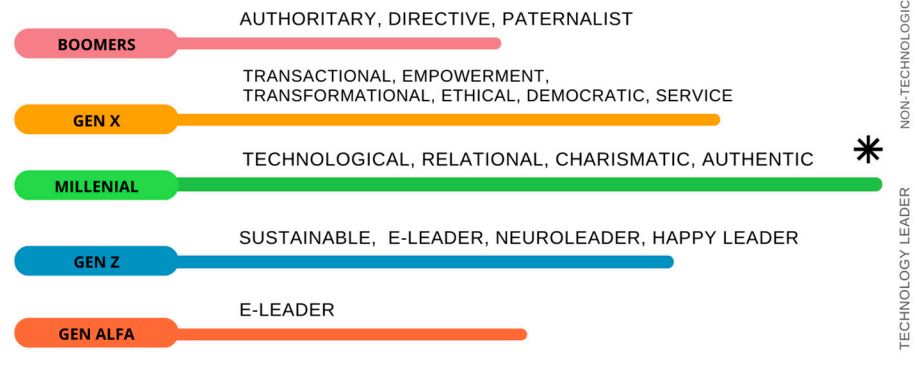


Figure 3. Intergenerational leadership. Source: own elaboration.

Intergenerational leadership combines the characteristics of the different leadership styles with the characteristics of each generation (traits and technological deficits) and takes into account possible intergenerational cooperation (Figure 4).

INTERGENERATIONAL LEADER TRAITS

TECHNOLOGICAL CHARACTERISTICS, GAPS AND POSSIBLE PARTNERSHIP IN EACH GENERATION IN ORDER TO MEET THE TRANSGENERATIONAL LEADER

	GENERATION'S LEADERSHIP	TECHNOLOGICAL CHARACTERISTICS	TECHNOLOGICAL GAPS	GENERATION PARTNERSHIP	TRANSGENERATIONAL LEADER
BOOMER	AUTHORITARY	BASIC KNOWLEDGE	ANALOGUE PREFERENCE	GEN Z	CLEAR LEADERSHIP IN A TEAM WORK ENVIRONMENT
GEN X	EMPOWERMENT	HIGH KNOWLEDGE BUT COEXISTENCE WITH ANALOGUE	DIFFICULTY WITH FAR-REACHING TECHNOLOGICAL CHANGES IN THE WORKPLACE	BOOMER AND MILLENNIAL	CAREER OWNERSHIP AND SELF-ORIENTATION
MILLENNIAL	TECHNOLOGICAL	STRONG PROFESSIONAL KNOWLEDGE OF LATEST TECHNOLOGIES AND ONLINE SOCIAL LIFE	WORK IMPERMANENCE RELATED TO TECHNOLOGICAL IMPLEMENTATIONS	GEN X AND GEN ALFA	GOAL ORIENTED HELPED BY TECHNOLOGY AND HYBRID WORK
GEN Z	E-LEADER	KNOWLEDGE AS A USER OF NUMEROUS TECHNOLOGICAL APPLICATIONS	REAL IDENTITY IN SOCIAL NETWORKS	BOOMER AND MILLENNIAL	ONLINE FAIRNESS, CREATIVITY AND ENTREPRENEURSHIP
GEN ALFA	E-LEADER	USERS OF TECHNOLOGIES WITH PARENTAL CONTROLS	REAL-TIME KNOWLEDGE	MILLENNIAL AND GEN Z	FUTURE VIRTUAL LEADERSHIP

Figure 4. Intergenerational leadership traits. Source: own elaboration.

The technological characteristics of each generation present a scenario of great diversity. The Boomer generation has a basic knowledge, while Gen X has adapted to the technological revolution but coexists with analogue dynamics. Millennials have a deep knowledge of technological innovation and online life, while Gen Z stand out for their extensive knowledge of technological applications at a user level. Gen Alphas are loyal IT users with parental controls.

On the other hand, the section on technological shortcomings shows the analogue preference of the Boomers, with their consequent disinterest in technological innovation, while Generation X may struggle in the face of major changes in the workplace. Millennials, with their tendency towards job mobility, may pose a risk to the incorporation of new technological platforms or investments that depend on their work. Gen Z have applied their technological aptitude to their online social networking activities but are not yet well versed in business processes. Finally, Gen Alpha show a potential interest in obtaining

real-time information but are not yet familiar with the workings of the technological areas within the company.

Figure 4 introduces the concept of generational partnership as a key supporting variable in the processes of technological change. Each generation has several characteristics that are similar or like others. For example, Boomers have an interesting relationship with Generation Z, exchanging skills while sharing some values. Generation X share some similar characteristics with the generations close to them, the Boomers and the Millennials. Millennials share some common values with Gen X and Gen Z. Gen Z complement Boomers and Millennials. Finally, Gen Alpha have the potential to work with the younger generations in relation to their technological interests, as all three generations are digital natives.

The intergenerational leadership finds the technological preferences for each generation through the specific parentship to design the transformation adapted to each profile, without assuming any specific state. The findings reached in this article suggest the management teams to weekly revise technological performance to get an update on each preference. Connecting generations enhances tech understanding. For example, a Gen X professional might find it feasible and efficient to call a partner for a short time, while a GenZ worker understands that this communication code is overwhelming. The solution to this specific situation can be to get to an agreement on specific internal communication.

Following this analysis, we configure a description of the intergenerational leader (Figure 4). The intergenerational leader demonstrates leadership based on diversity management fostered by participative work. He or she tries to encourage each professional to carry out his or her work with autonomy, flexibility, and self-direction. They focus their work on contributing to the achievement of objectives that are realisable owing to hybrid work and technological advances. The style promotes fairness, creativity, flexibility, and entrepreneurship. In this way, it positions itself as a figurehead for the integration of new technologies such as artificial intelligence and metaverse technologies in the company.

5. Conclusions

This study focused on analysing the intergenerational differences and the different leadership styles associated with each generation—Boomers, Generation X, Millennials, Generation Z, and Generation Alpha—in today's workplace. To answer the two research questions (RQs), firstly, the main characteristics of each generation were identified (RQ1). Secondly, the most representative leadership styles of each generation were analysed (RQ2). And thirdly, a proposal for a leadership style that can be used to better manage the intergenerational needs and technological demands of companies was presented (RQ2).

It was observed that the Millennial generation is more relevant in the acceptance and incorporation of technological innovations in the company. It is considered the first digital native generation, treasuring characteristics that can facilitate the incorporation of technological innovations and collaborate with the other generations in their respective adaptation. On the other hand, companies have a great deal to do with Generation Z, who are digital natives but with professional characteristics closer to those of the Boomers, such as an interest in leading from authority and economic motivation. Gen Z are technologically agile but have less training in social relationships. The face-to-face work collaboration and the focus on time-critical tasks is a generational challenge that the whole professional environment needs to face collaboratively. Furthermore, the characteristics of each generation are not only conditioning the leadership style but also the internal communication style of the company, conditioning the procedures of the quality management system in the work environment.

One of the contributions of this work is to open the conversation about leadership and technology applied to the different generations living together in a professional environment. This work complements previous studies by carrying out a joint and detailed analysis of the characteristics and technological capabilities of each generation. It also makes an academic contribution by presenting a summary of the different leadership styles associated with each generation. On the other hand, in previous research, no leadership

models applicable from an intergenerational perspective have been found. In this sense, the third and main theoretical contribution is the proposal of a new leadership style: intergenerational leadership. This proposal is made to lay the foundations for further studies to develop these ideas and validate this new leadership style. More research could be undertaken on this leadership style, which is a construct that needs to be developed. Based on the proposed definition and Figure 4, future studies can be used to delimit and validate the dimensions of intergenerational leadership. For each dimension, measurement items can be identified, which can be grouped into factors. For example, techniques such as confirmatory factor analysis can help to delimit and measure the Intergenerational Leadership. Structural equation modelling (SEM) can also be applied to demonstrate the predictive validity of this measure and to analyse the effect that different dimensions of the new leadership style may have on the work behaviours of each generation.

On the other hand, this work also has economic and social implications. There is a real need to evolve leadership models to manage generational diversity in companies. Companies face the challenge of incorporating new technologies, specifically technologies around the metaverse, which requires skilled talent. This work can serve as a guide for companies to better understand the generational diversity they may have in their workforces and to adapt their leadership styles according to their needs. Moreover, in business terms, it is very important to understand that generational differences do not have to translate into an employment problem if intergenerational talent can be managed and collaborative working models can be established to bring out the best in each generation.

On the other hand, in the face of today's social challenges, leadership in companies plays an important role in implementing the necessary changes and helping companies to be flexible, ethical, responsible, and sustainable. The 2030 Agenda sets some goals where businesses can make important contributions. Sustainable Development Goals 3, 8, and 9 are stated as follows: SDG 3: Ensure healthy lives and promote well-being for all at all ages; SDG 8: Promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all; and SDG 9: Build resilient infrastructure, promote inclusive and sustainable industrialisation, and foster innovation. The development of talent management models and leadership styles, such as intergenerational leadership, that are inclusive of all generations and bring out the best in each worker can support economic growth, create innovative, inclusive, and sustainable industries and, in general, contribute to the social well-being of the entire population.

As with all research, there are limitations associated mainly with the exploratory nature of the methodology used. The use of focus groups helps to present an approximation to the problem under study but does not allow for a deeper understanding of its practical application. Therefore, future studies that can complement the results obtained can use content analysis in a directed approach, which helps to verify and extend theories or conceptual propositions such as those put forward in this study [22]. It is an approach that allows for qualitative data, such as words, images, and concepts, to be examined more comprehensively. Other qualitative methodologies can be applied, such as the Delphi method or the case method, to better define the new leadership style and present examples of its application in companies.

Secondly, future studies can consider the development of a study on the shared behaviours of the technological acceptance model (TAM) of each generation. It would also be interesting to closely follow the work development of each generation with respect to the incorporation of Artificial Intelligence in a business context. In relation to the potential development of the technological characteristics of each generation, it may be interesting to conduct further studies that incorporate ideas on the importance of sustainability and sustainable development in the management of diversity in companies.

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