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GLOBAL AND REMOTE COMMUNICATION

Comunicação Global e Remota

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ABSTRACT

The current world has some central factors that lead us to constant innovations in all human activity fields and the way we communicate is no exception to this rule. Decades of globalization, the disruptive technological emergence and the recent COVID 19 acute epidemic crisis are examples of this situation; as a matter of fact this is leading toward a Tipping Point where the so called Digital Era and the ICT Revolution have come globally and with full strength in our daily life. Thus, an opportunity for academic research emerged so that the Global and Remote Communication theme could be explored, with the objective to understand, in basic terms, what the variables would be to interfere in an increasingly frequent and necessary way of our day to day interaction. Within that context, this exploratory and descriptive analysis was developed, aimed at the academic public in Brazil, composed by professors and university students, there included undergraduate, master, MSc and PhD through a set of 28 guiding questions that dealt to digital communication tools, communication barriers, individual behaviors and enterprise internal culture and proceedings. The results of our research allowed us to reach some interesting findings that qualified the Global and Remote Communication and, we hope, will be helpful for new defined studies in the future, with several and different approaches.

Keywords: Digital Communication; Globalization; Smart Society; Industry 4.0; Remote Work.

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COMUNICAÇÃO GLOBAL E REMOTA

Global and remote communication

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RESUMO

O mundo atual possui alguns fatores centrais que nos levam a constantes inovações em todos os campos da atividade humana e a forma como nos comunicamos não foge a esta regra. Décadas de globalização, a emergência tecnológica disruptiva e a recente crise epidêmica aguda de COVID 19 são exemplos dessa situação; na verdade, isso está nos levando a um ponto crítico onde a chamada Era Digital e a Revolução das TIC chegou globalmente e com força total em nossa vida diária. Assim, surgiu a oportunidade de pesquisas acadêmicas para que o tema Comunicação Global e Remota pudesse ser explorado, com o objetivo de entender, em termos básicos, quais seriam as variáveis que interfeririam de forma cada vez mais frequente e necessária no nosso dia a dia de interação. . Nesse contexto, desenvolveu-se esta análise exploratória e descritiva, destinada ao público acadêmico brasileiro, composto por professores e estudantes universitários, incluindo graduação, mestrado, mestrado e doutorado por meio de um conjunto de 28 questões norteadoras que versavam sobre ferramentas de comunicação digital, barreiras de comunicação, comportamentos individuais e cultura e procedimentos internos da empresa. Os resultados de nossa pesquisa nos permitiram chegar a alguns achados interessantes que qualificaram a Comunicação Global e Remota e, esperamos, serão úteis para novos estudos definidos no futuro, com abordagens diversas e diferentes.

Palavras-chave: Comunicação Digital; Globalização; Smart Society; Indústria 4.0; Trabalho Remoto.

INTRODUCTION

Long distance electronic communication started with the ancient telegraph and never stopped. Between the accelerated globalization throughout the last 50 years and the recently mentioned trend of deglobalization, the emerged Covid-19 pandemic and conservative movements of the last 10 years, we faced an accelerated need for people to connect, regarding to both personal and professional needs; all this with the support of the Digital Era and the ICT Revolution (Jorgenson & Vu, 2016) . That was the way people found in order to maintain their personal and professional points of contact active and for companies to keep developing their business activities in a global perspective but with local performance, named Glocal by Hamish McRae in his forecast for the year of 2020, which we live (McRae, 1996).

In a natural way, the disruptive technologies emergent, telecommunications evolvement and massive use of the Internet around the world turned that task to be performed quicker than it had been in the past. A question left in this scenario regards to how much people is really adapted and if there are gaps that must be observed and implemented over time, so that this globalized and remote communication trend consolidates as a natural work tool, considered safe and necessary for any human activity and, in particular, for the business environment. The current scenario includes changes in the modern world society, called Society 5.0, which is the technology and innovation defined as “Smart Society”, in which physical space and cyberspace are strongly integrated (Salgues, 2018). It is important to remind that the technology usage is directly responsible for business and management success; otherwise, the connection between Management and Human Development indicators need to be highlighted, once they mean results that have direct impact on the whole society and its creation. The appropriation of disruptive technology and government actions are the way to achieve that the new generation become included and ready for the Digital Age (Guevara *et al.*, 2019).

In the Fourth Industrial Revolution, as called by World Economic Forum (WEF, 2019)[1], we are observing new frontiers, in which the main subject is that “what makes this revolution fundamentally different from the previous ones is the fusion of these technologies and the interaction between physical, digital and biological domains” (Schwab, 2016). The Internet and wireless communication are the decisive technologies of the Information Age, providing ubiquitous capacity of multimodal and interactive communication, transcending spaces. The use of mobile devices everywhere allows that humankind is now almost entirely connected, albeit with great levels of inequality in the bandwidth as well as in the efficiency and price of the service. The Internet and digital communication tool ensure the production, distribution, and use of digitized information in all formats (Castells, 2013). We have to learn how to use correctly and fully the capacity of the new developments, considering “that their full effects won’t be realized until waves of complementary innovations are developed and implemented” (Brynjolfsson, E.; Rock, D.; Syverson, C., 2017).

The Industry 4.0, term created in 2011 at the Hannover fair, show us how the smart factories will revolutionize the organization of value chains and at MIT, we could observe concerns about its application when it was mentioned: "the effect of these digital technologies will manifest itself, with full force through automation and unprecedented things" (Brynjolfsson, McAfee, 2014). We can see in the table 1 the main technologies regarding the Industry 4.0 and Digital Age, which affect Global Communication.

[1] http://www3.weforum.org/docs/WEF_Top_10_Emerging_Technologies_2019_Report.pdf

Table 1 - Main Technologies of the 4.0 Industrial Revolution

Technologies	Features	Reference
Artificial Intelligence	Machine Learning, Advanced Algorithmics, Avatars, Chatbots and Automatic Decisions	Brynjolfsson, at. al, 2017 Kaplan, 2016
Advanced Mobility Wide World	SmartPhones, 4G/5G, QRC, NFC	Delloite, 2017[2]
Internet	WWW, http, Tcp/Ip, Browser	Witkowski, K, 2016
Internet of Things - IoT[2]	Monitoring of Digital and Physical information, Wireless Sensors, RFID, Beacons and BLE- Bluetooth Low Energy	Greengard, 2015 Kevin Ashton, 2009[3]
Big Data	Data Science, Analytics, Structured and No Structured Data	Thomas Davenport, 2014
Ubiquitous Computing	Global Access and Storage	Schwab, 2016 Castells, 2013

Source: Adapted by authors from references**.**

This paper then deals with the following question: "Are the academic and business communities ready to perform global and remote communications in a day-to-day manner?"

1 THEORETICAL REFERENCE

When performing remote work, involving the most diverse communication technologies and cultures, the specter of possibilities for being creative and negotiate can be reduced. The globalization processes, rapid urbanization and advancement of technology are inexorable trends (McRae, 1996) and multinational companies seek to reproduce an hybrid culture, reflecting the international organizational culture and the local national culture (Hofstede, 1985), showing that the maintenance of a corporate culture is critical.

However, business requirements remain rigid and the need to obtain effective results is still present. We question ourselves, therefore, about how professionals guide themselves and what the attributes should be in order to well develop their job and to assure high standard deliveries, being productive and maintaining employability, even when doing their work remotely and, often, interacting with partners, suppliers and companies, from other states or countries, when it is not possible to work in person. After all, these stakeholders will form virtual teams, or "knowledge workers", spread out geographically and temporally but brought together with a single objective, in time and space, depending on the facilities offered by the information and communication technologies (Powel; Piccoli; Ives, 2004),

Looking to business environment, to hold adaptability and resilience are a must; also to develop requirements, this understood as a set of qualifications that enables a professional to solve a job or a particular situation with superior performance (Fischer et al., 2013). This performance must be anchored on the human potential, in which versatility, multifunctional and cooperation capacities gain relevance (Gramigna, 2007). These two concepts are related to our study, since nothing is more specific than working remotely and then adapting and cooperating.

In this context, when referring to the use of technology, this concept may be expanded and called digital competence, which would be a capacity for safe and critical use of information technology for work, leisure and communication (Halász; Michel, 2011). It could also be stressed that in the connected world and cybersecurity this has never been more important.

Additionally, it is necessary to consider another set of factors that interfere in the remote communication processes. To communicate means to share meanings, contents, that are meaningful for both sender and receiver as a basic principle so that communication is properly established; without sharing, there is no communication (Rani, 2016). Even in face-to-face work, however, the effectiveness of communication is negatively influenced by barriers, conditions that stand in favor of the loss of effectiveness or even the absence of communication; when communication between remote working groups is observed, whether they are of the same nationality or not, such barriers are accentuated (Stocker et al, 2015). Attitudinal (due to perceptions of status and power or misunderstanding that leadership and power are the same), Behavioral (like generalization, bias, stereotypes),

[2] https://www2.deloitte.com/br/pt/pages/manufacturing/articles/futuro-da-mobilidade.html
[3] https://www.rfidjournal.com/articles/view?4986

Cultural (where empathy imposes itself as a tool to overcome social, educational and regional differences), Language (such as not speaking a second language or even a lack of ability with the native language), Ethnocentrism (typical of those who consider their ethnic group, or nationality, socially superior to others) and Environmental (whether physical or technological) may represent barriers for communication to be established (Rani, 2016; Roman et al, 2015). Particularly when considering remote communication via the Internet, Environmental barriers gain increased expression.

Considering this approach, we chose to work on four aspects, which were succinct and briefly researched, which are:

- the most common technological tools for remote communication;
- the barriers that could influence communication processes;
- behavioral factors understood as important to achieve good communication level
- Internal companies culture that allows remote work to perform good performance.

2 METHODOLOGY

This is an exploratory study that seeks to contribute to the discussion of variables important to remote communication. For this purpose we have defined a basic questionnaire to be applied for a specific group and based on the defined segments, with the following questions, as shown in Table 2.

Table 2 – Questionnaire with 5 Groups and 28 basic questions. Source: Prepared by the authors

Groups	Description
G1) Social Questions	Q1) Age; Q2) Education; Q3) Position
	Q4) Education Area (Exact Sciences / Humanities);
	Q5) About frequent use of remote work
	Q6) About frequent participation in global meetings
G2) Digitail Tools	Q7) I usually use e-mails (WRITE) for communication
	Q8) I usually use voice conferencing (VOICE) for communication
	Q9) I usually use video conferencing (IMAGE) for communication
	Q10) I usually use instant messages (WHATSAPP, TWITTER, etc.) for communication
	Q11) I prefer personal contact and conventional telephone use (VOICE)
G3) Global and Remote Comunication Barriers	Q12) I understand that Language is a communication barrier
	Q13) I believe that Local Culture (state or country) is a communication barrier
	Q14) The lack of pre-defined procedures is a communication barrier
	Q15) Group meetings over 10 people are communication barriers
	Q16) I understand that lack of commitment is a communication barrier
	Q17) I understand that most people are reactive when using digital tools
G4) Personal Attitudes and Behaviors	Q18) I prepare for a remote meeting (study the subject, have proposals, etc.)
	Q19) I can be objective and summarize what I need to say in a remote meeting
	Q20) I can negotiate, deal with new ideas and conflicts in remote meetings
	Q21) Considering that empathy is "the way we understand how the other person thinks and what are their motivations", I consider myself an empathic person
	Q22) Considering that knowing how to listen is "having a real interest, asking and listening to other people attentively", I consider myself a person who knows how to listen
	Q22) Considering that Knowing how to listen is "having an interest, asking and listening to other people attentively", I consider myself a person who knows how to listen
G5) In the company or main organization with which I work	Q23) There is an established culture for remote work
	Q24) There are constant feedbacks, both as a team and individually
	Q25) Is it possible to develop complex projects through remote contacts
	Q26) It is possible to negotiate, deal with new ideas and deal with conflicts remotely
	Q27) We summarize our remote meetings and track their results
	Q28) We are committed to the commitments made at remote meetings

Studies on global and remote communication involve searching and researching potential users who use digital tools and practice remote work to stay active, even in the scenario in which we find ourselves. Therefore, we seek to approach a plural environment that could provide the most varied work profiles. With this objective, the questionnaire presented was applied to universities in the cities of São Paulo and Campinas, both in the state

of São Paulo, in Brazil. We concentrated this distribution on masters, post-graduate and undergraduate courses, in this order of priority, for both teachers and students. This allowed us to work with a public that holds some important characteristics, from our point of view: different types of work, equalization between exact and humanity areas, heterogeneous functions in private and public companies as well as in the academy, besides the possibility of experiencing the remote working format. We seek to distribute at least 1500 questionnaires, aiming at a return from 10% to 20%. At the end, 1680 questionnaires were distributed, with a return of 209 respondents, 159 of them were complete answers, which are the ones evaluated and work on the analysis of results.

Naturally, an eventual limitation of this research is the fact that it was distributed in universities in the city of São Paulo and Campinas. Its scope could be national and international or even in private companies. However, we consider the fact that the metropolitan regions of São Paulo and Campinas have more than 15 million inhabitants and holds several multinational companies headquarters in Brazil. São Paulo is also the largest and most important financial and services center of the country, responsible for about 40% of the national GDP, with more than 20 public and private universities. On the other hand, Campinas is also a large city, with some of the most important Brazilian important universities and has been elected, by the Urban Systems in 2019[4], as "the most Connected and Smart City in Brazil". In this way, the most participants work for national and multinational companies and the academy members belonging to the researched groups also have traffic at events, congresses and transnational research groups. Thus, it was considered that the sample can be considered representative for an initial exploratory study, which focuses on a discovery that could support new studies, with other directions, in the future.

Thus, the first group of questions, Group 1, sought to qualify the respondents so that we could assess the profile that was described in the previous paragraphs. The questions in groups 2 to 5, asked for answers on the Likert scale, in which 5 means "I totally agree", 4 "I agree", 3 "No formed opinion", 2 "I disagree" and 1 "I totally disagree".

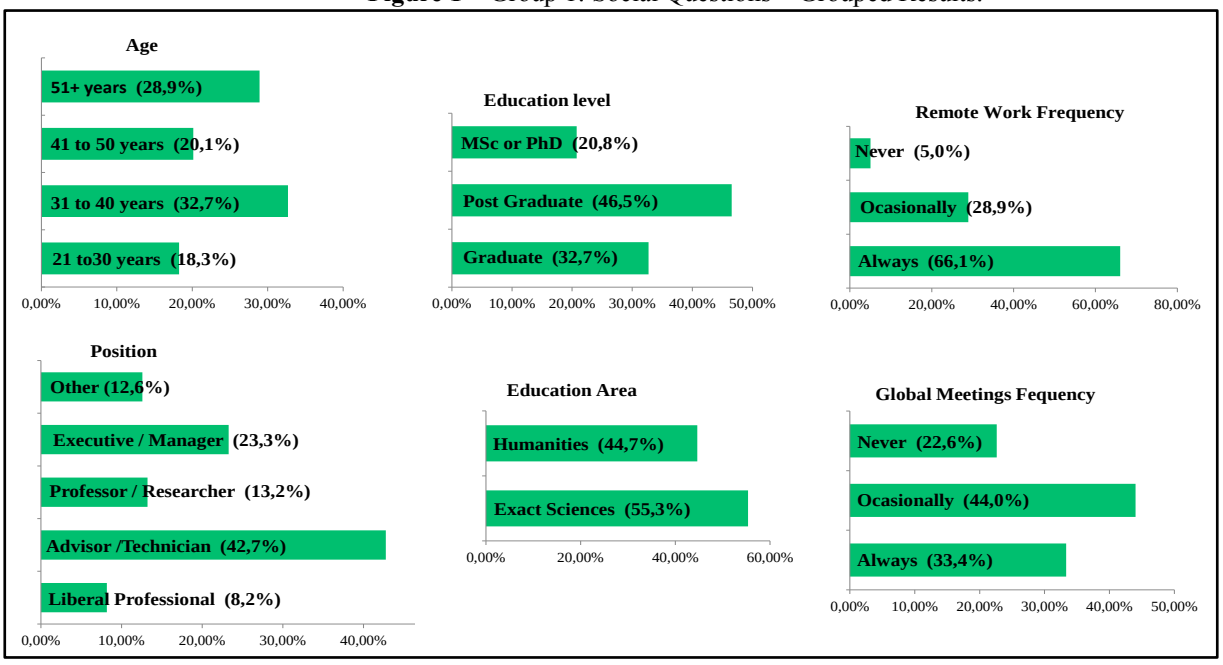
3 RESULTS AND DISCUSSION

The qualification view of Group 1 - Social Questions, has a final view of the interviewees' profile, shown in Figure 1, considering the valid number of 159 respondents. In this profile characterization, we had the following indications, for the choice of respondents:

- Age: 1) 20- years; 2) 21-30 years; 3) 31-40 years; 4) 41-50 years; 5) 51+ years
- Education: 1) Graduate; 3) Post-Graduates; 5) MSc / PhD
- Role / Position: 1) Liberal Professional; 2) Advisor/Technician; 3) Professor/Researcher; 4) Executive/Manager; 5) Other
- Area of Expertise: 1) Exact Sciences; 2) Humanities
- The frequency of remote work: 1) Never; 3) Occasionally; 5) Always
- Global meetings attendance: 1) Never; 3) Occasionally; 5) Always

[4] https://www.urbansystems.com.br/rankingconnectedsmartcities

Figure 1 – Group 1: Social Questions – Grouped Results.



Source: Prepared by the authors

There is no difference regarding age, education level, professionally developed functions and area of expertise. 94.97% of respondents stated the frequent, or at least occasional, usage of remote work, while 77.40% take part in global meetings, either frequently or sporadically. These numbers allow us to affirm that, for the purpose of this research, we have a representative sample.

It is worth commenting on what could be considered common sense, which is the fact that older people would have problems with the use of remote work, in which we had a high level of 94.97% (frequent and sporadic use). We count 50.90% of respondents between 21 and 40 years old and 49.10% over 41 years old, without dispersion in the final value and with an equivalent number of respondents. Naturally, we have to consider that the level of education is quite high, considering the fact that university levels usually don´t exceed 50% of the population.

Regarding the functions of Executive/Manager/Researcher/Teacher, we have an amount of 36.50%, while Consultants/Technicians represent 42.70%, a similar condition. The set of Liberal Professionals/Other Occupations indicates 20.80%, approximately half of the other groups. It should also be remembered that the practice areas are balanced, with 55.40% for the exact areas and 44.60% for the humanities.

In order to evaluate the other results, we stated a classification concept which consider appropriate so that global and remote communication could occur satisfactorily. We classify as “Compliant” any and all answers with indications of 5 and 4. Indications of 1, 2 and 3 were considered as "Non-Compliant". In other words, in our study, the people considered able to make an effective communication would be those who indicated the classification equal to or higher than 4. Group questions overviews are shown in Frames 1 to 4.

In this context, it is important to highlight that four profile characteristics were used: age, education, function and area of expertise. For each of them, two values were indicated, one representing the answer option that had the highest “Compliance” value (5 and 4) and the other representing the lowest “Compliance” value (also 5 and 4). These two values establish a range in which all answers “Compliant” are found, giving us an idea about the convergence between the answers found. The stricter the range, the more convergent the responses obtained. Evidently, the more sparse the range, the more divergent the responses are, which may allow new investigation on what are the causes for this dispersion.

Frame 1 – Group 2: Digital Tools – Grouped Results

Question	% General Compliance	AGE		EDUCATION LEVEL		POSITION		EDUCATION AREA	
		> % Compliance	< % Compliance	> % Compliance	< % Compliance	> % Compliance	< % Compliance	> % Compliance	< % Compliance
	Compliance/ Total	Compliance/ Total	Compliance/ Total	Compliance/ Total	Compliance/ Total	Compliance/ Total	Compliance/ Total	Compliance/ Total	Compliance/ Total
Q7	99,37%	21 to 50 years 100,0%	51+ years 97,83%	Graduate+Pos 100,0%	MSc or PhD 96,97%	All (- Professor) 100,0%	Professor/Res. 95,24%	Humanities 100,0%	Exact Sciences 98,86%
	158/159	113/113	45/46	126/126	32/33	139/139	20/21	71/71	87/88
Q8	85,53%	31 to 40 years 90,38%	51+ years 76,08%	MSc or PhD 87,87%	Graduate 84,62%	Executive/Man. 94,6%	Other 60,0%	Exact Sciences 90,91%	Humanities 78,87%
	136/159	47/52	35/46	29/32	44/52	35/37	12/20	80/88	56/71
Q9	96,23%	31 to 40 years 98,08%	21 to 30 years 93,10%	Post Graduate 97,30%	MSc or PhD 93,94%	Advisor/Tec 98,53%	Liberal Prof 92,31%	Humanities 98,59%	Exact Sciences 94,32%
	153/159	51/52	27/29	72/74	31/33	67/68	12/13	70/71	83/88
Q10	86,16%	41 to 50 years 93,75%	31 to 40 years 82,69%	Post Graduate 90,54%	Graduate 78,85%	Executive/Man. 94,6%	Other 75,0%	Humanities 87,32%	Exact Sciences 85,22%
	137/159	30/32	43/52	67/74	41/52	35/37	15/20	62/71	75/88
Q11	49,05%	21 to 30 years 58,62%	51+ years 43,48%	Graduate 51,92%	MSc or PhD 45,46%	Professor/Res. 66,67%	Executive/Man. 35,13%	Humanities 56,34%	Exact Sciences 43,19%
	78/159	17/29	20/46	27/52	15/33	14/21	13/37	40/71	38/88

Source: Prepared by the authors

The use of digital tools is addressed here. It is noticed that almost all respondents use both email (Q7: 99.37%) and Instant Messaging - IM applications (Q9: 96.23%). Those are tools, one very old and supplied for home and professional environments, the other one very recent, easy to use and worldwide disseminated. All of them are probably addictive for communication, without which the individual could be considered a digital illiterate. Both available on any mobile platforms, used around the world, which facilitates their use. It can be checked that the range of "Compliance" values is quite narrow, within each profile, with a maximum of 5% dispersion, both in the case of email and IM. If all profiles were considered as a single indicator, we would still have high convergence between the responses obtained, with convergence between 100% and 95% in the case of email and between 99% and 92% in the case of IM. We will make these comparisons over the remaining questions.

Regarding the use of Voice-Conferences (Q8: 85.53%) and Video-Conferences (Q10: 86.16%), high utilization rate was declared, perhaps due to the fact that the survey was answered at the height of the epidemic COVD-19. During this period, both tools had their most widespread use and allowed instant interaction between participants. It is also noticed that executives/managers, in addition to the age group of 31 to 50 years, showed "Compliance" above 90%. The need for more advanced tools for negotiation, presentation of presentations and decision making may have influenced the increase in its application. One can remember, for example, the frank expansion in the use of applications like Zoom, all over the world. It would be interesting to see how much of that adoption will continue over the next two years, when the impact of the epidemic has dissipated.

Q11, regarding personal interaction, showed a median "Compliance" index of 49.05%. Despite the high rates of the previous questions, it can be inferred that digital tools may not cover all interactions between people. This indication suggests that a reasonable dose of humanization in contacts may be necessary and that, perhaps, it cannot be replaced, not even in the technological evolution scenario in which we find ourselves. The convergence bands between the various profiles studied are close, between 58% and 43%. The only exception is the range between Professors / Researchers (66.67%) and Executives / Managers (35.13%), in which we have more than 31 percentage points of distance, showing a very varied behavior among the respondents. In this case, one can explore the fact that the function group has several job possibilities, including self-employed professionals (8.2% of respondents), consultants / technicians (42.7%), Teachers / Researchers (13.2%), executives / managers (23.3% of respondents) and Other Occupations (12.6%). With this indication, new approaches may be developed in the future.

Frame 2 – Group 3: Communication Barriers – Grouped Results.

Question	% General Compliance	AGE		EDUCATION LEVEL		POSITION		EDUCATION AREA	
		> % Compliance	< % Compliance	> % Compliance	< % Compliance	> % Compliance	< % Compliance	> % Compliance	< % Compliance
	Compliance/ Total	Compliance/ Total	Compliance/ Total	Compliance/ Total	Compliance/ Total	Compliance/ Total	Compliance/ Total	Compliance/ Total	Compliance/ Total
Q12	84,27%	31 to 40 years 88,46%	21 to 30 years 75,86%	Post Graduate 87,84%	Graduate 78,85%	Executive/Man. 91,89%	Liberal Prof 69,23%	Exact Sciences 86,36%	Humanities 81,69%
	134/159	46/52	22/29	65/74	41/52	34/37	9/13	76/88	58/71
Q13	49,05%	31 to 40 years 53,84%	41 to 50 years 43,75%	MSc or PhD 54,54%	Post Graduate 44,60%	Professor/Res. 61,91%	Advisor/Tec 44,12%	Humanities 54,93%	Exact Sciences 44,32%
	78/159	28/52	14/32	18/33	33/74	13/21	30/68	39/71	39/88
Q14	63,52%	31 to 40 years 71,15%	41 to 50 years 53,12%	Graduate 67,30%	Post Graduate 60,81%	Professor/Res. 80,95%	Executive/Man. 59,46%	Humanities 70,42%	Exact Sciences 57,95%
	101/159	37/52	17/32	35/52	45/74	17/21	22/37	50/71	51/88
Q15	36,48%	51+ years 47,83%	31 to 40 years 30,77%	Graduate 48,07%	MSc or PhD 30,31%	Other 50,0%	Liberal Prof 23,08%	Exact Sciences 39,77%	Humanities 32,39%
	58/159	22/46	16/52	25/52	10/33	10/20	3/13	35/88	23/71
Q16	69,18%	21 to 30 years 79,31%	51+ years 65,22%	Graduate 80,77%	MSc or PhD 51,52%	Professor/Res. 85,71%	Advisor/Tec 63,23%	Exact Sciences 69,31%	Humanities 69,02%
	110/159	23/29	30/46	42/52	17/33	18/21	43/68	61/88	49/71
Q17	53,46%	31 to 40 years 65,38%	41 to 50 years 43,74%	Graduate 59,62%	MSc or PhD 36,37%	Other 65,0%	Executive/Man. 40,54%	Exact Sciences 62,50%	Humanities 42,25%
	85/159	34/52	14/32	31/52	12/33	13/20	15/37	55/88	30/71

Source: Prepared by the authors

Group 3 addresses global and remote communication barriers, which can interfere with the effectiveness and results of the work being carried out. In question 12, we had 84.27% of respondents in "Compliance", admitting that the language is a real barrier, although with a difference of 92% and 62% (30 percentage points among all profiles). It is a small surprise, since the population consulted is in the largest urban centers, in the largest Brazilian state, a source of wealth generation and with interfaces with the entire planet. Future evaluations on the existing diversity in the cities of São Paulo and Campinas fit here, since they are centers that attract Brazilians from all states and professionals from all over the world.

Question 13 shows that the process of contacting other cultures and different nationalities is expanding and growing. The total compliance value is 49.05%, convergence between 62% and 44% (18 percentage points between all profiles). It can be considered promising, since it is close to 50%, with maturity in the range of 31 to 40 years (53.84%), with 10 points dispersion for the range of 41 to 50 years (43.75%).

Q14 indicates that 63.52% understand that greater procedures and rules are needed to make effective communications more effective, with high dispersion between profiles between 81% and 53%. In the Exact (57.95%), Executive / Manager (59.46%) and 41 to 50 years old (53.12%) profiles, we had the lowest rates. These values may indicate that these profiles may be easier to deal with uncertainties and, therefore, depend less on more detailed and rigid procedures to deal with different situations.

Q15 indicates that groups of more than 10 people (36.48% "Compliance") do not represent communication barriers. Despite this, dispersion is high within each profile, with ranges ranging from 17% to 27%. Only the Area of Performance profile has low dispersion, with 7% (Exact with 39.77% and Human with 32.39%).

Q16, on the other hand, indicates that the lack of commitment to remote work is a major barrier (69.18% of "Compliance"). Convergence varies between 86% and 52%, considering all profiles as if they were one (34% percentage points) and, within the profiles themselves, only the Practice Area shows total convergence (69.31% for exact and 69.02% human). This leads us to infer that the acculturation of the working groups needs extra reinforcement to obtain good results.

Finally, in Q17, in which the respondents evaluate the reactivity that other people have in the use of digital tools, the overall "Compliance" index is 53.46%, which is considered a high index, since in group 1, we have great acceptance of digital tools. We have here a convergence value within the profiles that fluctuates considerably, between 20% and 25%, wide range, which indicates different views of the respondents. Only by addressing who would be the interlocutors of these profiles could we make new comments.

Frame 3 – Group 4: Personal Attitudes and Behavior. Grouped Results

Question	% General Compliance	AGE		EDUCATION LEVEL		POSITION		EDUCATION AREA	
		> % Compliance	< % Compliance	> % Compliance	< % Compliance	> % Compliance	< % Compliance	> % Compliance	< % Compliance
	Compliance/ Total	Compliance/ Total	Compliance/ Total	Compliance/ Total	Compliance/ Total	Compliance/ Total	Compliance/ Total	Compliance/ Total	Compliance/ Total
Q18	95,60%	51+ years 100,0%	31 to 40 years 90,39%	MSc or PhD 100,0%	Post Graduate 93,24%	Liberal/Other 100,0%	Advisor/Tec 92,65%	Humanities 97,19%	Exact Sciences 94,32%
	152/159	46/46	47/52	33/33	69/74	33/33	63/68	69/71	83/88
Q19	87,42%	31 to 40 years 92,31%	21 to 30 years 82,76%	MSc or PhD 90,91%	Graduate 84,61%	Liberal Prof 100,0%	Advisor/Tec 82,36%	Humanities 90,14%	Exact Sciences 85,23%
	139/159	48/52	24/29	30/33	44/52	13/13	56/68	64/71	75/88
Q20	84,28%	51+ years 86,96%	31 to 40 years 82,69%	MSc or PhD 90,91%	Graduate 78,85%	Executive/Man. 89,19%	Other 75,0%	Exact Sciences 85,23%	Humanities 83,10%
	134/159	40/46	43/52	30/33	41/52	33/37	15/20	75/88	59/71
Q21	87,42%	41 to 50 years 90,63%	21 to 30 years 86,21%	Post Graduate 90,54%	MSc or PhD 78,79%	Professor/Res. 95,24%	Other 80,0%	Exact Sciences 88,64%	Humanities 85,91%
	139/159	29/32	25/29	67/74	26/33	20/21	16/20	78/88	61/71
Q22	96,23%	51+ years 100,0%	21 to 30 years 93,10%	Post Graduate 100,0%	MSc or PhD 90,91%	Liberal/Other 100,0%	Executive/Man. 91,89%	Exact Sciences 97,73%	Humanities 94,36%
	153/159	46/46	27/29	74/74	30/33	33/33	34/37	86/88	67/71

Source: Prepared by the authors

In the group of Personal Behaviors and Attitudes, values are very homogeneous and with high rates of "Compliance". In the five questions analyzed, we have values that vary from 84.28% (Q20) to 96.23% (Q22). Convergence, within the issues and within each profile assessed, has some variations.

In Q18, regarding preparation for meetings, we have "Compliance" of 95.60% and the variation is within 3% (Practice Area) and 10% (Age Group).

In Q19, regarding synthesis capacity, we have a "Compliance" of 87.24%, with a variation between 5% and 10%, except in the Function profile, where we find a variation of 18%. It seems natural, in this profile, that this may occur, considering the different types of professional work, already mentioned above

In Q20, which deals with the ability to negotiate and manage conflicts, we have a "Compliance" of 84.28%, with outstanding variations between profiles, ranging from 4% (Age Group) to 14% (Function / Position). Again, the Role may require different efforts on this issue.

In Q21, on Empathy, we have 87.42% "Compliance" and variations ranging from 4% (Age Group) to 15% (Function / Position), for which the same comment as the previous question is worth.

Finally, in Q22 there is a strong convergence in the results, obtaining 96.23% of General "Compliance" and variations of 7 to 10 percentage points in the indicators of higher and lower "Compliance" in each profile.

Frame 4 – Group 5: In the company or main work organization Source

Question	% General Compliance	AGE		EDUCATION LEVEL		POSITION		EDUCATION AREA	
		> % Compliance	< % Compliance	> % Compliance	< % Compliance	> % Compliance	< % Compliance	> % Compliance	< % Compliance
	Compliance/ Total	Compliance/ Total	Compliance/ Total	Compliance/ Total	Compliance/ Total	Compliance/ Total	Compliance/ Total	Compliance/ Total	Compliance/ Total
Q23	49,05%	51+ years 54,34%	41 to 50 years 40,62%	Post Graduate 54,05%	Graduate 42,31%	Professor/Res. 57,14%	Other 25,0%	Exact Sciences 51,14%	Humanities 46,48%
	78/159	25/46	13/32	40/74	22/52	12/21	5/20	45/88	33/71
Q24	73,59%	21 to 30 years 82,75%	51+ years 65,22%	Post Graduate 78,38%	Graduate 67,30%	Executive/Man. 83,78%	Other 60,0%	Humanities 76,05%	Exact Sciences 71,59%
	117/159	24/29	30/46	58/74	35/52	31/37	12/20	54/71	63/88
Q25	57,86%	51+ years 63,05%	41 to 50 years 53,11%	Post Graduate 58,11%	MSc or PhD 57,58%	Executive/Man. 70,27%	Liberal Prof 38,46%	Exact Sciences 59,09%	Humanities 56,34%
	92/159	29/46	17/32	43/74	19/33	26/37	5/13	52/88	40/71
Q26	86,16%	21 to 30 years 93,10%	51+ years 73,91%	Post Graduate 89,19%	MSc or PhD 81,82%	Advisor/Tec 91,17%	Other 70,0%	Exact Sciences 86,36%	Humanities 85,91%
	137/159	27/29	34/46	66/74	27/33	62/68	14/20	76/88	61/71
Q27	86,16%	21 to 30 years 89,65%	31 to 40 years 84,61%	Post Graduate 91,89%	MSc or PhD 78,79%	Executive/Man. 91,89%	Professor/Res. 76,20%	Humanities 87,33%	Exact Sciences 85,23%
	137/159	26/29	44/52	68/74	26/33	34/37	16/21	62/71	75/88
Q28	68,55%	31 to 40 years 75,0%	51+ years 60,87%	Post Graduate 75,68%	MSc or PhD 60,61%	Executive/Man. 78,37%	Professor/Res. 52,38%	Humanities 70,42%	Exact Sciences 67,04%
	109/159	39/52	28/46	56/74	20/33	29/37	11/21	50/71	59/88

Grouped Results Source: Prepared by the authors

In this last group of questions, there is the adherence of the company or organization with which the respondents work most, in relation to global and remote work.

The Q23 assesses whether there is an established Culture for the use of this type of communication and indicates a "Conformity" of 49.05%. Convergence is high within the profiles, varying only in the Function item,

in which we have a large variation of 32%, between teachers and other functions, in which there may be no uniformity. Q25, on feedbacks, is also related to Q23 and also has a lower "Compliance" of 57.86%. Also in this item, we have convergence between profiles, except in function, with a variation of about 32% between executives / managers and professionals.

In these two cases, Q23 and Q25, high rates are not observed and both are opposed to the questions assessed in G2, on the use of digital tools, and with G4, on Personal Behaviors. It would be as if respondents rated themselves differently from their assessment of the company with which they work. One could accept the possibility of gaps within companies, which required specific work, of greater acculturation, for the use of remote work, in a global environment. On the other hand, these values demonstrate coherence in relation to the G3, in which the communication barrier is assessed, since Q13, on local culture, and Q17, on reactivity in the use of digital tools, present low "Conformities", of 49 , 05% and 53.46 %%, respectively.

Q24, on the development of complex projects via global and remote work, is surprising, since it has a general rate of 73.59%, high if we consider the previous answers. If the values for Executive / Manager (83.78%) and Age Group from 21 to 30 years (82.75%) are observed, there are high rates, above 80%, which can shift the final value up slightly, since they represent only 55 in the total of respondents.

Q26, on negotiation and conflict management (86.16% "Conformity") and Q27, on commitment to Goals and Objectives (86.16% "Conformity"), corroborate the result of Q24, even though the convergences vary between 20% and 15% between some of the profiles covered in the two questions, respectively.

In the last question, regarding the registration and control of meetings held globally and remotely, we have an overall "Compliance" index of 68.55%, which can be considered a good value, since the control methods may not be fully disseminated and homogeneous.

CONCLUSION

There are many conclusions in our research. Firstly, it is to be noted that this study is representative and relevant, since several articles that address remote work are based, in essence, on socioeconomic aspects as its mainstream. In this research, the approach evolves with greater diversity, taking into account the respondents 'profile, the use of digital tools, the communication barriers, the respondent's individual behavior and the companies' maturity in the use of global and remote communication. As the current research has an exploratory approach, this allowed for a number of findings that will probably allow a list of new research on the proposed theme of this work to keep on contributions on the area.

Digital tools represent a crucial component of the development and usage of global and remote communication as an effective enterprise tool. However, a chief point of reflection resides in the search for enhanced interaction between people and consequent humanization in direct contacts between them. It remains a proposal for evaluation that technology cannot prevent people from the fundamental human relationship in daily life, which can allow greater empathy, negotiation capacity and conflict resolution. This allows us to infer that the development of the already known soft-skills is an even more important factor than has already been highlighted, and should be a focus on the growth of all professionals.

The functions and positions studied in this research showed that there is a great variation in the indicators of the tables already mentioned above. These variations may offer a new opportunity for future studies, since they demonstrate different characteristics between these positions. Studies with greater specificity may lead to new discoveries. The role of Executive Manager has high values of "Compliance" throughout the entire survey, as indicated in the comments made. This may also suggest that the use of digital tools is well accepted by these professionals and, at the same time, that, perhaps, they can no longer renounce their use, for global and remote communications. Today and in the Future.

It could also be observed that there were no significant variations between people from Humanities and Exact Sciences areas of activity, which may suggest a homogeneity in the use of communications.

There are some relationships that could be pointed out in the present study. In group 5, in Q23 and Q25, high rates are observed, but both are opposed to the questions evaluated in G2 regarding digital tools; and also with G4 on Personal Behaviors. There is a possibility that respondents use different criteria for their own personal assessment and for their assessment of the company for which they work. Gaps within companies may require specific development, of acculturation, to use remote work in a global environment. On the other hand, these

values demonstrate coherence in relation to the G3, in which communication barriers are assessed, since Q13, on local culture, and Q17, on reactivity in the use of digital tools, present low "Conformities", of 49.05% and 53.46 %%, respectively.

Our contribution, with this study, highlights the close relationship between the uses of digital tools, aspects of personal behavior, together with the acculturation of companies. Only with this integrated work, it will be possible to effectively execute the global and remote communication process in its fullness as may be needed every day more needed.

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