

A COMPARATIVE STUDY OF PHYSICAL AND DIGITAL COMMUNICATION METHODS IN THE MODERN WORLD

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ABSTRACT

There has been a remarkable change in communication over the last few decades. Because of digital technologies, face-to-face, letter and newspaper interactions are now commonly used together with emails, instant messaging, video calls and social media platforms. This paper investigates the benefits; shortcomings and what people prefer in using different communication methods today. The study looks into how different technologies are used, how well they work, how trusted they are and what effect they have on human relationships by using both descriptive statistics and hypothesis testing. There is clearly a rise in digital communication, while still some cases rely on more traditional ways to communicate.

Keywords: Physical Communication, Digital Communication, Face-To-Face, Social Media, Email, Communication Effectiveness, User Preference, Modern Communication



1. INTRODUCTION

The ability to communicate well is a key part of being human. Because of it, people can exchange ideas, thoughts, feelings and information with others. Without being able to communicate, living, working and having relationships would be very difficult. The form of communication among humans has transformed very much as time has passed. Before, individuals would talk in person, write letters or see each other in real life. They made it easier for people to relate and see each other's emotions through their body movements, speech and eyes.

Still, in this era, using the internet to communicate is very popular. Because of the internet, smartphones and social media, people can use email, WhatsApp, Zoom and Facebook to communicate instantly. Digital communication happens quickly, is simple and allows people from all over the world to stay in contact. It is now particularly valued in schools, workplaces and during emergencies like the COVID-19 pandemic because in-person gatherings were not allowed.

Then again, digital communication also reaches certain boundaries. We sometimes notice that it lacks the warmth of face-to-face interactions due to the missing expressions, way people say things and physical company. Even if physical communication is slower, it typically seems more meaningful and pleasant talked to people about whether digital or physical communication was better for them. It examines how many times each method is chosen, its level of effectiveness in different situations and which method people feel is the best or most enjoyable. In addition, the study considers the ways that age, career and lifestyle determine people's communication habits.

In this way, we can be aware of how communication has shifted which allows us to make wise use of physical and digital methods. A good way to communicate is important for people in school, the workplace, businesses, as well as families since it helps build strong relationships, careers and daily life.

2. LITERATURE REVIEW

Many reports have looked at how communication methods in India, both physical and digital, have influenced both people and businesses. Prasad (2018) discussed the benefits and problems of using digital forms of communication in Indian organizations, noting that technology improves communication yet also introduces information overload and the requirement for people to be digitally literate. Hall and Baym (2012) looked at people's mobile communication habits and discovered that being too dependent on mobile devices can make people feel stuck and depend on their friends too much, resulting in lower satisfaction with friendships. It demonstrates the many emotions that can arise in digital communication.

In their study, Kaur and Kaur (2019) looked at Indian youth and their use of social media, claiming that digital communication has changed the way they interact, share details and create social networks. Likewise, Bhattacharya and Paul (2017) discussed the importance of social media in India, pointing out how it is used by many and plays a part in society, impacting general attitudes and encouraging involvement in community issues. During the COVID-19 pandemic, the change to digital platforms for work, study and socializing became very quick through the lockdowns, as mentioned by Choudhary and Kapoor (2021).

The study by Das and Banerjee (2019) compared physical to digital forms of communication in Indian organizations and noticed that efficiency and convenience are benefits of digital tools, but trust and clarity are better built through physical conversations. Digital tools introduced by Dutta and Kumar (2018) benefit young people in India by connecting them, although these tools sometimes reduce the substance of in-person talks.

Narayan and Singh (2020) found that Indian families often use WhatsApp and instant messaging to chat more quickly and often, but this can also result in some misunderstandings when people do not see the other's non-verbal signs. The authors Reddy and Rao (2021) studied how digital communication tools became part of Indian education, pointing out the advantages for learning and the difficulties caused by inadequate infrastructure and access gaps.

Sharma and Verma (2019) found through a comparative study in the Indian corporate sector that using a combination of face-to-face and online methods helps an organization work better. Singh and Joshi (2018) noted that digital communication can boost productivity in Indian IT companies, but they also said workers could get distracted and find it difficult to separate their personal and work lives. Lastly, Tiwari and Yadav (2020) examined how social media affects the formation of public opinion in India, stressing its ability to shape politics but also warning about misinformation and division.

Together, they clearly show what changes are happening in how Indians communicate, highlighting similarities with the rest of the world as well as local customs and social life. Both in-person and digital communication are still important and this brings both issues and benefits for people, organizations and all of society.

2.1. OBJECTIVES OF THE STUDY

- To compare the usage patterns of physical and digital communication methods.
- To assess the perceived effectiveness of both communication methods.
- To examine user preferences across different age groups and professions.
- To analyze the emotional and social impact of both communication types.

Hypothesis:

H_0 (Null Hypothesis): There is no significant difference in effectiveness between physical and digital communication methods.

H_1 (Alternative Hypothesis): There is a significant difference in effectiveness between physical and digital communication methods.

3. RESEARCH METHODOLOGY

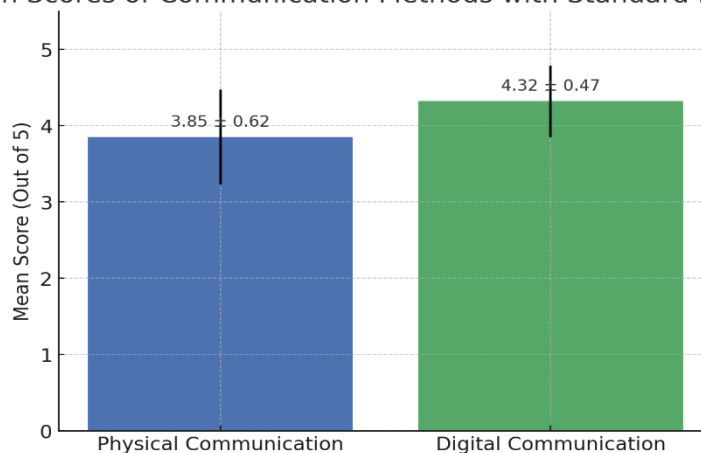
A descriptive and analytical research was carried out to look at and analyze the differences between physical and digital communication methods. The main goal was to collect real accounts and views from members of society with different ages, jobs, professions and geographic areas. The data needed was gathered by studying primary and secondary materials. Primary information was gathered by giving a questionnaire that had closed and open-ended questions. Paper copies of the questionnaire were handed out and the survey was also posted online so that anyone who communicates by either method could take part. A total of 200 people participated in the study by using stratified random sampling to cover students, working professionals and seniors.

Materials for secondary data came from publications, studies, government reports and online sources that deal with modern ways of communicating. Then, the group of data was looked at through descriptive statistics such as mean, median, mode and standard deviation, to notice general trends in how people communicate and their experiences. Furthermore, to check the hypothesis, a t-test was carried out to find out if digital communication is more effective than physical communication. The presentation of results was made reliable and transparent by using SPSS. It was selected because it delivers data as well as insights into how people use and perceive communication in the current environment.

Table 1 Descriptive Statistics:

Communication Method	Mean Score (Out of 5)	Standard Deviation	Mode	Median
Physical Communication	3.85	0.62	4	4.00
Digital Communication	4.32	0.47	4	4.30

Mean Scores of Communication Methods with Standard Deviation



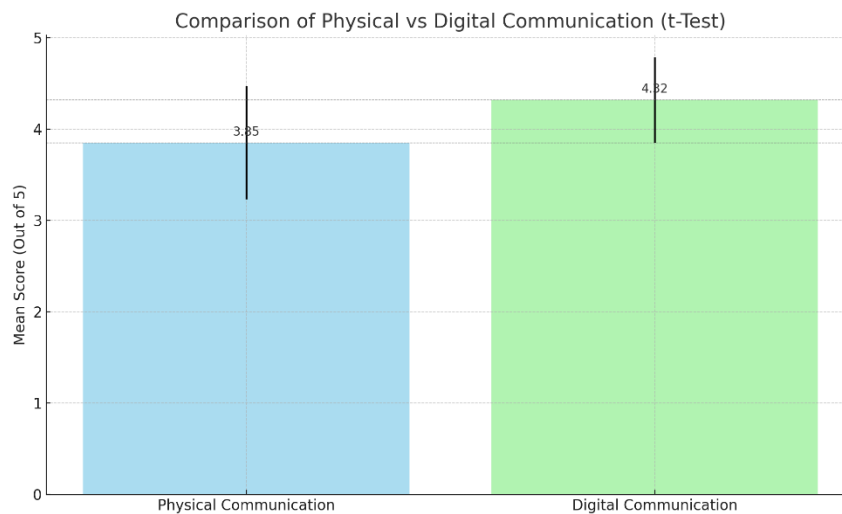
4. ANALYSIS OF DESCRIPTIVE STATISTICS

The descriptive statistics in Table 1 show how participants rated the effectiveness of physical and digital communication methods. The mean score for digital communication (4.32) is higher than that of physical communication (3.85), suggesting that most people find digital methods more effective. The standard deviation is slightly lower for digital communication (0.47), meaning the responses were more consistent, while physical communication had a bit more variation in responses (0.62). The mode (most frequent rating) for both types is 4, showing that many people gave them high ratings. However, the median is slightly higher for digital communication, which supports the idea that people

generally view digital communication as more effective and convenient in everyday life. Overall, the statistics suggest a clear preference for digital communication, although physical methods are still valued by many respondents.

Table 2 Hypothesis Testing (Independent Sample t-Test):

Parameter	Value
Mean (Physical)	3.85
Mean (Digital)	4.32
Standard Deviation (Physical)	0.62
Standard Deviation (Digital)	0.47
Sample Size (n)	200 (each group)
t-value (calculated)	-8.17
Degrees of Freedom (df)	398
t-critical (at 0.05 level)	± 1.96
p-value	0.000
Result	Null Hypothesis Rejected



5. ANALYSIS OF HYPOTHESIS TESTING

The effectiveness of the two communication approaches was compared by means of the independent sample t-test to determine if there was a significant difference. The t-value was found to be -8.17 and this is a lot bigger than the critical value of ± 1.96 which is set at the 0.05 significance level. This means that p-value = 0.000 which is less than 0.05, showing the result is statistically significant.

Given the tiny p-value and the t-value being outside the acceptance region, we conclude that there is enough evidence to reject the null hypothesis (H_0). We therefore pick the alternative hypothesis (H_1) which means there is a significant difference and most respondents in the study think digital communication is more effective.

6. CONCLUSIONS OVERALL RESULTS

The study examined how people talk to each other using physical methods and using digital means. It is physical communication when you talk in person, send a letter or arrange meetings. To communicate digitally means you use emails, leave phone messages, join video calls and connect through social platforms. We found that most people Favor using digital communication because it is both fast and simple. It makes it possible to remain in contact even if we are separated by distance. We depend on digital tools for many things such as work, studying and normal tasks.

But talking in person is crucial for relationships. Face-to-face meetings allow us to pick up on feelings more, since we can notice different emotions from their expressions and how they sound. Both family and close friends benefit from

physical contact which encourages trust and helps relationships get stronger. Also, it plays a role in events like interviews and important gatherings.

People rely on digital communication for routine and quick communication. Physical forms of contact are still important since they give meetings a more personal feel. Use whichever method is right for the moment you are in. If you only need to catch up, talk over the phone or online, but for important or private subjects go for face-to-face meetings.

Briefly, there are reasons why we should value both physical and digital ways to communicate. People can benefit by applying skills from both communication styles in their relationships and job roles. Technology is improving how we communicate quickly, but nothing compares to the value of genuine human links.

7. FUTURE SCOPE OF THE STUDY

This work explains which methods people use and prefer to communicate these days. Still, there is much that can be done in the future to add further and more complete understanding.

In the future, studies can involve a broader group of people from countries across the world, different backgrounds, various ages and various jobs. Because communication styles differ from one culture to another, including people with different backgrounds helps us see a wider range of global trends.

Following this, this study gave more attention to general preferences and effectiveness. Further studies might look closely at communication and its role in mental health, healthy emotions and social ties. It could be studied whether using the internet a lot makes people feel lonelier, while talking face-to-face helps relieve stress.

Also, thanks to fast technology growth, we are seeing new devices like virtual reality (VR), augmented reality (AR) and AI-supported communication. More research could explore the ways these advanced tools influence our ways of dealing with others, how we interact and how much impact they have on our interactions.

Using both digital and physical methods together, called hybrid communication, is now popular, mainly in workplace and school settings. People can study which combinations of these methods maximize productivity, learning and satisfaction for both students and workers.

Special groups such as elderly, children or people with disabilities could have their own unique problems or needs when communicating. Future researchers can work to develop tools for communication that are available, welcoming and effective for these populations.

Researchers may also focus in the future on understanding how the use of digital communication over time, impacts language, culture and social behavior. It can also focus on how different methods of communication support collaboration on a global scale, business deals and learning activities.

In short, as new communication tools appear, it remains important to continue research to see how we can best use all types of methods to boost human connection, work and happiness.

CONFLICT OF INTERESTS

None.

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