

The role of the product owner in digital communication in agile environments: A case study of Initgrammers

 Aguiar Mariño, Nina^{1*},  Alessandro Sebastián Sierra Sevilla²,  Giullyana Karina Galeas Rojas³

^{1,2,3}Salesian Polytechnic University, Quito – Ecuador; naguiar@ups.edu.ec (N.A.M.) sebastierra2002@gmail.com (A.S.S.S.) giully628@gmail.com (G.K.G.R.)

Abstract: This article examines the role of the Product Owner (PO) in digital communication within agile environments, using InitGrammers as a case study. It emphasizes that the PO serves as a crucial intermediary between the development team and the client, facilitating communication and ensuring the achievement of project objectives. The primary goal of the research is to understand how the digital tools and strategies employed by the PO contribute to project success. The research hypothesis centers on how the PO can optimize communication within development teams and overcome challenges in digital environments. To achieve this, a qualitative methodology is utilized, including direct observation, semi-structured interviews, and interview analysis. The findings reveal that the PO relies not only on digital tools such as Jira, Discord, and Slack but also on effective team interaction, enabling coordinated and efficient task management. This fosters teamwork and supports the accomplishment of project goals. In conclusion, the study underscores that the PO's role extends beyond technical responsibilities by incorporating strategic and communication skills, as well as a remarkable ability to adapt to various challenges in digital environments. It also highlights the effective use of agile tools and methodologies, which help align the team with the client's objectives, enhancing both productivity and client satisfaction.

Keywords: Agile environments, Agile methodologies, Digital communication, Digital tools, Product owner.

1. Introduction

Digital communication is characterized by its dynamism, which has led organizations to adopt work methodologies in digital environments that respond to the need to manage projects efficiently. In this context, the role of the Product Owner (PO) emerges as a key figure, responsible for facilitating communication, coordinating multidisciplinary teams, and ensuring the achievement of project objectives.

Among the work strategies used by the PO, agile methodologies stand out, as they "allow adapting the way of working to the conditions and objectives of the project, achieving flexibility and immediacy in response" [1]. These methodologies enable the PO to become the main link between the client and the development team, ensuring that projects are executed quickly and efficiently adapt to changes and environmental needs.

The pursuit of continuous improvement in organizations determines that one of the key roles in this context is that of the Product Owner, whose main function is to generate a solid link between development teams and clients in various projects. However, Afshin, et al. [2] highlights that the PO faces considerable challenges in managing digital communication, such as: difficulties in communication and collaboration, lower quality of interaction compared to face-to-face meetings in on-site teams, a potential decrease in team member engagement, and challenges in building trust and shared responsibility among team members (pp. 14–15).

In this context, the present research aims to analyze the role of the Product Owner in digital communication, using InitGrammers as a case study. InitGrammers is an Ecuadorian company founded in 2019, specializing in the design and development of web and mobile applications, UX/UI design, and technology training. InitGrammers maintains a focus on continuous improvement for the delivery of results-oriented projects.

As a fully remote company, InitGrammers has adopted agile methodologies such as Scrum, where teams are "autonomous and self-managed, sharing knowledge openly and learning together" [3]. This has allowed for efficient and effective communication management during the delivery of its various projects.

From this, the key question guiding this research arises: How can the Product Owner play a decisive role in facilitating communication within agile project management? This question not only highlights the importance of communication and good organization in agile projects but also explores the various strategies and tools the PO can use to optimize information flows among the different project stakeholders.

Additionally, it opens the door to a deeper reflection on the tactics the Product Owner (PO) implements to overcome the challenges inherent in digital environments and the need to continuously adapt to changes. This reflection seeks to identify how the proper integration of digital tools and platforms can improve team collaboration, decision-making, and alignment of work with project objectives, ensuring smooth and efficient communication throughout the development process.

The PO employs various practices that optimize project management in digital environments. Flanagan [4] argues that the results of a project depend largely on the use of technologies that facilitate an effective communication process within the team, contributing to increased productivity and, consequently, client satisfaction. In this sense, this work seeks to understand these practices and analyze how they influence the success of agile projects.

First, it aims to describe the functions exercised by the Product Owner (PO) and the responsibilities assumed to manage digital communication within their team. To this end, it is essential to mention the use of digital narratives, which rely on various technological tools characterized by their intuitive nature for project management [5]. In this sense, the PO, in their role as a facilitator, adapts these narratives to increase the likelihood of project success.

It is important to note that digital communication, globally, is defined by its inclusivity and its ability to be understood in various formats, enabling more accessible communication [5]. Therefore, for the PO, these tools are indispensable, not only for the effective coordination of their team but also to ensure client satisfaction upon the successful completion of projects.

Second, it seeks to systematize how communication management on different digital platforms, along with the use of digital narratives, contributes to team coordination and the achievement of satisfactory results. Jenkins [6] argues that digital narratives significantly impact the social imagination of individuals, fostering the generation of suggestions and improvement ideas by team members.

Finally, by formulating recommendations applicable in both professional and academic contexts, this work aims to contribute to closing a knowledge gap regarding the PO, their functions, and the roles they play in digital environments.

With these points defined, it is important to highlight that the alignment of the team with the project objectives, facilitated by the Product Owner (PO), is achieved through digital convergence. Jenkins [6] explains that this concept refers to the flow of content that can be transmitted across various platforms. Through this convergence, the PO adds differential value to the project development process, creating impact and differentiation by providing feedback to the team in various formats, spaces, schedules, and sources.

This analysis highlights the relevance of the Product Owner (PO) role in directing agile projects, characterized by their flexibility and ability to adapt to project or team needs [7]. In this context, the PO plays a fundamental role in ensuring cohesion between the work performed and the objectives set,

especially in multidisciplinary teams. Although the PO's role in digital environments has a significant impact on digital communication, there is limited research on this topic. Therefore, this work seeks to contribute to closing this knowledge gap in the field of project management.

It is essential to highlight the relationship between human agency (the team) and non-human agency (platforms or applications), explained through Actor-Network Theory (ANT). This theory allows for the analysis of the dynamics between teams and platforms within networks of diverse use at an organizational level Gutiérrez Rincón, et al. [8], providing the Product Owner (PO) with a deeper understanding of the various technological platforms and their role in team relationships, which may vary depending on project needs.

InitGrammers specializes in web development and design, a field in which the relationship between teams and clients is constant, mediated through various digital platforms. In this context, the PO plays a crucial role in adding value to products and outcomes through the strategic use of these platforms. Their function focuses on facilitating mutual understanding between the client and the team, as well as mediating in coordination and decision-making with both parties [9].

In this scenario, the company integrates solid and concrete digital narratives that effectively adapt to the different digital environments present throughout a project. These narratives allow communication, initially unidirectional, to become multidirectional, facilitating the interrelation between the team and project objectives [5].

The PO plays an essential role in facilitating communication within the team, based on strategic information flows that optimize project productivity. This is achieved through the effective transmission of information, recommendations, contributions, and ideas at different levels or stages of the process Alvarado [10] fostering efficient and collaborative teamwork.

This approach is linked to the analysis of transmedia communication dynamics and hypermedia narratives, resources that "serve to create community, new business models, and a more dynamic and flexible corporate discourse" (Farinango, 2024, p. 11). In this sense, the PO acts as a fundamental bridge between the team and project success.

According to Lopez Soriano [11] "digital information flows allow agile teams flexibility in the face of volatility and change in uncertain environments, as they enable the absorption of high variability in requirements with minimal management overhead" (p. 87). Therefore, project management in digital environments requires coordination that integrates technological tools and a constant ability to adapt to project changes and client expectations.

The PO's role directly impacts client satisfaction and team performance, addressing the use of communication tools in digital environments. These tools are designed to facilitate interaction among team members and include both internal and external communication platforms aimed at connecting with suppliers, clients, and agencies "designed to help team members communicate with each other. This includes internal communication tools for team communication and external communication tools for communicating with suppliers, clients, and agencies" [12].

Thanks to these tools, the PO can establish effective, lasting, and coherent digital communication within the team, promoting the optimal development of project activities.

2. Methodology

For this research, a qualitative approach was chosen, as it allows the study to be developed based on descriptive data, which may include discourses, comments from individuals, and observable behaviors, without necessarily focusing on statistical or numerical data [13]. This approach facilitates the identification and analysis of the strategies and tools used in digital communication, essential for the Product Owner (PO) to promote quality teamwork, oriented toward client satisfaction and the achievement of project objectives.

Similarly, the application of a case study was considered appropriate, as this methodology allows for an in-depth analysis of a study object by collecting and contrasting evidence from various sources in a specific and determined context [14]. In this way, it is possible to understand in detail the role of the

PO in the company InitGrammers, focusing on their performance within a digital environment that integrates various tools and technological platforms.

Within the framework of qualitative research, it is essential to employ techniques that allow the collection of descriptive data. Therefore, it was decided to conduct interviews with open-ended questions with the different Product Owners (POs) of the company in question, in addition to conducting direct observation in their meetings. This approach is justified by the challenges posed by digital communication in work teams.

To participate in this research, three members of InitGrammers were selected: Andrea Jurado, Juan Carlos Guña, and David Llumiquinga. Andrea and Juan Carlos, in addition to serving as POs, are co-founders of the company, while David has been part of InitGrammers for over two years. All three have played a crucial role in team management and possess extensive experience in directing projects in a digital modality.

The criteria for their selection included not only their individual experience but also their direct participation in emblematic projects of InitGrammers, such as the creation of various platforms and applications. Among them, the hotel hosting application ClubAngular and the pharmacy connection platform MediaValue stand out, both developed in collaboration with an international team of developers in Spain and Ecuador.

The interviews were designed with open-ended questions to facilitate the exploration of personal experiences and capture strategic perspectives on the impact of communication on team management. Mora Muñoz [15] explains that "open-ended questions tend to yield responses that require presenting arguments and developing explanations" (p. 4). For this reason, the use of this type of question was considered essential to obtain valid results, formulating them according to the research objective. This allowed for the identification of the tools and strategies that the Product Owners (POs) consider most effective in digital communication.

To design the questions, the most popular digital tools were investigated, with a particular focus on those that optimize communication and foster collaboration within teams. The goal was to identify the platforms and tools that play a key role in coordination, project management, and strengthening teamwork.

Another key tool in the development of this research was direct observation. Since InitGrammers' teams work on digital platforms, direct observations were made of meetings and interactions in the digital work environment. Romero-Martínez, et al. [16] notes that this technique "seeks to provide methodological solutions for conducting ethnographic research related to ICT and, above all, the Internet" (para. 8).

Direct observation was conducted over a period of two weeks, from Monday to Friday, between 8:00 am and 12:00 pm. The first phase began on Monday, November 25, 2024, and ended on Friday, November 29, 2024, and the second phase took place from Monday, December 2, to Friday, December 6, 2024. During this time, the workflow on collaboration and internal communication platforms was observed, recording the dynamics of daily meetings (known as Dailies) and the tools used to manage tasks and receive constant feedback.

Direct observation allowed for the capture of communicative interactions, the frequency and type of messages, as well as the strategies implemented by the POs to efficiently coordinate the team and manage constant feedback. This type of observation is conducted "without the need to intervene or alter the environment in which the object develops, as otherwise, the data obtained would not be valid" [17]. This allowed for the precise identification of both the tools and strategies used by the POs, information that will be systematized and reflected in the results.

The data obtained from the interviews and direct observation were initially processed using the TurboScribe platform. On this platform, MP4 files were uploaded and automatically transcribed with timestamps for each intervention. It is important to note that all these transcriptions were manually reviewed to correct errors and ensure the quality and accuracy of the information.

Once the interviews were transcribed, the data were imported into the NVIVO platform, a qualitative analysis software that facilitates the organization and classification of both textual and visual data. This software allows for the identification of patterns and recurring themes in a more structured and straightforward manner. According to Braun and Clarke [18] thematic coding involves "classifying and organizing data according to central themes to articulate them in a general analysis" (p. 87).

Additionally, NVIVO is particularly useful for analyzing qualitative data from "interviews, discussion groups, diaries, life stories, among others" [19]. Thanks to its ability to apply effective coding, it allowed for the identification of key themes that will be reflected in the results section, presented through a collection table detailing the tools and strategies employed by the Product Owners.

3. Results

The results of this research are based on the interviews conducted with the three Product Owners (POs) of InitGrammers and the direct observation of their work dynamics. The goal was to answer key questions about the strategies and tools used by the POs, the challenges they face, and how these impact the dynamics of multidisciplinary teams.

The interviewees agreed that the PO plays a fundamental role as an intermediary between the client and the development team. Among their main functions are defining priorities, translating client needs into user stories, and supervising tasks within agile methodologies such as Scrum and Kanban.

Guaña-Narváez, et al. [20] emphasized that "the PO is responsible for managing the product vision, prioritizing what satisfies both the client's needs and the business's needs." Cornejo Jurado, et al. [21] complemented this statement by noting that "effective communication is essential to ensure the team understands the project's objectives." Villenas [22] highlighted that the PO acts as "a bridge that translates requirements into terms the team can implement."

Direct observation confirmed the recurring use of tools such as Slack, JIRA, and Discord during meetings and planning sessions. These tools are used to assign tasks, track progress, and maintain constant communication among teams, reinforcing the effectiveness of the strategies mentioned by the interviewees. In one observed session, for example, JIRA was used to prioritize tasks in a development sprint, adjusting delivery dates based on feedback from the client and the technical team.

The management of communication in agile environments is not limited to the tools used but also involves the constant development of interpersonal and leadership skills by the PO. Additionally, the use of tools such as Slack, Discord, and JIRA allows the PO to optimize the flow of information, demonstrating that the functions of the PO in InitGrammers go beyond the operational and play a crucial role in team cohesion.

The interviewed Product Owners employ a set of digital tools that facilitate both communication and collaboration between the team and the client. Guaña-Narváez, et al. [20] stated, "Slack and Discord allow us to maintain agile communication and resolve issues in real-time." Cornejo Jurado, et al. [21] mentioned the use of Jam to report errors asynchronously and highlighted the importance of retrospective meetings, which help reduce digital fatigue. Villenas [22] added, stating that "JIRA and Asana help us establish clear priorities through agile methodologies."

These tools are not only fundamental for operational management but also foster collaboration and transparency in projects. Strategies such as daily meetings and retrospective meetings reinforce communication, promoting a better work environment. On the other hand, flexibility, as noted by Villenas [22] is a key aspect, as "allowing scheduled breaks improves team well-being." The use of these tools and strategies demonstrates proper adaptation to agile environments.

These strategies are implemented to mitigate information overload and digital fatigue, understood as "the overload of information and overexposure to digital devices that results in mental and physical exhaustion due to a lack of disconnection and adequate rest" Trujillo Pons [23]. This allows addressing the challenges posed by constant exposure to information flows.

The results obtained show that the success of digital communication by POs largely depends on their ability to adapt tools and strategies to the specific needs of each project. In this sense, the importance of proper alignment between client expectations and the team's capabilities was identified.

As Cornejo Jurado, et al. [21] stated, "the key is to translate client needs into clear and understandable user stories for developers." These user stories are a fundamental tool for gathering product requirements from the end-user's perspective. Finally, Villenas [22] added, stating that "initial sessions with the client are the breaking point to avoid future misunderstandings."

To delve deeper into the analysis of the interviews conducted, the NVIVO tool was used, which allowed for the identification of patterns and trends in the responses of the Product Owners (POs). Based on this analysis, three word clouds were created based on the responses of each interviewee. These visualizations allow for the identification of the most recurring words, highlighting key terms associated with the PO's role, the tools used, and the strategies implemented, providing a complementary visual approach that reinforces the qualitative findings of the research.



Figure 1.
Word Cloud from the Interview with Cornejo Jurado, et al. [21]

This word cloud reflects the key terms associated with Juan Carlos Guaña's experience as a Product Owner at InitGrammers. Words such as "WORK" and "PROJECTS" stand out, evidencing his focus on managing agile teams and project dynamics in collaborative environments. Similarly, recurring terms such as "TOOLS," "JIRA," and "DISCORD" are mentioned for their fundamental role in managing communication and task coordination in digital environments. However, Guaña-Narváez, et al. [20] emphasizes that the use of these tools must be aligned with agile methodologies to ensure the achievement of project objectives, highlighting in this context the relevance of "SCRUM." This visualization allows for the identification of how the combination of digital tools and agile methodological approaches constitutes an essential pillar in his management as a Product Owner.



Figure 2.
Word Cloud from the Interview with Cornejo Jurado, et al. [21]

The word cloud from Andrea Jurado reflects the relevance of clear and detailed communication as a key factor for the successful performance of projects. Words such as "RETROSPECTIVES," "STORIES," and "COMMUNICATION" stand out in this visualization, showing how collaborative work among team members contributes to achieving the objectives set from the beginning. While a good relationship and communication within the team are fundamental, Cornejo Jurado, et al. [21] notes that this dynamic is strengthened by the use of various digital platforms. Terms such as "SLACK," "DISCORD," and "JIRA" stand out in the cloud, demonstrating how these digital tools facilitate collaboration and optimize workflow, significantly contributing to the positive development of the project.



Figure 3.
Word Cloud from the Interview with Villenas [22].

David Llumiquinga highlights the importance of efficiency in project management through team collaboration. In the word cloud, terms such as "TOOLS," "TASKS," and "MANAGEMENT" stand out, reflecting how the intelligent and appropriate use of various tools contributes to effectiveness in digital projects. When referring to platforms that optimize team performance, terms such as "ASANA," "JIRA," and "SLACK" prominently appear. These software tools allow for task prioritization during sprints, facilitating organization and task tracking without losing sight of meeting client expectations. In this sense, words such as "USER," "REQUIREMENTS," and "STORIES" show how teamwork, active listening, and consideration of different perspectives are fundamental in all phases of the project.

Each word cloud summarizes the key tools and strategies that emerge from the interviews with each Product Owner (PO). The results highlight that the PO not only plays a role as an intermediary between the client and the development team but also acts as a facilitator in communication within agile environments, generating alternatives during the course of the project.

Direct observation of this process showed that practices such as translating client needs into clear user stories allow developers to work more efficiently and without confusion, enhancing collaboration and reducing typical communication barriers in development teams. In addition to facilitating communication, Product Owners employ specific strategies to foster team unity and trust. Retrospectives, a strategy mentioned by both Cornejo Jurado, et al. [21] and Villenas [22] reinforce this approach, as they allow the team to reflect on achievements and challenges, promoting a culture of continuous improvement.

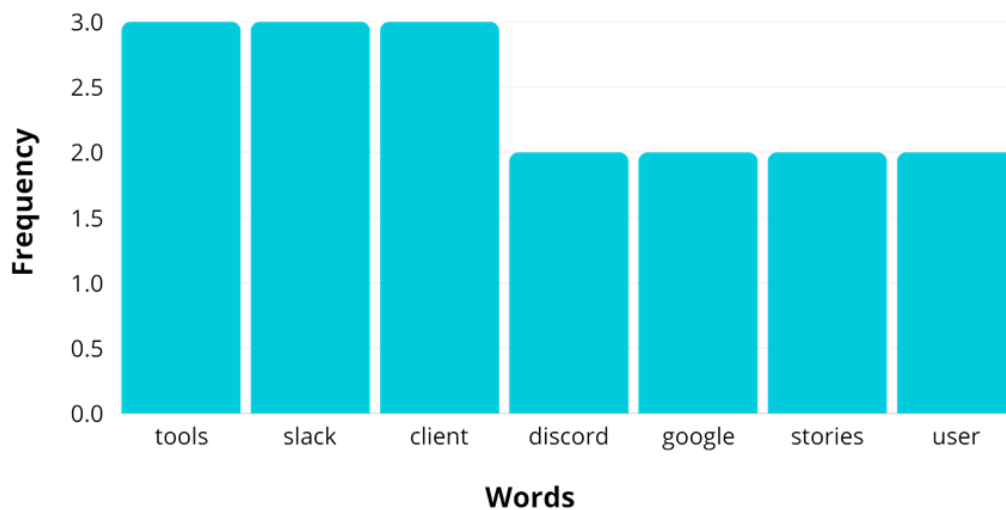


Figure 4.
General Frequency of Key Words: Analysis of Tools, Strategies, and Roles of the Product Owner at InitGrammers.

Graph 1 visualizes the most repeated words by the Product Owners (POs) during the interviews and data decoding. It can be observed that the words "TOOLS," "SLACK," and "CLIENT" are the three most repeated. These tools play a crucial role in project success, as they allow for task assignment aligned with project realities and needs. Additionally, they foster smoother interaction within the team, regardless of their geographical location, optimizing collaboration and workflow.

4. Conclusions

This study has addressed the role of the Product Owner (PO) in digital communication within agile environments, using the web design and development company InitGrammers as a case study. Through a qualitative approach, including interviews and direct observation, the functions, tools, and strategies

used by the PO to manage multidisciplinary teams in complex projects were explored, seeking to ensure efficiency in project performance.

The general objective of the study, which seeks to understand the PO's functions in effective communication within agile projects through the use of digital tools and strategies, has been achieved. The results show that the PO not only acts as a bridge between the client and the development team but also assumes the role of facilitator by aligning expectations and achieving objectives collectively.

This function is supported by the efficient use of tools such as Slack, JIRA, Discord, and Asana, which have a favorable influence on strategic decision-making that allows task management, activity prioritization, and effective communication among all stakeholders [24]. The importance of these tools lies in the PO's ability to adapt them to each specific project, especially those using agile methodologies such as Scrum or Kanban. The use of these applications facilitates project management and tracking, and daily meetings allow for smooth communication by reporting both early problems and their respective solutions in a collaborative process, thereby reinforcing the PO's role as a mediator and facilitator within the team.

Regarding the first specific objective, which seeks to describe the PO's functions and responsibilities in managing digital communication, the results confirm that their role is diverse and of utmost importance in the team integration process. In other words, the PO's responsibility is to identify and prioritize the requirements to be developed [9]. This study reaffirms that the PO is key to transforming client expectations into clear user stories or task lists, ensuring that the development team can execute these tasks effectively. This is complemented by direct observation, where it was confirmed that POs use strategies such as daily meetings and retrospectives. Through these, alignment with project objectives is ensured, facilitating teamwork, allowing for problem identification and solution offering, and fostering a culture of continuous improvement within the company.

Regarding the second specific objective, which seeks to systematize the PO's strategies and tools in managing multidisciplinary teams, constant patterns were identified, highlighting the importance of adaptability and technology. The results indicate that applications such as JIRA, Slack, and Asana not only optimize operational management but also improve visibility and trust at each project stage. These digital tools play a fundamental role in reducing the complexity of management in agile environments, as, in an increasingly digitalized and transformed world, they have given rise to new ways of organizing companies, as noted by [25].

Additionally, direct observation allowed for the identification of how social breaks organized by Product Owner David Llumiquinga created an opportunity for developers to exchange ideas and solve problems in a relaxed and informal environment, which improved team performance.

Finally, this study demonstrates that the Product Owner plays a key role in the effective management of digital communication in agile environments. Through the use and adaptation of technological tools and strategies, POs can ensure optimal team performance. This research provides a solid foundation for understanding the role and implications of the Product Owner in digital communication and also serves as a guide for replicating this approach in other similar scenarios.

5. Recommendations

Based on the collected information, several recommendations are presented, aiming to address the shortcomings detected in the management of digital communication by POs at InitGrammers, aligning with the third specific objective: to generate useful recommendations for both theoretical teaching and practice. Additionally, for the formulation of these recommendations, the general objective of the research, which is to understand the PO's role in managing digital communication in agile environments, was considered.

The management of communication in a digital environment requires more advanced mastery of digital tools. Throughout the interviews, the POs stated that tools such as Slack, JIRA, and Discord are essential for managing and coordinating tasks; however, it was observed that the use of these tools is not fully maximized, meaning their various functions are not fully utilized. Therefore, it is

recommended to conduct quarterly training workshops for POs on the advanced use of tools such as JIRA, Slack, and Asana. It is necessary to incorporate various platforms to manage workflows, which will allow for more efficient management [25].

It is also recommended to integrate new technological tools, such as Trello or Monday.com, which complement current platforms, expanding their customization and automation capabilities. These should be adapted to InitGrammers' needs to facilitate a quick learning curve for new team members.

Communication in digital environments depends not only on optimal tools but also on the interpersonal skills of the PO and their team. During direct observation in team meetings, moments were identified where communication between the PO and developers lacked clarity, leading to potential misunderstandings. To address this shortcoming, it is recommended to establish leadership and emotional intelligence development workshops, including tactics for conflict resolution and techniques to stimulate team cohesion and cooperation. As Afshin, et al. [2] states, "Virtual teams generate more conflicts of all types—operational, procedural, and affective—than on-site teams" (p. 7), making it important to incorporate feedback sessions, both individual and group, where the PO receives and provides constructive feedback, fostering a trusting environment that improves expectation alignment.

Another strategy is to encourage social breaks and team-building activities, especially in remote teams. The HR platform de Boer, et al. [26] explains that these social breaks "can reinforce organizational values and norms, build solidarity among employees, and improve overall well-being," which can be very beneficial for the exchange of creative ideas.

Although consistent and frequent use of agile methodologies such as Scrum and Kanban was observed, the interviews with the POs revealed that they are not always adapted to the specific needs of the teams. Therefore, to optimize their application, it is suggested to design customized meetings that fit the dynamics of each team, including modifying the duration of daily meetings and retrospectives according to the project context. Abe, et al. [27] proposes highlighting the active use of platforms such as Zapier when generating projects, as it features automation processes for repetitive tasks, such as task assignment.

It is vitally important to implement more participatory planning meetings, where the team plays an active role in task assignment and priority definition. Cornejo Jurado, et al. [21] in her interview, stated that "the key is to translate client needs into clear user stories," so it is recommended to adopt a cyclical communication approach, allowing for constant modifications based on feedback provided by both the team and the client.

On the other hand, one of the main challenges identified is digital fatigue, which can be defined as exhaustion from the continuous use of various tools and/or digital platforms during working hours. Based on this, it is recommended to diversify communication channels, coordinating real-time tools such as video calls with pre-recorded reports that can be viewed at any time during the workday, thus encouraging the team with activities that combine learning and rest.

Through the interviews and observations conducted during the various PO meetings, it was demonstrated that the initial contact with clients is not always clear enough, which can lead to some problems later in the project. Therefore, it is recommended to include visual diagrams in initial presentations, using tools such as Figma or Miro, so that client requirements are understood more clearly.

It is worth noting that, in agile teams, communication and trust are key values. However, respondents mentioned the importance of better alignment among teams, as when working on the same project with a team from another country using platforms such as JIRA, misunderstandings often arise due to unreported changes or unassigned tasks. To fill this gap, it is recommended to maintain a constant flow of communication between the different POs and their respective teams, so that there is better control of blockers, tasks, or any other issues that arise.

Similarly, it is important to establish roles within the project, so that each member considers a function and responsibility they can handle. It is also advisable to schedule feedback meetings where team members have the opportunity to communicate their concerns and improvement suggestions.

The adaptability process is an essential quality for success in digital environments; however, it was observed that some teams face difficulties in responding to unexpected changes. Therefore, it is suggested to train the team in processes of adaptation to continuous and unexpected changes through workshops that include crisis scenario simulations and sudden changes.

It is also recommended to implement a recurring strategy review system to periodically evaluate the effectiveness of both tools and methodologies used, fostering a culture of continuous learning that encourages the team to acquire new skills and knowledge to face challenges more effectively.

These recommendations, based on direct observation, interviews with the POs, and data decoding, directly respond to the research objectives. They are aimed at optimizing digital communication, strengthening team cohesion, and increasing client satisfaction, to achieve better performance within InitGrammers' projects.

Transparency:

The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

Copyright:

© 2025 by the authors. This open-access article is distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

References

- [1] S. Martín Gómez, "Application of Agile Methodologies to the university teaching-learning process," Retrieved: <http://repositoriordscj.dyndns.org:8080/xmlui/handle/PSCJ/1856>, 2020.
- [2] A. Afshin *et al.*, "Health effects of dietary risks in 195 countries, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017," *The lancet*, vol. 393, no. 10184, pp. 1958–1972, 2019.
- [3] D. Pashchenko, "Excellence practices in scrum paradigm in software development," *Journal of Data Science and Intelligent Systems*, 2024.
- [4] A. J. Flanagan, "The conduct and consequence of research on digital communication," *Journal of Computer-Mediated Communication*, vol. 25, no. 1, pp. 23–31, 2020. <https://doi.org/10.1093/jcmc/zmz019>
- [5] H. D. Mendoza, D. E. León, and M. P. Acosta, "Ontoepistemologías del aborto en Ecuador: reflexiones críticas y bioéticas," *Práctica Familiar Rural*, vol. 4, no. 3, p. 7, 2019.
- [6] H. Jenkins, *Convergence culture: Where old and new media collide*. Barcelona: PAIDÓS, 2006.
- [7] J. Castilla *et al.*, "Influenza vaccine effectiveness in preventing outpatient, inpatient, and severe cases of laboratory-confirmed influenza," *Clinical infectious diseases*, vol. 57, no. 2, pp. 167–175, 2013.
- [8] V. A. Gutiérrez Rincón, J. J. Aguilar Zambrano, and J. E. Medina Vásquez, "Organizational, institutional, and technological change: an approach from actor-network theory and institutional work," *Cuadernos de Administración*, vol. 32, no. 59, pp. 1–28, 2019.
- [9] C. Greville, *The year of the badger*. United Kingdom: University of Kent 2017.
- [10] E. Alvarado, "Communication flows: What they are and how they work. Zenvia," Retrieved: <https://www.zenvia.com/es/blog/flujos-de-comunicacion/>, 2024.
- [11] J. Lopez Soriano, "Agile project management in uncertain environments universitat oberta de catalunya," Retrieved: <http://hdl.handle.net/10609/144232>, 2018.
- [12] J. Martins, "4 essential communication tools to boost collaboration. Asana," Retrieved: <https://asana.com/es/resources/team-communication-tools>, 2024.
- [13] R. Quecedo and C. Castaño, "Introduction to qualitative research methodology," Retrieved: <https://www.redalyc.org/pdf/175/17501402.pdf>, 2002.
- [14] I. Vargas-Jiménez, "The interview in qualitative research: New trends and challenges," *Revista electrónica Calidad en la educación superior*, vol. 3, no. 1, pp. 119–139, 2012.
- [15] L. A. Mora Muñoz, "How to validate an open-ended interview: A proposal for empirical philosophical research," Retrieved: <https://saberseeducativos.uchile.cl/index.php/RSED/article/download/71389/73709/270228>, 2023.
- [16] M. Romero-Martínez *et al.*, "methodological design of the 2016 national health and nutrition mid-term survey," *Salud pública de México*, vol. 59, pp. 299–305, 2017.
- [17] T. Hernandez, "Observation method scribd," Retrieved: <https://es.scribd.com/document/479916502/METODO-DE-OBSERVACION>, 2020.

- [18] V. Braun and V. Clarke, "Using thematic analysis in psychology," *Qualitative research in psychology*, vol. 3, no. 2, pp. 77-101, 2006.
- [19] A. Gutierrez Garcia, "Uses and applicability of NVivo in social and market research fundación is+d for advanced social research," Retrieved: <https://isdfundacion.org/2023/06/13/ usos-y-aplicabilidad-de-nvivo-en-investigacion-social-y-de-mercados/>, 2023.
- [20] C. L. Guña-Narváez, A. E. Barahona-Ibarra, R. F. Pozo-Zapata, and N. J. Oña-Guilcaso, "The use of augmented reality in natural science education," *Revista Multidisciplinaria Perspectivas Investigativas*, vol. 4, no. especial, pp. 32-38, 2024.
- [21] Y. C. Cornejo Jurado, F. I. Gonzáles Cornejo, and H. E. Chumpitaz Caycho, "Physical activity to improve adolescent self-esteem. Review of the scientific literature from 2016-2021," *Conrado*, vol. 20, no. 99, pp. 141-149, 2024.
- [22] I. S. L. Villenas, "FACULTAD DE ECONOMÍA," Pontificia Universidad Católica del Ecuador, 2023.
- [23] F. Trujillo Pons, "Technostress, information fatigue, and the right to digital disconnection in the workplace. The conversation," Retrieved: <https://theconversation.com/tecnoestres-fatiga-informatica-y-el-derecho-a-ladesconexion-digital-en-el-ambito-laboral-228129>, 2024.
- [24] S. P. Barberán Delgado, "Digital tools for improving information systems and documentary processes at the Port Authority of Manta (APM), within the strategic planning department - 2022 ", Undergraduate Thesis, Universidad Laica Eloy Alfaro de Manabí, Manta, Ecuador. ULEAM <https://repositorio.uleam.edu.ec/handle/123456789/4808>, 2023.
- [25] V. Villán Rosselló, "13 agile tools for agile project management. IEBS school," Retrieved: <https://www.iebschool.com/blog/herramientas-gestion-agil-proyectos-agile-agile-scrum/>, 2024.
- [26] M. de Boer *et al.*, "DNA repair in cardiomyocytes is critical for maintaining cardiac function in mice," *Aging Cell*, vol. 22, no. 3, p. e13768, 2023.
- [27] K. Abe *et al.*, "Observation of electron neutrino appearance in a muon neutrino beam," *Physical review letters*, vol. 112, no. 6, p. 061802, 2014.