Application of the Business Process Management (BPM) Methodology in the Process of Incorporating Human Talent in the Retail Business Sector

Anyela Alanya-Ramos, Argenis Moreno-Rosales, Luis Acosta-Medina
Department of Business and Systems Engineering, Universidad Científica del Sur, Lima, Perú

***Abstract*—The lack of a well-defined onboarding process for new talent in a retail company specializing in beauty products and accessories for women has generated the need to undertake this research. The objective of which was to evaluate the positive impact that the implementation of business process management (BPM) could generate in this area, whose deficiencies lay in inadequate communication and the lack of appropriate digital tools. The study focused on three key dimensions to understand how this improvement could transform the process of integrating new talent. As a research method, an applied pre-experimental design was chosen, with a quantitative approach. Likewise, the survey was applied to collect data, using a questionnaire as a measurement instrument. As a result, it was observed that by following the characteristics and life cycle of the BPM methodological framework, it was necessary to implement digital actions and tools to optimize the process and generate positive impacts in its three dimensions. In addition, there was a 44% increase in the satisfaction and commitment of the participants in the process, a 47% increase in the positive perception about monitoring and tracking the entry of new talent, and a 38% increase in the perception about the distribution of tasks among the actors in the process. In conclusion, the application of the methodology has generated a notable improvement in the process, which has directly contributed to enriching the experience of new talents in the incorporation process of the retail.**

Keywords*—BPM; human talent; incorporation process; process optimization; methodology

I. Introduction

In competitive international business environments, effective human talent management is also considered vital to a company's success [1]. This requires the corresponding area to implement and optimize its processes, highlighting the importance of the onboarding process as fundamental to employee engagement and development [2], [3]. Poor execution of this process can significantly affect employee satisfaction, commitment, and job performance [4], [5].

According to a report published by Gallup, only 12% of employees consider their organizations' human talent onboarding process to be excellent, while the remaining 88% are not satisfied [6]. Furthermore, in a study by Click Boarding, it was found that 69% of human talent tend to stay up to three years in a company with an organized and structured Onboarding [7].

Based on the above, it has been noted that this is also the case with BESIFRAH, a retailer specializing in women's accessories, where its process for integrating new talent presented deficiencies, generating dysfunctions in its overall operation. These were identified using a quality tool called the Ishikawa diagram (Fig. 1).

The main problem lay in the lack of communication and coordination among those involved in the employee onboarding process. This resulted in communication primarily via email, with a disorganized backlog of messages and direct messages, which made it difficult to properly track new employees.

The poor integration of human talent into the retail company led to several negative effects, such as staff dissatisfaction, lower engagement and productivity, increased costs due to staff turnover, and damage to the retailer's reputation as an employer, making it difficult to attract qualified talent.

Therefore, BESIFRAH, currently undergoing constant growth, has seen the need to implement an efficient and optimized process to enhance the experience and ensure a successful and favorable transition for newcomers to the team.

Therefore, the main objective of the research was to detect deficiencies and implement improvements using the BPM process management methodology in the BESIFRAH human talent incorporation process. The BPM cycle model was adopted, which includes various stages, from the survey and documentation of the process, followed by the current design (As Is), improvement analysis, future design (To Be), to the implementation and continuous monitoring of the process [8].

BPM is a management system that seeks to improve organizational processes through the use of specialized information systems. It is composed of three elements: process, management, and improvement. Process involves modeling, management consists of managing execution, and improvement focuses on continuous adjustment and optimization [9]. Furthermore, a business process is a set of activities that transform inputs into customer-valued outcomes [10].

Adopting the BPM methodology is valued as a tool that facilitates the optimization of procedures, the elimination of redundancies, and the streamlining of operational flow, which subsequently helps retail companies become more efficient and competitive.

For the implementation of the proposal, the support of those involved in the onboarding process was required, as well as the evaluation of the feasibility of new technological solutions by the technology manager, if necessary. The onboarding integration process in a company involves gradually integrating new talent into the organization, adapting them to their roles and business environment, and promoting collaboration with teammates and other departments [11].

The process was divided into three dimensions to evaluate its improvement after the implementation of the BPM methodology. The first dimension considered is the satisfaction and commitment of the process participants, which was defined as the perception and attitude of the individuals involved in the process and the degree to which they are satisfied with their experience and the results obtained [12].

Secondly, the supervision and monitoring of new talent was considered, defined as a set of actions implemented by organizations to efficiently manage the activities of each talent in the work environment [13].

Thirdly, the assignment of tasks to process participants was examined, which comprise the responsibilities and functions directly assigned to meet the objectives and purposes of the process [14].

Finally, two flowcharts were developed that provide a visual representation of the process. The first diagram (Fig. 3) illustrates the previous state of the process, while the second diagram (Fig. 4) shows the current version of the process after implementing the BPM methodology and its features. In relation to Fig. 4, the tasks highlighted in orange indicate modifications to the execution method or simply represent automated tasks that were implemented. An example of this is the "Notify the responsible person to generate a contract" task, which is a service task executed automatically through an automation programmed on a dashboard created on Monday.com. This automation is activated once the recruiter completes the task of updating the employee's data on Monday.com and changes the process status to "BUK" (BUK is a payroll system).

II. Related Work

To date, no previous studies have been identified that specifically focus on improving the onboarding process for new talent in a retail company through the application of BPM methodology. However, there are similar studies that address how to improve the onboarding process or the influence of BPM implemented in a process.

A relevant research in the international arena is the study by Abu & Chin Joo [15] whose main objective was to validate the possibility of improving the challenges associated with poor onboarding in organizations by leveraging technology. The problem usually manifested itself in high levels of dissatisfaction among new employees and a lack of commitment. To achieve their purpose, they conducted a thorough review of the relevant literature, with the purpose of outlining a general onboarding process and identifying the deficiencies present in it. The findings revealed that the implementation of the Technology Acceptance Model (TAM) could lead to significant improvements in the effectiveness of the digital onboarding process by organizations.

He also highlighted the research by Elahi and Bilal [16] which focused on improving the parent-teacher conference process in private schools in Pakistan. The BPM methodology (BPM Lifecycle) was used along with quality tools such as the RACI matrix to understand and document the process. The results showed a reduction in parental complaints and an increase in parent-teacher engagement, reflecting improved communication and collaboration in the educational context.

Aguirre's article [17] focused on offering a methodological approach to promote innovation and digitalization of business processes, with special attention to a specific case of a Colombian company in the electricity sector. Its main objective was to provide a methodological framework applicable to organizations seeking to improve their processes by implementing digital technologies and optimizing their operations.

He used a methodology that included several key phases, including strategic coordination, process evaluation, innovation, and digital transformation.

During each phase, tools and techniques related to the BPM (Business Process Management) approach and design thinking are used to analyze, design, and implement improvements to existing processes. The results obtained from the application of this methodology were significant. A notable improvement in customer experience and optimization of the inspector scheduling process were observed, resulting in greater efficiency and effectiveness in the management of inspections and controls. One of the study's most notable achievements was the reduction in paper consumption, indicating a successful transition toward more sustainable and environmentally friendly practices. This reduction can be attributed to the implementation of digital processes and the use of advanced technologies instead of traditional paper-based methods. In conclusion, the study provided practical guidance for organizations seeking to improve their operational efficiency, service quality, and adaptability to an increasingly digital and competitive business environment.

Furthermore, the article by Granda and Bermeo [18] represents applied research that seeks to generate knowledge derived from basic research. To collect data for the case study, techniques such as observation sheets and surveys were used. The proposed methodological model was based on the following stages: Adopt, Align, Analyze, Design, Automate, Implement, and Measure, with the aim of achieving an effective digital transformation and process automation through optimization. It was recommended that this methodology be replicated in other organizations, adapting it to their needs and using BPMS tools. As a result, it was possible to eliminate redundant processes, reduce duplicated efforts, and transform processes. The implementation of the methodology in a case study at UNEMI significantly reduced reprocessing related to communication, information requests, and manual records with errors.

In the same context, Cahuana's PhD thesis [19] developed an initiative focused on identifying and improving essential processes in production management. Through a detailed review carried out using the BPM tool, the processes were effectively mapped, which allowed for a transparent understanding of the system. Subsequently, solutions were implemented through Lean Six Sigma and BPM with the aim of optimizing the processes, identifying critical areas. The results reflected significant optimization in several areas, including the reduction of excess and downtime, as well as the increase in the quality of the service offered by the company.

Similarly, there is the article by Quiroz and Romero [20] whose objective was to restructure the commercial operation of micro and small businesses by applying the BPM methodology together with Digital Transformation tools in order to increase sales revenue. Prior to the implementation of these measures, sales were at 40.36% due to inefficient administration of procedures. After implementing the model through an execution method, sales increased to 69.55%, which translated into additional profit.

III. Materials and Methods

The research had a pre-experimental design, since the recommendation of Hernández and Baptista [21] was followed to carry out Post Test measurements after applying a stimulus on the dependent variable which was adequate for the problem due to the causal influence that the BPM methodology exerted on the process of incorporating new talents in the retail company BESIFRAH.

It was classified as applied research, since it focuses on solving everyday problems using previously validated scientific theories and since BPM is based on proven theories and practices in process management that seek to optimize the situation to eliminate deficiencies, as Vargas points out [22].

The approach adopted is quantitative, since, according to Babativa [23], it involves studying society through observations and measurements, using tools to analyze and explain various factors influencing different events. This is valuable for obtaining figures and statistical analysis that provide an objective and measurable view of the effect of the BPM method on the human talent incorporation process.

The study population includes all participants in the onboarding process. Ten employees from human resources, sales, information technology, and department heads participated. A sample is not required since the research involves all of the aforementioned.

Data were collected through pre-test and post-test surveys of 15 questions based on a Likert scale, addressed to the 10 participants in the process. Prior to this, these questions were submitted to three experts for validation for approval. Furthermore, to evaluate the reliability of the data, Cronbach's alpha coefficient was applied, a formula commonly used in instruments such as the Likert scale [24]. According to Turcios' research [25], the Student's t-test emerges as a valuable parametric tool in studies that address small samples and analyze a single variable. In this study, this test was also used to determine if there were significant differences in means between the results of the pre- and post-tests.

To carry out the project and facilitate its analysis, the Business Process Management (BPM) methodology was adopted, focusing specifically on the model cycle of said methodology. Various tools were used to optimize the process and ensure its quality. First, the Ishikawa diagram (Fig. 1) allowed us to identify the main deficiencies and opportunities for improvement. In addition, the RACI (Responsible, Accountable, Consulted, Informed) matrix was applied, a tool that allows us to clearly define the roles and responsibilities of each actor in the process, ensuring efficient execution of tasks and better coordination among those involved. Bizagi was also used as the BPMS platform, where the process flow was modeled in its current state (As-Is) and its optimized version (To-Be), represented in Fig. 3 and Fig. 4, respectively. Dashboards were implemented on Monday.com to manage and monitor the onboarding process for new employees. Fig. 2 shows the Administrative and Sales Staff Requests view, which allows you to track the onboarding process for new employees. Additionally, a specific view was created for Supervisors, designed to track the onboarding of sales staff.

Documents such as the process sheet and the indicators sheet were generated to monitor the process, all with the primary objective of improving and optimizing its performance. To complement the study's analysis, SPSS (Statistical Package for the Social Sciences) version 29.0.2, a widely used statistical tool for data processing and analysis, was used in its free version.

Finally, Monday.com facilitated the organization, assignment, and monitoring of tasks, enabling better process traceability and effective integration of proposed improvements.

The integration of these tools enabled a comprehensive analysis of the process, identifying critical points and proposing improvements for optimization.

Fig. 1. Ishikawa diagram of the BESIFRAH incorporation process.

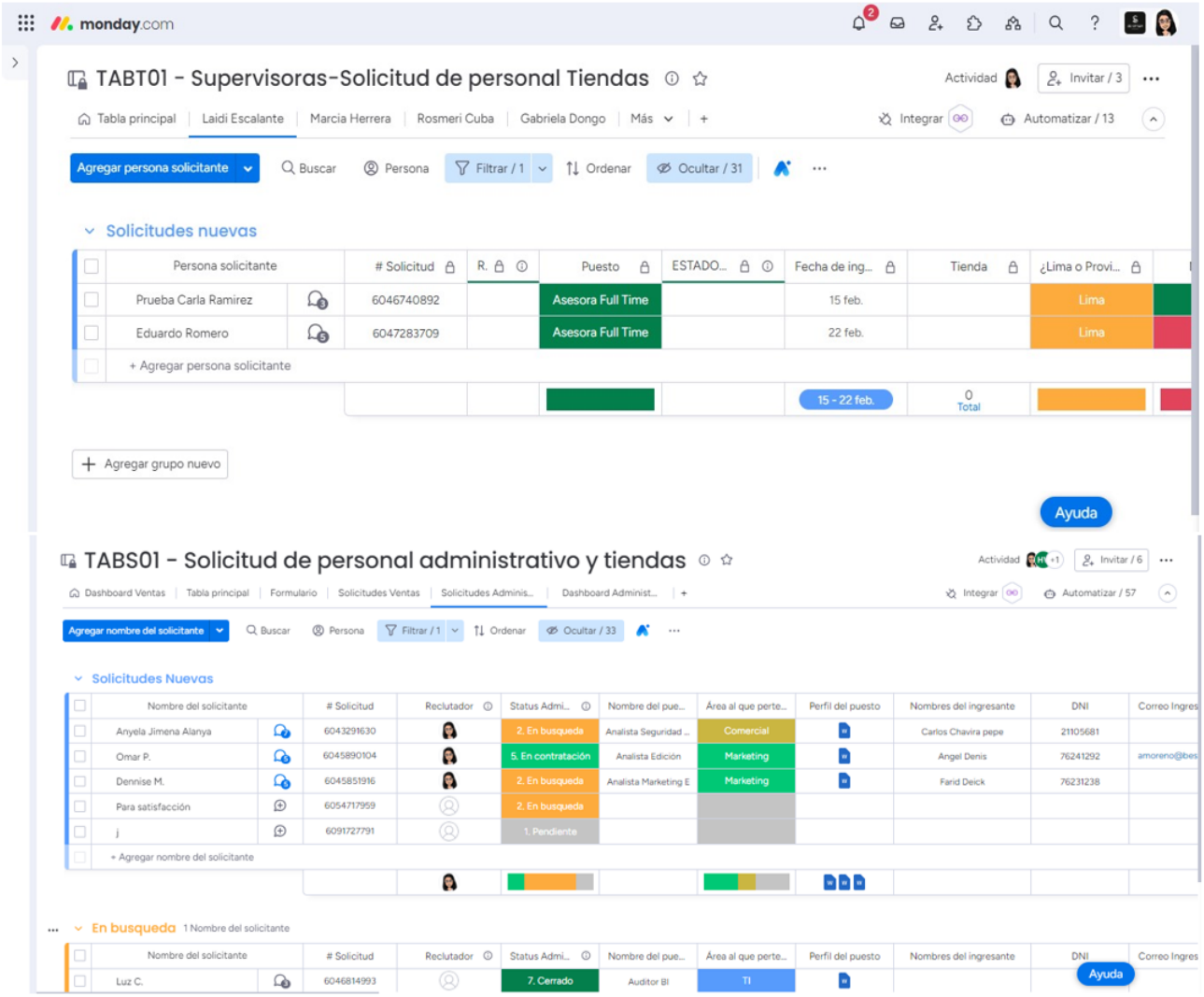

Fig. 2. View of administrative and sales staff applications.

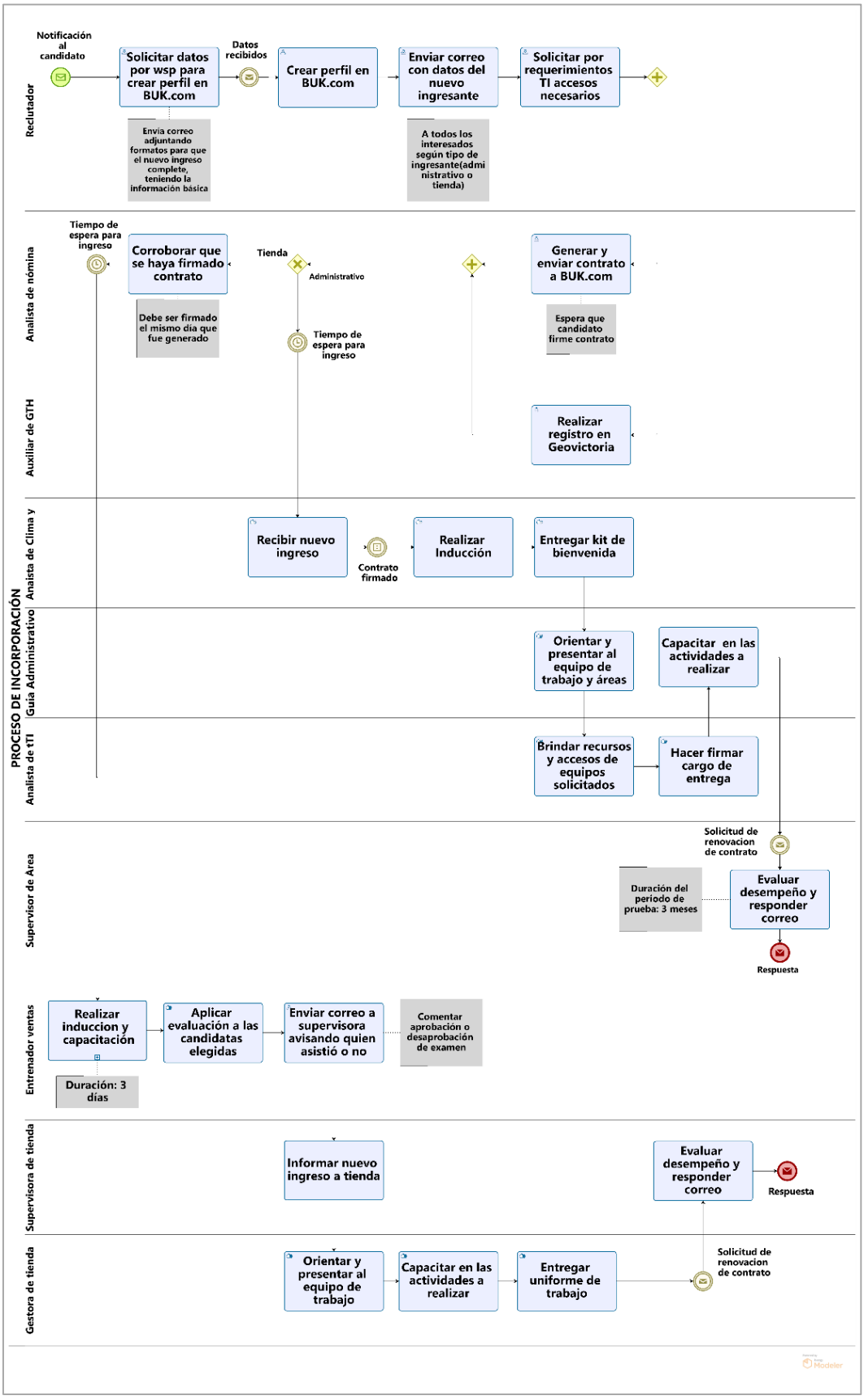

Fig. 3. BESIFRAH's AS IS talent incorporation process.

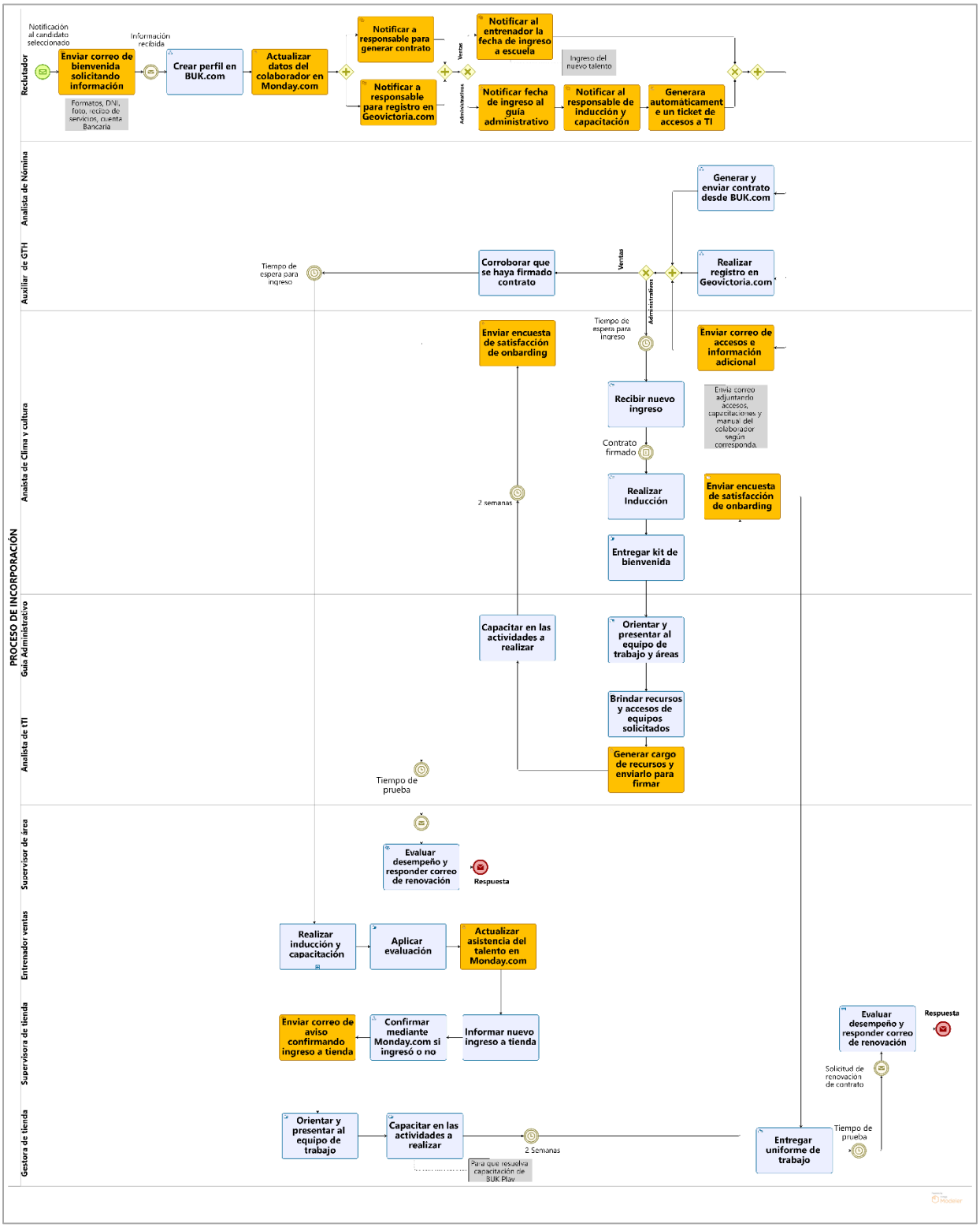

Fig. 4. Process of incorporating TO BE talent from BESIFRAH.

IV. RESULTS

The results of the research are presented below, structured into three key dimensions of the talent acquisition process. Table I presents three indicators proposed to assess improvement in the satisfaction and engagement dimension. It is noteworthy that the "Level of Satisfaction" indicator obtained the best result, with a 53% improvement, while the "Level of Participation" indicator experienced a 34% improvement.

TABLE I. RESULTS OF THE APPLICATION OF THE BPM METHODOLOGY ON THE SATISFACTION AND COMMITMENT EXHIBITED BY THOSE INVOLVED IN THE PROCESS

Indicator	Before Improvement	After the improvement	Improvement (%)
Level of Satisfaction	47%	100%	+53
	Half	Very High	N/A
Level of Commitment	58%	98%	+40
	Half	Very High	N/A
Level of communication and coordination	50%	98%	+48
	Average	Very High	N/A
Level of Participation	56%	90%	+34
	Half	Very High	N/A
Average	**52%**	**96%**	**+44**
	Half	***Very High***	***N/A***

TABLE II. RESULT OF THE APPLICATION OF THE BPM METHODOLOGY IN THE SUPERVISION AND MONITORING CARRIED OUT BY THOSE INVOLVED IN THE PROCESS

Indicator	Before Improvement	After the improvement	Improvement (%)
Level of clarity about the information the entry of new talent	48%	98%	+50
	Half	Very High	N/A
Accessibility level for monitoring talent progress	50%	94%	+44
	Half	Very High	N/A
Level of accessibility for obtaining results	38%	90%	+52
	Low	Very High	N/A
Accessibility level to assess the social and cultural integration of talent	46%	86%	+40
	Half	Very High	N/A
Accessibility level to measure indicators	42%	94%	+52
	Half	Very High	N/A
Accessibility level for managing and viewing surveys	46%	90%	+44
	Half	Very High	N/A
Accessibility level for post-incorporation monitoring	42%	90%	+48
	Half	Very High	N/A
Average	**44%**	**91%**	**+47**
	Half	**Very High**	**N/A**

TABLE III. RESULT OF APPLYING THE BPM METHODOLOGY IN THE ASSIGNMENT OF ACTIVITIES TO THOSE INVOLVED IN THE PROCESS

Indicator	Before Improvement	After the improvement	Improvement (%)
Level of perception about the assignment of tasks according to the role	60%	98%	+38
	Half	Very High	
Level of perception about the assignment of tasks according to deadlines as reasonable	50%	92%	+42
	Half	Very High	
Level of Completion of tasks on time	60%	92%	+32
	Half	Very High	
Average	**56%**	**94%**	**+38**
	Half	**Very High**	**N/A**

Table II also presents seven indicators proposed for assessing improvements in the supervision and monitoring dimension. It is noteworthy that the "Level of accessibility for achieving results" and "Level of accessibility for measuring indicators" indicators showed a 52% improvement, while the "Level of accessibility for post-incorporation monitoring" indicator registered a 48% improvement.

Finally, Table III presents three indicators proposed to assess improvement in the activity allocation dimension. It is noteworthy that the "Level of perception regarding task allocation in accordance with reasonable and achievable deadlines" indicator showed a 42% improvement, while the "Level of on-time task completion" indicator registered a 32% improvement.

Table IV presents the details of the improvement actions implemented in each dimension, including the modification of activities, the use of new tools and technologies, as well as the updated process procedure.

As part of the proposed solution to optimize the onboarding process, a specific improvement was implemented in resource management. Fig. 5 shows a dashboard on Monday.com designed to record and monitor the delivery of assets, such as IT equipment, ensuring efficient management and accurate traceability of the resources assigned to each employee.

TABLE IV. IMPROVEMENT ACTIONS CARRIED OUT IN THE PROCESS

Dimensions	Improvement action
Satisfaction and commitment exhibited by the process participants	Two email templates were created on Beefree.com for the welcome and login emails, with a URL that makes it easy to automatically load them from Gmail, saving time. A form was implemented on Monday.com to centralize talent requests, storing them in a dashboard. This made it easier to update new talent information for viewing, as well as configure automations that send emails and notifications when status changes. An additional dashboard was created on Monday.com to record and maintain evidence and formality of the delivery of resources to new talent.
Supervision and monitoring carried out by those involved in the process	The dashboards on Monday.com were shared with everyone involved in the process so they could access up-to-date information on the onboarding of new talent. A dashboard was developed within the dashboard to visualize key process indicators. Additionally, training sessions were scheduled on the BUK Play platform and will be automatically assigned with each new talent recruit.
Assignment of activities to those involved in the process	A process characterization sheet and standard operating process (SOP) document were developed to provide stakeholders with a detailed understanding of the activities being performed. In addition, a RACI matrix was created and distributed to clarify the responsibilities of each participant. An instruction manual was also provided for the proper use of the dashboards on the Monday.com platform.

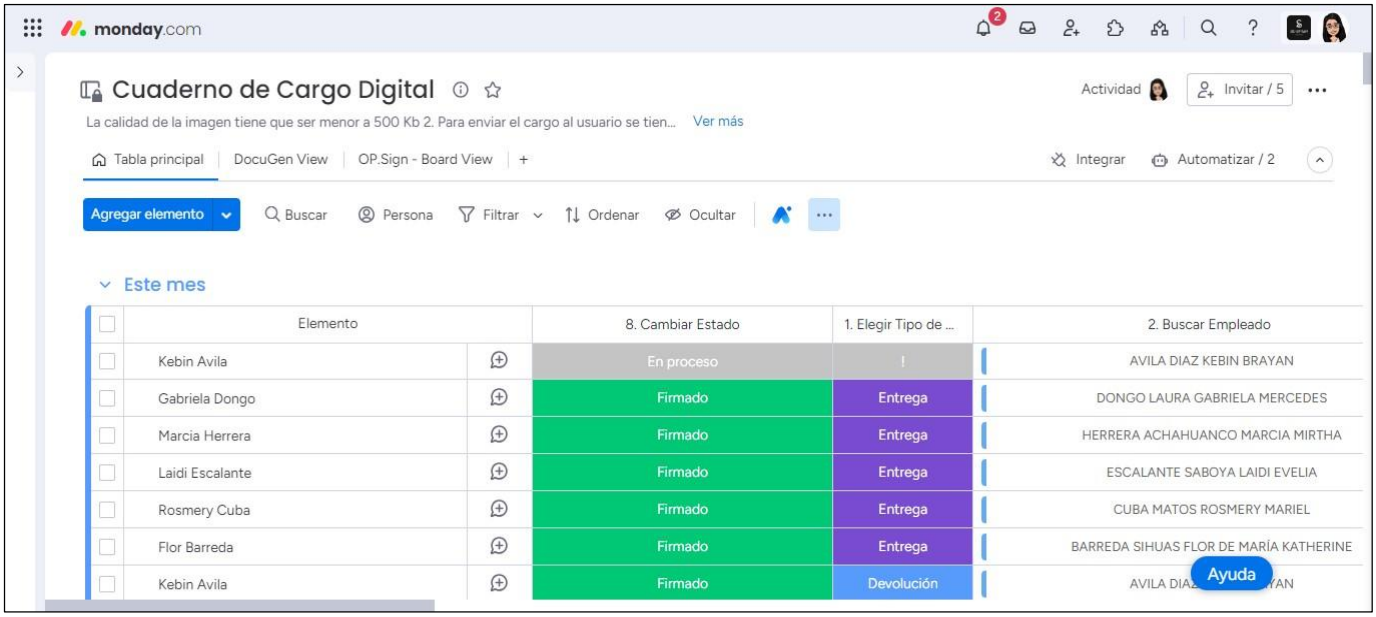

Fig. 5. Board to record resource delivery charge (Computer equipment).

V. DISCUSSION

The main objectives of applying the BPM methodology were to positively impact three key dimensions of the new talent onboarding process. The findings indicate that the implementation of this methodology has indeed generated significant improvements in the satisfaction and commitment perceived by process participants. These results are consistent with those of a previous study by Granda and Bermeo [18], which applied a similar BPM-based methodological proposal. In that study, a 10% optimization of the processes was achieved by eliminating activities that did not add value.

This convergence of results highlights the effectiveness of the BPM methodology in improving organizational processes, especially in contexts of human talent recruitment.

The positive results regarding the second dimension, focused on monitoring and follow-up by process participants, underscore the effectiveness of business process management (BPM). The implementation of BPM stages such as the optimization stage revealed the need to integrate digital tools, such as the successful management dashboard on the Monday.com platform. This dashboard allows monitoring and visualizing the status of each new entry, along with relevant indicators. These findings are supported by Aguirre's study [17], which also showed a digital transformation in the certification service delivery process. The introduction of a portal made it easier to view the status and location of each inspector after the client submitted a new service request.

The findings also support the third hypothesis, demonstrating that implementing the BPM method improves the distribution of activities during the onboarding process for new employees. This was achieved by diagramming the process flow according to the BPMN 2.0 standard, framed within BPM management, with the aim of developing a standardized procedure that clearly defines activities, tasks, and roles.

Likewise, a previous study by Elahi and Bilal [16] supports the approved hypothesis since they obtained a decrease in complaints, greater participation of parents and a clear definition of responsibilities for the process of meetings between teachers and parents, avoiding over efforts and facilitating collaboration. For the improvement, they used the BPM life cycle together with quality tools, such as the Responsibility Assignment Matrix (RAM), the Suppliers, Inputs, Process, Outputs and Customers (SIPOC) model and the Critical Quality Characteristics (CTQ) trees, with the objective of standardizing the process. We agree that both studies, by following the BPM framework, share objectives and obtain positive results.

The positive results regarding the second dimension, focused on monitoring and follow-up by process participants, underscore the effectiveness of business process management (BPM). The implementation of BPM stages such as the optimization stage revealed the need to integrate digital tools, such as the successful management dashboard on the Monday.com platform. This dashboard allows monitoring and visualizing the status of each new entry, along with relevant indicators. These findings are supported by Aguirre's study [17], which also showed a digital transformation in the certification service delivery process. The introduction of a portal made it easier to view the status and location of each inspector after the client submitted a new service request.

Ultimately, it is crucial to highlight a significant limitation related to the lack of standardization in a specific process, specifically in the area of recruitment and selection. In this process, the lack of implementation of digital tools that could streamline operations was evident, resulting in a delay in obtaining relevant results. The need to intervene and contribute to the process was imperative to ensure efficiency in the subsequent onboarding of new employees.

This finding underscores the importance of considering standardization and the incorporation of digital technologies into various organizational processes to optimize human resource management and ensure more effective results.

VI. Conclusion

In conclusion, the implementation of the BPM method has resulted in a significant improvement in the company's employee onboarding process.

This improvement has resulted in the optimization of activities and automation of manual tasks, and the establishment of indicators to effectively monitor the process.

Likewise, a significant 44% increase in satisfaction and engagement was recorded among participants in the new employee onboarding process. This progress is attributed to improved communication between process stakeholders, a reduction in manual tasks for each individual, and the adoption of digital tools that facilitate better control and organization of information. Likewise, a 47% improvement was achieved in the monitoring and follow-up performed by participants in the onboarding process. This was achieved through the development of a customized dashboard on the Monday.com platform, tailored to the individual needs of each participant, to provide comprehensive visibility and effective communication about the onboarding phase of a new employee.

Additionally, the allocation of activities among participants in the onboarding process has been improved by 38% through the development of a detailed procedure that clearly defines roles and responsibilities at each stage of the process. Indicators have also been established to measure and identify areas for improvement, allowing for adjustments to task allocation as needed.

Finally, while the implementation of the proposed solution has generated significant improvements in the new talent onboarding process, there are some limitations to consider. Among them is the dependence on the Monday.com platform, which could hinder integration with other systems used in the organization. Furthermore, the cost of licensing is a factor to evaluate, especially if the solution needs to be scaled to a larger number of users. It is also important to consider the adaptation period required for employees to become familiar with the new tools and methodologies. Future research could focus on analyzing the cost-benefit ratio of the solution and its long-term impact on operational efficiency.

References

[1] M. Gaspar, "Human Talent Management and Its Influence on Job Performance for Business Success," Polo Del Conocimiento, vol. 6, no. 8, 2021.

[2] DJ Maldonado-Mosquera, "The Importance of Human Talent Management for Optimizing Organizations," Gestio et Productio. Electronic Journal of Management Sciences, vol. 5, no. 8, 2023. [Online]. Available: https://doi.org/10.35381/gep.v5i8.49

[3] F. Bautista, "Onboarding as a Strategy for the Adequate Integration of Stefanini Informatics and Technology Collaborators," MS thesis, Univ. Externado De Colombia Faculty of Social and Human Sciences, Bogotá, Colombia, 2018.

[4] M. Kirchner and F. Stull, "Employee onboarding and satisfaction in US manufacturing companies," Industrial and Commercial Training, vol. 54, no. 2, 2022. [Online]. Available: https://doi.org/10.1108/ICT-06-2021-0044

[5] FS Cesário and MJ Chambel, "The on-boarding challenge: a three-component perspective of welcoming new employees," International Journal of Organizational Analysis, 2019.

[6] A. Mora, "How to Improve Onboarding and Avoid Turnover," HPS Consultants, Jan. 23, 2020. [Online]. Available: https://www.hpsconsultores.com/como-mejorar-el-onboarding-y-evitar-la-rotacion/

[7] E. Bahr, "Employee Onboarding: 7 Need-to-Know Facts," Jul. 13, 2020.

[8] B. Hitpass, BPM: Business Process Management: Fundamentals and Implementation Concepts, 4th ed., Dr. Bernhard Hitpass, 2017.

[9] CY Rodríguez, "What is Business Process Management (BPM). Definitions and Concepts," Journal of the Colombian School of Engineering, vol. 25, no. 98, 2015. [Online]. Available: https://doi.org/ISSN 0121-5132

[10] K. Gómez, D. Gálvez, and G. Ferreira, "Business Processes in Business Management," Metropolitan Journal of Applied Sciences, 2019.

[11] TN Bauer and B. Erdogan, "Organizational socialization: The effective onboarding of new employees," in APA handbook of industrial and organizational psychology, Vol 3: Maintaining, expanding, and contracting the organization, American Psychological Association, 2011, pp. 51–64. [On-line]. Available: https://doi.org/10.1037/12171-002

[12] N. Pedraza, "Job Satisfaction and Organizational Commitment of Human Capital in Performance in Higher Education Institutions," RIDE Ibero-American Journal of Educational Research and Development, vol. 10, no. 20, 2020. [Online]. Available: https://doi.org/10.23913/ride.v10i20.595

[13] MG Valle, "What is the purpose of a personnel monitoring and tracking plan?", Nov. 15, 2023.

[14] Secretariat of Environment and Natural Resources, Guide to identifying key actors, 2013.

[15] A. Abu Ziden and O. Chin Joo, "Exploring Digital Onboarding for Organizations: A Concept Paper," International Journal Of Innovation, Creativity and Change, vol. 13, no. 9, 2020.

[16] F. Elahi and AR Bilal, "Improving parent teacher meeting processes through business process management life-cycle approaches," Business Process Management Journal, vol. 26, no. 2, 2020. [Online]. Available: https://doi.org/10.1108/BPMJ-01-2019-0030

[17] H. Aguirre, "A Methodological Approach to Innovation and Digital Transformation of Business Processes. A Case Study," Cuadernos de Administración, vol. 35, 2022. [Online]. Available: https://doi.org/10.11144/Javeriana.cao35.amitd

[18] R. Granda Campoverde and C. Bermeo Valencia, "Digital Transformation: A Methodological Proposal for Process Automation from a BPM Approach," UISRAEL Scientific Journal, vol. 9, no. 3, pp. 47–72, 2022. [Online]. Available: https://doi.org/10.35290/rcui.v9n3.2022.621

[19] JH Cahuana, Management method based on Business Process Management (BPM) and Lean Six Sigma to optimize the productivity of the metalworking sector in the Puno Region, case: INNOVA company, 2018-2019, 2020.

[20] JC Quiroz-Flores, CB Valverde-Huaman, and MA Romero-Vega, "Management Model under the BPM Approach and DT Tools to Increase the Level of Sales in a Peruvian Nanostore," in Proceedings - 2022 8th International Conference on Information Management, ICIM 2022, 2022.

[21] R. Hernández, C. Fernández, and P. Baptista, Research Methodology, 6th ed., McGraw Hill Education, 2014.

[22] ZR Vargas Cordero, "Applied Research: A Way of Understanding Realities with Scientific Evidence," Revista Educación, vol. 33, no. 1, 2009. [Online]. Available: https://doi.org/10.15517/revedu.v33i1.538

[23] C. Babativa, Quantitative Research, 2017. [Online]. Available: https://digitk.areandina.edu.co/handle/areandina/354

[24] J. Rodríguez-Rodríguez and M. Reguant-Álvarez, "Calculating the reliability of a questionnaire or scale using SPSS: Cronbach's alpha coefficient," REIRE Revista d Innovació i Recerca En Educació, vol. 13, no. 2, 2020. [Online]. Available: https://doi.org/10.1344/reire2020.13.230048

[25] RAS Turcios, "T-Student. Uses and Abuses," Mexican Journal of Cardiology, vol. 26, no. 1, 2015.