



Toward Proposing Gamification Solution to Enhance Employee Onboarding

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Abstract: Human Resource Management (HRM) plays a critical role in developing a productive workforce, with the onboarding process being essential in preparing new employees for success. The onboarding encompasses four components, known as the four Cs: Compliance, Clarification, Culture, and Connection. Managers view the onboarding process as a way to deliver comprehensive information. Consequently, new employees encounter difficulties when transitioning to a new organization, such as adjusting to policies, understanding roles, adapting to the culture, as well as connecting with colleagues. Recently, the HRM department has adopted an innovative approach known as gamification. This study proposes gamification as a solution to assist employees during their onboarding process, focusing on the four Cs of onboarding. Additionally, it explores employees' perspectives on their onboarding experience, identifies the most needed onboarding components, and examines their satisfaction with the work environment. A mixed-methods research approach was used to create a questionnaire based on the four Cs, completed by 230 participants. As a result, participants identified relationships and connections within the work environment as the most needed aspects that HRM needs to focus on during onboarding and throughout employment. Accordingly, a sample gamified prototype has been developed to enhance connections between employees during onboarding. Overall, it is crucial for organizations to recognize the importance of onboarding and provide proper support to new employees.

Keywords: Gamification, Game-based Learning, Employee Onboarding, Four Cs, Employee Engagement, Digital Onboarding Tools

1. INTRODUCTION

Human Resources Management (HRM) is essential in driving an organization's success and growth [1], while playing a crucial role in managing the employee onboarding process. The term 'onboarding' has gained increasing usage since its emergence in the late 1990s [2]. In earlier literature, it was commonly referred to as orientation, induction, or organizational socialization [3], [2], [4]. The onboarding process involves introducing new employees to the organization and preparing them for their job roles [4].

According to Bauer [4], onboarding has four main components, known as the four Cs. Compliance entails introducing new employees to legal regulations, policies, and the code of conduct of the workplace [5]. Clarification provides new employees with clear guidance regarding their responsibilities. Culture involves an organization's values, and history. Connection refers to the new employee's integration within the environment. Overall, the onboarding process begins with learning compliance and concludes with integrating into the work environment.

Most managers view the onboarding process as an opportunity to provide new employees with extensive information about their work, though it encompasses a range of activities beyond simply delivering information [6]. It fosters a new employee's sense of welcome, engagement, and integration by familiarizing them with the work environment.

Nowadays, software applications are powerful tools for motivating individuals to perform diverse activities in modern ways, such as playing games [7], [8]. Gamification, which introduces game concepts into real-life contexts, represents an innovative approach that extends beyond the boundaries of video games [9]. The effectiveness of gamification has been shown across various contexts in sustaining engagement, boosting motivation, and enhancing participation rates [10]. According to eLearning Learning, as stated in [11], gamification increases employee engagement by about 60% and productivity by 50%. Numerous studies have shown that incorporating gamification in the workplace significantly increases employee engagement and

productivity, particularly in the HRM department [12], [7], [13]. On November 4, 2023, an informal face-to-face interview was held with the founder of a start-up HRM platform in Saudi Arabia. During the interview, the founder highlighted that the biggest challenge lies in the onboarding process, particularly in providing immediate feedback on tasks. Gamification was enthusiastically discussed as a valuable feature to enhance the platform.

Overall, this study aims to propose gamification for onboarding processes, considering the four Cs. Additionally, it will capture employees' perspectives on their onboarding experience, identify the most needed components of onboarding as perceived by employees, and examine their satisfaction with the work environment. An online questionnaire utilizing a mixed-methods approach will be developed to gather necessary data from employees, considering the four Cs. This study contributes to understanding the onboarding process by examining the application of gamification to optimize the four Cs of onboarding. Additionally, it offers valuable insights for academic research and organizational practice by identifying specific onboarding components that need enhancement to improve employee integration and engagement. It will address the following Research Questions (RQs):

- RQ1: How can gamification strategies enhance the content of onboarding in line with the four Cs?
- RQ2: What do employees perceive as the most needed component of the onboarding process, as defined by the four Cs?
- RQ3: What key factors influence employees' overall satisfaction or dissatisfaction with their work environment, as revealed through thematic analysis?

2. LITERATURE REVIEW

A. Onboarding Practices

Based on this study [14], an effective onboarding process should include three welcoming components: a structured corporate welcome, a manager welcome, and a coworker welcome, which are expected to enhance commitment and engagement. The study tested this hypothesis using a validated questionnaire and interviews with HR managers and new employees. Reaching 347 respondents from Portuguese organizations via snowball sampling over two months, the study confirmed that these components significantly boost work engagement and commitment.

According to [15], the study focuses focus on the Inform-Welcome-Guide (IWG) onboarding practice, which includes providing information, welcoming new employees, and offering guidance. It was evaluated through a survey of 373 new employees, the study found IWG to be effective in facilitating employee adjustment.

Besides, [16] investigated onboarding IT professionals and their turnover intentions, proposing a model with three

key activities: orientation, training, and support. These activities impact onboarding success and organizational fit, affecting job satisfaction and turnover intention. The model was assessed through a survey of 103 IT professionals, revealing that support had the greatest impact and highlighting a relationship between onboarding success and job satisfaction.

This study [17] shed light on physician onboarding practices through semi-structured interviews with 20 physicians. The results showed that interpersonal relationships can influence a physician's work. Moreover, unfamiliar settings can cause work delays and affect work effectiveness. For future work, it is recommended to provide standard onboarding content to be followed by organizations.

Furthermore, [18] interviewed three case studies about their onboarding processes for software developers and teams. Findings revealed that each case had its own onboarding program and duration, integrating recruitment, meetings, and feedback. The study addresses the Clarification and Connection aspects of the four Cs. Regarding Clarification, the case studies emphasize the necessity of providing clear guidance and feedback on IT roles. Regarding Connection, the case studies focus on integrating team members without considering it solely part of the onboarding process.

In addition, [19] assessed the four Cs of onboarding—perceived utility, organizational support, commitment, and job satisfaction—using a survey of 382 participants in the U.S. The study found that a well-defined onboarding process addresses at least the first three Cs, leading to higher perceived utility. Establishing all four Cs enhances support, commitment, and satisfaction. According to [2], the four Cs focus on the content of onboarding. Overall, the terms of the four Cs of onboarding are organized in Figure 1.

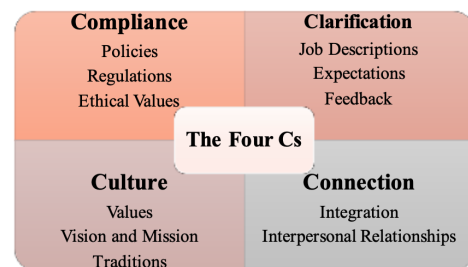


Figure 1. The four Cs of onboarding terms, adopted from [4], [2]

B. Gamification Trends in HRM

This study [11] compares two popular gamification applications in Indonesia. One of the applications targets employees, encouraging them to learn new skills, enhance working methods, and allows HR divisions to monitor progress. However, it has over 15 million users, demonstrating its popularity.

Furthermore, a study [20] investigates a gamified system named BRAVO HRM, implemented by a multinational organization with approximately 10,000 employees in the United States. The system integrates various HRM functions, including onboarding, training, knowledge sharing, and cooperation among members. The findings underscore the significant impact of gamified HRM functions on positively influencing employees' behavior. Additionally, in this study [21], a large company with 17,000 employees examined a prototype of a gamified application for recruiting, onboarding, or integrating new employees, which proved highly beneficial.

C. Gamification in Relation to the Four Cs of Onboarding Concepts

According to [7], the study examined key gamified features in onboarding applications, such as Onboarding-Tree, which visualizes progress; Team-Bingo, which helps new employees integrate with teams; and QuizClash, which uses multiplayer quizzes to engage employees. The study developed and compared a gamified onboarding application with a non-gamified version using the OCEAN theory, finding that the gamified version was preferred.

Moreover, [22] focuses on the application of gamification within policy compliance, particularly during COVID-19, to promote social distancing and enhance user behaviors. The study developed interactive interfaces featuring points and leaderboards, demonstrating the effectiveness of gamification in positively changing behavior related to social distancing.

This study [23] supports newly hired nursing employees during onboarding using gamification instead of traditional PowerPoint presentations. The gamified process includes missions, points, and rewards. As a result, gamification enhanced team building, engagement, and practical information delivery, enabling new employees to integrate into the work environment effectively. Additionally, this study [24] developed a gamified application featuring quizzes for learning MATLAB. It compared the gamified application with a paper-based quiz, demonstrating that the gamified quiz was more effective in encouraging critical thinking and assessing performance. Moreover, in warehouse settings, [12] demonstrates gamification's ability to increase engagement and thereby improve the performance of repetitive tasks through the goals and feedback provided by gamification elements.

Based on [25], the study examined how social gamification affordances (e.g., interactivity, cooperation, and competition) affect the use of green IT services. Interactivity allows for user engagement through likes and comments, cooperation involves team-based goals, and competition uses elements like leaderboards. The study found that these affordances positively impact user recognition. Based on Self-Determination Theory (SDT), this study [26] demonstrates that social gamification affordances are positively

associated with satisfying the needs for competence, relatedness, and autonomy.

According to [27], gamification facilitated local businesses in setting and achieving objectives by utilizing rewards, thereby enhancing the recognition of local enterprises and increasing their profitability. Moreover, it was applied to public sector, including training and evaluation, by integrating processes with cost-effective online technology. Additionally, [28] stated that the onboarding process can be enhanced or motivated by rewards, which is a gamification element.

D. Discussion

Employee onboarding has been well-established as a key driver of employee commitment, satisfaction, and engagement [19], [14]. According to [2], the most cited onboarding practices are the four Cs and IWG. The IWG offers strategies, while the four Cs focus on the essential content during onboarding [2]. Table I summarizes related practices. Notably, there is a continuous need to examine the success of onboarding [16]. Literature highlights the role of gamification in onboarding and its ability to address the four Cs: delivering information [23], [7], [24], enhancing behavior [22], and integrating employees [23], [7], [25] through an engaging environment. Despite the usefulness of gamification, it still requires thorough investigation in employee onboarding research [7]. To the best of our knowledge, this is the first study to propose gamification in relation to the four Cs of onboarding and assess employees' perceived needs.

TABLE I. Summary of the onboarding practices

Ref.	Study type	Sample size	Key findings
[14]	Quantitative	347	The welcoming atmosphere contributes to employee engagement and commitment to a job.
[15]	Quantitative	373	The IWG works effectively to adjust new employees.
[16]	Quantitative	103	The support provided during onboarding is crucial.
[17]	Qualitative	20	The importance of onboarding for achieving employees effectiveness.
[18]	Qualitative	3	Clarification and Connection aspects need to be improved.
[19]	Quantitative	382	Establishing the four Cs leads to increased commitment, satisfaction, and support.

3. METHODOLOGY

This study follows the research methodology illustrated in Figure 2. It employed an online questionnaire using a mixed-methods approach to gather necessary data. This approach allowed for a clear identification of employees' perspectives on onboarding and their satisfaction. The questionnaire was administered from March to April 2024.

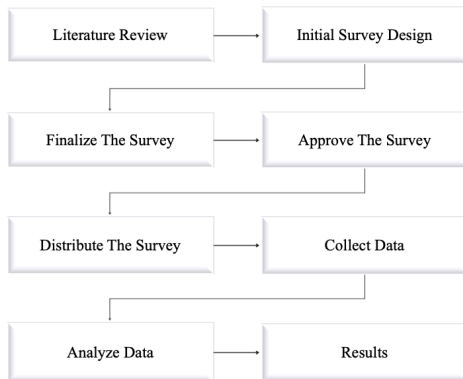


Figure 2. Research methodology

A. Sample of the Study

This study targets individuals with prior work experience in organizations and is not restricted to a specific duration of employment. A random sampling technique was employed, ensuring every individual had an equal chance to participate in the questionnaire [29] across various fields as used by LinkedIn [30]. While data collection can be time-consuming and demanding, this technique significantly reduces bias and is straightforward to implement [29]. According to [31], a sample size of 200 is considered fair, while 300 is considered good. In this study, the total number of participants was 302. After excluding those who had never been employed before, the questionnaire had 230 respondents (response rate: 75.70%; $n = 230$). The questionnaire was distributed through social media platforms such as WhatsApp, LinkedIn, Telegram, and X (formerly Twitter). The questionnaire was administered in Saudi Arabia, and participation was completely voluntary. Participants were informed about the study's objectives, assured of anonymity, and informed about the purpose of data collection. Periodic reminders were sent throughout the month to encourage participation.

B. Design the Questionnaire

The questionnaire of this study is structured to gather employees' feedback on the main aspects of the four Cs of onboarding, aiming to identify their needs and assess their onboarding experiences and overall satisfaction. The instrument was a self-developed questionnaire designed after conducting an extensive literature review and developed using Google Forms. However, the questionnaire is intended for those who have confirmed their employment are eligible to complete the questionnaire. It is divided into three main

parts: general information, the four Cs of onboarding, and overall satisfaction. Overall, the questionnaire consisted of 40 questions, available in both Arabic and English, featuring both closed-ended and open-ended formats.

Part 1: General information

In this part, the questions are designed to capture general information about the respondents, including demographic information and their onboarding information. There are a total of 11 required questions in this part. It is essential to gather such information to examine the onboarding processes in organizations.

Part 2: The four Cs of onboarding

In this part, the questions are extracted from the terms of the four Cs of onboarding, as shown in Figure 1. There is a section dedicated to each component of the four Cs [4]. Each section has about four to five relevant required questions. The options are based on a five-point Likert scale, widely recognized for its effectiveness in evaluating responses, ranging from strongly agree (5) to strongly disagree (1) [32].

Part 3: Overall onboarding satisfaction

This part evaluates the importance of the four Cs and employees' onboarding experiences from employees' perspective. It includes a checkbox question regarding the influential components of the four Cs, allowing respondents to directly choose the needed ones. Additionally, there are questions about overall satisfaction, rated on a five-point Likert scale, as well as two open-ended questions for respondents to share their opinions, complaints, and suggestions. All questions were required except the open-ended questions.

Overall, to ensure validity of the questionnaire, it was reviewed by an HR manager, supervisors, and an Arabic teacher. Furthermore, testing for clarity and understanding is recommended by getting feedback from friends or classmates [33]. A small pilot study was conducted with employed individuals to check the questionnaire's clarity. For detailed questions from each part, refer to the Appendix.

C. Data Analysis

This study will consider the closed-ended questions as quantitative data, applying descriptive statistical measures. Key statistical measures, including frequencies, percentages, mean, and Standard Deviation (SD), were calculated using Microsoft Excel to evaluate participants' responses. Additionally, An open-ended question in this study's questionnaire was analyzed as qualitative data using thematic analysis. Thematic analysis was chosen because it allows for identifying repeated responses and underlying meanings in qualitative data. According to [34], thematic analysis involves six phases for effective application: becoming familiar with the data, generating initial codes, searching

for potential themes, reviewing and defining themes, and finally, producing the report. Each question typically yields two to six themes [35]. Themes were reviewed by other authors to ensure clarity.

4. RESULTS AND DISCUSSION

A. Quantitative Results

In the first part of the questionnaire, Table II presents detailed information. The majority of respondents, around half, are aged between 25 and 34 years old. Approximately 75% ($n = 169$) of the total respondents are female. Most respondents, 40% ($n = 92$), work in the field of education, with the majority from small organizations, closely followed by large organizations. Notably, as stated in [36], Saudi Arabian organizations are classified by size as micro (1-5 employees), small (6-49 employees), medium (50-249 employees), and large (250+ employees), as defined by Monshaat. Approximately half of the respondents have spent less than three years in their job, while the others have spent more than three years. Additionally, 62.20% ($n = 143$) of respondents are non-managerial employees. More than half of the respondents did not receive onboarding materials, indicating that organizations might not prioritize onboarding to the extent it deserves. However, approximately 45.70% ($n = 105$) of respondents who reported having no experience with onboarding programs were still able to complete the questionnaire and provide comments. Although the definition of onboarding was provided in the questionnaire, there could still be a misunderstanding of the true meaning and scope of the onboarding process.

Most respondents' onboarding programs lasted about a week. Approximately half of them were introduced to their workplace by their direct manager, while 18.70% ($n = 43$) did not receive any introduction. However, traditional methods of onboarding, such as supervision or guidance provided by a manager or colleague, as well as the distribution of PDF files, continue to be widely adopted.

In the second part, regarding the results of the four Cs questions, Table III demonstrates the range of values that will be followed in the five-point Likert scale. The analysis of the four Cs questions is shown below in Table IV. It was determined that Connection was the most needed component, averaging 3.35 with an SD of 1.21, which falls within the neutral range on the five-point Likert scale. Following closely was Clarification, averaging 3.45 and an SD of 1.20, indicating agreement. Culture and Compliance followed subsequently with averages of 3.47 and an SD of 1.18, and 3.58 and an SD of 1.16, respectively.

In the third part, respondents were asked about the four most important and challenging onboarding components (the four Cs). The majority, 56.50% ($n = 130$), identified Clarification as the most important component, followed by Compliance, Connection, and then Culture. It is demonstrated in Figure 3 using a bar chart to facilitate comparison

of the categories [37]. The y-axis displays the frequency, while the x-axis represents the four Cs.

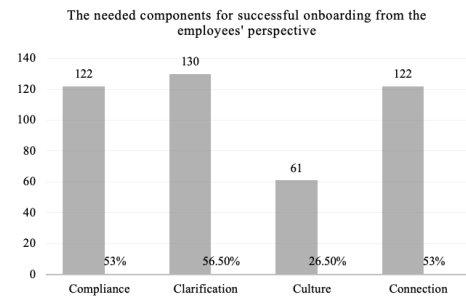


Figure 3. Respondents' perspective about the four Cs

The overall engagement and effectiveness of the onboarding process received a neutral rating, averaging 3.33 with an SD of 1.14. Respondents strongly agreed that effective onboarding enhances productivity, with an average score of 4.32 and an SD of 0.79. However, overall satisfaction with the onboarding process itself was neutral, averaging 3.20 with an SD of 1.31. Additionally, participants expressed neutrality regarding satisfaction with their work environment compared to that of their friends, with an average rating of 3.38 and an SD of 1.29. Specifically, 19.1% ($n = 44$) strongly agreed, 40% ($n = 92$) agreed, 13.5% ($n = 31$) remained neutral, 14.8% ($n = 34$) disagreed, and 12.6% ($n = 29$) strongly disagreed. For further details, refer to Table V.

B. Qualitative Results

The results interpret the reasons behind the participants' responses regarding onboarding and their overall satisfaction. Despite participants' neutral satisfaction with their friends' work environment, an open-ended question allowed them to freely express their opinions. It received 100 responses, providing valuable insights from participants' perspectives. The responses were categorized into five relevant themes, highlighting the importance of the work environment and its atmosphere: (1) positive work environment, (2) workplace cooperation and support, (3) challenges with HR practices and processes, (4) negative work environment, and (5) specific contextual challenges. For details, see Table VI, which illustrates themes and sub-themes. However, employee satisfaction with their work environment is significantly influenced by relationships, teamwork, and cooperation, whether positive or negative. The positive aspects include feeling comfortable and valued by the organization, understanding what is expected of them, and appreciating support from their managers. This encompasses interactions with both managerial staff and colleagues. While the negative aspects include poor communication, barriers to socialization and cooperation, and instances of discrimination. Moreover, employee satisfaction is influenced by the support they receive from organizations, managers, and colleagues. Additionally, HR



TABLE II. Demographic and onboarding information (n = 230)

Demographic and onboarding info	Frequency (%)	Demographic and onboarding info	Frequency (%)
Age (years)		Organization size (employees)	
18 - 24	25 (10.9)	1 - 5	13 (5.7)
25 - 34	114 (49.6)	6 - 49	89 (38.7)
35 - 44	41 (17.8)	50 - 249	48 (20.9)
45 - 54	33 (14.3)	>250	80 (34.8)
>55	17 (7.4)	Onboarding program	
Gender		For 1 week	71 (30.9)
Male	61 (26.5)	1 month - 3 months	33 (14.3)
Female	169 (73.5)	>3 months	21 (9.1)
Work field		Not included	105 (45.7)
Education	92 (40)	First Introducer	
Technology	26 (11.3)	Direct manager	103 (44.8)
Administrative services	32 (13.9)	HR representative	40 (17.4)
Healthcare	24 (10.4)	Another employee	44 (19.1)
Others	56 (24.4)	No one	43 (18.7)
Managerial level		Received onboarding materials	
Strategic management	9 (3.9)	Yes	102 (44.3)
Tactical management	21 (9.1)	No	128 (55.7)
Operational management	57 (24.8)	Onboarding procedures	
Employee	143 (62.2)	A scheduled onboarding plan	51 (22.2)
Job duration		Introduction sessions	92 (40)
<3 months	11 (4.8)	Guided by an experienced employee	70 (30.4)
From 3 - 6 months	16 (7)	Task explanation by a direct manager	132 (57.4)
From 6 months - 1 year	33 (14.3)	Using interactive application	20 (8.7)
From 1 year - 3 years	58 (25.2)	Others	None of them, Online courses, PDF
>3 years	112 (48.7)		

TABLE III. Discretionary scale of the five-point Likert scale

Description	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Likert Scale	1	2	3	4	5
Mean	1.00 - 1.80	1.81 - 2.60	2.61 - 3.40	3.41 - 4.20	4.21 - 5.00

TABLE IV. Summary of the four Cs statistics

Rank	Section	Terms	Mean	SD	Scale
1	Compliance	Policies, Legal responsibilities, Ethical values.	3.58	1.16	Agree
3	Clarification	Internal systems, Tools, Expectations, Feedback.	3.45	1.20	Agree
2	Culture	Mission & Vision, Values, Culture Support in job, ideas, social interaction, professional growth.	3.47	1.18	Agree
4	Connection	Integration, Interpersonal relationships.	3.35	1.21	Neutral

TABLE V. Summary of employees' satisfaction statistics

Rank	Term	Mean	SD	Scale
3	Engagement and Effectiveness	3.33	1.14	Neutral
1	Onboarding Impact Productivity	4.32	0.79	Strongly Agree
4	Overall Onboarding Satisfaction	3.20	1.31	Neutral
2	Work Environment Satisfaction Compared to Friends	3.38	1.29	Neutral

functions were mentioned by several respondents as affecting their satisfaction, including the absence of onboarding processes, training programs, and clear policies, which pose challenges to effective job performance. Numerous respondents emphasized that instant feedback and regular follow-ups significantly contribute to employee satisfaction and engagement, thereby enhancing professional growth, which they felt was lacking.

Regarding feedback and recommendations about the research study, 77 responses were received to gather participants' opinions on the onboarding process. The findings suggest that several organizations are unaware of the importance of the onboarding process. The respondents shared their complaints and recommendations, underscoring the significance of prioritizing onboarding as a critical aspect after recruitment. The majority of respondents emphasized the need for strong relationships in the workplace, while others highlighted the importance of clear task clarification and the provision of immediate feedback and evaluation methods. In addition, they expressed the desire for a detailed information file about the organization and suggested focusing the study on a specific city for better relevance.

C. Gamified Onboarding Prototype for Employee Connection

Based on the questionnaire results, a prototype incorporating gamification techniques was developed to support new employees in integrating and communicating, focusing on the connection aspect. The prototype, created as a first draft in Adobe XD, was designed following extensive research and guidance from this study [38]. It incorporates gamification elements such as points, leaderboards, and tasks, along with cooperation (e.g., team collaboration) and challenges. The selected elements are impactful in achieving the goal of fostering connection. The main concept involves including each player in a team, where collected points impact both the player and the team. Figure 4 demonstrates the prototype, showing the splash screen, home screen, missions, two suggested tasks, profile, and leaderboard from left to right. Overall, this prototype serves as an initial design to illustrate the concept.

D. Discussion

The onboarding process significantly influenced the participants in the questionnaire, emphasizing its importance and recommending that organizations should prioritize it more. The findings indicate that effective onboarding requires thorough planning and allocation of resources from

HRM to support new employees. Notably, overall satisfaction with the onboarding process was neutral, with an average rating of 3.20, indicating a lack of proper procedures during onboarding.

To answer the first research question, gamification has gained popularity in HRM department, resulting to be used in large organizations widely, including the onboarding process. Based on the literature, several gamification applications are shown to be used regarding the meaning of the four Cs of onboarding purposes, revealing a positive impact on information delivery, social integration, and behavior change. This emphasizes the ability of gamification to assist employees during onboarding by creating a beneficial and engaging environment. Consequently, employee engagement, productivity, and job satisfaction will increase. Additionally, the initial interview with the manager was well-received, and there was strong support for the use of gamification.

To answer the second research question, the quantitative results revealed that Connection had the lowest average score among the four Cs of onboarding, with a score of 3.35. This indicates weak integration and interpersonal relationships. Then, it was followed by Clarification of systems and tools, expectations, and feedback. Then, familiarizing with the organization's Culture, and lastly, Compliance, which had the highest average. Additionally, the qualitative results revealed that respondents emphasized their work satisfaction primarily depended on their connection, cooperation, and relationships with colleagues. As a result, the connectivity and integration of new employee plays a vital role from the first day of employment and last after onboarding.

To answer the third research question, participants expressed a neutral level of satisfaction with their work environment compared to their friends, with a score of 3.38. The work environment is a significant factor in determining employee satisfaction, particularly the relationships among managers and colleagues, including their support, teamwork, and cooperation. Additionally, the role of HRM is crucial in guiding employees and enhancing their knowledge through onboarding and training programs. Besides, ensuring task clarity and maintaining regular follow-up are essential for helping employees understand their roles. Regular follow-up provides the necessary guidance and feedback, which facilitates successful integration into the organization. Other contextual challenges, such as COVID-

TABLE VI. Qualitative data from employees about work environment satisfaction

Statement/Question	Option	Theme	Sub-Theme(s)
Why did you choose this option regarding your work environment satisfaction compared to that of your friends' work environment?	Strongly satisfied and satisfied	Positive work environment	<ul style="list-style-type: none"> - Supportive leadership and culture - Flexibility - Positive relationships with colleagues and managers - Teamwork - Peer-support/friendship - Clarity of tasks
	Neutral	Workplace cooperation and support	<ul style="list-style-type: none"> - Lack of teamwork - Lack of workplace support
	Dissatisfied and strongly dissatisfied	Challenges with HR practices and processes	<ul style="list-style-type: none"> - Absence of onboarding and training - Absence of clear policies
		Negative work environment	<ul style="list-style-type: none"> - Perceived Discrimination - Lack of cooperation and teamwork - Lack of support and follow-up - Unclear tasks - Lack of professional growth
		Specific contextual challenges	<ul style="list-style-type: none"> - Branch connectivity across cities - Working in a start-up - Remote work with COVID-19

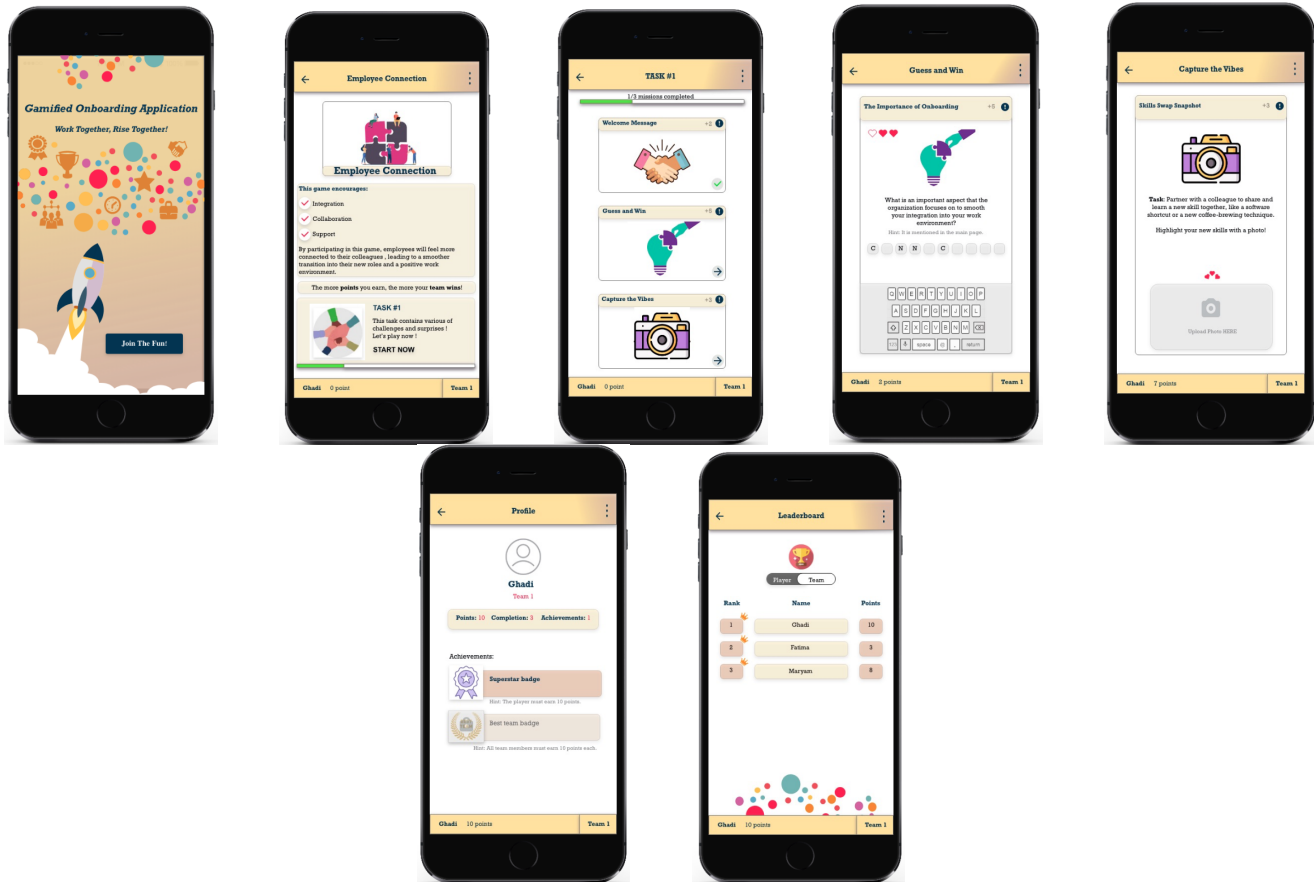


Figure 4. Gamified onboarding prototype for employee connection

19 pandemic, operating from multiple branches, and being a start-up, were mentioned.

Therefore, the connection between employees is vital in onboarding and the overall work environment. It is the most frequently mentioned aspect in the questionnaire responses. Building this connection from the first day of employment is crucial, as it helps new employees integrate smoothly into the organization and remain satisfied throughout their employment. Consequently, this connection among members can increase peer support, cooperation, and teamwork, resulting in a positive work environment. Furthermore, creating an engaged employee who is excited to work within the new organization is a crucial goal. Gamification, with its primary concept of creating an engaging environment, aligns well with the four Cs of onboarding as described previously. Particularly, gamification can be effectively employed in fostering connection and integration among new employees. Accordingly, the gamified prototype was designed to foster connections, presenting various activities to illustrate the concept. Moreover, appropriate gamified elements, such as leaderboards and team-based challenges, were selected to foster connection. Overall, assisting employees experience a positive environment typically leads to desirable results.

5. CONCLUSION AND FUTURE WORK

Based on the analysis of 230 responses from the employee questionnaire, overall satisfaction with the onboarding process was found to be neutral. Similarly, engagement and effectiveness in onboarding were rated neutrally. Notably, among the four Cs of onboarding, Connection emerged as the most critical area needing improvement. This highlights an opportunity for organizations to innovate in this domain. Additionally, satisfaction with the work environment was neutral, primarily influenced by interpersonal relationships and the overall organizational atmosphere, including cooperation and support. This study proposes gamification as a potential solution to enhance the four Cs of onboarding, particularly in the areas where employees indicated the greatest need. Consequently, this study proposes a gamified prototype specifically designed to foster connection and integration during onboarding by incorporating interactive team challenges. However, organizations should recognize the importance of a well-structured onboarding process, as it significantly benefits both employees and the organization.

While this study yielded significant results, the data collection was constrained by time limitations. Future research should consider expanding the sample size and incorporating qualitative methods, such as interviews or focus groups, to gain deeper insights into employee experiences. Additionally, exploring correlations between variables could provide a more comprehensive understanding of the factors influencing the four Cs of onboarding. Moreover, practical studies demonstrating the effectiveness of gamification in onboarding are essential, and further exploration of its

acceptance among employees could provide valuable information for organizations seeking to implement these strategies successfully.

6. ACKNOWLEDGMENTS

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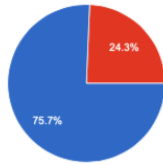


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APPENDIX

A. Questionnaire Responses

نسخ



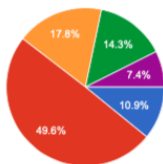
1- هل سبق لك العمل في وظيفة ما؟
?Have you ever worked in a job
304 ردود

● نعم/Yes
● لا/No

Section 1: General Information

1- البريد الإلكتروني اختياري:
Email -Optional:
رنا 33

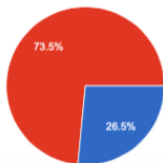
نسخ



2- العمر:
Age:
رنا 230

● 18 - 24 سنة/Years
● 25 - 34 سنة/Years
● 35 - 44 سنة/Years
● 45 - 54 سنة/Years
● أكثر من 55 سنة/More than 55 years

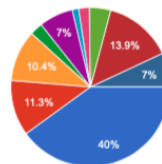
نسخ



3- الجنس:
Gender:
رنا 230

● الذكر/Male
● الأنثى/Female

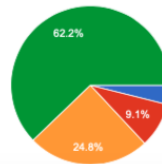
نسخ



4- يرجى تحديد مجال العمل الذي تعمل به:
Please specify the field of work you are in:
رنا 230

● التعليم/Education
● التقنية/Technology
● الرعاية الصحية/Healthcare
● السياحة/Tourism
● الخدمات المالية/Financial services
● التصنيع/Manufacturing
● الخدمات اللوجستية/Logistics services
● الهندسة والبناء/Engineering and construction

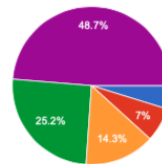
نسخ



5- ما هو مستواك الإداري في الوظيفة?
?What is your managerial level
رنا 230

● الإدارة العليا (مثل مدير تنفيذي)/Strategic management (e.g., CEO)
● الإدارة الوسطى (مثل مدير فرع)/Tactical management (e.g., branch manager)
● الإدارة الأثرية (مثل قائد فريق)/Operational management (e.g., leadership)
● موظف/Employee

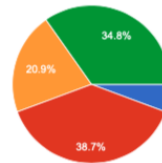
نسخ



6- ما هي المدة التي قضيتها في الوظيفة?
How long have you been in the job?
رنا 230

● أقل من 3 أشهر/Less than 3 months
● من 3 أشهر - 6 أشهر/From 3 months - 6 months
● من 6 أشهر - سنة/From 6 months - 1 year
● من سنة - 3 سنوات/From 1 year - 3 years
● أكثر من 3 سنوات/More than 3 years

نسخ



7- ما هو حجم المنظمة حسب عدد الموظفين?
?What is the size of the organization
رنا 230

● من 1 - 5 موظف/From 1 - 5 employees
● من 6 - 49 موظف/From 6 - 49 employees
● من 50 - 249 موظف/From 50 - 249 employees
● أكثر من 249 موظف/More than 249 employees

نسخ

8- هل وفرت المنظمة برنامج لإعداد الموظفين المستجدين؟ وكم مدته؟

Did the organization provide a program for onboarding new employees? How long is it

رَدًا 230



نسخ

9- من كان أول شخص قام بالتحية والتعريف عن نفسه في بداية عملية الإعداد؟

Who was the first person to greet and introduce themselves at the beginning of the onboarding process?

رَدًا 230

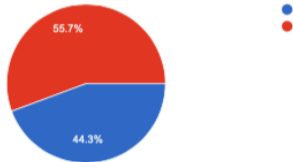


نسخ

10- هل استلمت مواد الإعداد، مثل دليل الموظف وإرشادات التدريب؟

Have you received the onboarding materials, such as the employee handbook and training manuals?

رَدًا 230

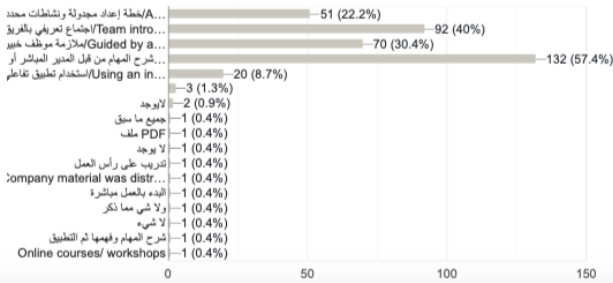


نسخ

11- ما هي الطرق المتبعة في عملية إعدادك كموظف جديد؟

Which procedures are followed in your onboarding process?

رَدًا 230



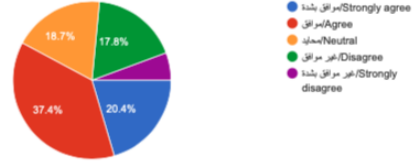
Section 2: Onboarding Process Evaluation - Compliance

نسخ

1- لقد تلقيت معلومات واضحة عن سياسات وإجراءات العمل أثناء عملية الإعداد.

I received detailed information regarding the policies and procedures of the organization during the onboarding process.

رَدًا 230



نسخ

2- لقد فهمت الالتزامات والمسؤوليات القانونية المرتبطة بدوري الوظيفي (مثل قوانين الخصوصية) أثناء عملية الإعداد.

I recognized the legal responsibilities related to my position (e.g., privacy laws) during the onboarding process.

رَدًا 230

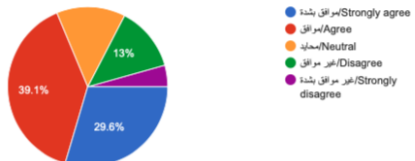


نسخ

3- لقد عرفت قواعد السلوك والمبادئ الأخلاقية للمنظمة أثناء عملية الإعداد.

I learned about the organization's ethical values and code of conduct during the onboarding process.

رَدًا 230

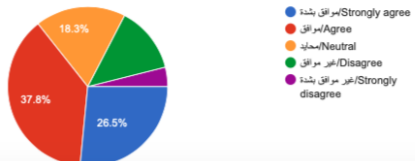


نسخ

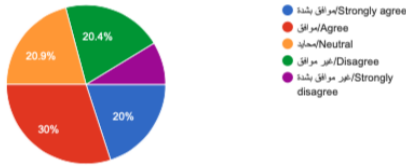
4- أنا قادر على التعامل وتذكر جميع السياسات والقوانين.

I can handle and remember all policies and rules.

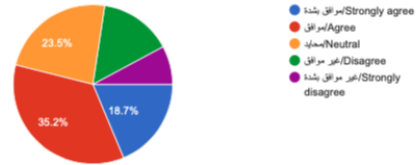
رَدًا 230



5- أنا راضٍ عن طريقة تلقي سياسات المنظمة وقواعدها وأخلاقياتها الموضحة أثناء عملية الإعداد.
I am satisfied with how the organization's policies, procedures, and ethics are explained during the onboarding process
رَدًا 230

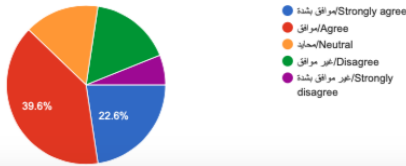


4- أنا راضٍ عن وضوح وسهولة فهم المهام والمسؤوليات الوظيفية أثناء عملية الإعداد.
I am satisfied that the job tasks and responsibilities described during onboarding are straightforward to understand
رَدًا 230



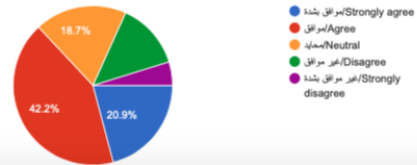
Section 3: Onboarding Process Evaluation - Clarification

1- لقد تدرّبت للتعرف على النظام الداخلي، الأدوات، والإجراءات التشغيلية لإنجاز مهامي أثناء عملية الإعداد.
I trained to learn about the internal system, tools, and operational procedures to accomplish my tasks during the onboarding process
رَدًا 230

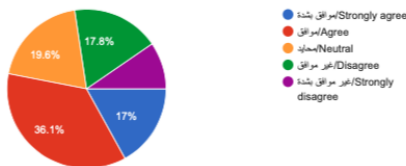


Section 4: Onboarding Process Evaluation - Culture

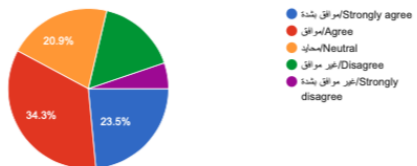
1- لقد فهمت رسالة المنظمة، ورؤيتها خلال عملية الإعداد؛ مما ساعدني ذلك على الاستمرار معهم.
I understood the organization's mission and vision during onboarding, which led me to continue
رَدًا 230



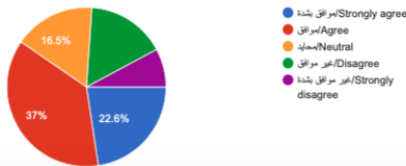
2- لقد تلقيت تدريباً يوضح ما هو متوقع مني في العمل أثناء عملية الإعداد.
I received training that clarified what is expected of me at work during the onboarding process
رَدًا 230



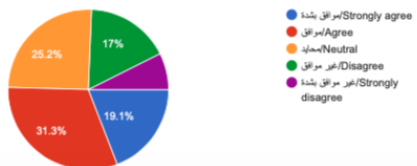
2- عملية الإعداد جعلتني أشعر بأهمية الوظيفة التي أقوم بها من خلال قيم ورسالة المنظمة.
The onboarding process made me realize the importance of my role through the organization's values and mission
رَدًا 230



3- لقد تلقيت تقييم مستمر وتعليقات فورية حول أدائي أثناء عملية الإعداد.
I received constant evaluation and immediate feedback about my performance during the onboarding process
رَدًا 230

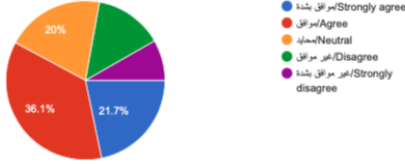


3- عملية الإعداد جعلتني أشعر أن ثقافة المنظمة تدعم أفكارنا.
The onboarding process made me feel that the organization's culture supports our ideas
رَدًا 230



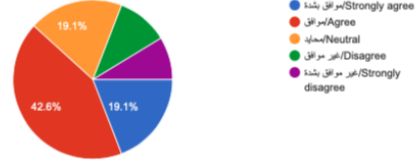
نسخ

4- عملية الإعداد جعلتني أشعر أن ثقافة المنظمة تدعم الاندماج والتفاعل الاجتماعي.
The onboarding process made me feel that the organization's culture supports social integration and interaction.
ردًا 230



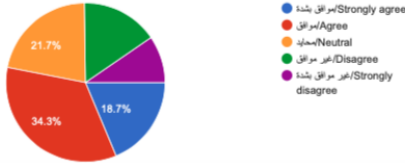
نسخ

2- لقد كان من السهل التواصل والتعاون مع جميع أعضاء الفريق خلال عملية الإعداد.
It was easy to communicate and collaborate with all team members during the onboarding process.
ردًا 230



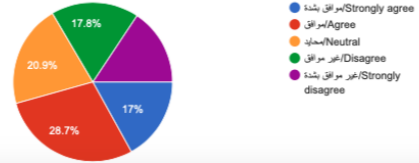
نسخ

5- عملية الإعداد جعلتني أشعر بالدعم لتخطيط وتنمية أهدافي للتطور المهني.
The onboarding process made me feel supported in planning and developing my professional growth goals.
ردًا 230



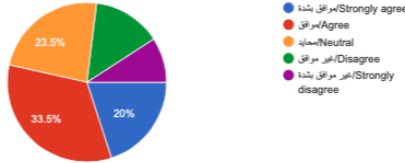
نسخ

3- لقد ساعدت عملية الإعداد التعرف على زملائي والتواصل معهم خارج ساعات العمل.
The onboarding process helped me get to know my colleagues and communicate with them outside of working hours.
ردًا 230



نسخ

6- أنا واثق من الانطباع الذي اتخذته عن ثقافة المنظمة وقيمتها وسلوكياتها خلال فترة الإعداد.
I am satisfied with my impression of the organization's culture, values and behaviors during the onboarding process.
ردًا 230



نسخ

4- لا أشعر بالتردد أو الإحراج عندما أحتاج مساعدة من الإدارة أثناء فترة الإعداد.
I do not feel hesitant or embarrassed when I need assistance from management during the onboarding process.
ردًا 230



Section 5: Onboarding Process Evaluation - Connection

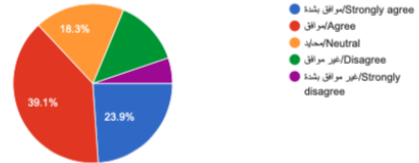
نسخ

1- لقد قامت المنظمة بتجهيز فعاليات (مثل الدورات والرحلات) للتعرف على الزملاء والموظفين أثناء فترة الإعداد.
The organization has arranged events (e.g., invitations and trips) to get to know colleagues and staff during the onboarding process.
ردًا 230



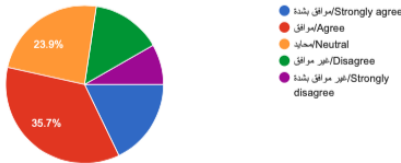
نسخ

5- أعتقد أن علاقاتي في العمل تؤثر على أدائي.
I believe that my relationships at work affect my performance.
ردًا 230



نسخ

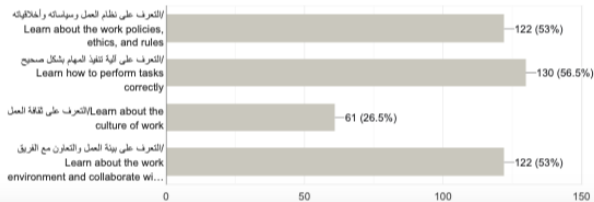
6- أنا راضٍ عن مساهمة المنظمة في بناء العلاقات مع زملائي وفريق العمل أثناء فترة الإعداد.
I am satisfied with the organization's contribution to building relationships with my colleagues and team during the onboarding process.
رَدًا 230



Section 6: Onboarding Process Satisfaction

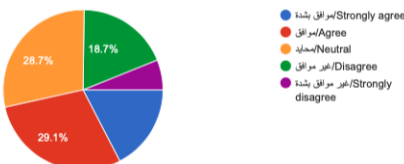
نسخ

1- من وجهة نظرك، أيهما الأصعب والأهم في بداية الوظيفة لتحقيق نجاح عملية إعداد الموظف؟
In your opinion, which is the most challenging at first and crucial to success?
رَدًا 230



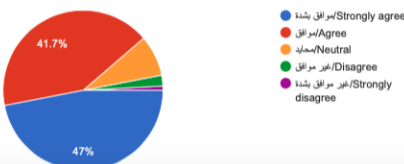
نسخ

2- هل كانت عملية الإعداد المقدمة لك تفاعلية وفعالة؟
?Did you find the onboarding process to be both engaging and effective
رَدًا 230



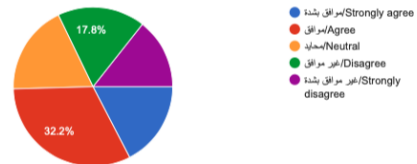
نسخ

3- هل تعتقد أن أداء وإنتاجية الموظف الجديد تتأثر بعملية الإعداد؟
Do you believe the onboarding process impacts a new employee's performance and productivity?
رَدًا 230



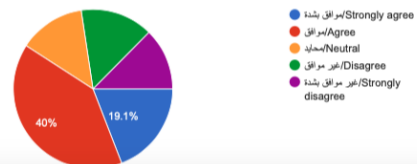
نسخ

4- ما مدى رضاك عن عملية إعداد الموظف المقدمة لك؟
?How satisfied have you been with your onboarding process
رَدًا 230



نسخ

5- مقارنةً بـ بيئات عمل أصدقائك، ما مدى رضاك عن بيئة عملك؟
Compared to your friends' work environment, how satisfied are you with your work environment?
رَدًا 230



6- يرجى ذكر السبب وراء اختيارك للخيار السابق:
:Please specify the reason for choosing the previous option
رَدًا 100

ترتبط بين الموظفين علاقة صداقة ويبادرو الموظفين في المساعدة في وقت الحاجة
كانت عملية الإعداد عبارة عن نصف ساعة فقط ومن موظف في الموارد البشرية وقام بشرح القوانين العام بشكل سريع جدا ولم يتم تعريفهم بهامهم وفريق عملي وما هو متوقع مني.
الأشخاص متعاونون ولطيفون
تفتقر بيئة عملي على روح الجماعة والفريق والشفافية بيننا
لا يوجد أعداد مسبق أو تعاون أو وضوح في المهام والمسؤوليات
المنشأة ركزت علي بشكل إيجابي أكثر من بقية الفريق بشكل واضح وصريح
لا ارى اني اتمتع ببيئة عمل مختلفة عن الآخرين لا بشكل جيد ولا بشكل سيء
لم اشعر بانهم تم اعطائي الفرصة الكافية لإثبات نفسي

7- هل لديك شكاوى أو اقتراحات تفيد البحث الذي يخص عملية إعداد الموظفين المستجدين؟
Do you have complaints or recommendations on the study that could help new employees with onboarding?
رَدًا 77

اقتراح ان يكون في كل منطقتي شخص يعمل بأعداد الموظفين الجدد ولا يعمل في نفس المكان. فقط للتدريب والمتابعة
علما بأنه لو كان الموظف المدرب يعمل في نفس المجال لما كان التدريب كامل بتجربته شخصيه
ان عملية الإعداد الوظيفي هي واجهة المنظمة للموظف الجديد وتعكس مدى جدية المنظمة واحترافيتها وعليه يجب التركيز فيها والبحث على الطرق الإبداعية لتوصيل أفكار و رؤية الشركة و عكس مدى احترافيتها للموظف الجديد
مثال : توكيل احد الموظفين القدامى للتوجيه والإرشاد في فترة التجربة و حرص المنظمة على ارسال استبيانات في الاسابيع الأولى لقياس مدى جودة الإعداد الوظيفي و تحسينه مع الوقت
اهمية وجود خطة واضحة للموظف الجديد وتقرغ شخص مباشر معه للإجابة على كل تساؤلاته
الموظف الجديد يحتاج فريق عمل يُرحب به ويحتاج " بوكس ترحيبي " ليبدأ ب إيجابيه ومدير مباشر او شخص يكون علو تواصل معه خلال أول اسبوعين الى شهر لأي استفسار
شكراً لسهولة ووضوح الاسئلة وارجو ان يتم اخذ عملية الإعداد بجدي في الشركات
بحكم فتح على شجون الماضي .. قد تشدق المنظمات منذ قديم الازل باهمية البرامج التدريبية والإرشادية ولكن الواقع غير ذلك.. شكراً لهذا البحث الجميل استمروا وفقكم الله