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Remote onboarding and beyond: Fostering organizational citizenship behavior through psychological channels

Abstract

Aim/purpose – The purpose of this paper is to investigate the influence of remote onboarding practices on organizational citizenship behavior. This study addresses the gap in understanding how remote onboarding influences employees' behavior through psychological processes.

Design/methodology/approach – The study utilizes a quantitative research approach, analyzing data collected from 608 respondents through structured surveys. It employs a serial mediation process to explore the roles of psychological contracts and psychological ownership in the relationship between remote onboarding and organizational citizenship behavior.

Findings – The study reveals that remote onboarding programs have a significant impact on organizational citizenship behavior by fostering a psychological contract and psychological ownership. These factors act as mediators, linking effective onboarding practices to enhanced employee organizational citizenship behavior.

Research implications/limitations – The findings provide valuable insights into management practices, highlighting the importance of prioritizing comprehensive digital onboarding strategies for organizations. However, the study's reliance on self-reported data may introduce biases, and future research should consider conducting longitudinal studies to validate the results.

Originality/value/contribution – This research contributes to the existing literature on social exchange theory and social identity theory by elucidating the psychological mech-

anisms that connect remote onboarding to organizational citizenship behavior. It offers practical recommendations for enhancing digital onboarding processes to promote employee engagement and improve organizational outcomes.

1. Introduction

The modern workplace has undergone an unprecedented transformation, primarily driven by the rise of remote work. The change has been accelerated by global events, such as the COVID-19 pandemic and advancements in digital workplace technologies, which have led to significant differences in employee onboarding processes (Cesário & Chambel, 2019). Organizations have increasingly relied upon virtual onboarding to induct new employees, with more than 58 percent of companies applying these practices in their remote and hybrid work arrangements, according to a McKinsey & Company report (2023). While the remote onboarding process proves to be flexible and accessible, it also presents equally significant challenges, particularly regarding socialization, engagement, and long-term commitment to the organization (Santhanam & Balaji, 2023). Although remote onboarding has gained considerable popularity, its effectiveness in influencing employee attitudes and behaviors, particularly in relation to the development of organizational citizenship behavior, remains an area that has not been extensively explored.

One of the essential components of successful onboarding is the creation of psychological contracts – the unwritten expectations and obligations formed between employees and organizations that shape an employee's sense of belonging and commitment (Caldwell & Peters, 2016). When psychological contracts are fulfilled, they create an atmosphere of psychological ownership, which in turn enhances the individual's motivation to contribute to the organization's success (Ucar et al., 2021). Since psychological ownership has a positive relationship with organizational citizenship behavior (Rodeghero et al., 2021), understanding how remote onboarding influences the formation of psychological contracts and ownership will serve to enhance engagement in remote work settings.

While onboarding has been well-studied, literature is scarce on its remote counterpart and its interaction with psychological contracts, psychological ownership, and organizational citizenship behavior. Most available studies focus on offline onboarding (Klein & Polin, 2012), providing limited consideration of

how remote onboarding affects the psychological processes of employees. Moreover, the pathway from psychological contract formation to psychological ownership remains mostly unexplored despite earlier discussions on this relationship. Previous studies have primarily relied on social identity theory (SIT) to describe the inner workings of onboarding processes (Saks & Gruman, 2011; Scheepers & Ellemers, 2019). However, empirical investigations into the mechanisms by which remote onboarding fosters organizational citizenship behavior have been lacking. The present study addresses these gaps by employing a dual-theoretical framework to analyze how digital onboarding influences employees' sense of organizational belonging and discretionary behaviors in the workplace, thereby examining the relationship from the perspectives of social identity and social exchange theories (Saks & Gruman, 2011).

The primary purpose of this study is to evaluate the effectiveness of remote onboarding programs in fostering the development of psychological contracts and psychological ownership within the organization, and ultimately, how these factors influence employees' organizational citizenship behavior. Specifically, this study aims to: examine how remote onboarding influences the formation of the psychological contract between employees and organizations, investigate the impact of psychological contract fulfillment on the development of psychological ownership, assess the influence of psychological ownership on employees' engagement in organizational citizenship behavior and develop and validate a sequential mediation model explaining the relationship between remote onboarding, psychological contracts, psychological ownership, and organizational citizenship behavior.

This work theoretically bridges the gap in research on social exchange and SIT by studying psychological attachments and how employees develop them in digital work contexts. This study also offers a nuanced understanding of how virtual onboarding affects employees' sense of belonging and commitment, ultimately influencing their discretionary behaviors in the workplace. The findings offer practical implications for HR personnel and organizational leadership, providing concrete data for developing effective remote onboarding programs. Understanding the psychological mechanisms behind the development of organizational citizenship behavior in remote work settings will enable organizations to enhance new hires' sense of connectivity, commitment, and long-term performance. The study's findings may further inform HR policies that promote organizational citizenship behavior, which is especially crucial in fostering collaboration and productivity in remote work environments.

The remainder of this paper is structured as follows: Section 2 presents a review of the existing literature on remote onboarding, psychological contracts, psychological ownership, and organizational citizenship behavior. Section 3 out-

lines the research methodology, including data collection and analytical techniques. Section 4 presents the findings, followed by theoretical and practical implications, and concludes in Section 5 with recommendations for future research.

2. Literature review

2.1. Theoretical perspective

Social exchange theory and SIT serve as the foundational ideas for understanding the relationship between onboarding, psychological contract, psychological ownership, and organizational citizenship behavior. These theories shed light on how individuals interact with one another in organizational contexts and how such interactions influence their attitudes and behaviors. The theory of social exchange posits that societal interactions are driven by the exchange of benefits between individuals and organizations (Cropanzano et al., 2017). The concept of reciprocity and reciprocal obligations, in which individuals behave positively towards an organization when they perceive favorable exchanges, is a central feature of that theory. In addition, it proposes that psychological ownership, characterized by a sense of investment and belonging, plays a crucial role in shaping employee engagement and commitment (Saks & Gruman, 2011).

In addition to social exchange theory, SIT throws light on how individuals construct their identities through their association with specific social networks. According to this theory, individuals are seeking positive social identity by aligning themselves with groups that enjoy good social standing. This identification with the organization can lead to boosted motivation, commitment, and positive behaviors such as organizational citizenship behavior (Scheepers & Ellemers, 2019). While various theoretical perspectives, including self-determination theory and organizational support theory, have been employed in studies concerning psychological ownership, Zhang et al. (2021) argued that psychological ownership can be conceptualized as an arrangement of social exchange between employees and their organizations. Employees invest themselves in their jobs, experiencing a sense of belonging and identity with the organization, which supports both social identity and social exchange theory frameworks (Rodeghero et al., 2021). This theoretical framework offers a comprehensive understanding of how the onboarding experience shapes an employee's view of their relationship with the organization and influences their involvement in organizational citizenship behavior by integrating these theories.

2.2. Constructs under study

Remote onboarding is a structured process that helps integrate new hires, primarily those who work from home or other remote locations, through digital platforms. It enables the new hires to acquire the necessary knowledge and skills essential for effective job performance in virtual environments (Rodeghero et al., 2021). According to Klein and Polin (2012), onboarding refers to a collection of official and informal procedures and initiatives implemented by enterprises to help newly hired employees acclimate to either a physical or virtual work environment. A virtual work environment is a digitally simulated space where users can interact, communicate, and perform tasks without being physically present, for example, remote work platforms like Microsoft Teams, Zoom, Slack, and Google Meet. It plays a crucial role in organizational socialization, encouraging conformity with the company's goals and culture, accelerating the achievement of high-performance levels, and hastening the integration of newcomers (Bauer & Erdogan, 2010). Remote onboarding is a strategy that provides new hires with the tools, resources, and training they need to perform their tasks effectively in a virtual environment by clearly defining their tasks and objectives (Pappas, 2023; Santhanam & Balaji, 2023; Williamson Yarbrough & Ramos, 2023).

The framework proposed by Cesário and Chambel (2019) provided an overview of the elements of onboarding programs, either virtual or offline, including corporate welcome, management welcome, and co-worker welcome. At the macro level, through digital platforms, recruits are introduced to the organization's culture, including its core values and overarching objectives, setting the stage for alignment with the company's strategic direction and identity. At the intermediate level of functional integration, micro-level orientation focuses on individual roles, responsibilities, and reporting structures, which are facilitated by human resources departments and senior management, providing insight into specific functional areas. The involvement of senior managers in remote onboarding is of paramount importance to ensure clear communication of roles, promote support, and facilitate social integration within the virtual environment (Cesário & Chambel, 2019). Co-workers, who share information concerning the organization's culture and facilitate relationship building to increase recruits' commitment to satisfaction, have also played a significant role in remote onboarding by contributing to this development (Rollag et al., 2005).

A psychological contract refers to the set of expectations and duties that individuals have in their professional relationship with an organization. It is an informal, unwritten agreement that defines the mutual obligations between the employer and the employee, which have a significant impact on their perceptions

and interactions in the workplace (Santos et al., 2024). Psychological contract is defined as "Individual beliefs relating to the conditions of an exchange agreement between individuals and their organization" (Caldwell & Peters, 2016). It is a subjective construct shaped by organizational influences, individual experiences, and communication practices. In the context of contractual agreements or obligations between employers and workers, this transaction includes employment responsibilities, wages, benefits, and working conditions (Powers, 2023). However, both implied and explicit expectations, based on the societal and emotional dimensions of a working relationship, are part of an interactional psychological contract.

Psychological ownership encapsulates the subjective feeling of possessing and being emotionally invested in an object, idea, or relationship (Zhang et al., 2021). The psychological ownership of employees in their work and the organization to which they belong influences their behavior and attitudes (Ucar et al., 2021). Within the framework proposed by Van Dyne and Pierce (2004), psychological ownership is characterized by three dimensions: territoriality, responsibility, and attachment. Territoriality refers to an individual's sense of ownership over their work responsibilities and the organizational territory to which they are assigned. Responsibility is linked to accountability and an individual's level of task adherence. Attachment is the psychological bond and sense of belonging people have with their work or companies.

Organizational citizenship behavior encompasses discretionary actions by employees that go beyond the explicit requirements of their job roles, thereby facilitating the efficient performance of the organization (Podsakoff et al., 2000). Podsakoff et al. (1990) delineated the dimensions of organizational citizenship behavior, which include: conscientiousness, characterized by behaviors such as punctuality, avoiding unnecessary distractions, maintaining high attendance, and refraining from taking unnecessary leaves or personal calls; altruism – it is voluntarily assisting others in completing tasks within the organization (examples include helping recruits during onboarding, assisting colleagues with their workloads, and providing training on machinery); sportsmanship – refers to withstanding challenges at work without complaint, it involves supporting a positive attitude and prioritizing the group's interests over personal concerns; civic virtue – it represents the organization in broader contexts, such as attending meetings and staying informed about organizational issues, actively participating in discussions, expressing opinions on strategic plans, and reporting potential threats or unusual activities; courtesy – the proactive behaviors aimed at counteracting problems or conflicts, this includes discussing with others before making decisions and valuing diverse viewpoints to foresee and mitigate potential issues (Podsakoff et al., 2000).

This study controls for gender, age, educational qualification, and the year of joining the organization to measure their potential influence on organizational citizenship behavior, while ensuring that demographic or background variables do not confound the relationship between remote onboarding and organizational citizenship behavior. As indicated in previous research, gender influences discretionary behavior because men and women exhibit different patterns of behavior, with the exception of women, who tend to display more helping behavior (Podsakoff et al., 2000). Age is significant as it determines work attitudes and, most importantly, the flexibility and level of involvement in organizational citizenship behavior. Older employees, due to their experience and greater commitment, may exhibit different levels of discretionary behaviors compared to younger employees (Ng & Feldman, 2010). Similarly, educational qualifications are controlled, as education level can affect an employee's perception of organizational processes, adaptability to online onboarding, and willingness to engage in extra-role behaviors. The more educated an employee is, the better their chances will be to demonstrate strength in problem-solving skills and work engagement, both of which will impact organizational citizenship behavior (Podsakoff et al., 2000). Lastly, tenure in the organization is addressed, as employees with longer tenure tend to develop a greater psychological attachment and understanding of organizational norms, which can affect their organizational citizenship behavior. By controlling for these variables, the study ensures that variations in organizational citizenship behavior are explicitly attributed to remote onboarding rather than personal or demographic factors, thus enhancing the validity and robustness of the findings.
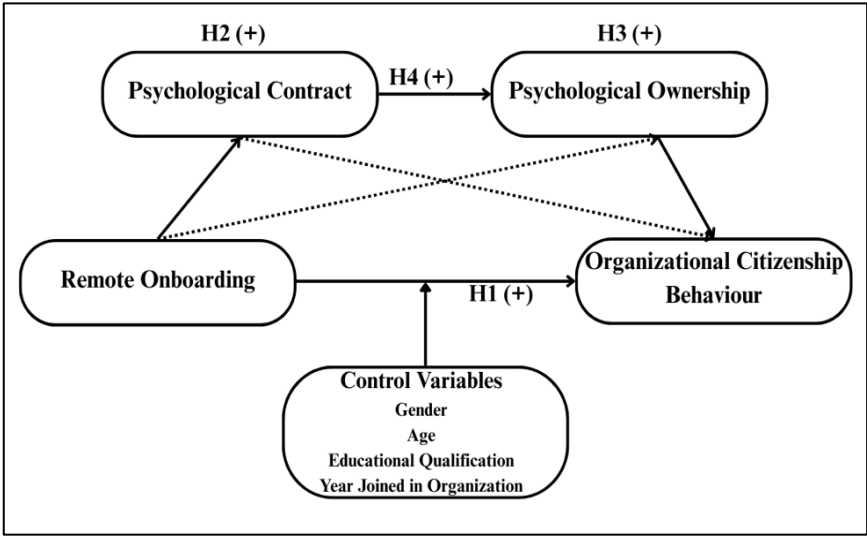
2.3. Relationship between remote onboarding and organizational citizenship behavior

Remote onboarding aims to acclimate new hires to the organization's culture, which encompasses its principles, traditions, and values. With the backing of this immersive approach, employees may more easily adapt to the organization and align their behaviors with the expectations. Adequate organizational socialization, i.e., introducing employees remotely into the organization, extends beyond traditional job requirements and influences employee behavior in ways that are beneficial for organizations (Rodeghero et al., 2021). Such conduct may include actions such as assisting co-workers, offering to participate in initiatives, and offering valuable feedback (Colvin, 2023). Witnessing colleagues engage in Organizational Citizenship Behaviors motivates newly hired individuals to emu-

late similar actions (Bauer & Erdogan, 2010). Additionally, positive social experiences are associated with increased organizational commitment, which in turn leads to enhanced organizational citizenship behavior. Remote onboarding programs provide a context that fosters organizational citizenship behavior through skill development, social networking, and access to resources. Remote onboarding fosters perceived organizational support by providing employees with resources, mentorship, and clear role expectations, strengthening their psychological contract and encouraging reciprocal engagement in organizational citizenship behavior. Simultaneously, it enhances organizational identification by integrating employees into the company's culture, leading them to internalize organizational goals and voluntarily contribute to its success through organizational citizenship behavior. Based on the arguments put forward and the research model (Figure 1) proposed, it is assumed that remote onboarding programs have a positive correlation with organizational citizenship behavior.

H1: Remote onboarding will positively influence organizational citizenship behavior.

Figure 1. Research model

Source: Authors' own elaboration.

2.4. Psychological contract as a mediator between remote onboarding and organizational citizenship behavior

Psychological contracts play a crucial role in shaping employees' attitudes and behavior towards their organization in remote work scenarios. To ensure clarity, fairness, and mutual understanding between staff and the organization, Powers (2023) stated that remote onboarding processes are a key opportunity for establishing and aligning such psychological contracts (Rodeghero et al., 2021). Through open communication, ethical actions, and the development of reasonable expectations, remote onboarding can foster beneficial perceptions of justice and fairness, laying the groundwork for positive psychological contracts (Caldwell & Peters, 2016). Effective onboarding programs will help ensure that promises made throughout the hiring process are kept and that adequate standards are established (Kegans et al., 2012). When new employees perceive a congruence between their expectations and the actual work environment facilitated by remote onboarding, they are more likely to develop positive psychological contracts with the organization (Bauer & Erdogan, 2010). These positive psychological contracts, characterized by mutual trust and reciprocity, serve as catalysts for job satisfaction and ultimately, organizational citizenship behavior (Santos et al., 2024).

The fulfillment of the psychological contract fosters the feeling of reciprocity and obligation between employees and the organization. This reciprocity encourages people to engage in organizational citizenship behavior as a means of repaying the organization for meeting their expectations. Furthermore, employees' willingness to act in ways that are beneficial for the organization is further enhanced by increased levels of trust arising from a fulfilled psychological contract and exceeding their usual job requirements. Remote onboarding strengthens the psychological contract through reciprocal exchanges between employees and the organization. SIT suggests that a fulfilled psychological contract enhances organizational identification, motivating employees to engage in organizational citizenship behavior. Drawing upon these arguments, it is hypothesized that:

H2: Psychological contract will mediate the association between remote onboarding and organizational citizenship behavior.

2.5. Psychological ownership as a mediator between remote onboarding and organizational citizenship behavior

Remote onboarding can help foster psychological ownership by forming a sense of personal investment, autonomy, and a meaningful connection with organizational goals. When onboarding processes are designed to involve employees in goal-setting, knowledge-sharing, and collaborative learning, individuals are more likely to internalize the organization's values and perceive their role as integral to its success (Rodeghero et al., 2021; Zhang et al., 2021). This ownership mindset enhances intrinsic motivation and encourages employees to act voluntarily in support of collective objectives, manifested through Organizational Citizenship Behavior (Bauer & Erdogan, 2010; Nabeel et al., 2023; Park et al., 2013; Pierce et al., 2001). Social exchange theory explains this relationship as a form of reciprocal engagement: organizations that empower employees cultivate psychological investment, which is reciprocated through discretionary effort. Similarly, SIT suggests that ownership aligns personal and organizational identities, thereby reinforcing behaviors that benefit the collective (Saks & Gruman, 201). Given these observations, it is proposed that:

H3: Psychological ownership will mediate the association between remote onboarding and organizational citizenship behavior.

2.6. Sequential mediation by psychological contract and psychological ownership

Remote onboarding, when well-planned, becomes the first step in creating relational clarity, joint expectations, and feelings of organizational support. With guided communication, well-defined roles, and regular managerial participation, remote onboarding enables new hires to understand organizational values and expectations, thereby shaping the formation of a psychological contract (Rodeghero et al., 2021). This initial exchange establishes the tone of perceived fairness, trust, and mutual obligation, building blocks of the psychological contract (Caldwell & Peters, 2016). When psychological contracts are honored – i.e., when promises made by the organization in the early stages align with employees' initial experiences – they foster greater emotional and cognitive involvement in the organization. Such perceived congruence promotes psychological ownership (Millward & Hopkins, 1998; Santos et al., 2024). The fulfillment of the psychological contract gives rise to a sense of psychological ownership, promoting constructive attitudes and behaviors toward an organization, such as

organizational citizenship behavior (Rahmayanti & Kurniawan, 2020). Drawing from social exchange theory, remote onboarding creates an implicit contract in which employees feel obligated to reciprocate for organizational support, leading to the development of the psychological contract, which then fosters a sense of ownership. According to SIT, as employees internalize organizational values through remote onboarding, the sequential development of psychological contract and psychological ownership strengthens their identification with the organization, motivating them to engage in organizational citizenship behavior as a way of reinforcing their role within the group. The research model is represented in Figure 1. Given these insights, it is posited that:

H4: Psychological contract and psychological ownership will sequentially mediate the association between remote onboarding and organizational citizenship behavior.

3. Research methodology

3.1. Procedure and sample

The study focuses on recruits who joined the organization in 2022 and 2023 and participated in the remote, online onboarding program. Since the total population of remote-onboarded recruits during this period was not known, it is treated as an infinite population. While a sample size of 385 is generally considered sufficient, based on Cochran's formula (1977), for achieving representative and generalizable results for an infinite population, assuming a 95% confidence level and a 5% margin of error, this study collected data from 608 newly recruited employees through convenience sampling. These employees joined various organizations across different sectors in India in 2022 and 2023, after graduating from college in the respective years, ensuring that the sample is representative of the broader population of recruits. To reach potential participants, college alumni associations were approached to distribute Google Forms to their alumni, ensuring that respondents were informed about the study's purpose. A pilot study involving 45 respondents was conducted to gauge the reliability of the data-gathering instrument. Since the results were satisfactory, no further changes were made in the questionnaire, and it was circulated to the respondents.

The demographic distribution of the final sample was as follows: 58% of the respondents were male and 42% were female. Among the respondents, 7% belong to the 18- to 20-year age cluster, 87% belong to the 21- to 26-year age cluster, and 6% belong to the 27- to 32-year age cluster. Considering the educa-

tional qualifications, 2% of the respondents hold diplomas, 91% are undergraduates, and 7% are postgraduates. Twelve percent of the respondents joined the organization in 2022, and 86% joined in 2023. Considering the organizational sector, the majority of respondents, 62%, were working in software, 21% in engineering and construction, 6% in the FMCG sector, 3% in the Telecommunications sector, 1% in Financial services, and 7% in other industrial sectors. Additionally, considering the mode of orientation, the majority of respondents (76%) attended through the online-only mode, 23% through the hybrid mode, and 1% participated in the orientation through the offline mode. The data revealed that 60% of respondents participated in onboarding sessions through Microsoft Teams, 20% via Zoom, 10% through Cisco Webex, 7% through organization-specific platforms, and 3% other platforms.

3.2. Measures

The questionnaire used to collect data from the respondents is divided into five parts. In the first part, demographic information about the respondents, including gender, year of joining the organization, organization name, sector to which the organization belongs, designation, age, and educational qualifications, is captured. The scale developed by Cesário and Chambel (2019) was used to capture the respondents' remote onboarding details. The remote onboarding comprises three variables: the corporate welcome, the management welcome, and the coworker welcome, each consisting of four, four, and five items, respectively. A sample item is "My supervisor provided adequate support to facilitate my integration". The Cronbach's alpha for the onboarding construct is 0.79 for corporate welcome, 0.75 for management welcomes (after removing one item due to a lower reliability value), and 0.86 for co-workers welcomes, respectively. The scale established by Millward and Hopkins (1998) is employed to measure the psychological contract construct, which consists of thirteen items. The sample item is "I expect to gain promotion in this company with a length of service and effort to achieve goals." The Cronbach's alpha is 0.85. To measure psychological ownership, the scale established by Van Dyne and Pierce (2004) is used, consisting of seven items. The sample item is "I feel a very high degree of personal ownership for this organization," and the Cronbach's alpha is 0.85. The details of the scale and its sources are presented in Table 1 (the scales are attached in Appendix 1).

Table 1. Table showing the measures with reliability

Construct	Variable	Scale source	No. of items	Cronbach's alpha
Remote on-boarding	Corporate welcome	Cesário and Chambel (2019)	4	0.79
	Management welcome		4	0.75
	Co-workers welcome		5	0.86
Psychological contract	–	Millward and Hopkins (1998)	13	0.85
Psychological ownership	–	Van Dyne and Pierce (2004)	7	0.85
Organizational citizenship behavior	Conscientiousness	Podsakoff et.al. (1990)	5	0.81
	Sportsmanship		5	0.78
	Civic virtue		4	0.72
	Courtesy		5	0.71
	Altruism		5	0.70

Source: Authors' own elaboration.

The organizational citizenship behavior is measured using a questionnaire developed by Podsakoff et al. (1990), which comprises five variables: conscientiousness, sportsmanship, civic virtue, courtesy, and altruism, each consisting of five, five, four, five, and five items, respectively. The sample item is "I obey company rules and regulations even when no one is watching". The Cronbach's alpha for the organizational citizenship behavior construct of conscientiousness, civic virtue, courtesy, sportsmanship, and altruism is 0.81, 0.78, 0.72, 0.71, and 0.70, respectively. Except for demographic variables, all other items are measured on a five-point scale, from strongly disagree to agree strongly. Table 1 presents the measures, along with their dimensions, the source from which the scale was adapted, the number of items, and Cronbach's alpha values.

3.3. Statistical analysis

SPSS 21 was used to analyze the collected data. SPSS 21 was used to analyze the data, as it is a widely recognized statistical software to perform a variety of descriptive and inferential statistical analyses. For model evaluation, a structural equation model (SEM) using AMOS was employed due to its ability to assess complex relationships between observed and latent constructs, making it ideal for testing the fit of the proposed conceptual model and understanding the direct and indirect effects (IE) within the data. The path coefficients are used to understand the structural model fit. Hierarchical regression was employed to establish the connection between the constructs under study. The Hayes's process macro

is employed to analyze the mediation effects of the constructs under study. Apart from the qualitative method of explaining the research objective and ensuring genuine answers to questions by the respondents, the common method bias in the study is controlled with the help of Harman's one-factor analysis. The test yielded a value of 39.21%, which is less than the advocated limit of 50%. This result, when applied to the onboarding construct, suggests that no standard method bias is present.

4. Findings

The measurement model fits the data of the constructs under study, with $\chi^2(190) = 336.12$, relative $\chi^2(190) = 1.77$, p-value = 0.002, GFI = 0.953, CFI = 0.965, and RMSEA = 0.036. Similarly, the structural model aligns with the data on the constructs under study, with $\chi^2(192) = 385.44$, relative $\chi^2(192) = 2.00$, p-value = 0.002, GFI = 0.945, CFI = 0.954, and RMSEA = 0.041 (Mia et al., 2019). The results are represented in Table 2.

4.1. Confirmatory factor analysis

The reliability and validity of the instrument are analyzed with CFA. The scores of the confirmatory analysis are given in Table 2.

Table 2. Confirmatory factor analysis results

Constructs	Chi-square with df	P value	Relative Chi-square	GFI	CFI	RMSEA
Remote on-boarding	64.128 (40)	0.009	1.603	.981	.989	.032
Psychological contract	26.177(17)	.071	1.540	.990	.993	.030
Psychological ownership	4.659 (3)	.199	1.553	.997	.999	.030
Organizational citizenship behavior	160.244(152)	.308	1.054	.975	.998	.009
Measurement model	336.12 (190)	.002	1.77	.953	.965	.036
Structural model	385.44 (192)	0.002	1.603	.945	.954	.041

Source: Authors' own elaboration.

While some models registered p-values below 0.05, the model-fit indices presented in the table indicate an acceptable fit for both measurement and structural models. Chi-square (χ^2), being sensitive to sample size and giving significant results in large samples, may not be a good measure for model fit but should instead be determined by other indices relative to the chi-square (χ^2/df), GFI, CFI, and RMSEA as proposed by Browne and Cudeck (1992). The Relative Chi-Square (χ^2/df) findings indicate that all models would satisfy the requirement of being ≤3 suggested by Kline (2015), thereby asserting the acceptability of model fit. The GFI is situated between 0.945 and 0.997, exceeding the threshold of ≥ 0.90 for a good fit, as specified by Hu and Bentler (1999). In addition, all CFI values also surpass the .950 mark and consequently satisfy the ≥.95 expectation put forward by Bentler (1990). Additionally, the RMSEA values are well below 0.05, ranging from 0.009 to 0.041, indicating model fitting beyond the critical level of ≤ 0.06 for good fitness (Browne & Cudeck, 1992). Based on these several fit indices, we conclude that the measurement and structural models yield a good overall fit, notwithstanding the significant Chi-square test p-values. Thus, this reinforces the need to rely on multiple fit indices in addition to the Chi-square test when assessing SEM models.

4.2. Descriptive statistics

Table 3 presents the means (M), standard deviations (SD), and correlation coefficients among key study constructs, including demographic factors (age, gender, education, years of experience), mode of work (mode), technological familiarity (tech), remote onboarding, psychological ownership, psychological contract, and organizational citizenship behavior. The mean age of the participants is 21.71 years (SD = 1.35), with a slight skew in the gender distribution (M = 0.42, SD = 0.493). Education (M = 1.06, SD = 0.316) is significantly correlated with age (r = 0.686, $p < 0.01$), indicating that older participants tend to have higher educational levels. The mode of work is positively correlated with education (r = 0.43, $p < 0.05$) and technological familiarity (r = 0.721, $p < 0.001$), indicating that individuals with higher levels of education are more likely to engage in technologically driven work environments. Remote onboarding is significantly associated with both technological familiarity (r = 0.581, $p < 0.01$) and work mode (r = 0.662, $p < 0.01$), implying that remote onboarding experiences improve with higher technological exposure. The psychological contract is moderately correlated with remote onboarding (r = 0.318, $p < 0.01$), and psychological ownership is positively linked with organizational citizenship

behavior (r = 0.272, p < 0.01), suggesting that employees with a stronger psychological contract and ownership mindset are more likely to exhibit citizenship behaviors. These findings indicate key relationships between technology, onboarding experiences, and employee attitudes. The normality assessment results are presented in Appendix 2.

Table 3. Descriptive statistics

Varia-ble	M	SD	Age	Gen	Edu	Year	Mode	Tech	ROB	PO	PC	OCB
Age	21.71	1.35	1									
Gen	0.42	0.493	–0.003	1								
Edu	1.06	0.316	.686**	0.04	1							
Year	0.96	0.2	–0.058	0.04	–0.083	1						
Mode	0.63	0.55	0.294	0.32	0.43 *	0.02	1					
Tech	3.92	0.8	0.32	0.13	0.48 **	0.02	.721 ***	1				
ROB	44.6	5.17	–0.029	0.008	–.112 **	0.02	.662 **	.581 **	1			
PC	50.86	7.95	0.051	0.042	–.073	0.05	0.021	.481 **	.318**	1		
PO	20.29	3.6	–0.051	–0.034	–.076	0.06	0.08	0.321	.295**	.245	1	
OCB	74.88	9.1	0.076	0.03	–0.045	0.06	0.21	0.081	.333**	.692**	.272**	1

Notes: n = 608, 1 – mean, 2 – standard deviation, 3-10 – correlation results, ROB – remote on-boarding, PO – psychological ownership, PC – psychological capital, OCB – organizational citizenship behavior.

Source: Authors' own elaboration.

4.3. Convergent and discriminant validity

Convergent validity was assessed using CFA, and the composite reliability (CR) and Cronbach's alpha values are either near or exceed the recommended value of 0.70. Table 4 presents key measures for assessing the reliability, convergent validity, and discriminant validity of the constructs: remote onboarding, psychological contract, psychological ownership, and organizational citizenship behavior. Convergent validity is evaluated using Cronbach's alpha (α), CR, and average variance extracted (AVE) (Fornell & Larcker, 1981). The Cronbach's alpha indices are found to range between 0.75 and 0.85, indicating that the internal consistency of the scales is acceptable (Hair et al., 2019). Similarly, the values of CR were established to be between 0.70 and 0.85, greater than or equal to, exceeding the threshold of ≥0.70, which confirmed its internal consistency. The measurement model, structural model, and factor loadings are presented in Appendices 3, 4, and 5, respectively.

Table 4. Convergent and discriminant analysis results

Variables	α 1	CR 2	AVE 3	4	5	6	7
ROB	0.79	0.75	0.51	0.51	0.34	0.36	0.38
PC	0.85	0.83	0.35	0.58	0.35	0.06	0.83
PO	0.85	0.85	0.54	0.60	0.25	0.54	0.07
OCB	0.75	0.7	0.42	0.62	0.91	0.27	0.41

Note: 1 – Cronbach's α reliability; 2 – construct's composite reliability; 3 – AVE (for each construct – Nos 4 to 7 – is shaded along the diagonal); beneath diagonal values are inter-construct correlations, and over the diagonal values, i.e., AVE, are squares of correlations: ROB – remote onboarding, PO – psychological ownership, PC – psychological capital, OCB – organizational citizenship behavior.

Source: Authors' own elaboration.

With the aid of Fornell and Larcker's (1981) test and AVE, discriminant validity is proved. Discriminant validity is confirmed when the AVE values exceed the square root of the intercorrelations between the latent constructs. The AVE results presented in Table 4 indicate that the values for psychological contract (0.35) and organizational citizenship behavior (0.42) are below the suggested threshold of 0.50, which suggests weak validity. Nevertheless, their CRs are above 0.70, indicating that reliability is satisfactory. In this table, the square root of the AVE for organizational citizenship behavior (0.62) is lower than some of its inter-construct correlations, indicating potential concerns about discriminant validity. Similarly, psychological contract (0.35) and psychological ownership (0.54) show moderate differentiation. The AVE values below 0.50 may still be acceptable if the CR of the construct exceeds 0.60, indicating adequate internal consistency (Bagozzi & Yi, 1988). Despite concerns regarding these constructs, which can be theoretically justified, the measurement items attached to them are instrumental in capturing key dimensions. Therefore, while recognizing these validity limitations, the study progresses to further analysis.

4.4. Hypothesis testing

Hypothesis 1 states that the onboarding program will have a positive correlation with organizational citizenship behavior, as indicated by B = 0.577 and p < 0.01. The above values are in addition to controlling for the control variables, which include gender, age, educational qualification, and year of joining the organization. The values of estimate = 1.848, standard error = 0.442, critical ratio = = 4.185, and p-value <0.001. However, the control variable gender was insignificant in the relationship between remote onboarding and organizational citizenship behavior with B = 0.628· p > 0.05, age is significant with B = 1.125 and

$p < 0.01$, educational qualification is significant with B = –3.083, $p < 0.05$, and the year an employee joined in the organization is insignificant with B = 2.486, $p > 0.05$. The results are provided in Table 5.

Table 5. Hypothesis 1 results

Organizational Citizenship Behavior		
Constructs	1st Step (control variables)	2nd Step
Constant	47.586***	25.059***
Gender	0.703	0.628
Age	1.357***	1.125***
Educational qualification	–4.759***	–3.083**
Year joined the organization	2.76	2.486
Remote on-boarding		0.577***
Estimate, standard error, critical ratio (CR), p-value		1.848, 0.442, 4.185***
R^2	0.024	0.129
▲R^2	0.024**	0.105***
F	F (4,601) = 3.679**	F (1,600) = 72.467***
Hypothesis 1		Accepted

Note: ** $p < 0.05$, *** $p < 0.01$.

Source: Authors' own elaboration.

4.5. Mediation results

H2 states that the psychological contract will mediate the association between the remote onboarding program and organizational citizenship behavior, and it proved to be positive and significant. The unstandardized indirect coefficient (IE) B = 0.365, $P < 0.01$, and the bootstrap confidence interval (CI) of the unstandardized indirect effect at 95%, achieved with the use of 10,000 bootstrap samples, was 0.266 to 0.468 (zero does not lie between the values), proving mediation. Sobel's normal theory test for indirect effect yielded the result of $z = 7.639$, effect = 0.365, SE = .047, and $P < 0.01$, which also supports mediation, thus proving that the psychological contract will mediate the association between the remote onboarding program and organizational citizenship behavior.

H3 states that psychological ownership will mediate the relationship between the remote onboarding program and organizational citizenship behavior, and it proved to be positive and significant. The unstandardized IE B = 0.099, $P < 0.01$, and the bootstrap CI of the unstandardized indirect effect at 95%, achieved with the use of a 10,000 bootstrap sample, was 0.056 to 0.156 (zero does not lie between the values), proving mediation. Sobel's normal theory test for indirect effect yielded the results of $z = 4.062$, effect = 0.099, SE = 0.024,

and P < 0.01, which also supports mediation, thus proving that psychological ownership will mediate the association between onboarding programs and organizational citizenship behavior.

4.6. Sequential mediation results

The psychological contract and psychological ownership will mediate the association between remote onboarding programs and organizational citizenship behavior (H4). This mediation was sequentially tested using Hayes's process macro, which yielded a positive and significant result. The unstandardized indirect effect B was 0.008, and the bootstrap CI of the unstandardized indirect effect at 95%, achieved with the use of 10,000 bootstrap samples, was 0.003 to 0.018 (zero does not lie between the values), proving sequential mediation. All the IE are depicted in Table 6.

Table 6. Mediation results

Si. No.	Indirect effects	Effect	Boot SE	Boot LLCI	Boot ULCI
1	Total effects	.401	.057	.292	.514
2	IE 1 (ROB → PC → OCB) – Hypothesis 2	.365	.047	.266	.468
3	IE 2 (ROB → PC → PO → OCB) Hypothesis 4	.008	0.04	.003	.018
4	IE 3 (ROB → PO → OCB) Hypothesis 3	.009	.024	.056	.156

Note: ROB – remote on-boarding, PO – psychological ownership, PC – psychological capital, OCB – organizational citizenship behavior.

Source: Authors' own elaboration.

The results of all the mediation paths are positive and significant. The indirect positive path runs from remote onboarding to organizational citizenship behavior through psychological contracts and psychological ownership. There is also a serial mediation that runs from remote onboarding to psychological contract to psychological ownership to organizational citizenship behavior. The results of the research model are presented in Figure 2.

Figure 2. Results of the research model
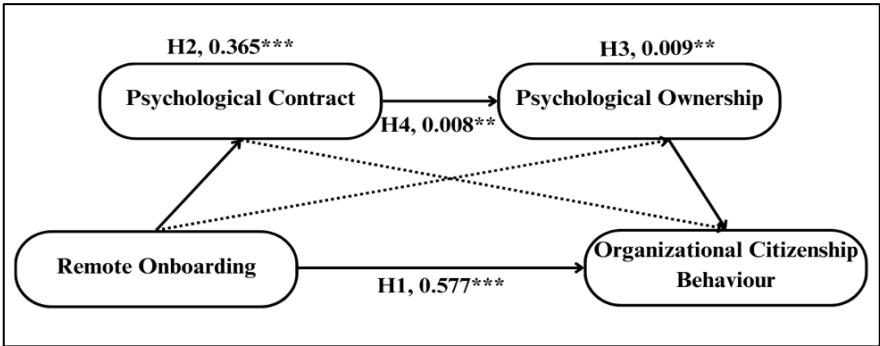
Source: Author's own elaboration.

5. Discussion

The results of the analysis indicate that among the four control variables includ-
ed in the study – gender, age, educational qualification, and year joined the or-
ganization – only age and educational qualification have a statistically signifi-
cant influence on organizational citizenship behavior. In contrast, the variables
of gender and year of joining the organization are found to be insignificant.
Gender found to be non-significant implying that there is no significant differ-
ence between the discretionary behaviors of male and female employees in terms
of remote onboarding, which is suggestive of the changing nature of workplace
dynamics, where the differences in workplace behavior between genders do not
have much scope today because of the increasing equality in gender, equal ac-
cess to and availability of technology, and standardization of the onboarding
processes across genders (Podsakoff et al., 2000). Age proved to be a significant
variable, with older respondents being more likely to exhibit discretionary be-
haviors after remote onboarding. The reasoning appears sound because maturity,
along with age and sense of responsibility, could lead an employee to contribute
beyond what is initially defined in formal roles (Ng & Feldman, 2010).
    Conversely, the educational qualification showed a significant negative re-
lationship: Employees with higher educational qualifications may possess great-
er expectations of the organization; may attach lesser importance to the informal
aspects of their roles and career development; and may tend not to engage in any
extra-role behaviors, especially in the case of a remote onboarding program ex-
hibiting limited opportunities for social bonding and identification with the or-
ganization (Podsakoff et al., 2000). The year an employee joined the organiza-

tion was found to be insignificant. This could be because, regardless of when they joined, the onboarding experience and its impact on organizational citizenship behavior are more influenced by current managerial practices and individual attitudes than by the year of joining.

It was found that organizations are greatly dependent on widely available platforms rather than investing in custom-built onboarding systems. However, organizations should focus on custom-built remote onboarding technologies by incorporating AI-driven chat boards for virtual mentorship programs and interactive learning models (Santhanam & Balaji, 2023). These technologies help organizations to fill the gap between physical and remote onboarding experiences. This helps in developing a firm psychological contract.

Remote onboarding influences organizational citizenship behavior, which is proven to be significant in this study, contradicting the findings of Santhanam and Balaji (2023). Remote onboarding leads to a higher level of organizational citizenship behavior for several reasons. First, the inclusiveness of attendance from any location ensures that every employee can participate fully in the onboarding process, regardless of regional limitations. Through the democratization of access to vital organizational information and resources, remote onboarding programs contribute to the development of an inclusive and invested environment within businesses (Liu et al., 2024). Second, remote onboarding programs offer flexibility in the way learning is facilitated, allowing staff to progress at their own pace. Remote onboarding programs foster autonomy and initiative, the main drivers of organizational citizenship behavior, as they offer prospects for self-directed learning and exploration (Cesário & Chambel, 2019). Third, the use of technological advancements plays a vital role in facilitating communication, collaboration, and knowledge sharing among employees. Remote onboarding programs utilize these technologies to offer interactive training sessions, mentorship programs, and online networking opportunities to employees (Rodeghero et al., 2021). By integrating technology, remote onboarding fosters a sense of connection and solidarity among employees, transcending physical boundaries to create mutual support and cooperation.

Fourth, onboarding programs can help to immerse new employees in the organization's culture, which consists of values (and other beliefs) and behavioral patterns, despite being carried out by remote means. Remote onboarding programs foster a deep understanding and respect for organizational culture, which in turn gives workers a shared sense of purpose and dedication, ultimately leading to organizational citizenship behavior. Finally, remote orientation programs enable new hires to interact and engage with mentors, supervisors, and coworkers instantly. Additionally, by introducing new hires to other networks, remote

orientation programs help them stay connected and communicate with their mentors, co-workers, and managers (Colvin, 2023). They are aware of the importance of professionalism, integrity, and commitment to excellence in their work. Consequently, they will be determined to uphold these values and play a positive role in the organization by exceeding their responsibilities (Bauer & Erdogan, 2010). Volunteering for other projects, taking on leadership roles, or actively seeking opportunities for improvement and innovation may be part of this.

The psychological contract explains the underlying mechanism through which remote onboarding influences organizational citizenship behavior, which is proven to be significant in this study. This study partially aligns with the studies conducted by Santos et al. (2024) and Powers (2023), as they have investigated the influence of offline onboarding on organizational citizenship behavior, rather than remote onboarding One of the primary reasons why successful onboarding leads to the establishment of a psychological contract is that it aids in the management of employee expectations (Powers, 2023). Through onboarding, employees gain a clearer understanding of their responsibilities, job expectations, and organizational values (Bradt & Vonnegut, 2009). Effective onboarding programs align employees' expectations with job requirements and foster trust when companies clearly deliver policies and expectations (Powers, 2023). This trust and mutual understanding platform lays the foundation for the development of a psychological contract, thereby strengthening attitudes toward the organization's integrity and motivating organizational citizenship behavior (Suwanti et al., 2018).

As per the results of this study, psychological ownership mediates the relationship between remote onboarding and organizational citizenship behavior. This result aligns with the study by Park et al. (2013) and Van Dyne and Pierce (2004), which investigated the relationship between psychological ownership and organizational citizenship behavior. Employees who feel a strong sense of ownership are more likely to take accountability and contribute beyond their formal roles, thus exhibiting higher levels of organizational citizenship behavior. Furthermore, Ucar et al. (2021) highlighted the role of psychological ownership in linking person-organization fit with individual creativity. When employees perceive value alignment with their organization, it reinforces their sense of ownership and stimulates innovation.

6. Conclusions

The psychological mechanisms of psychological contract and psychological ownership, through which remote onboarding influences organizational citizenship behavior, are tested and found to be significant in this study. When employees perceive consistency between the organization's actions and its stated commitments, it enhances mutual respect and psychological ownership. Moreover, employees are more likely to feel ownership over their roles when they are granted autonomy and provided with opportunities for meaningful work and career growth (Cedeno et al., 2023; Kumar & Chandra, 2023), which, in turn, encourages organizational citizenship behavior.

Based on social exchange theory, the research demonstrated how formal, supportive remote onboarding procedures foster the development of positive psychological contracts between employees and organizations. As SET states, individuals reciprocate favorable organizational treatment with positive behaviors (Cropanzano et al., 2017). When new employees feel that the organization has fulfilled or surpassed their expectations during the onboarding process, they are more likely to establish trust and feel obligated to reciprocate. This psychological contract serves as the basis for a greater emotional and cognitive commitment to the organization. Drawing on this basis, the research introduces psychological ownership as an intervening process through which satisfied psychological contracts are translated into organizational citizenship behavior. As employees internalize their job and develop a sense of ownership over their work and the organization's achievements, they are more likely to go the extra mile for the organization (Cropanzano et al., 2017). This shift from contract fulfillment to ownership explains how affective commitment and responsibility arise from early-stage organizational interventions such as onboarding.

At the same time, SIT presents an alternative perspective, proposing that distance-based onboarding facilitates group identification and organizational alignment (Scheepers & Ellemers, 2019). As onboarding rituals encourage values shared by others, cultural immersion, and visibility of inclusion, employees are most likely to identify with the organization as part of their social identity. Identification facilitates psychological ownership, which in turn encourages individuals to exhibit prosocial behavior, such as organizational citizenship behavior, to benefit the group with which they identify. By integrating SET and SIT, this study extends theoretical models of organizational behavior in the context of remote work. It elucidates how virtual onboarding, traditionally viewed as a logistical HR activity, can be re-conceptualized as a strategic tool for shaping employee psychology and behavior (Cropanzano et al., 2017; Scheepers

& Ellemers, 2019). The sequential mediation model forwarded – connecting remote onboarding to organizational citizenship behavior through psychological contract and ownership – provides a rich theoretical framework that connects individual-level cognition to more general organizational consequences, making an original contribution to both onboarding research and behavioral theories of the workplace.

The results suggest that an efficient remote onboarding program can significantly influence employees' psychological contracts and sense of ownership, subsequently leading to organizational citizenship behavior. Companies should invest in comprehensive remote onboarding programs that emphasize creating a positive work environment, clearly outlining job objectives, and promoting social integration. The fulfillment of promises made during recruitment is necessary to develop a favorable psychological contract among the employees. The study demonstrates how ownership and psychological contract result in organizational citizenship behavior. If managers want to encourage their staff to participate in organizational citizenship behavior, they should concentrate on fostering a culture of reciprocity, trust, and fairness.

This study is not without its limitations, which provide important context for interpreting the results and planning future research. First, this study relied on self-report data obtained through surveys, and therefore, it is subject to common method bias and social desirability bias. Second, the sample was collected by convenience sampling; thus, the question arises regarding the representativeness of the population and a higher possibility of selection bias. Third, the study considered the assumption of an infinite population, given the inability to access a clearly defined or complete sampling frame. Consequently, the statistical generalizability of the findings is constrained. Furthermore, the sample is dominated by young professionals working in the IT sector, which may limit the applicability of the findings to other age groups, industries, or sectors. This demographic concentration restricts the external validity and transferability of the results to broader or more diverse populations. Finally, cultural and contextual variations can impact the operationalization of constructs like psychological contract and psychological ownership, which restricts the ability to generalize the findings across other national or cultural contexts.

This study identifies numerous opportunities for future research directions. First, potential research could investigate the connection between the constructs under consideration over time to determine the causal mechanisms involved in longitudinal studies. Second, the relationship between the study constructs varies across different national or ethical contexts, given the potential cultural variances in the interpretation and fulfillment of psychological contract obligations,

which can be studied from a cross-cultural perspective. Third, this study opens avenues for analyzing the relationship between constructs at different levels, such as individual, team, and organizational levels, and examining how these levels interact with each other is an interesting area to explore. Finally, the moderating effect of employee characteristics, job characteristics, and organizational characteristics will provide a new dimension to this study. Intervention studies focusing on the success of interventions intended to improve the quality of onboarding, enhance the psychological contract, and foster psychological ownership, and how these interventions may lead to increased levels of organizational citizenship behavior among employees, can also be conducted.

This research contributes to the body of knowledge of how remote onboarding affects organizational citizenship behavior by examining the mediating effects of psychological contract and psychological ownership. The research combines social exchange theory and SIT to create a more comprehensive framework that illuminates how digitally mediated onboarding experiences influence employees' perceptions of organizational relationships and their subsequent discretionary behaviors. The results highlight that successful remote onboarding is not merely an operational procedure, but a strategic initiative that can foster psychological engagement and organizational alignment.

Results indicate the fulfillment of psychological contracts and increased psychological ownership as primary channels through which onboarding procedures convert into organizational citizenship behavior. The findings contribute to the growing body of literature on remote work and remote employee integration by providing an empirically supported mechanism that connects onboarding practices to behavioral outcomes. Although the research is contextually situated in remote onboarding, its general implications relate to how organizations can architect psychologically mindful entry experiences within virtual work settings. By elucidating the theoretical mechanisms at play, the research sets the stage for further focused examination of how psychological contracts and ownership operate in various organizational contexts and onboarding arrangements.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Authors contribution

Subbulakshmi Somu – 55% (research concept and design, collection and/or assembly of data, data analysis and interpretation).
Noor Azman Ali – 45% (research concept and design, writing the article).

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Appendix 1. The questionnaire

a. Onboarding
1. Mode of employee orientation program by my employer:
   online mode   offline mode   hybrid mode
2. What digital platform is used in your onboarding process:
    Zoom   Teams   Cisco Webex   organization-specific platform   others

Corporate welcome
When I started to work for this firm, through a digital platform:
- I was provided with information about its history, mission, corporate values, etc., thereby facilitating my integration.
- I was clearly informed about the internal rules (policies, regulations, ethical code, etc.).
- The information I received was helpful in understanding the business.
- I received adequate information to perform my duties.

Management welcome
When I started to work for this firm, through a digital platform:
- My supervisor provided adequate support to facilitate my integration.
- Whenever I had a problem or difficulty, my supervisor was available to help me.
- My supervisor˙s attitude helped me to reduce my initial insecurity.
- I did not feel comfortable with my supervisor˙s welcome (reverse).

Co-workers welcome
When I started to work for this firm, through a digital platform:
- My colleagues were always spontaneously available to clarify my doubts.
- My colleagues attitudes helped to reduce my fears of job inadequacy.
- My colleagues always shared information I needed to adapt to my job.
- My colleagues shared pleasant moments of conviviality with me (coffee breaks, lunch time, etc.).
- My colleagues provided adequate support to facilitate my integration.

b. Psychological contract
- This job is a stepping stone in my career development.
- I expect to develop my skills (via training) in this company.
- I expect to gain promotion in this company with length of service and effort to achieve goals.
- I expect to grow in this organization.
- To me, working for this organization is like being a member of a family.
- I feel part of a team in this organization.
- I go out of my way for colleagues whom I will call on at a later date to return the favor.
- My job means more to me than just a means of paying the bills.
- I feel this company reciprocates the effort put in by its employees.
- The organization develops rewards for employees who work hard and exert themselves.
- I am motivated to contribute 100% to this company in return for future employment benefits.

- I have a reasonable chance of promotion if I work hard.
- My career path in the organization is clearly mapped out.

c. Psychological ownership
- This is MY organization.
- I sense that this organization is OUR company.
- I feel a very high degree of personal ownership for this organization.
- I sense that this is MY company.
- This is OUR company.
- Most of the people who work for this organization feel as though they own the company.
- It is hard for me to think about this organization as MINE. (reversed)
- This job is a stepping stone in my career development.

d. OCB
Conscientiousness
- Attendance at work is above the norm.
- Does not take extra breaks.
- Obeys company rules and regulations even when no one is watching.
- Is one of my conscientious employees.
- Believes in giving an honest day's work for an honest day's pay.

Sportsmanship
- Consumes much time complaining about trivial matters. (R)
- Always focuses on what is wrong, rather than the positive side. (R)
- Tends to make "mountains out of molehills". (R)
- Always find fault with what the organization is doing. (R)
- Is the classic "squeaky wheel" that always needs greasing. (R)

Civic virtue
- Attends meetings that are not mandatory, but are considered important.
- Attends functions that are not required, but help the company's image.
- Keeps abreast of changes in the organization.
- Reads and keeps up with organization announcements, means, and so on.

Courtesy
- Takes steps to try to prevent problems with other workers.
- Is mindful of how his/her behavior affects other people's jobs.
- Does not abuse the rights of others.
- Tries to avoid creating problems for co-workers.
- Considers the impact of his/her actions on co-workers.

Altruism
- Helps others who have been absent.
- Helps others who have heavy workloads.
- Helps orient new people even though it is not required.
- Willingly helps others who have work-related problems.
- Is always ready to lend a helping hand to those around them.

Appendix 2. Assessment of normality (Group number 1)

Variable	min	max	skew	c.r.	kurtosis	c.r.
PO_Q5	1.000	5.000	−.746	−7.507	−.004	−.023
PO_Q4	1.000	5.000	−.794	−7.996	−.119	−.598
PO_Q3	1.000	5.000	−.560	−5.634	−.429	−2.159
PO_Q2	1.000	5.000	−.839	−8.446	.194	.978
PO_Q1	1.000	5.000	−.761	−7.656	−.033	−.167
OCB_AL	6.000	25.000	−.476	−4.788	.231	1.165
OCB_CT	2.000	10.000	−.441	−4.436	−.232	−1.170
OCB_CV	6.000	20.000	−.241	−2.422	−.739	−3.721
OCB_SP	3.000	15.000	−.738	−7.428	.678	3.411
OCB_CO	11.000	25.000	−.352	−3.543	−.667	−3.360
PC_Q10	1.000	5.000	−.758	−7.631	−.012	−.061
PC_Q13	1.000	5.000	−.781	−7.860	.103	.520
PC_Q11	1.000	5.000	−.805	−8.103	.062	.313
PC_Q9	1.000	5.000	−.719	−7.241	−.069	−.347
PC_Q7	1.000	5.000	−.697	−7.012	−.045	−.225
PC_Q6	1.000	5.000	−.787	−7.924	.147	.740
PC_Q5	1.000	5.000	−.797	−8.025	.068	.340
PC_Q3	1.000	5.000	−.804	−8.097	−.031	−.154
PC_Q1	1.000	5.000	−.945	−9.514	.045	.229
ROB_CW	6.000	15.000	−.371	−3.736	−.622	−3.133
ROB_MW	7.000	15.000	−.359	−3.610	−.633	−3.184
ROB_CO	9.000	25.000	−.527	−5.309	−.118	−.594

Appendix 3. Measurement model
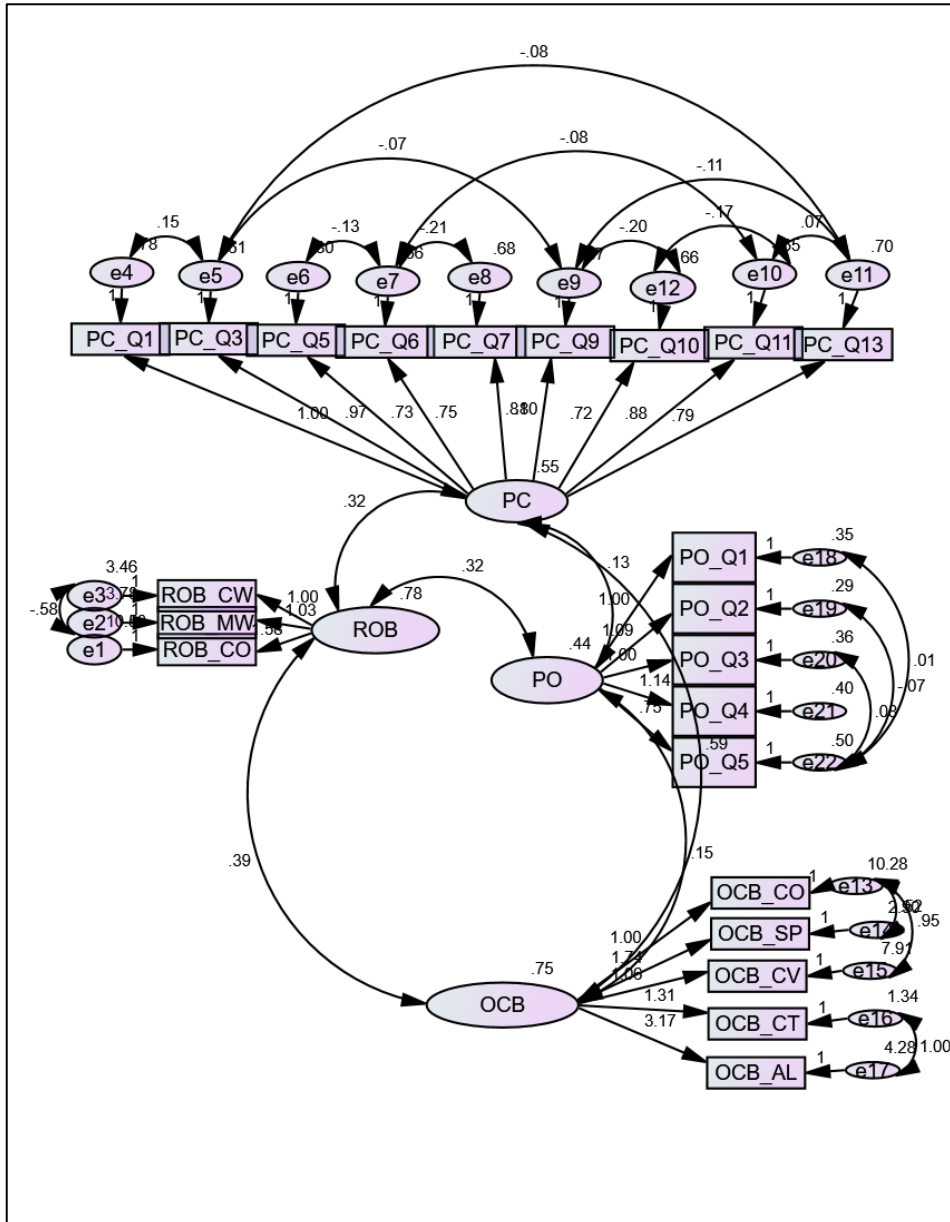
Appendix 4. Structural model
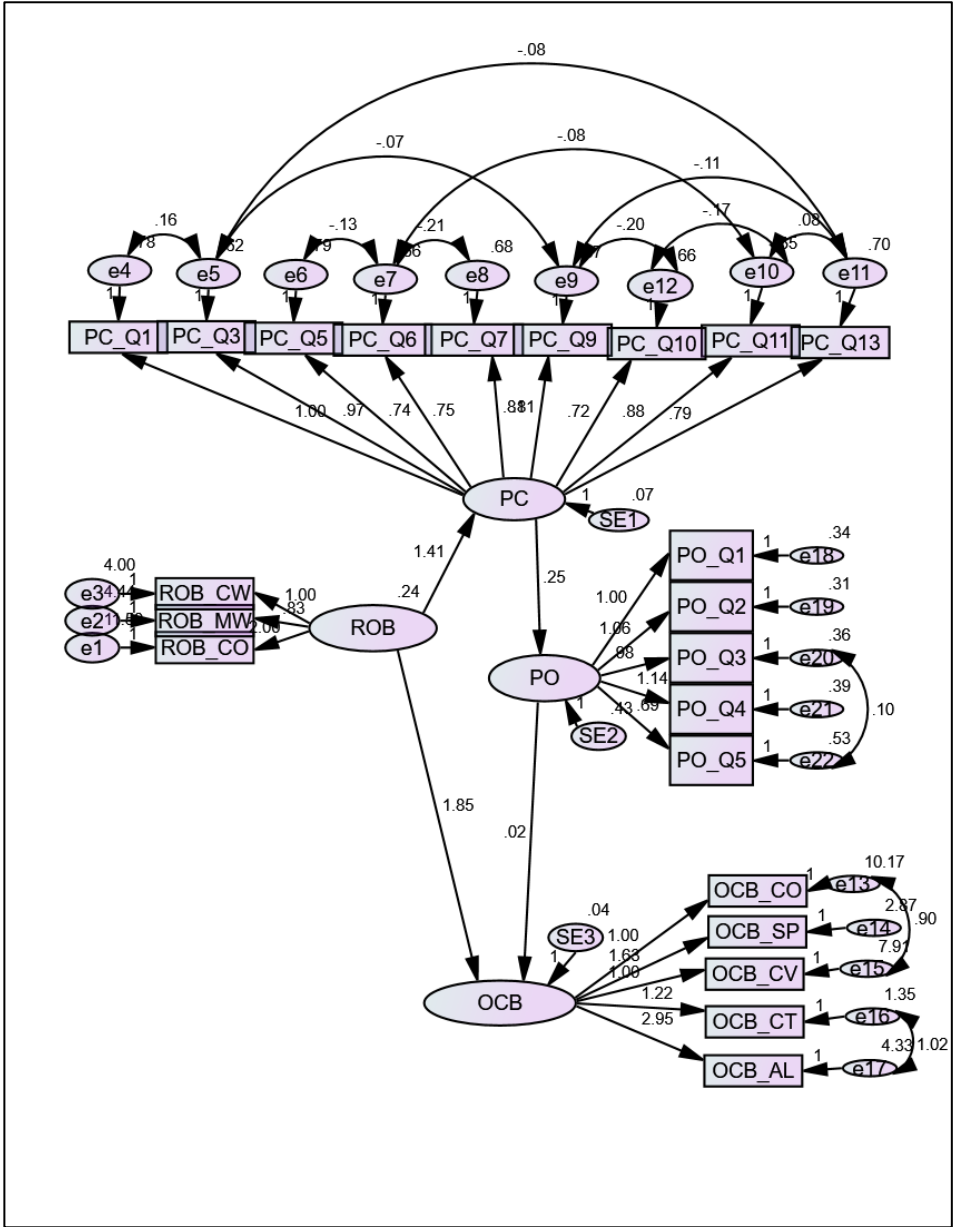
Appendix 5. Factor loadings

a) Remote onboarding

Indicator	←construct	Construct name	Estimate
ROB_CWQ3	←	CW	.747
ROB_CwQ1	←	CW	.702
ROB_MWQ3	←	MW	.683
ROB_MWQ2	←	MW	.722
ROB_MWQ1	←	MW	.716
ROB_COQ5	←	CO	.634
ROB_COQ4	←	CO	.827
ROB_COQ3	←	CO	.680
ROB_COQ2	←	CO	.777
ROB_COQ1	←	CO	.771
ROB_CWQ2	←	CW	.553

b) Psychological contract

Indicator	←construct	Construct name	Estimate
PC_Q1	←	PC	0.639
PC_Q3	←	PC	0.683
PC_Q5	←	PC	0.533
PC_Q6	←	PC	0.545
PC_Q9	←	PC	0.613
PC_Q10	←	PC	0.53
PC_Q11	←	PC	0.633
PC_Q13	←	PC	0.55
PC_Q7	←	PC	0.602

c) Psychological capital

Indicator	←construct	Construct name	Estimate
PO_Q1	←	PO	752
PO_Q2	←	PO	802
PO_Q3	←	PO	741
PO_Q4	←	PO	772
PO_Q5	←	PO	575

d) Organizational citizenship behavior

Indicator	←construct	Construct name	Estimate
OCB_COQ1	←	CO	.588
OCB_COQ2	←	CO	.683
OCB_COQ3	←	CO	.663
OCB_COQ4	←	CO	.735
OCB_COQ5	←	CO	.750
OCB_SPQ1	←	SP	.610
OCB_SPQ3	←	SP	.711
OCB_SPQ4	←	SP	.551
OCB_SPQ5	←	SP	.715
OCB_CVQ1	←	CV	.752
OCB_CVQ2	←	CV	.634
OCB_CVQ3	←	CV	.634
OCB_CVQ4	←	CV	.763
OCB_CTQ3	←	CT	.458
OCB_CTQ4	←	CT	.528
OCB_ALQ1	←	AL	.600
OCB_ALQ2	←	AL	.515
OCB_ALQ3	←	AL	.507
OCB_ALQ4	←	AL	.585
OCB_ALQ5	←	AL	.604