

# Relationship between Onboarding Process and Employee Engagement in the Pharmaceutical Industry in North Macedonia

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**Abstract** The employee onboarding process holds significant importance within the pharmaceutical industry of North Macedonia as it plays a pivotal role in cultivating employee engagement, which in turn is essential for enhancing productivity and ensuring employee retention. This research examines the relationship between the onboarding process and employee engagement. It investigates the factors influencing employee engagement within drug manufacturing companies, such as age, job category, and work experience. The research utilized an online questionnaire disseminated to employees working in pharmaceutical manufacturing companies. The study employed a 5-point Likert scale derived from the Intellectual, Social, and Affective (ISA) engagement scale, which specifically assessed levels of engagement across intellectual, social, and affective dimensions. Two hundred twenty-eight responses were gathered within one month and subsequently subjected to analysis utilizing the Statistical Package for the Social Sciences (SPSS). The results of this study contribute to the growing body of academic literature on employee engagement and onboarding by offering practical implications for human resource managers and organizational leaders. The result revealed a noteworthy association between the efficacy of the onboarding process and heightened levels of employee engagement. Significantly, the identification of intellectual engagement emerged as the paramount factor during the onboarding process. The research additionally discovered variations at engagement levels across different generations, indicating the necessity for customized

onboarding process.

**Keywords** Employee Onboarding, Engagement, Pharmaceutical Industry, Organizational Effectiveness

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## 1. Introduction

The relationship between an organization and its employees is built on the foundation of employee engagement. In the corporate world, using the terms "engagement" and "satisfaction" interchangeably is typical, but it's essential to understand that they are two distinct concepts. Employee satisfaction refers to the contentment an employee experiences within their organization. While employee engagement involves more than just satisfaction, it also includes their commitment to the organization and willingness to put in extra efforts beyond what is required. When employees are truly motivated, it's often because they find joy and fulfillment in their work. This internal drive fuels their efforts and helps them achieve great things. Employees who are highly engaged tend to exert more discretionary effort consistently.

Employee engagement has garnered considerable attention since it has been linked to various organizational outcomes, including employee retention, productivity, and profitability [1]. As a result, organizations invest in employee engagement as a competitive advantage. In this context, the onboarding process has also received increased

attention, which refers to introducing new employees to a company. A successful onboarding process helps employees comprehend the organization's values, goals, and expectations, resulting in increased engagement [2]. As the onboarding process sets the tone for the remainder of an employee's tenure and influences their perception of the organization, it is the need of the hour to study this subject, especially concerning employee engagement.

Organizations that ensure onboarding are more effective at increasing the employee's experience during their time with the organization, which creates a more connected workforce. Starting a new job can produce high anxiety levels, mainly when roles are unclear, and employees are uncertain about their duties, hindering their ability to connect with the organization.

On the other hand, the pharmaceutical industry is critical to supporting and improving human health by providing necessary medications. Due to the industry's high level of regulation and strict quality control standards, employee engagement is crucial for success. As a result, organizations invest resources to ensure their employees are engaged and motivated [3].

In North Macedonia, the pharmaceutical market is characterized by a significant amount of generic medication production and exports and imports from other countries. Currently, over 75% of pharmaceuticals are imported, with the majority coming from United States, Slovenia, Germany, Croatia, and France. Alkaloid and Replek are the two major pharmaceutical enterprises in North Macedonia, selling finished generic medicines to over 30 countries. These companies generate income from domestic consumption, which accounts for 35-40% of their revenue [4].

This research paper aims to explore the correlation between the onboarding process and employee engagement in the pharmaceutical industry in North Macedonia. Specifically, the study investigates drug manufacturing companies and the factors that impact employee engagement, including age, job category, and work experience. The results of this study offered valuable insights to pharmaceutical companies in North Macedonia on how to create and implement effective onboarding processes to enhance employee engagement and gain a competitive edge. Additionally, the findings significantly contributed to the academic literature on the connection between onboarding and employee engagement, with practical implications for businesses.

## 2. Literature Review

### 2.1. Definition of Onboarding and Engagement

Bauer [5] defines onboarding as a sequence of steps that integrate new employees into the new work environment and get them up to speed as quickly as possible. Another definition of onboarding is explained as a business driver

that assures your company's new or new-to-role employees are the proper fit, and it is the crucial step that connects them with the organizational culture and their roles when they are hired or moved into a new function [6]. In addition, onboarding is characterized as a complicated phenomenon that consists of a large number of formal and informal shaping acts. Furthermore, these actions aim to pass on significant information from both business and social points of view to the new employee [7]. This paper uses the definition of onboarding that Bauer [5] provides.

Employee engagement has various definitions, depending on the scholars, organizations, and countries involved. According to Kahn [8], employee engagement consists of connecting an individual's sense of self with their work roles and expressing themselves physically, cognitively, and emotionally in their work lives. While different researchers have suggested varying definitions of employee engagement, it is essential to determine if improving employee engagement can work for all organizations. Macey et al. [9] suggested that employee engagement is a wide-ranging term that contains different types of engagement (trait engagement, psychological state engagement, behavioral engagement). This paper uses this definition of employee engagement.

### 2.2. Relationship between Onboarding and Engagement

Employee engagement has undoubtedly been one of the topics that businesses and academic literature have explored and investigated the most over the past two decades. Therefore, if you don't welcome new workers like rock stars, the disappointment might set them on an emotionally slippery slope, leading to poor engagement and the pursuit of a new opportunity [10]. Moreover, disengaged workers lead to poorer performance and inferior productivity, which costs many businesses much money annually [11]. Additionally, unengaged employees are believed to be more likely to change jobs within a year than engaged employees [12].

An effective onboarding strategy presents a great chance to increase employee engagement by, among other things, fostering a positive working relationship between new employees and management, reaffirming the company's dedication to supporting employees' professional development, and demonstrating to staff that management values their skills [13]. In addition, an engaged employee demonstrates determination, commitment, and absorption [14]. Furthermore, engaged people take charge of their professional and personal development and strategic organizational goals [15].

A sizable body of research that explains why the organization must use this strategy in practice supports the positive effects of a successful onboarding process. For instance, one of the positive effects of the induction process is an increase in employee engagement. According to SHRM [16], employees who participated in a structured

onboarding program had a 58 percent higher likelihood of remaining with their firm after three years compared to employees who did not participate in such a program. Moreover, effective onboarding processes positively affect engagement by providing new hires with a clear comprehension of their role, responsibilities, and expectations and facilitating their social integration into the workplace [2].

Additionally, employees who participated in a well-designed induction program reported more significant organizational commitment and job satisfaction. These factors contribute considerably to employee engagement because they foster a sense of organizational loyalty, affiliation, and satisfaction [17]. In addition, employee engagement is an effective tool for retaining the best talent and can be used to reduce employees' intentions to quit the company. As a result, the next section will emphasize employee engagement [18].

This suggests that successful onboarding is a vital component of employee engagement, and companies that invest in thorough and well-designed onboarding programs are more likely to sustain employee engagement.

### **2.3. Onboarding and Engagement as Competitive Advantages for the Company**

According to studies, effective onboarding programs positively affect employee engagement and give companies a competitive advantage [2]. A well-designed onboarding process tailored to the new employees' needs can make them feel welcome and valued and set them up for success in their new positions [19]. A poor onboarding experience, on the other hand, can contribute to disengagement, decreased job satisfaction, and increased turnover [20]. Moreover, fostering a sense of shared work values, objectives, and attitudes among employees can result in greater levels of engagement [21].

In addition, research demonstrates that employee engagement substantially impacts organizational outcomes such as innovation, productivity, performance, and employee retention [22]. In addition, Gallup research found that companies with high levels of employee engagement are 21% more profitable and have a reduction of 59% in turnover rates. [23]. In today's corporate environment, onboarding has become essential for firms seeking competitive advantage. Effective onboarding can help firms retain employees, boost productivity, and foster a positive corporate culture [24]. Furthermore, research demonstrates that a well-designed onboarding process can increase employee engagement and motivation [25]. In addition, the onboarding process at Alkaloid Skopje, a pharmaceutical company based in North Macedonia, is necessary for interns to have a firm basis before beginning daily work [26].

Employee engagement has emerged as a significant

factor in boosting the performance and competitiveness of an organization. Engagement refers to the degree, to which employees are emotionally invested in their work, the organization's mission, and its objectives. Research indicates that organizations with high levels of employee engagement enjoy several advantages, including increased productivity, decreased absenteeism, lower turnover rates, and greater customer satisfaction [21]. These advantages are significant in today's dynamic business environment, where companies must continually innovate and adapt to changing market conditions to maintain their competitive edge [27]. Empirical evidence suggests that employee engagement is positively associated with innovation and the development of new capabilities, which are crucial drivers of competitive advantage in the contemporary economy [28].

Consequently, investing in employee engagement initiatives can generate a substantial return on investment in terms of improved organizational performance and competitiveness. To accomplish this, businesses must develop and implement an employee engagement strategy that aligns with their organizational culture, values, and objectives. This strategy must include regular employee feedback and communication, opportunities for skill development and career advancement, and a supportive work environment that encourages collaboration, creativity, and well-being [29]. By prioritizing employee engagement as a competitive advantage, businesses can improve their bottom line and create a more positive and fulfilling work environment for employees.

This indicates that effective onboarding and employee engagement are significant components of a company's success and competitiveness.

## **3. Methodology**

### **3.1. Engagement Scale: ISA**

The ISA engagement scale, validated through academic research, evaluated employee engagement, focusing on intellectual, social, and affective experiences [30, 31]. This scale offers a multifaceted view of engagement:

- Intellectual Engagement (IE): The intensity of intellectual involvement or thoughtfulness in work.
- Social Engagement (SE): Connecting with coworkers and aligning with their values.
- Affective Engagement (AE): The positive and energizing feelings about work.

The ISA engagement scale employs a methodology incorporating a series of statements to compute the average scores for each of the three subscales. The statements and the engagement subscales are presented in Table 1.

**Table 1.** Statements for ISA Engagement scale

Statement	Engagement
I focus hard on my work	Intellectual
I concentrate on my work	Intellectual
I pay a lot of attention to my work	Intellectual
I share the same work values as my colleagues	Social
I share the same work goals as my colleagues	Social
I share the same work attitudes as my colleagues	Social
I feel positive about my work	Affective
I feel energetic in my work	Affective
I am enthusiastic in my work	Affective

### 3.2. Questionnaire Design

The survey assesses employee engagement and practices through nine questions, with three statements for each engagement category about the engagement facet. These questions are rated on a 5-point Likert scale. Although the original ISA scale uses a seven-point Likert scale, this study employed a 5-point Likert scale. Research supports this choice, showing that a 5-point scale can be more reliable and reduce response errors [32]. It facilitates participant comprehension, leading to higher response rates and more accurate data [33, 34]. The consistent use of a 5-point scale aligns with other research papers and enhances the validity and reliability of the collected data.

The survey also included three primary factors: generation cohort, professional tenure, and occupational classifications. The variables representing generational groups include Generation X (born between 1965 and 1980), Generation Y (born between 1981 and 1996), and Generation Z (born between 1997 and 2012), as these generations are the most prominent segments within the present workforce. The categorization of work experience is divided into five distinct intervals: 0-6 months, 7-12 months, 1-2 years, 3-5 years, and exceeding five years. The job classifications encompass Office, Production, Laboratory, Sales, and Other. This study seeks to thoroughly investigate and comprehend the intricate relationship between generational disparities, work experience, job classifications, and participants' reactions to the ISA engagement statements. Consequently, this research endeavor will yield valuable insights into the specific domain under investigation.

The core data for this quantitative research was gathered via online surveys administered to employees within the pharmaceutical business in North Macedonia, with a specific emphasis on those employed in drug manufacturing firms. The choice to research the pharmaceutical industry in North Macedonia, explicitly focusing on drug manufacturing companies, is rooted in practicality and personal connection. Working within this industry provides direct access to insights while residing in

the country and offers a nuanced understanding of its context. This approach aligns my professional involvement, personal connection, and academic curiosity to comprehensively explore a significant facet of North Macedonia's pharmaceutical landscape. According to Malmel [35], Alkaloid Skopje, Replek Farm, Bionika Pharmaceuticals, Apimel, Galafarm, Fitofarm, Geoprom, and Aspectus Farm are drug manufacturing companies duly registered in North Macedonia. In order to preserve confidentiality, the identities of the drug manufacturing companies participating in the survey will not be disclosed in the paper. A total of 950 questionnaires were distributed among the study population, of which 228 replies were gathered over one month and subsequently utilized as the foundation for analysis. The collected survey data underwent a comprehensive examination using the statistical program SPSS, enabling a meticulous investigation of the findings, encompassing hypothesis testing and the exploration of correlations between variables.

### 3.3. Focus and Hypothesis

This research hypothesizes the pivotal role of intellectual engagement in the onboarding process for pharmaceutical industry employees in North Macedonia. Intellectual engagement is chosen because it can foster deep employee involvement and efficacy. The hypothesis seeks to unveil the positive impact of intellectual engagement on organizational efficiency, specifically within the complex context of pharmaceuticals in North Macedonia.

The hypothesis underscores the importance of intellectual engagement among engagement facets during pharmaceutical employees' onboarding in North Macedonia. This stems from its alignment with the intricate nature of drug manufacturing, fostering a profound cognitive connection that empowers employees.

In essence, this study aims to validate the hypothesis that intellectual engagement is a primary influencer during onboarding for pharmaceutical industry employees in North Macedonia.

## 4. Discussion of Results

Table 2 illustrates the outcomes of implementing a series of statements from the ISA engagement scale. These outcomes pertain to different aspects of engagement during the onboarding process. The dataset shows that Generation Z (3.00) has the highest level of representation, Generation Y (2.00) is in the middle position, and Generation X (1.00) has the lowest level of representation. The mean value of 1.8289 indicates that most study participants are from Generation Y, with Generation X and Generation Z having about equal representation. The observed standard deviation of 0.49814 suggests that the data points are in close proximity to the mean, indicating a lack of significant

skewness in the distribution. The data also indicates significant variations in the participants' job histories within the company. Individuals with job experience ranging from 0 to 6 months are assigned a minimum value of 1.00, while those beyond five years are assigned a maximum value of 5.00. The majority of participants in this study possess a tenure of over four years with their present employment, with an average value of 4,3114. The calculated standard deviation of 1.03441 suggests that there was a considerable level of heterogeneity in the individuals' job experiences. The study's participants are engaged in many professional roles, with the occupation labeled "Office" having the highest frequency (1.00), while the category labeled "Other" has the lowest prevalence (5.00). The participants are evenly distributed across occupational groups, with a mean value of 2.0351. The observed standard deviation of 1.23410 suggests substantial variability in the distribution of employment categories, implying that specific categories may exhibit disproportionately high levels of involvement.

The results for the three statements associated with IE show relatively high mean values, indicating that respondents generally exhibit strong focus, concentration, and attention to their work tasks. The low standard deviations for these statements further reinforce that the responses were uniform, reflecting minimal variations among participants in this area. Moreover, the subsequent three statements assess how well individuals feel socially integrated and aligned with their coworkers' values within the workplace. The mean values for these statements are all below 4, signifying a noticeable variation in these aspects among the participants. The higher standard deviations for these items also highlight a more significant disparity in the

responses, indicating more diverse opinions or attitudes. In addition, the final three statements measure the extent to which individuals harbor positive and revitalizing feelings toward their work. The mean values are above 4, signifying that the participants generally have positive emotions about their work. The standard deviations for the AE measures are akin to those for the SE, denoting a moderate variation in participant responses.

The relatively high mean values for IE statements show that participants are intellectually involved in their work. Therefore, the results from the study have verified the first hypothesis, demonstrating that the Intellectual Engagement (IE) statements indeed possess the highest means among the surveyed pharmaceutical industry employees in North Macedonia. This pattern reveals a distinct preference for intellectual stimulation during the onboarding process. Such a finding carries significant implications for the design of onboarding processes within the pharmaceutical industry in North Macedonia. New employees would benefit from an onboarding process emphasizing intellectual stimulation and concentration opportunities. By focusing on these areas, companies can align their onboarding strategies with their workforce's apparent preferences and tendencies, potentially enhancing engagement and satisfaction during the critical early stages of employment.

Particularly noteworthy is the finding regarding the similarity of the means for the statements "I pay much attention to my work" and "I concentrate on my work." The statistically significant mean square for these statements within the IE category suggests a consistent pattern of strong cognitive engagement among participants, underscoring their robust intellectual focus.

**Table 2.** Descriptive Statistics

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Generation group	228	1.00	3.00	1.8289	0.49814
Work experience group (in the current company)	228	1.00	5.00	4.3114	1.03441
Job category	228	1.00	5.00	2.0351	1.23410
I focus hard on my work (IE)	228	1.00	5.00	4.5351	0.67269
I concentrate on my work (IE)	228	1.00	5.00	4.5570	0.61644
I pay a lot of attention to my work (IE)	228	1.00	5.00	4.5570	0.63057
I share the same work values as my colleagues (SE)	228	1.00	5.00	3.8684	0.91501
I share the same work goals as my colleagues (SE)	228	1.00	5.00	3.7368	0.87100
I share the same work attitudes as my colleagues (SE)	228	1.00	5.00	3.6228	0.94230
I feel positive about my work (AE)	228	1.00	5.00	4.2149	0.80873
I feel energetic in my work (AE)	228	1.00	5.00	4.1360	0.90711
I am enthusiastic in my work (AE)	228	1.00	5.00	4.2588	0.82828
Valid N (listwise)	228				

Table 3 demonstrates the ANOVA analysis of comparing engagement statements and “generation groups” of the targeted population. The ANOVA results reveal notable variations at the level of engagement (intellectual, social, and affective) among various generations of employees in North Macedonia in the pharmaceutical industry. Moreover, the results disclose significant differences in the mean square for "I pay much attention to my work" in the IE statements with significance below 0.05. This implies that there may be a difference in work attentiveness between younger and older employees.

In addition, the mean squared difference between groups is statistically significant for the SE statements "I share the same work values as my colleagues" and "I share the same

work goals as my colleagues.” This suggests that there are significant differences between different generations of employees when it comes to their workplace values and goals, thus emphasizing the need to tailor engagement strategies to align with different generations

Furthermore, the mean square is statistically significant for all three AE statements, indicating significant differences between generations of employees in their positive feelings, energy, and enthusiasm towards work. This may suggest that younger employees exhibit more positivity, energy, and enthusiasm toward their work than their older counterparts. These variations underline differences in the alignment of workplace values and objectives among generations.

**Table 3.** ANOVA analysis for engagement statements and “generation groups”

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
I focus hard on my work (IE)	Between Groups	2.544	2	1.272	2.856	0.060
	Within Groups	100.176	225	0.445		
	Total	102.719	227			
I concentrate on my work (IE)	Between Groups	1.545	2	0.773	2.052	0.131
	Within Groups	84.714	225	0.377		
	Total	86.259	227			
I pay a lot of attention to my work (IE)	Between Groups	3.369	2	1.684	4.361	0.014
	Within Groups	86.890	225	0.386		
	Total	90.259	227			
I share the same work values as my colleagues (SE)	Between Groups	5.797	2	2.898	3.539	0.031
	Within Groups	184.256	225	0.819		
	Total	190.053	227			
I share the same work goals as my colleagues (SE)	Between Groups	13.622	2	6.811	9.663	0.000
	Within Groups	158.589	225	0.705		
	Total	172.211	227			
I share the same work attitudes as my colleagues (SE)	Between Groups	4.421	2	2.210	2.523	0.083
	Within Groups	197.141	225	0.876		
	Total	201.561	227			
I feel positive about my work (AE)	Between Groups	11.717	2	5.859	9.639	0.000
	Within Groups	136.752	225	0.608		
	Total	148.469	227			
I feel energetic in my work (AE)	Between Groups	16.645	2	8.322	11.006	0.000
	Within Groups	170.140	225	0.756		
	Total	186.785	227			
I am enthusiastic in my work (AE)	Between Groups	7.635	2	3.818	5.800	0.003
	Within Groups	148.097	225	0.658		
	Total	155.732	227			

The results of the one-way ANOVA performed in SPSS in Table 4 illustrate the analysis of the relationship between work experience and engagement statements. All nine have p-values ( $p > 0.05$ ), indicating no significant difference between work experience and all engagement statements. This suggests that years of experience do not significantly

affect how engaged pharmaceutical industry workers in North Macedonia are. Therefore, the findings suggest that work experience does not significantly influence intellectual, social, and affective engagement among pharmaceutical industry workers in North Macedonia.

**Table 4.** ANOVA analysis for engagement statements and “work experience”

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
I focus hard on my work (IE)	Between Groups	1.783	4	0.446	0.985	.417
	Within Groups	100.937	223	0.453		
	Total	102.719	227			
I concentrate on my work (IE)	Between Groups	1.246	4	0.311	0.817	0.516
	Within Groups	85.013	223	0.381		
	Total	86.259	227			
I pay a lot of attention to my work (IE)	Between Groups	2.291	4	0.573	1.452	0.218
	Within Groups	87.968	223	0.394		
	Total	90.259	227			
I share the same work values as my colleagues (SE)	Between Groups	2.896	4	0.724	0.863	0.487
	Within Groups	187.157	223	0.839		
	Total	190.053	227			
I share the same work goals as my colleagues (SE)	Between Groups	6.722	4	1.680	2.264	0.063
	Within Groups	165.489	223	0.742		
	Total	172.211	227			
I share the same work attitudes as my colleagues (SE)	Between Groups	4.335	4	1.084	1.225	0.301
	Within Groups	197.227	223	0.884		
	Total	201.561	227			
I feel positive about my work (AE)	Between Groups	2.013	4	0.503	0.766	0.548
	Within Groups	146.456	223	0.657		
	Total	148.469	227			
I feel energetic in my work (AE)	Between Groups	3.323	4	0.831	1.010	0.403
	Within Groups	183.462	223	0.823		
	Total	186.785	227			
I am enthusiastic in my work (AE)	Between Groups	1.995	4	0.499	0.723	0.577
	Within Groups	153.738	223	0.689		
	Total	155.732	227			

Table 5 shows the ANOVA analysis of comparing engagement statements and the “job category” of the targeted population. For two SE statements, "I share the same work values as my colleagues" and "I share the same work goals as my colleagues," p-values are less than 0.05. This indicates a statistically significant difference between job categories and these statements ( $p < 0.05$ ). For the remaining seven engagement statements, the p-values are

greater than 0.05, indicating no statistically significant difference between job categories and these statements ( $p > 0.05$ ). This suggests that job category significantly influences how employees perceive their alignment with the values and goals of their coworkers. However, the job category does not directly impact intellectual and affective engagement levels among pharmaceutical industry workers in North Macedonia.

**Table 5.** ANOVA analysis for engagement statements and “job category”

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
I focus hard on my work (IE)	Between Groups	3.449	4	0.862	1.937	0.105
	Within Groups	99.270	223	0.445		
	Total	102.719	227			
I concentrate on my work (IE)	Between Groups	2.432	4	0.608	1.618	0.171
	Within Groups	83.826	223	0.376		
	Total	86.259	227			
I pay a lot of attention to my work (IE)	Between Groups	1.966	4	0.492	1.242	0.294
	Within Groups	88.293	223	0.396		
	Total	90.259	227			
I share the same work values as my colleagues (SE)	Between Groups	8.578	4	2.145	2.635	0.035
	Within Groups	181.474	223	0.814		
	Total	190.053	227			
I share the same work goals as my colleagues (SE)	Between Groups	9.817	4	2.454	3.370	0.011
	Within Groups	162.394	223	0.728		
	Total	172.211	227			
I share the same work attitudes as my colleagues (SE)	Between Groups	5.171	4	1.293	1.468	0.213
	Within Groups	196.390	223	0.881		
	Total	201.561	227			
I feel positive about my work (AE)	Between Groups	4.861	4	1.215	1.887	0.114
	Within Groups	143.608	223	0.644		
	Total	148.469	227			
I feel energetic in my work (AE)	Between Groups	2.199	4	0.550	0.664	0.617
	Within Groups	184.586	223	0.828		
	Total	186.785	227			
I am enthusiastic in my work (AE)	Between Groups	3.050	4	0.762	1.114	0.351
	Within Groups	152.683	223	0.685		
	Total	155.732	227			



These insights provide a nuanced understanding of engagement dynamics within the pharmaceutical industry in North Macedonia, shedding light on the complexity of factors influencing employee engagement and pointing towards areas where targeted interventions might be beneficial.

## 5. Future Research Recommendations

It is recommended that future research expand the sample size for a more comprehensive representation of the pharmaceutical sector in North Macedonia. This would improve the generalizability of findings and better reflect the broader industry's sentiments. Employees from different sub-industries, not just those engaged in drug manufacturing, should be included to provide a more thorough understanding of the pharmaceutical sector. Additional methodologies should be incorporated to verify self-reported data. Revisit the decision to modify the Likert scale to a 5-point scale to investigate its effect on data accuracy and reliability.

Assessing employee engagement requires multiple tools and methodologies to capture its complexities fully, as it is a multifaceted phenomenon. It is essential to consider cultural nuances in North Macedonia and their impact on employee engagement and onboarding processes. Exploring these variations can provide contextual insights. Additionally, while onboarding is essential, other factors that shape employee engagement in the pharmaceutical sector should be examined for a holistic understanding of the industry.

## 6. Conclusions

This research paper provides an in-depth analysis of employee engagement within the pharmaceutical industry of North Macedonia, with a particular focus on the onboarding process. The study utilized the ISA engagement scale to investigate the relationship between onboarding and employee engagement in the pharmaceutical industry. The research supports the proposition that intellectual engagement is a significant factor in achieving effective onboarding.

Furthermore, the findings suggest significant discrepancies exist among employee groups regarding workplace values and goals, consequently underscoring the necessity of customizing engagement strategies to correspond with different generational groups. Moreover, categorizing job roles substantially influences employees' perceptions regarding the similarity between their values and goals and those of their colleagues. Nevertheless, it is essential to note that the job category in the pharmaceutical industry in North Macedonia does not directly influence the levels of intellectual and affective engagement among employees. Additionally, the level of work experience does

not exhibit a significant impact on the levels of engagement among employees. As mentioned earlier, the results highlight the significance of customizing onboarding strategies to prioritize cognitive engagement and accommodate the preferences of different generations. Consequently, these strategies can enhance employee satisfaction and productivity in the industry.

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