

**THE EFFECT OF WORK ENGAGEMENT ON PERCEIVED BUSINESS PERFORMANCE: COMPARISONS BETWEEN MANUFACTURING AND SERVICE SECTORS**

*İŞE ADANMA DÜZEYİNİN ALGILANAN İŞLETME PERFORMANSINA ETKİSİ: İMALAT VE HİZMET SEKTÖRLERİ KARŞILAŞTIRILMASI*

**Meriç Esat BEBİTOĞLU\***

*Geliş Tarihi: 19.04.2022  
(Received)*

*Kabul Tarihi: 18.05.2023  
(Accepted)*

**ABSTRACT:** Conditions of rapid change force businesses to increase their competitiveness. To increase their competitiveness, businesses are trying to make human resources more effective and efficient as well as harmonize their improved physical and financial opportunities. The fact that the employee is committed to the job with vigorous energy and dedication from the very first day is an indicator of a high level of work engagement. It is considered that a high level of engagement will increase the competitiveness of the enterprise by positively affecting the business's overall performance. The purpose of this study is to determine whether the level of job engagement of employees in the manufacturing or service sector differs according to gender, age, and seniority. Within the scope of the study, a survey was conducted among employees in various companies, both located in the service and manufacturing sectors, to investigate the effect of the level of job engagement on perceived business performance. As the results of the survey were analyzed positive relation was found between work engagement and business performance perceived by the employees but no significant difference between the manufacturing and service sectors. The research has been expanded to obtain whether there is a relationship between age, gender, and seniority, as well as the perceived business performance of the sectors employed and the level of work engagement. According to the results obtained, and the relationship between the level of work engagement and performance, it has been determined that the younger have higher work engagement and perceived business performance levels.

**Keywords:** work engagement, business performance, competition, seniority

**ÖZ:** Hızlı değişim koşulları, işletmeleri rekabet güçlerini artırmaya zorlamaktadır. İşletmeler rekabet güçlerini artırmak için insan kaynaklarını daha etkin ve verimli hale getirmenin yanı sıra gelişmiş fiziki ve finansal olanaklarını uyumlu hale getirmeye çalışmaktadırlar. Çalışanın işe ilk günden itibaren yüksek düzeyde enerji ve özveri ile bağlı olması, işe bağlılık düzeyinin yüksek olduğunun bir göstergesidir. Yüksek düzeyde bir bağlılığın işletmenin genel performansını olumlu yönde etkileyerek işletmenin rekabet gücünü artıracaktır düşünülmektedir. Bu çalışmanın amacı imalat veya hizmet sektöründe çalışanların işe adanma düzeylerinin cinsiyet, yaş ve kıdeme göre farklılık gösterip göstermediğinin ortaya

\*Dr. Öğr. Üyesi, İstanbul Nişantaşı Üniversitesi, [meric.bebitoglu@nisantasi.edu.tr](mailto:meric.bebitoglu@nisantasi.edu.tr), ORCID: 0000-0001-5013-913X

konmasıdır. Çalışma kapsamında, işe adanma düzeyinin algılanan iş performansı üzerindeki etkisini araştırmak amacıyla hem imalat hem de hizmet sektörlerinde yer alan çeşitli firmalarda çalışanlara anket uygulanmıştır. Anket sonuçları analiz edildiğinde, işe adanma ile çalışanlar tarafından algılanan işletme performansı arasında pozitif bir ilişki bulunmuş, ancak imalat ve hizmet sektörleri arasında anlamlı bir fark bulunamamıştır. Araştırma, yaş, cinsiyet ve kıdem ile istihdam edilen sektörlerin algılanan iş performansı ve işe adanma düzeyi arasında bir ilişki olup olmadığını ortaya çıkarmak için genişletilmiştir. Elde edilen sonuçlara göre işe adanma düzeyi ile performans arasındaki ilişkinin yanı sıra gençlerin hem işe adanma, hem de algılanan işletme performansı düzeylerinin daha yüksek olduğu tespit edilmiştir.

**Anahtar Kelimeler:** işe adanma, performans, rekabet, kıdem

## 1. INTRODUCTION

Under today's circumstances, the performance of businesses is largely based on productivity and the path to efficiency passes through employee behavior and work engagement, which is mainly formed by motivation. Also, the human resource, which tries to survive and be successful under physical, psychological, and behavioral conditions, has the initiative and power to affect the holistic success of the business. While the sources of motivation and tools to motivate employees are a matter of other studies, in this study, whether the level of work engagement affects the perceived performance of the enterprise was examined based on the gender of the respondents and the sector they work in. Within the scope of the study, it has been tried to reveal separately for male and female respondents of the survey whether there is a correlation between work engagement and perceived business performance in the sector they are employed. Thus, it is thought that it will be useful to reveal the theoretical framework before the research.

## 2. THEORETICAL FRAMEWORK AND LITERATURE REVIEW

In the literature review, a substantial number of studies were found especially on work engagement. Concepts thought to be related to work engagement have been examined and harmonized. In the literature review, studies on the differences between genders in terms of work engagement were given in the following sections. Therefore, several studies conducted in the service sector have been examined regarding the level of work engagement. Among these, public and private sector comparisons were obtained, but no study was found comparing the level of job engagement of service and manufacturing sector employees.

### 2.1 Work Engagement and Related Concepts

The concept of work engagement, is frequently emphasized in organizational behavior studies, the term has been stated by different researchers as; “to be **engaged** to work” (Güneşer, 2007; Özkalp and Meydan, 2015), “to be **devoted** to work” (Bal, 2008), “to be **committed** to work” (Tuna, 2009), “to be **gratified** to work” (Öner, 2008), “to be **tempted** to work” (Dalay, 2007), “to be **passionate** to work” (Metin, 2010), (Turgut, 2011) and “to be **integrated** with work”(Ardıç and Polatçı, 2009).

In this study, the concept will be used as “**work engagement**”. Markos and Sridevi (2010: 90) define this concept, whereas no definite consensus on it, as the willingness of the employee to accomplish the goals of the organization, with a sustainable workload, showing great effort. According to Robinson et al. (2004: 15), this concept is remarked as the attitudes of the employees toward the organization and its values. Work engagement is defined in various ways in different studies. Work Engagement is expressed as an employee’s commitment to work, satisfaction, and enthusiasm while doing their job (Arslan and Demir, 2017). In the literature, the concept of work engagement is still under development, and it is interpreted as a passionate attachment to the work done by the employees and a tight bond to the organization they are in (Özer et al., 2015: 262). Engaged-to-work employees are highly integrated with their tasks and are productive and efficient for their organizations. Employees who are not work engaged are dismissed and inefficient; besides they can not concentrate on their time, energy, and attention or use them in unnecessary tasks. (Ardıç ve Polatçı, 2009: 88). Gallup 2017 Research shows that some employees are not engaged in their jobs and putting them fully engaged in their jobs is one of the biggest challenges managers face (Bilginoğlu and Yozgat, 2019). In the literature, *dedication*, *absorption*, and *vigor* are stated as the three dimensions of work engagement. Vigor (being energetic) is the feeling that the employee is constantly vigorous and fresh during working hours and interacting with his/her teammates. Dedication refers to the commitment of the person to his/her work and is sometimes even referred to as people seeing themselves as a whole with their work. Absorption is being aware of what the job demands from the employee and being aware of those talents existing in him/her (Maslach et al. 2001: 417; Schaufeli et al. 2002; Ünal 2013). If these dimensions are considered individually in detail.

a. Vigor: Feeling physically energetic means being emotionally strong, struggling with failure or difficult tasks, and resisting difficulties (Schaufeli et al. 2002). Such an employee constantly feels vigorous during working hours and interacts constantly with colleagues (Maslach et al. 2001).

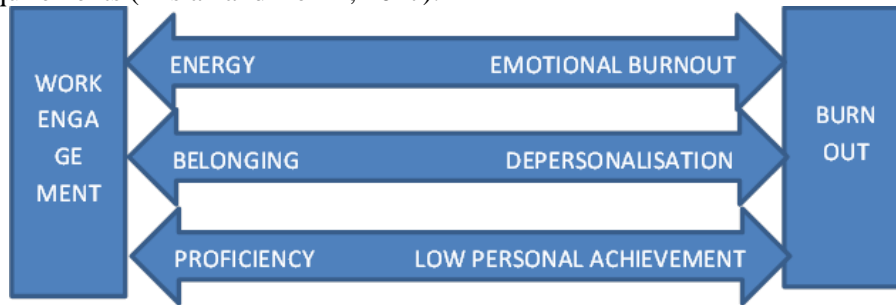
b. Dedication: It refers to work worthy of pride, pride in work, self-proof, challenge, and enthusiastic work (Schaufeli et al. 2002). Devotion is explained as the commitment of the person to work and sometimes even to see themselves as a whole with the work they do (Maslach et al. 2001).

c. Absorption: It refers to the situation of fully concentrating on the job and giving itself to work in-depth. Thus, for the employee, time is running fast at work (Schaufeli et al. 2002). The person knows what he/she is asked for in his/her work and sees the necessary skills for this job (Maslach et al. 2001).

## **2.2 The Concept of Burnout**

In the 1970s burnout was first alleged by Freudenberger as a term to describe the gradual emotional depletion and loss of motivation. Based on Freudenberger’s

(1974) observations, burnout is described as “a state of mental and physical exhaustion caused by one’s professional life,” and he referred to “the extinction of motivation or incentive, especially where one’s devotion to a cause or relationship fails to produce the desired results.” Thus, individuals who burn out from their work deplete their energetic resources and lose their dedication to work (Şanlıöz et. al, 2022). While several studies have been done on burnout for many years, nowadays there has been an interest in concepts such as work engagement, which has recently been revealed to be the opposite of burnout (Güzel and Uyar 2019). The concept of work engagement implies an employee’s high energy and commitment to work (Motyka, 2018). People engaged in the work see their work as meaningful, important, and inspiring. Therefore, they are proud of their work and love their job requirements (Arslan and Demir, 2017).



**Figure 1** Relationship between burnout and work engagement

**Source:** Ardıç K., Polatçı, S. (2009). Tükenmişlik Sendromu ve Madalyonun Öbür Yüzü: İşle Bütünleşme. Erciyes Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi, 32, 21-46.

The person who is engaged in the work evaluates himself/herself as a whole with his/her work cognitively and develops sincere relations with his/her colleagues (Maslach and Leiter, 2008). In this context, engagement in work is considered as a concept based on participation in organizational affairs, being energetic, and being efficient (Arslan and Demir, 2017). It is also noteworthy that employees who are committed to work and integrated with the work are motivated and perform better (Bal, 2009). Contrary to this concept, burnout is seen as a loss of enthusiasm and purpose and depicts physical, emotional, and mental fatigue (burnout) (Pines and Aronson, 1988). According to Maslach and Leiter (1997), burnout is redefined as erosion/abrasion in work engagement.

In predicting considerable outcomes for individuals and organizations, burnout and work engagement are substantial concepts. Reasons for burnout are considered as; high job demands with low job resources. Personality and personal resources considered as individual characteristics are related to both work engagement and burnout but in a converse direction. While both burnout and work engagement are associated with work-related outcomes, burnout is more strongly

related to health outcomes, while work engagement is more strongly relevant to motivational outcomes (Bakker et. al. 2014; Barlett, et. al, 2021).

### **2.3 Consequences of Work Engagement**

It is enclosed in many studies by various authors that work engagement has positive benefits for employees. According to the studies carried out by Schaufeli et al. (2001), engaged employees have self-sufficiency and success in completing their jobs. Employees with work engagement generally expect positive results from life and can adapt their job roles within the organization and satisfy their needs (Schaufeli et al. 2001). Thus, in the survey conducted within the scope of this study, the perceptions about the performance of the enterprise of highly committed employees were questioned. In a study conducted on Dutch employees, a positive relationship was found between engaging in work and working overtime (Beckers et al. 2004). Despite this valuable study, today it is discussable whether it is an efficient way of working overtime or not. Is the employee who has been working overtime really under a workload that will not end within a certain time defined by working hours, or is he unable to plan his time well? If we consider the possibility of working remotely and having flexible working hours, the speed of doing business increases and becomes practical because of the development of technology and communication opportunities, it is not easy to say overtime work is a performance criterion. For this reason, a literature review was conducted to outline how business performance should be determined.

## **3. BUSINESS PERFORMANCE AND MEASUREMENT INDICATORS**

In basic terms, enterprise performance is defined as the degree of fulfillment of the purpose or mission of the enterprise according to the output or result obtained at the end of a certain period (Akal, 2003). Overall, enterprise performance is measured to determine to what extent the organization has achieved its goals (Bakoğlu 2001: 39). In recent years, besides financial indicators, new dimensions such as efficiency, quality, and customer satisfaction, creating value in production, technological efficiency, developing of new products, quality of working life, market share, and public responsibility have been used to measure business performance (Bakoğlu 1999, Göztür 2000, Fuentes et al. 2004). These dimensions are called non-financial performance indicators. (Erdem et. al. 2011)

### **3.1 Inadequacy of Financial Performance Indicators**

Financial performance dimensions (profitability, total sales, and return on investment) are the most frequently used criteria by organizations for measuring business performance (Montoya-Weiss and Calantone 199; Nicholas 1998; Kennerly and Neely 2002; Michalisin et al. 2004); these criteria are criticized for their inability to fully reflect the enterprise performance (Eccles 1991; Phillips 1999; Sarıkaya 2002; Reiner 2004). Therefore, for example, non-financial indicators such as product/service quality, customer and employee satisfaction, and new

product/service developments are needed in addition to financial indicators (Erdem et. al. 2011). On the other hand, productivity is an important parameter. Customer satisfaction has vital importance for the business in almost any environment encountered by the consumer. However, it is thought that an efficient business will satisfy every counterpart around, especially the customer itself.

The performance of a business is the output of a certain time or the result of its work. This result should be perceived as achieving the purpose of the business or the degree of performance of a particular task. In this case, performance is the evaluation of the efforts made to develop business objectives (Akal, 2002: 473). Business performance in the literature; financial performance (such as profitability, expenses, stock prices, etc.), and non-financial performance (such as competition, loyalty, customer satisfaction, etc.) are examined in two different ways (Gupta and Zeitham, 2006: 26). The financial metrics used to evaluate performance are not sufficient since some managerial actions and innovations that define the organization and give meaning to its different activities, although useful, do not yield financial gains (Çiftçi, 2015). For this reason, subjective non-financial criteria include stakeholders' perceptions such as market share, growth in sales, customer satisfaction, customer loyalty, brand value, retention of talented employees, process innovation, information acquisition, and change management. Performance indicators are handled in three dimensions: efficiency, productivity, and compatibility with innovations. While efficiency is related to profitability, productivity is related to achieving non-financial goals. Compliance with innovation is about adapting to changes easily (Homburg et al. 1999: 343).

Non-financial performance metrics have some difficulties. Especially, since many indicators such as information, competition, employee satisfaction, innovation, and customer loyalty have an invisible and intangible structure, which is difficult to measure. Thus, it is possible to benefit from both quantitative and qualitative performance criteria on business performance (Erdem et al. 2011: 85).

- **Qualitative Performance:** In recent years, new dimensions such as efficiency, quality, customer satisfaction, creating value in production, technological efficiency, developing new products, quality of working life, and public responsibility have been used in addition to financial indicators in measuring business performance. These dimensions are evaluated as the qualitative performance criteria of the enterprise.
- **Quantitative performance:** They are the most frequently used criteria in the measurement of business performance, based on the financial indicators of the company. Quantitative performance measurement is made by comparing criteria such as profitability, turnover, production amount, costs, and share value with organizational goals or other criteria (Çiftçi, 2015)

### 3.2 The Effect of Human Resources Practices on Business Performance

Although work engagement is a part of organizational behavior, it also has the feature of being a strategic human resources practice to be provided to the employee. Effective management of human capital can be the best determinant of organizational performance (Liao, 2005: 294). The human resources practices of a company affect the performance of the company in at least two dimensions. The first one is; that high-level HRM (human resources management) practices directly affect the results, which are outcomes. The result of the task and the productivity which can be directly controlled by the employee is an example. The second one that is; if the recycling of HRM investments exceed costs, the financial performance and efficiency of the organization increases with fewer employees. (Roos et al. 2004: 29-30). Huselid's (1995) study supports this point of view in general.

According to the research, a positive relationship was obtained between human resources management practices on individual and organizational performance or efficiency. In addition, it has been determined that these practices have an impact on profitability too (Guest and Hogue, 1994: 40, Roberts, 1995: 43, Huselid, 1995: 636, Wright and Boswell, 2002: 252). The improvement of organizational performance will affect positively the performance in the market too (Marangoz and Biber, 2007). Therefore, it is possible to assume that engagement activities have an impact on the performance of the business. To support this discourse with research, a survey study was conducted.

### 3.3 Hypothesis

Judge, et. al., (2006). have determined the relationship of the narcissistic personality to self- and other perceptions of workplace deviance, leadership, and task and contextual performance. In this study the relation between work engagement and perceived business performance has been investigated as H1: *the work engagement level of employees has a positive impact on business performance perceived by themselves.*

Mascarenhas, et. al, (2022) have studied how Perceived Organizational Support, Identification with the Organization, and Work Engagement Influence Job Satisfaction. In this study relationship between gender and perceived business performance is measured with H2: *A significant difference exists between genders in the level of job engagement and job performance perceived by the employees.*

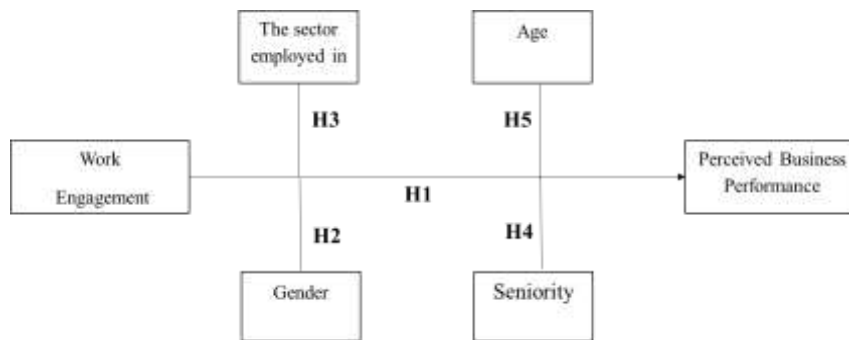
There are several studies examining the correlation of concepts between manufacturing and service sectors such as Forsman (2011) about innovation capacity and development. H3 is stated as: *A significant difference exists between the manufacturing and service sectors in the level of work engagement and business performance perceived by employees.*

Demirtas, (2010) has found a significant difference between seniority and job satisfaction levels of teachers whereas this study aims to search for a difference between seniority and work engagement level of employees with H4: *A significant*

*difference exists between work engagement and perceived job performance by employees in terms of seniority levels.*

As Avery et. al. (2007) Schaufelli et. al., (2008), and Mascarenhas et al., (2022) have studied the relationship between gender and work engagement *H5* investigates the concept as: *A significant difference exists between work engagement and perceived job performance by employees' ages.*

The conceptual model of the research is given below.



**Figure 2** The research model

### 3.4 The Scope, Research Methodology, and Sampling Process

The research proposes to interrogate whether the work engagement level of employees has an impact on perceived business performance with gender and employed sector comparison. The population of the research is employees of companies belonging to manufacturing or service sectors operating in Turkey. Easy sampling method is preferred. The research had been conducted in February 2020.

A 7-point Likert scale questionnaire was conducted on the participants by the online survey technique. Questions about work engagement, perceived business performance, and finally 3 questions for demographic features were asked. On the scale of the study, several statements are created to determine the correlation between employees' engagement and perceived business performance. These statements are suitable for the study from the scales that Utrecht Work Loyalty Scale developed by Schaufeli and Bakker (2004) and perceived business performance (Venkatraman and Ramanujan, 1986). 8 questions were asked in total, 3 questions were about work engagement and 5 questions were about business performance. Before the survey was applied, a pre-test study was carried out with the experts and academics and, after the minor changes, 265 people participated in the final survey.



#### 4. OUTCOMES OF THE RESEARCH

In this part of the study, besides the socio-demographic characteristics of the research sample, there are also analyses regarding the reliability and validity of the scales used in the research.

##### 4.1 Socio-Demographic Characteristics of the Research

The socio-demographic characteristics of the respondents are given below.

**Table 1:** Socio-demographic characteristics of the respondents

Gender	N	%	Age	N	%	Experience	N	%
Female	108	40,8	20-30	125	47,2	0-5 years	187	71
Male	157	59,2	31-40	108	40,7	6-10 years	51	19
			41-60	32	12,1	11 yrs & above	27	10
Total	265	100		265	100		265	100

40.8% of the survey respondents are female and 59.2% are male. 47.2% of respondents participating in the study are between 20 and 30 years old, 40.7% are between 31 and 40 years old, and 12.1% are between 41 and 60 years old. In Table 1, 70,6 % of the respondents declared that they have been working in the same company for 0-5 years, 19,2 % for 6-10 years, and 10.2% for more than 10 years.

##### 4.2 Classification and Diversity of Sectors

Respondents are employed in 38 different sectors declared as belonging to manufacturing/production or service sectors. 87 of 265, participants have been employed in manufacturing/production-based sectors (33%) whereas the rest of the participants are employed in service sectors. Various sectors in which the respondents are employed are listed below.

**Table 2:** Distribution of respondents employed in the manufacturing or service sectors

Manufacturing Sectors		Service Sectors	
Metallurgy	Pharmaceuticals	Aviation/ services	Insurance/Banking
Textile	Packaging	Business Intelligence	Job security and health
Construction	Petroleum	Call Center	Logistics/transportation
Durable Goods	Defense & Space	Consultancy/law/audit	Public service
Automation	Aircraft mainten.	Digital Platform/media	Publishing
Manufacturing	Cosmetics	Education	Retail
Mach. carpet	Mining	E-trade	Technology
Robotics	Plastics	Finance /Fintech	Telecommunications
Hydraulics	R&D	Health	Tourism
FMCG		Information technologies	

### 4.3 Reliability and Validity Analysis Results

Reliability and validity analyses of the scales were conducted to measure the effect of engaging in work on perceived business performance. When Cronbach's Alpha analysis is performed for the work engagement scale consisting of 3 items; the Alpha value is found as 0,876. For the perceived business performance scale consisting of 5 items; the Alpha value is found as 0,925, which is the lower limit of a scale (0.70) that is accepted as reliable. It is understood that the scale used is reliable (Hair, Anderson, Tatham, and Black, 1998).

Factor analysis was used for the structural validity of the scale whereas, for scale validity, exploratory factor analysis was applied. The test statistics of “KMO and Barlett’s”. Result of 0,668 Kaiser-Meyer-Olkin and 490,326 chi-square value of Barlett's test sig. was realized as  $p \leq 0.01$ . The work engagement scale (data group) is suitable for factor analysis. The total explained variance was obtained as 80,306 in exploratory factor analysis. The result of 0,843 Kaiser-Meyer-Olkin and Barlett’s test corresponds to a 1021,035 chi-square value sig. was realized as  $p \leq 0.01$ . The perceived business performance scale (data group) is appropriate for factor analysis whereas the total explained variance was 76,965.

**Table 3:** Descriptive Statics of the Analysis

Descriptive Statistics									
	N	Min	Max	Mean	Std. Dev.	Skewness		Kurtosis	
	Stats.	Stats.	Stats.	Stats.	Stats.	Stats.	Std. Er	Stats.	Std. Er
Perf. Perceived	265	1	7	5,0853	1,42461	-0,567	0,15	-0,383	0,298
Work Eng.	265	1	7	5,3107	1,51073	-0,893	0,15	0,142	0,298

### 4.4 Correlation Analysis Results

To determine the correlation between employees' work engagement and their perceptions of business performance correlation analysis was used. The relationship between the level of employee work engagement and perceived business performance was examined first. Correlation analysis results are given in Table 4.

**Table 4:** The relationship between employees' work engagement level and perceived business performance.

Correlations	PBP	WE
PBP (Perceived Business Performance)	1	0,317
WE (Work Engagement)	0,317**	1

Correlation is significant at level 0,01

Regarding the table above, although a weak correlation has been obtained between work engagement and business performance, a significant relationship exists at  $p \leq 0.01$ .

#### 4.5 Regression Analysis Results

To determine the correlation between the level of employee engagement and the perceptions of business performance regression analysis was applied. The regression analysis results are as follows.

**Table 5:** Regression Model Summary

Model Summary				
Model	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	Std. Error of the Estimate
1	,317 <sup>a</sup>	0,1	0,097	1,3539

a. Predictors: (Const.), Work Engagement

**Table 6:** ANOVA Table

Model	Sum of Sq.	df	Mean Sq.	F	Sig.	
1	Regression	53,7	1	53,7	29,3	,000 <sup>b</sup>
	Residual	482,092	263	1,833		
	Total	535,793	264			

a. Dependent Variable: PERF b. Predictors: (Constant), WE

**Table 7:** Regression Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Const)	2,125	0,168		12,655	0
	WE	0,299	0,055	0,317	5,413	0

a. Dependent Variable: PERF

According to the values above, there is a correlation between work engagement and business performance. Also, the work engagement level has a meaningful impact on the perceived business performance. Hypothesis H1 was approved.

#### 4.6 T-test Analysis Results

While it is statistically determined that the data is distributed normally t-test was applied. According to the t-test analysis results; the correlation between gender

differences and work engagement level in perceived business performance is as follows.

**Table 8:** T-test analysis for gender differentiation

Group Statistics					
Gender		N	Mean	Std. Deviation	Std. Error Mean
Perceived Performance	Female	96	4,9417	1,41776	0,1447
	Male	166	5,1759	1,43376	0,11128
Work Engagement	Female	96	5,2569	1,44811	0,1478
	Male	166	5,3333	1,55743	0,12088

**Table 9:** Independent Samples Test

		Independent Samples Test								
		Levene's Test		t-test for Equality of Means						
		F	Sig.	T	df	Sig. 2-tailed	Mean Diff.	Std. Error Diff.	Confidence Interval	
								Lower		Upper
Perceived perf.	assumed	0,1	0,76	-1,28	260	0,202	-0,234	0,183	-0,594	0,126
	not assumed			-1,28	200,2	0,201	-0,234	0,182	-0,594	0,125
Work Eng.	assumed	0,49	0,48	-0,39	260	0,695	-0,076	0,194	-0,459	0,306
	not assumed			-0,4	210,4	0,69	-0,076	0,19	-0,452	0,3

According to the values above, a significant difference can not be obtained between genders although male participants have a higher level of work engagement. Thus, H2 was rejected. However, further studies may reveal positive results with increasing the number of participants. The other inquiry was to find out if there is a correlation between the manufacturing and service sectors in which the employees are employed and work engagement level on perceived business performance. T-test analysis was used.

**Table 10:** T-test analysis for sectoral differences

Group Statistics					
Type of the sector (M for manufacturing, S for Service)		N	Mean	Std. Deviation	Std. Error Mean
Perceived Perf.	S	170	5,0447	1,44546	0,11086
	M	95	5,1579	1,39113	0,14273
Work Engagement	S	170	5,302	1,54156	0,11823
	M	95	5,3263	1,46187	0,14998

**Table 11:** Independent Samples Test for sectoral differences

		Independent Samples Test								
		Levene's Test for Equality of Var.		t-test for Equality of Means						
		F	Sig.	t	df	Sig. 2-tailed	Mean Diff.	Std. Error Diff.	Confidence Interval	
								Lower	Upper	
Perceived pef.	assumed	0,06	0,8	-0,62	263	0,536	-0,113	0,182	-0,47	0,246
	not assumed			-0,63	200,9	0,532	-0,113	0,181	-0,46	0,243
Work Eng.	assumed	2,31	0,13	-0,13	263	0,9	-0,024	0,193	-0,40	0,357
	not assumed			-0,13	203,4	0,89	-0,024	0,19	-0,40	0,352

Due to the values above, there is no significant difference between real and service sectors where employees work in terms of work engagement level onto perceived business performance. Further studies may reveal positive results with increasing the number of participants. H3 was rejected.

#### 4.7 ANOVA Analysis Results

To find the result of Hypothesis 4 and Hypothesis 5, an analysis of variance is used since the number of factors is more than two. First, the difference between work engagement and perceived performance by employees by seniority levels is analyzed (Motyka, 2018).

**Table 12:** Status of the ANOVA for seniority differences

Test of Homogeneity of Variances					
		Levene Statistic	df1	df2	Sig.
Perceived Performance	Based on Mean	0,695	2	256	0,5
	Based on Median	0,524	2	256	0,593
	Based on Median and with adjusted df	0,524	2	249,183	0,593
	Based on trimmed mean	0,632	2	256	0,532
Work Engagement	Based on Mean	0,126	2	256	0,882
	Based on Median	0,201	2	256	0,818
	Based on Median and with adjusted df	0,201	2	251,11	0,818
	Based on trimmed mean	0,173	2	256	0,841

**Table 13:** Status of ANOVA for Groups

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Perceived Performance	Between Groups	2,42	2	1,21	0,589	0,556
	Within Groups	526,037	256	2,055		
	Total	528,458	258			
Work Engagement	Between Groups	5,608	2	2,804	1,231	0,294
	Within Groups	582,997	256	2,277		
	Total	588,605	258			

In the analysis of H4, 6-10 years experienced employees' mean is less than both 0-5 years and 11 years above the experienced employees' mean. However, in the analysis of the variance test, not any significant difference has been obtained between the three seniority levels. Therefore, hypothesis 4 is rejected. Variance test analysis was also conducted to inquire about the difference between work engagement and perceived job performance by employees' ages.

**Table 14:** Status of the ANOVA for age difference

Descriptives									
		N	Mean	Std. Deviation	Std. Error	95% Confidence		Min	Max
						Lower	Upper		
Perceived Performance	20-30	125	5,3828	1,23035	0,11005	5,165	5,6006	2,2	7
	31-40	108	4,8852	1,55982	0,15009	4,5876	5,1827	1	7
	41-60	32	4,5875	1,45464	0,25715	4,063	5,112	1,4	7
	Total	265	5,084	1,42615	0,08761	4,9115	5,2565	1	7
Work Engagement	20-30	125	5,3493	1,41095	0,1262	5,0995	5,5991	1	7
	31-40	108	5,1574	1,66352	0,16007	4,8401	5,4747	1	7
	41-60	32	5,6771	1,30201	0,23016	5,2077	6,1465	1	7
	Total	265	5,3107	1,51073	0,0928	5,128	5,4934	1	7

**Table 15:** Test of Homogeneity of Variances

ANOVA						
		Sum of Sq.	df	Mean Sq.	F	Sig.
Perceived Performance	Between Groups	23,318	2	11,659	5,947	0,003
	Within Groups	513,637	262	1,96		
	Total	536,954	264			
Work Engagement	Between Groups	7,02	2	3,51	1,544	0,215
	Within Groups	595,511	262	2,273		
	Total	602,531	264			

According to the analysis of variance analysis of age differences, the perceived performance of the employees has a significant difference based on age means. However, there is not any significant difference between ages in work engagement. To understand which categories of age have differed significantly in perceived performance, post hoc analysis was applied. When the homogeneity of variance between groups for age is regarded, the Games-Howell method for post hoc analysis is used since the groups do not have homogeneity.

**Table 16:** Status of the POST HOC for the age difference

Multiple Comparisons (Games-Howell)							
Dependent Variable			Mean Dif (I-J)	Std. Error	Sig.	95% Confidence	
						Lower	Upper
Perceived Performance	20-30	31-40	,49761*	0,18611	0,022	0,0582	0,937
		41-60	,79530*	0,2797	0,018	0,1164	1,4742
	31-40	20-30	-,49761*	0,18611	0,022	-0,937	-0,0582
		41-60	0,29769	0,29775	0,58	-0,4199	1,0153
	41-60	20-30	-,79530*	0,2797	0,018	-1,4742	-0,1164
		31-40	-0,29769	0,29775	0,58	-1,0153	0,4199
Work Engagement	20-30	31-40	0,19193	0,20384	0,615	-0,2892	0,6731
		41-60	-0,32775	0,26249	0,431	-0,9613	0,3058
	31-40	20-30	-0,19193	0,20384	0,615	-0,6731	0,2892
		41-60	-0,51968	0,28036	0,161	-1,1924	0,153
	41-60	20-30	0,32775	0,26249	0,431	-0,3058	0,9613
		31-40	0,51968	0,28036	0,161	-0,153	1,1924

\*. The mean difference is significant at the 0.05 level.

In the Post Hoc analysis, 20-30 aged employees' mean is significantly different from 31-40 aged employees and 41-60 aged employees on perceived performance at the significance level  $p < 0,05$ . However, there is no significance between 31-40 aged employees and 41-60 aged employees on perceived performance. H5 is approved.

**Table 17:** Status of the hypotheses

No	Description	Status
H1	The work engagement level of employees has a positive impact on business performance perceived by themselves.	Approved
H2	A significant difference exists between genders in the level of job engagement and job performance perceived by the employees.	Rejected
H3	A significant difference exists between the manufacturing and service sectors in the level of work engagement and business performance perceived by employees.	Rejected
H4	A significant difference exists between work engagement and perceived job performance by employees in terms of seniority levels.	Rejected
H5	A significant difference exists between work engagement and perceived job performance by employees' ages.	Approved

## 5. CONCLUSIONS

Under increasingly competitive conditions, businesses are obliged to use all their sources and possibilities to increase their competitiveness and survive. These possibilities may include financial strength, innovation capability, product/service differentiation, improvement of physical conditions, and more effective usage of human resources. In our age, it is thought that working with human resources engaged in the business is as effective as having more financial resources to increase its market share and developing the innovation ability to differentiate from the competitors. Despite the increase of studies that had been done concerning the work engagement concept in the past decade, relatively, there is not much work done on this subject yet. As mentioned in the studies of Bilginoğlu and Yozgat (2019), it can be questioned whether the concept of work engagement is a new way of packing the concepts; of job commitment and satisfaction. However, in any case, determining the positive effect of the more engaged employees on the business performance is promising and developable in terms of more detailed work to be done in the future.

Although the study was carried out in 38 sectors with the participation of only the employees of companies located in Turkey. The survey has been conducted just before the Covid-19 pandemic in February 2020. Further studies may be considered during and after the Covid-19 pandemic and be converted to a global scale.

Among the results of the research, it is noted that the job engagement level of men is slightly higher than that of women. However, the study presents only a cross-section. It is thought that there is a need for detailed studies on this subject with various participant groups in different cultures and therefore different countries. For example, in some studies, it is obtained that there are no gender differences in the structural relationships among research variables. (Banihani et. Al 2013; Lee, 2018). Also, another study done in Turkey declares that; by the gender differences social role theory, a fundamental social role for men is indicated as employment. Men could be more sensitive to the threat of losing their jobs as well as their associated privileges compared to women while deriving their identity largely from their jobs (Camgoz et. al. 2016).

Neither no significant difference was obtained between employees working in manufacturing or service sectors who have a higher level of work engagement nor perceived business performance. In the literature, there are studies on the job engagement of employees in the private and public sectors (Bakker & Hakanen, 2013; Borst et. Al, 2020). While there are studies on the service sector related to job engagement, no comparative study has been found on the manufacturing sector. It is believed that this study might be preliminary in terms of comparing the level of job engagement in the service and manufacturing sectors by expanding the number of participants and businesses. Dhir and Shukla (2018) have worked on the engagement and performance of employees with their demographics. The link between the



management level of working managers and personal demographics consists of gender, education, and age. Compared to their study in our research significant difference was obtained only in the age groups in the survey conducted. Expanding the number of participants and sectors might provide better results for future studies.

#### REFERENCES

- Akal, Z. (2002). *İşletmelerde Performans Ölçüm ve Denetimi*. Ankara: MPM Yayınları.
- Ardıç, K. and Polatçı, S. (2009). Tükenmişlik sendromu ve madalyonun öbür yüzü: işle bütünleşme. *Erciyes Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, 32, 21-46.
- Arslan, E. T. and Demir, H. (2017). İşe angaje olma ve iş tatmini arasındaki ilişki: hekim ve hemşireler üzerine nicel bir araştırma. *Yönetim ve Ekonomi. Celal Bayar Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, 24(2), 371-389
- Avery, D. R., McKay, P. F., & Wilson, D. C. (2007). Engaging the aging workforce: The relationship between perceived age similarity, satisfaction with coworkers, and employee engagement. *Journal of Applied Psychology*, 92(6), 1542–1556. <https://doi.org/10.1037/0021-9010.92.6.1542>
- Bakker, A.B., Albrecht, S.L. and Leiter, M.P. (2011). Key questions regarding work engagement. *European Journal of Work and Organizational Psychology*, 20(1), 4-28.
- Bakker, A.B., Demerouti E. and Sanz-Vegel A.I. (2014). Burnout and work engagement: *The JD–R Approach*. *Psychol. Organ. Behav.* 2014. 1:389–411
- Bakker A.B. and Hakanen J.J. (2013). Work engagement among public and private sector dentists. *Human Resource Management in the Public Sector*. pp:109–131.
- Bakker, A.B., Westman, M., and Van Emmerik, I.Y.H., (2009). Advancements in crossover theory, *Journal of Managerial Psychology*, 24 (3), 206-219.
- Bakoğlu, R. (2001). Örgütsel performans kavramı ve gelişimi. *Öneri Dergisi* 4 (15): 39–45.
- Bal, E. A. (2009). Bir pozitif psikoloji kavramı olarak işe gönülden adanma (work engagement) ve insan kaynakları açısından önemi. *Eskişehir Osmangazi Üniversitesi İşletme Bölümü 17. Ulusal Yönetim ve Organizasyon Kongresi*, 21-23 Mayıs, 546-552.
- Banihani, M., Lewis, P. and Syed, J. (2013), Is work engagement gendered? *Gender in Management*, Vol. 28 No. 7, pp. 400-423. <https://doi.org/10.1108/GM-01-2013-0005>
- Bartlett, L., Buscot, M. J., Bindoff, A., Chambers, R., & Hassed, C. (2021). Mindfulness Is Associated With Lower Stress and Higher Work Engagement in a Large Sample of MOOC Participants. *Frontiers in psychology*, 3924.

Beckers, D. G., van der Linden, D., Smulders, P. G., Kompier, M. A., van Veldhoven, M. J., and van Yperen, N. W. (2004). Working overtime hours: relations with fatigue, work motivation, and the quality of work. *Journal of Occupational and Environmental Medicine*, 1282-1289.

Bilginoğlu, E. and Yozgat U. (2019) Ultra-kısa işe angaje olma ölçeği Türkçe formunun geçerlilik ve güvenilirlik çalışması, *Business & Management Studies: An International Journal* Vol.:7 Issue:5 pp. 2863-2872.

Borst, R. T., Kruey, P. M., Lako, C. J., and de Vries, M. S. (2020). The attitudinal, behavioral, and performance outcomes of work engagement: a comparative meta-analysis across the public, semipublic, and private sector. *Review of Public Personnel Administration*, 40 (4), 613-640.

<https://doi.org/10.1177/0734371X19840399>

Camgöz, S. M., Ekmekci O.T., and Karapinar P. B. (2016). Job insecurity and turnover intentions: gender differences and the mediating role of work engagement. *Sex Roles* 75, 583–598. <https://doi.org/10.1007/s11199-016-0595-0>

Çiftçi, G., (2015). *Turizm işletmelerinde kriz yönetimi uygulamalarının örgütsel öğrenme ve işletme performansı açısından ampirik olarak analizi*, (Yayınlanmamış Doktora Tezi). Namık Kemal Üniversitesi Sosyal Bilimler Enstitüsü. Tekirdağ.

Dalay, G. (2007). *The relationship between the variables of organizational trust, job engagement, organizational commitment, and job involvement*. (Yayınlanmamış Yüksek Lisans Tezi). Marmara Üniversitesi. İstanbul.

Demirtas Z., Teachers' job satisfaction levels, *Procedia - Social and Behavioral Sciences*, Volume 9,

Dhir, S. and Shukla A. (2018). The influence of personal and organizational characteristics on employee engagement and performance. *International Journal of Management Concepts and Philosophy* Vol. 11, No. 2

Eccles, R. G. (1991, January-February). The performance measurement manifesto. *Harvard Business Review*. 131–137.

Erdem, B., Gökdeniz, A. and Met, Ö. (2011). Yenilikçilik ve işletme performansı ilişkisi: antalya'da etkinlik gösteren 5 yıldızlı otel işletmeleri örneği *Dokuz Eylül Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, Cilt:26, Sayı:2, ss.77-112.

Forsman H., (2011). Innovation capacity and innovation development in small enterprises. A comparison between the manufacturing and service sectors, *Research Policy*,

Volume 40, Issue 5, pp. 739-750

Freudenberger, HJ. 1974. Staff burnout. *J. Soc. Issues* 30:159–65.

Fuentes-Fuentes, M. M., Albacete-Sáez, C. A., and Lloréns-Montes, F. J. (2004). The impact of environmental characteristics on TQM principles and organizational performance. *Omega*, 32(6), 425-442.

Gallup (2017). *State of the global workplace*. [date of access 06.12.2020].  
<https://www.gallup.com/workplace/238079/state-global-workplace-2017.aspx>

Göztür, E. (2000). *Performans yönetim sistemi ve amaçlara göre yönetim* (Yayınlanmamış Yüksek Lisans Tezi). Yıldız Teknik Üniversitesi Sosyal Bilimler Enstitüsü. İstanbul.

Guest, D. and Hogue, K., (1994, November). Yes, personnel does make a difference. *Personnel Management*.

Gupta S. and Zeithaml V. (2006). Customer metrics and their impact on financial performance. *Marketing Science*. vol. 25, issue 6, 718-739

Güneşer, A. B. (2007). *The effect of person-organization fit on organizational commitment and work engagement: the role of person-supervisor fit*. (Yayınlanmamış Doktora Tezi). Marmara Üniversitesi. İstanbul.

Güzel, Ş, and Uyar S., (2019). Tükenmişliğin antitezi işe angaje olmak: kavramsal açıdan bir inceleme. *Sosyal Araştırmalar ve Yönetim Dergisi (SAYOD)*. Sayı:1, 44-52,

Homburg, C., Krohmer, H. and Workman, J. (1999). Strategic consensus and performance: the role of strategy type and market-related dynamism. *Strategic Management Journal*, 20, 339-357.

Huselid, M., (1995). The impact of human resources management on turnover, productivity, and corporate financial performance. *Academy of Management Journal*, vol.38. pp.630-18.

Judge, T. A., LePine, J. A., & Rich, B. L. (2006). Loving yourself abundantly: Relationship of the narcissistic personality to self- and other perceptions of workplace deviance, leadership, and task and contextual performance. *Journal of Applied Psychology*, 91(4), 762–776. <https://doi.org/10.1037/0021-9010.91.4.762>

Kennerley, M. and Neely, A. (2002). A framework of the factors affecting the evaluation of performance measurement systems. *International Journal of Operations & Production Management* 22 (11): 1222–1245.

Länge, A. (2003). Burnout: existential meaning and possibilities of prevention. *Eur. Psychother.* 4:107–121.

Lee, Y, and Eissenstat, SJ. (2018). An application of work engagement in the job demands-resources model to career development: Assessing gender differences. *Human Resource Development Quarterly*. 29: 143– 161.  
<https://doi.org/10.1002/hrdq.21310>

Marangoz, M. and Biber L., (2007). A Research On Analysing the Relationship Between Businesses, Market Performance and Human Resources Applications *Doğuş Üniversitesi Dergisi*, 8 (2) sf.202-217.

Markos, S. and Sridevi M. S. (2010). Employee engagement: the key to improving performance. *International Journal of Business and Management*, 5(12), 89-96.

Mascarenhas, C., Galvão, A. R., & Marques, C. S. (2022). How Perceived Organizational Support, Identification with Organization and Work Engagement Influence Job Satisfaction: A Gender-Based Perspective. *Administrative Sciences*, 12(2), 66. <https://doi.org/10.3390/admsci1202006>

Maslach, C., Schaufeli, W. B. and Leiter, M. P. (2001). Job burnout. *Annual Reviews*, 52, 397-422.

Metin, Ü. B. (2010). *The antecedents and consequences of burnout, work engagement and workaholism*. (Yayımlanmamış Doktora Tezi) Orta Doğu Teknik Üniversitesi. Ankara.

Michalisin, M. D., Karau, S. J. and Tangpong, C. (2004). The effects of performance and team cohesion on attribution: a longitudinal simulation. *Journal of Business Research* 57 (10): 1108-1115.

Montoya, W. and Calantone, R. (1994). Determinants of new product performance: a review and meta-analysis. *Journal of Product Innovation Management*, 11 (5): 397-417.

Motyka, B. (2018). Employee engagement and performance: a systematic literature review. *International Journal of Management and Economics*, 54(3), 227-244.

Nicholas, J. M. (1998). *Competitive Manufacturing Management. USA:* McGraw-Hill International Editions, Management & Organization Series

Özkalp, E. and Meydan, B. (2015). Schaufeli ve Bakker tarafından geliştirilmiş olan işe angaje olma ölçeğinin türkçe’de güvenilirlik ve geçerliliğinin analizi, *İş, Güç Endüstri İlişkileri ve İnsan Kaynakları Dergisi*, 17(3), 4-19.

Phillips, P. A. (1999). Performance measurement systems and hotels: a new conceptual framework. *Hospitality Management* (18): 171-182.

Pines, A. M. and Aronson, E. (1988). *Career burnout: Causes and cures*. New York: Free Press.

Reiner, G. (2004). Customer-oriented improvement and evaluation of supply chain processes supported by simulation models. *International Journal of Production Economics* (22): 381-395.

Robinson, D., Perryman, S. and Hayday, S. (2004). The drivers of employee engagement. Institute for Employment Studies.

Sarıkaya, N. (2002). *Kalite iyileştirme faaliyetlerinin algılanmasının işletme performansı üzerindeki etkilerinin incelenmesi ve Türkiye uygulaması*. (Yayımlanmamış Doktora Tezi). Sakarya Üniversitesi Sosyal Bilimler Enstitüsü. Sakarya.

Öner, Z. H. (2008). *The mediating effect of organizational justice: moderating roles of sense of coherence and job complexity on the relationship between servant leadership and work engagement*. (Yayımlanmamış Doktora Tezi). Marmara Üniversitesi. İstanbul.

Özer, Ö., Saygılı, M. and Uğurluoğlu, Ö. (2015). Sağlık çalışanlarının işe cezbolma düzeylerinin belirlenmesine ilişkin bir araştırma. *Business & Management Studies: An International Journal*, 3(3), 261-272

Roberts, K., (1995). The proof of HR is in the profit. *People Management*, vol.42

Roos, G., Fernström, L. and Pike, S., (2004). Human resource management and business performance measurement. *Measuring Business Excellence*, vol.8, no.1, pp. 28-37.

Schaufeli, W.B., Taris, T.W. and Van Rhenen, W. (2008), Workaholism, Burnout, and Work Engagement: Three of a Kind or Three Different Kinds of Employee Well-being?. *Applied Psychology*, 57: 173-203. <https://doi.org/10.1111/j.1464-0597.2007.00285.x>

Schaufeli W. B. and Bakker, A. (2004, December). *UWES Utrecht Work Engagement Scale*. [Version 1.1, December 2004] [https://www.wilmarschaufeli.nl/publications/Schaufeli/Test%20Manuals/Test\\_manual\\_UWES\\_English.pdf](https://www.wilmarschaufeli.nl/publications/Schaufeli/Test%20Manuals/Test_manual_UWES_English.pdf) [Access date 28.07.2021].

Schaufeli, W. S., M. Gonzalez-Roma, V. and Bakker, A. B. (2002). The measurement of engagement and burnout: a two-sample confirmatory factor analytic approach. *The Journal of Happiness Studies*, 3, 71-92.

Şanlıöz, E., Sağbaş, M., and Sürücü, L. (2022). The Mediating Role of Perceived Organizational Support in the Impact of Work Engagement on Job Performance. *Hospital Topics*, 1-14

Tuna, B. (2009). Understanding the relationship between transformational, transactional leadership and affective commitment, work engagement. (Yayımlanmamış Doktora Tezi) Yeditepe Üniversitesi. İstanbul.

Turgut, T. (2011). *Çalışmaya Tutkunluk*. (Ed. Güler İslamoğlu), 1. Baskı, Ankara: Nobel Yayıncılık.

Ünal, Z. M. (2013). The contribution of person-organization fit to employee engagement (Doctoral dissertation, Marmara Üniversitesi (Turkey)).

Venkatraman N. and Ramanujan V. (1986) "Measurement of business performance in strategy research: A comparison of approaches", *Academy of Management Review*, 11(4), ss.801-14.

Wright M. P. and Boswell, R. W., (2002). Desegregating HRM: a review and synthesis of micro and macro human resource management research. *Journal of Management*, vol.3. pp.250-9.

