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Scale Of Organizational Unlearning: Study Of Validity Reliability

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Abstract

The aim of the research is the inclusion of validity and reliability studies by translating and adopting the scale of organizational unlearning into Turkish in order to test the structural validity of the scale which consists of totally 3 dimensions and 18 statements and developed by Cegarra & Sánchez (2008) The validity and reliability studies of the sample occured with the participation of 210 health employees working in Elazig private hospitals. According to the results of explanatory factor analysis, item number which was 18 in the original scale taken into consideration in three dimension faithfully was decreased to 15 According to the results of the conducted explanatory factor analyses, it was determined that the scale indicated adequate fitting. RMSEA = 0.062, NFI = 0.90, CFI =0.96, NNFI = 0.91, GFI = 0.92 ,AGFI = 0.89, χ2/sd =2,087. Alpha reliability coefficients of the scale were determined as 918, The consolidation of emergent understanding, 873, The examination of lens fitting, 885 for the framework for changing the individual habits. As a result, the Turkish version of this study, which has been validated and reliability analyzes of the organizational renunciation scale, has been obtained and it is thought to be gained in the national literature.

Keywords: *Organizational Unlearning, Reliability, Validity*

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Örgütsel Vazgeçme Ölçeği: Geçerlik Güvenilirlik Çalışması

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Öz

Araştırmanın amacı, Cegarra ve Sánchez (2008), tarafından geliştirilen, toplamda 3 boyut ve 18 ifadeden oluşan ölçeğin yapı geçerliğini test etmek adıma örgütsel vazgeçme ölçeğinin Türkçe'ye çevrilmesi, uyarlanması ile geçerlilik ve güvenilirlik çalışmalarına yer verilmesidir. Ölçeğin geçerlilik ve güvenirlik çalışmaları Elazığ ilindeki özel hastanede 210 sağlık çalışanının katılımıyla gerçekleştirilmiştir. Ölçeğin yapı geçerliliğini test etmek amacıyla açımlayıcı ve doğrulayıcı faktör analizleri gerçekleştirilmiştir. Ayrıca ölçeğin güvenilirliğini hesaplamak amacıyla da iç tutarlılık (Cronbach's Alpha) 'ya bakılmıştır. Açımlayıcı faktör analizi sonuçlarına göre orijinaline bağlı kalınarak üç boyutlu olarak ele alınan ölçeğin orijinalinde 18 olan madde sayısı, Türkçe ölçekte 15'e düşürülmüştür. Yapılmış olan doğrulayıcı faktör analizi sonuçlarına göre ölçeğin yeterli düzeyde uyum gösterdiği belirlenmiştir. RMSEA = 0.062, NFI = 0.90, CFI =0.96, NNFI = 0.91, GFI = 0.92 ve AGFI = 0.89, χ2/sd =2,087. Ölçeğin Alpha güvenirlik katsayıları, bireysel alışkanlıkların değişimi faktörü için ,918, yeni anlayışların bütünleştirilmesi , 873, ortak uyum, 885 olarak tespit edilmiştir. Gerçekleştirilen analizler sonucunda ölçeğin 3 faktörlü ilişkisiz yapısının en iyi uyum değerlerine sahip olduğu anlaşılmıştır. Sonuç itibariyle bu çalışma, örgütsel vazgeçme ölçeğinin geçerlik ve güvenilirlik analizleri yapılmış olan Türkçe versiyonu elde edilmiş olup ulusal literatüre kazandırıldığı düşünülmektedir.

Anahtar Kelimeler: *Örgütsel Vazgeçme, Güvenirlik, Geçerlik*

Introduction

The concept of unlearning was represented as a result of defining the effect of individual conceptual maps within learning processes. On one hand cognitive science and neurolinguistic science and on the other hand ecological approach hypothesized by Bateson Maturana and Varela suggest that a large portion of our knowing capabilities depends on identifying and interpreting the triggers compered to cognitive models which compose knowledge structure. Cognitive models are fundamentaly tacit and continuously changes by means of micro-settings which support some patterns for the account of others. In adulthood stage, we make a great effort in order to compose new elements within global frame established in our cognitive maps. This is apparently an essential process and fundamentally an economic process, because it happens spontaneously and shares the interpretation of triggers relatively in a constant context. However, in irregular environments or in front of innovation, strong points of cultural patterns of maps become an inhibitor factor due to they dispatch new information to old model. New inhibitors require a radical change, a cultural change in our knowledge structure generally: the capability to leave the existing patterns until now is the precondition to give space to new forms which are not compatible with the existing model. However, above all as organization cultures, tacit individual knowledge involves the amount of knowledge which remains hidden or unseen generally (Pighin and Marzona, 2011) Unlearning is a cross-level process from individual to organization. Unlearning composed of individual and organizational unlearning. Individuals have the talent and desire to abandon obsolete knowledge and routines (Zhao et.al., 2013) Therefore, individual unlearning is the first step in unlearning process. Individuals play an important role in unlearning process. In up-down change, individuals are the receivers of change. Change generally initiates with individuals and their awareness about unlearning. When individuals come across with problems, individual cognition patterns and routines will be replaces with unlearning in order to reach a solution.

Changes in individual behaviours can lead to a tension between individual believes and group activities. This tension can be solves with the integration of individual changes only into groups and individual perception. Consequently, individual believes and routines will make organizational activities appropriate. Finally, individual change will have a positive effect on the

organizational change (Wang et.al., 2019) Organizational unlearning was defined as the process of making room for new approaches and requires determination, interpretation and participation of signals resulted in obsolete knowledge structures in today's changing environment. Therefore, this unlearning perspective is important for the ongoing discussions about the importance of organizational unlearning in order to reach the goals (Ruíz et.al., 2017). According to Argyris and Schön (1996), organizational unlearning is "discarding old strategies from knowledge store"; according to Cegarra-Navarro & Dewhurst (2006) it is "the dynamic process which identifies and removes obsolete information and routines". According to Alas (2007), it is "expectation from individual to abandon their obsolete ways of doing things". According to Gustavsson (1999), it is "the fundamental change in perception and understanding in old knowledge structures... "changing cognitive maps... (and) replacing old behaviours with new ones"; Harvey & Buckley (2002) defined it "systematically removing obsolete or inefficient knowledge in order to take managerial decisions".

Martin de Holan et.al. (2004) defined it as "removing routine knowledge and managing cultures by changing the structure by revealing deeply hidden knowledge with the statements "disturbing the order of knowledge by breaking routines, changing structure and managing cultures by ways of revealing deeply hidden knowledge". In this definition, they define the organizational unlearning as "loss and voluntary act for all types of organizational knowledge" and classify unlearning in two dimensions: intentionality of unlearning process and innovation of unlearned knowledge. They evaluate unlearning as an unlearning type which is removed the existing knowledge intended for purpose (Tsang and Zahra, 2008). Navarro and Moya (2005) defined organizational unlearning which identified as a dynamic process which removed inefficient and obsolete knowledge and routines inhibiting the total appropriateness of new knowledge and opportunities. According to Lyles (2001) it is the reframing process in order to accord old success programs to changing environment and situational conditions (Tsang and Zahra, 2008) Akgün et.al. (2006) defined organizational unlearning as changes in believes and routines.

Prahalad and Bettis (1986) defines it as "a process of eliminating old sense and behaviours of firms and making rooms for new things". Sitkin et.al.

(1999) defined it as "removing obsolete understanding and routines. Organizational unlearning generally refers to replacing old routines with new ones as indicated in the whole definitions. Organizational members teach to accord with these new routines by removing old routines. Thus, unlearning and learning synchronize or latter follows former (Tsang and Zahra, 2008).

Technological business innovation is an opportunity for deep cultural evolutions that some of old habits and knowledge become invalid and require to be abandones in order to make room for new processes. Innovation comes with the processed of learning and unlearning, so the main step of this is to unlearn which is the ability to correct the power of old knowledge and habits in order to give space to new learning (Pighin and Marzona, 2011). Organizational unlearning is a process which occurs when individuals have to update obsolete knowledge structures (etc., routines, processes or protocols). This is the same situation that one person purchase a coat and have to make room for this new coat in the crowded wardrobe. When this happens, the first step can be to get rid of the undesired materials. Organizational unlearning can be functionalized with three processes and one context: (1) awareness is the process for individual to be aware of obsolete rules, routines or processes. This can be done by determining own faults or mistakes. (2) unlearning provides individuals not to make old mistakes which occur especially unwillingly again; (3) relearning includes for individuals to remove and leave old things by making and learning new things (Ruíz et.al., 2017) Although there are several studies about organizational unlearning in foreign literature (Wang et.al., 2019; Pighin, M., Marzona, A., 2011; Akgün et.al., 2007), there are few studies in Turkish literature (Karabal, 2018). The aim of this study is to bring the Turkish version of scale of organizational unlearning in national and international literatures by making the study of validity and reliability.

Method

Population

Participants of the study consist of 210 employees in Elazig province private hospital. 99 of the participants (47,1%) are female and 111 (52,9%) are male.

Age of the population is between 25 and 35 and comprise 60,5% of the population.

Material and Method

In the study, the Quastionnaire of Organizational Unlearning" which was developed by Cegarra and Sánchez, 2008 and consists of 3 dimensions and 18 statements; 1st Dimension is integration of new approaches (6 items), 2nd Dimension (5 items) is common adaption and 3rd Dimension (7 items) is the change of individual habits. Quantitative data acquired as a result of this application were evaluated by using structural equation model in order to test the construct validity of the scale at first and reliability tests were conducted on these data.

Language Validity

The translation was tested by using the method of re-translation "Scale of Organizational Unlearning" was translated from English to Turkish by two English linguists. After the arrangement of these translations, acquired form was translated into English again with an English linguist who understand and speak both languages (Turkish and English). After the statements in English translation of the scale were compared with English statements, Turkish translation was reviewed. The translation and re-translation of the scale were conducted by independent translators.

Construct Validity

Construct validity can be defined as the measurement degree of a scale used in order to measure a directly immeasurable property for that property. At this point the issue is to determine whether the construct composed of the valiables which are considered to be able to measure the directly immeasurable tacit properties will be able to measure this tacit property or not. The most important method used in this determination process is the structural equation model. In this study, structural equation model was used in order to be able to measure the construct validity and confirmatory factor analysis, model accomodation indices were given.

Within the study, up to this level; contextual frame for organizational unlearning was formed, within the context of this frame it was applied on the employees working in Elazig province private hospitals in order to measure the construct validity of the scale. The scale was applied on totally 210 employees, the data acquired as a result of the application was made suitable for the analysis by being defined in Amos 21.0 program. Before structural equation analysis, Kaiser-Meyer Olkin (KMO) and Barlett's Globality tests were made in order to determine the sample qualification and establish whether the data are appropriate for the factor analysis or not. It was expected for KMO scale to above 0,80 for a good factor analysis. Again, in order to examine the universal relevance of correlation matris Barlett's Globality Test was made and the result that this test is relevant ($p<0,05$) indicates that the data are appropriate for factor analysis (1). Accordingly, KMO value is found to be 0,932 which is a degree indicating that it is quite good for the sample qualification. Statistically, this result means very good sample qualification. Bartlett's globality test result=2930,955 $p<0,05$) indicating the appropriateness of data for factor analysis was found quite relevant.

Findings And Interpretations

Table 1. KMO and Bartlett Test Results for the Scale of Organizational Unlearning

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		**,932**
Bartlett's Test of Sphericity	Approx. Chi-Square	2930,955
	df	105
	Sig.	0,000

In the factor analysis made for the scale of Organizational Unlearning, KMO value was measures as 0,932. According to this, sample number was found appropriate for factor analysis (KMO>0,500). Within the context of Bartlett test, X^2 value was measured as 2930,955 and was found relevant statistically ($p<0,05$). According to this, normal distribution condition was provided.

Table 2. Factor Analysis Results for the Scale of Organizational Unlearning

Organizational Unlearning	Core values	Factor loads	Explained variance %	Cumulative Explained Variance %	Cronbach's Alpha for Subscale
Changing Individual Habits					
OU17		,843			
OU16	3,894	,842	25,960	25,960	,918
OU18		,826			
OU15		,739			
OU14		,613			
The consolidation of emergent understanding					
OU2		,789			
OU3	3,651	,780	24,337	50,297	,873
OU4		,746			
OU5		,709			
OU1		,623			
OU6		,580			
Examination of Lens fitting					
OU10	3,017	,781	20,113	70,411	,885
OU11		,761			
OU9		,724			
OU12		,664			

As a result of the factor analysis made for tha scale of organizational unlearning, due to overlapping 7th, 8th and 13th items were removed from the scale and it was determined that the scale consisted of 15 items and three factors.

Factor loads for changing the individual habits which is the 1st factor of the scale consists of 5 items changing from ,613 to ,843. The explained variance of the factor was measured as 25,960% and Cronbach's Alfa coefficient was measured as 0,918. According to this, realiability of the factor is too high. Factor loads for integration of new approaches which is is the 2nd factor of the scale consists of 6 items changing from ,580 to ,789. The explained variance of the factor was measured as 24,337% and Cronbach's Alfa coefficient was measured as 0,873. According to this, realiability of the factor is too high. Factor loads for Lens fitting which is the 3rd factor of the scale consists of 4 items changing from ,644 to ,781. The explained variance of the factor was

measured as 20,133% and Cronbach's Alfa coefficient was measured as 0,885. According to this, realiability of the factor is too high.

Table 3. Total Item Correlation for the Scale of Organizational Unlearning

	Scale average when item is deleted	Scale variance when item is deleted	Corrected item -total correlation	Cronbach's Alpha when item is deleted
OU1	43,16	118,93	,509	,939
OU2	42,99	113,39	,652	,936
OU3	42,86	112,95	,649	,936
OU4	42,81	111,86	,720	,935
OU5	42,86	113,30	,668	,936
OU6	42,84	114,37	,600	,938
OU9	42,36	110,63	,664	,936
OU10	42,61	110,93	,738	,934
OU11	42,75	111,56	,734	,934
OU12	42,83	110,86	,757	,934
OU14	42,80	110,96	,714	,935
OU15	42,87	112,06	,715	,935
OU16	42,86	110,62	,758	,934
OU17	42,77	109,86	,748	,934
OU18	42,77	110,05	,714	,935

In the direction that reliability coefficient measured according to the information given in Table 3, it was determined that the answers given by the employees to the scale items were reliable. When the total item correlation pertaining to the found factors were examined, it was observed that these values ranged from .50 to .71. In the interpretation of the found total item correlation, it was seen that total item correlations were sufficient when items equal to or are above .30 were considered to be distinguished well in terms of the measurable properties of the individuals (Büyüköztürk, 2004).

Table 4. Data-model fitting indices

Data-model fitting indices (Acceptable fitting values)						
Model	χ2/sd (≤5,0)	RMSEA (≤0,08)	RMR (≤0,08)	CFI (≥0,90)	GFI (≥0,90)	AGFI (≥0,90)
Model I: Single Factor	3,589	0,096	0,059	0,927	0,874	0,813
Model II: Three factors (Unrelated)	2,087	0,062	0,041	0,969	0,925	0,890
Model III: Three factors (Related)	2,734	0,079	0,056	0,939	0,876	0,834

When the single factor structure of Organizational unlearning scale in Model 1 was taken into consideration, it was seen that χ2/sd, RMR and CFI fitting indices measured in DFA analysis verified the acceptable fitting indices and did not verify RMSEA, GFI and AGFI indices. When the three factors structure which occured as a result of the factor analysis for the scale of organizational unlearning in Model 2 was taken into consideration, it was seen that χ2/sd, RMSEA, RMR, CFIand GFI fitting indices measured in DFA analysis verified the acceptable fitting indices and did not verify only the AGFI index. When the original three factors structure for the scale of the organizational unlearning in Model 3 was taken into consideration, it was seen that χ2/sd, RMSEA, RMR and CFI fitting indices measured in DFA analysis verified the acceptable fitting indices and did not verify the GFI and AGFI indices.In this case, when the fitting indices were examined, it was seen that the most appropriate model was model 2 which is the 3 factors structure acquiared as a result of the factor analysis.

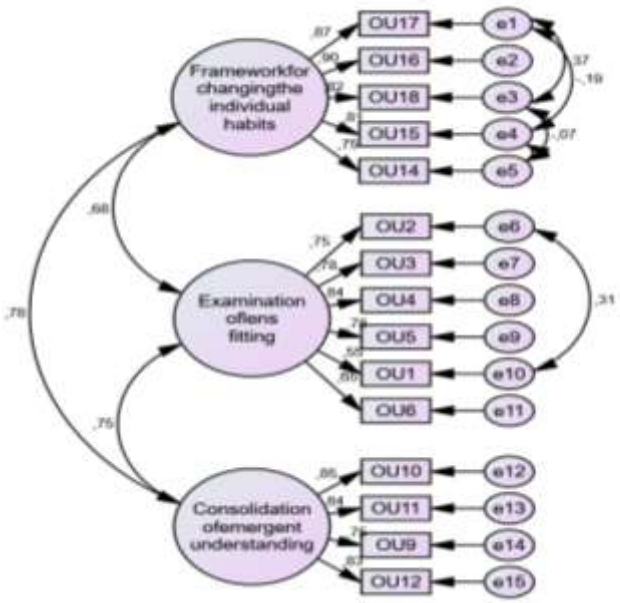

Figure 1 . Path graphic for Scale Items of Organizational Unlearning

Tablo 5. AVE and CR values for Organizational Unlearning Scale

	AVE	√AVE	CR
Framework for changing the individual habits	0,692	0,832	0,918
Examination of lens fitting	0,535	0,731	0,871
Consolidation of emergent understanding	0,670	0,819	0,890

It is necessary for average variance extracted (AVE) values of the dimensions in the scale bigger than 0.50, composite reliabilit coefficients bigger than 0.70 and moreover CR coefficients bigger than AVE values (Sisman and Kucuk, 2018)

Tablo 6. Square Root of Correlation among Sub-Dimensions of Organizational Unlearning Scale and AVE Values

	Framework for changing the individual habits	Examination of lens fitting	Consolidation of emergent understanding
• Framework for changing the individual habits	**,832**		
• Examination of lens fitting	,625**	**,731**	
• Consolidation of emergent understanding	,714**	,676**	**,819**

***p<0,01*

At the right side of the table, correlation matrix among the sub-dimension in the structure of Organizational Unlearning Scale was given. Diagonal elements of correlation matrix indicate the square root of AVE (bold values) and the elements out of the diagonal elements indicate the correlation values among sub-dimensions.

For differentiating validity, the square root of correlation between sub-dimension of organizational unlearning and AVE values was imposed. According to this, it is necessary that the square root of AVE in the sub-dimension of any Organizational unlearning is not smaller than the correlation between the other sub-dimension and at the same time the value of 0,50 (Yurdugül and Alsancak Sırakaya, 2013).

Discussion And Result

The original English form for SOU (Scale of Organizational Unlearning) developed by Cegarra and Sánchez, (2008) was reached from the article that the scale was published in. SOU consists of 3 factors and 18 items as integration of new approaches (6 items), Lens fitting (5 items) and changing individual habits (7 items). From older studies (Casillas et al., 2010; Akgün et al., 2007a; Wang et al., 2013), organizational unlearning was measured in 6 items. In this study, the translation fo the scale of organizational unlearning to Turkish, the adaptation and studies for validity and reliability were taken into consideration. For the purpose of testing the structural validity of the scale, explanatory and confirmatory analyses were conducted. Moreover, for the purpose of measuring the scale reliability, internal consistency (Cronbach's Alpha) was observed. According to the results of explanatory factor analysis, item number which was 18 in the original scale taken into consideration in three dimension faithfully was decreased to 15 in Turkish scale and variance ratio explaine by the scale for the dimension of changing individual habits for the scale of organizational unlearning was determined to be 25,9%, variance explained for integration of new approaches to be 24,3% and for lens fitting to be 20,3%. Fitting indices of the model acquired from the conducted explanatory factor analysis were examined and Fitting index values were found as RMSEA = 0.062, NFI = 0.90, CFI =0.96, NNFI = 0.91, GFI = 0.92 and AGFI = 0.89. $\chi 2/sd$ =2,087. According to the results of the conducted explanatory factor analyses, it was determined that the scale indicated adequate fitting.

Construct validity of the original scale was examined with the confirmatory and explanatory factor analysis. As a result of the conducted analyses, it was understood that three factors unrelated structure of the scale had the best fitting values. As a result, this study had taken the Turkish version of which validity and reliability analyses for the scale of Organizational unlearning were conducted and brought it to the national literature

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