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Article

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MANAGEMENT | RESEARCH ARTICLE

Organizational inclusion through interaction of work meaningfulness and servant leadership: An artificial neural network approach

Omar Khalid Bhatti^{1,2}, Muhammad Irfan^{1*}, Ali Osman Öztürk³ and Raj Maham⁴

Abstract: Modern organizations desire to fully include every organizational member in relevant activities for optimizing performance and reducing conflicts. This inclusion has become a challenge for leaders due to increased diversity in inclusive organizations. On one hand, organizational inclusion requires positive perception of the work itself (meaningfulness) and, on the other hand, needs inspirational leaders who can incite full participation from organizational members. In the absence of these two elements, negative work behaviors are likely to result in emergence of excluded groups and individuals. Consequently, cynicism, discontentment, resentment and conflicts arise which adversely affect organizational inclusion. We infer that servant leadership, through its narrative of “serving others”, can play a vital role in creation of organizational inclusion through work meaningfulness. To investigate our inference about the impact of servant leadership directly, as well as through mediation/moderation of work meaningfulness, on organizational inclusion, this study has used structural equation modeling. In addition, artificial neural network (ANN) has also been applied to analyze the data collected from 400 employees working in the services and manufacturing sector of Turkey. An ANN model based on multilayer perceptron has been used to predict the impact of servant leadership and work meaningfulness on inclusion along with mediating roles of gender, age and work experience. The results adequately highlight strong influence of servant leadership and work meaningfulness on organizational inclusion.

Subjects: Work & Organizational Psychology; Leadership; Business, Management and Accounting; Leadership

ABOUT THE AUTHOR

Omar Khalid Bhatti is an Associate Professor of Management at School of Business Istanbul Medipol University and Iqra University Islamabad Campus Pakistan. He received my PhD. in Business (specializing in Organizational Behavior) from IIU- Malaysia. His research work mostly falls under the umbrella of Organizational Behavior, Strategic management and Islamic Management and have been involved in teaching the same topics at Postgraduate level. He has extensive International corporate experience and has also been a former Chief Researcher and Government Consultant for Pakistan on the China Pakistan Economic Corridor from 2015 to 2017.

PUBLIC INTEREST STATEMENT

Servant leadership, through its narrative of 'serving others', can play a vital role in creation of organizational inclusion through work meaningfulness. To investigate our inference about the impact of servant leadership directly, as well as through mediation/moderation of work meaningfulness, on organizational inclusion, this study has used structural equation modelling (SEM). An artificial neural network (ANN) model based on multilayer perceptron (MLP) has been used to predict the impact of servant leadership and work meaningfulness on inclusion along with mediating roles of gender, age and work experience. The results adequately highlight the strong influence of servant leadership and work meaningfulness on organizational inclusion.

Keywords: Organizational Inclusion; Servant Leadership; Work Meaningfulness; Artificial Neural Network (ANN); Work Behavior; Leadership

1. Introduction

Human capital has always been the most vital actor in organizational outcomes despite all technological advancements (Kurt, 2019). Scholars and practitioners worldwide have been endeavoring to find ways to optimally utilize human capital for meeting ever expanding organizational objectives. To extract maximum benefits from human resource, diverse workforce is hired by organizations to add value to their products and services through variety of experiences brought in by diverse individuals. However, negative consequences of diversity in the form of individual and group differences entail deliberate efforts by leaders to include every member in the organizational activities ((Mousa & Puhakka, 2019). Without inclusion of all members, optimal performance cannot be attained due to low performance and adverse effects of excluded groups and individuals (Roberson et al., 2020). More than ever before, organizations require leaders who are capable of fostering inclusion at all levels while showing strong tendency towards well-being of their employees, customers and the society (Bhatti et al., 2016a, 2016b).

Leaders can create inclusion through motivational perception of work to muster willing cooperation from all organizational members (Gibson et al., 2019). For this purpose, servant leaders, through their “service orientation”, create morally superior meanings in work (Roberson et al., 2020). Similarly, employees also feel included in organizational activities if their work is appropriately linked with organizational objectives carrying virtuousness of service to humanity (Chacko & Conway, 2019). On the basis of these arguments, inference can be drawn that the three constructs, i.e. servant leadership, organizational inclusion and work meaningfulness have close linkages. In this regard, very little research exists that connects servant leadership with work meaningfulness (Allan et al., 2018) and inclusion (Robertson et al., 2020). We infer that servant leadership can be an antecedent to organizational inclusion with work meaningfulness being mediator between the two.

Besides bridging the gap in extant literature, this study is likely to be highly beneficial for scholars and practitioners. It will contribute in advancing the understanding and application of the three constructs in an organizational framework. Similarly, the study will guide organizational leaders in formulation of their motivational rhetoric for creating positive perception of work. The study is more valuable because, in addition to conventional SEM, novel approach of ANN has also been applied for exploring the relation between servant leadership and organizational inclusion. Besides revealing the relation among the three constructs, moderating effects of gender, age and work experience on the said relations have also been investigated. However, the main objective of this study is to explore the role of servant leadership in creating organizational inclusion directly as well as through work meaningfulness.

2. Literature Review

2.1. The Construct of Organizational Inclusion

Diversity in workforce cannot be avoided because even apparently homogenous workforce will have diversity in terms of individual differences (Tang et al., 2017; Zaman et al., 2021). Diverse individuals, if appropriately included in organizational activities, can be highly advantageous to the organizations (Mousa & Puhakka, 2019). Miller (1998) has defined inclusion as the degree to which individuals are enabled and allowed to participate in work-related and social activities. Shore et al. (2011) state that inclusion is about an employee’s perception about being an esteemed member of the organization and encompasses the emotional experience at workplace. It has been found that inclusion increases performance directly and inclusive teams in organizations usually perform 17% higher, their decision making is likely to be 20% superior in quality and behavior within inclusive teams is 29% more collaborative (Q. Ye et al., 2019).

Literature indicates that organizational commitment, creativity, well-being, innovation and trust improve with enhanced feeling of inclusion by employees (Brimhall & Mor Barak, 2018; Shore et al., 2011). Similarly, creation and maintenance of inclusion is associated with the reduction in negative aspects of diversity like stress, conflict, organizational turnover and job withdrawal (Hopkins et al., 2010; Mor Barak, 2015; Nishii, 2013). Among numerous antecedents of organizational inclusion, leadership is considered major antecedent (Mousa & Puhakka, 2019) while inclusion is expected to be positively impacted by work meaningfulness (Wang & Xu, 2019).

2.2. The Construct of Work Meaningfulness

Work meaningfulness is achieved by the synchronization of a person's organizational/official role with his/her personal ambitions and societal values and ethics (Chacko & Conway, 2019). People seek meaning in their work in consonance with their personal, profession and social goals in life (Wang & Xu, 2019). Accordingly, a person is at his/her best when dedicating time to something greater than "self" while being part of a bigger canvas like service to humanity, religion, nation or a global cause (Lips-Wiersma et al., 2020). Work meaningfulness has been found related to job satisfaction, intrinsic motivation, commitment, higher involvement and inclination to continue in the job/workplace (Milliman et al., 2003).

Various antecedents to work meaningfulness are being explored by scholars because employees keenly scrutinize and question the purpose for which their time and hard work is being utilized by organizations (Cartwright & Holmes, 2006). They continuously review the contribution of work in making their lives happy, purposeful and satisfied (Deacon et al., 2010). In fact, organizational activities have to be made goal oriented by leaders for employees to see meaning in work (Lips-Wiersma et al., 2020; Wang & Xu, 2019). It is interesting to note from previous research that money is no longer a prime consideration for employees as job motivator (Irfan et al., 2020; Seligman, 2002). Meaningful work enhancing self-esteem of each employee as a socially responsible, accepted and respected person has emerged as a major motivating factor (Wang & Xu, 2019). Therefore, work meaningfulness, with passage of time, has become a necessity for modern organizations and a major factor in employee motivation (Fairlie, 2011).

2.3. Servant Leadership and Organizational Inclusion

Leaders occupy a prominent role in shaping climates for inclusion (Mousa & Puhakka, 2019). The focus of servant leaders is on serving others rather than self-interest and they emphasize ethical behavior, social values and meaning-seeking (Brimhall & Mor Barak, 2018). By helping the followers to progress and keeping their interest ahead of his/her own, a servant leader creates diversity-friendly and inclusive climate (Brohi et al., 2018; Robertson et al., 2020). Care and concern for the needs of followers, especially the suppressed and marginalized, nurture an inclusive culture (Nishii, 2013). Servant leadership can contribute to implementing inclusive practices by generating network of relations founded on fairness, respect and equity (Fleming et al., 2020). Inclusive behavior of servant leadership implies aligning organizational objectives with inclusive practices and facilitation of inclusion at all levels (Shore et al., 2011). The model proposed by Liden et al. (2014) indicates positive impact of servant leadership on organizational performance through creation of inclusion based on "serving others".

Servant leaders are observed empowering, helping, directing and encouraging others to realize their inner potential that fosters perceptions of inclusion among employees (Franco & Antunes, 2016). These practices help diverse employees to articulate organizational values and unique attributes thereby enhancing their sense of belonging and inclusion (Bellé & Cantarelli, 2017). Servant leaders, through inclusive practices, communicate to diverse followers that their uniqueness is appreciated and fully utilized for serving others (Robertson et al., 2020). They endeavor for integration of individual and group differences through pro-active voice, thus enhancing their perceptions of inclusion, in conformity to the inclusion model by Shore et al.'s (2011). It is plausibly anticipated that servant leadership has an influence on organizational inclusion.

Hypothesis-1 (H1): Servant leadership has an influence on organizational inclusion.

2.4. Servant Leadership and Work Meaningfulness

Leaders have been observed to draw strength and legitimacy for their authority by establishing a link of their actions with values, ethics and service to others (Lips-Wiersma et al., 2020). In the same vein, servant leaders legitimize their influence by placing an overwhelming emphasis on serving others (Y. Ye et al., 2019). Servant leadership was first defined as a term by Robert K. Greenleaf in 1970 as an ethical viewpoint entailing selfless service to others. This leadership style is characterized by its ethical, practical and service-oriented approach (Carter & Baghurst, 2014). Servant leaders tend to create meaningfulness at work through care, humility, altruism, vision, trust, empowerment and service (Spears, 2010).

Accordingly, it can be argued that servant leadership is the main driver of creation and experience of meaningfulness at work (Franco & Antunes, 2020). We anticipate a relation between servant leadership and work meaningfulness in the light of self-concept theory by Shamir et al. (1993). The theory postulates that the impact of leaders is based on their ability to connect or engage followers' self-concept in the organizational mission articulated by them (Mustamil & Najam, 2020). The theory implies that followers experience meaningfulness in their work when leaders clearly link their work to a higher level of morality (Mostafa & Abed El-Motalib, 2020). Serving the fellow citizens is a superior cause that makes the work of employees meaningful under the leadership of servant leaders (Farkhani et al., 2013). Servant leadership is expected to influence work meaningfulness and thereby improve work environment and performance. This brings us to the main hypothesis of the study:

Hypothesis-2 (H2): Servant leadership has an influence on work meaningfulness.

2.5. Work Meaningfulness and Organizational Inclusion

Work meaningfulness is often considered a source of intrinsic motivation and is closely tied to a host of related psychological experiences such as feelings of inclusion, competence, autonomy and belongingness (Rosso et al., 2010). When employees see their leaders using resources and making efforts for benefitting others, they consider themselves part of the good work (Metcalf & Benn, 2013). Service to others is a noble cause and commitment to this cause by servant leadership is highly helpful in creation of inclusive climate (Setyaningrum, 2017). In fact, work meaningfulness integrates diverse individuals for a superior cause enabling them to draw added satisfaction from their work. In other words, work meaningfulness reduces exclusion by shifting focus from individualism to collectivism for contributing to common cause (Nishii, 2013). Based on this, it is anticipated that the work meaningfulness is related to organizational inclusion.

Hypothesis-3 (H3): Work meaningfulness has an influence on organizational inclusion.

2.6. Mediation of Work Meaningfulness between Servant Leadership and Inclusion

Theoretical evidence indicates the possibility mediation of work meaningfulness between servant leadership and organizational inclusion and the same is expected in the light of Social Exchange Theory (Homans, 1958) and Leader-Member Exchange (LMX) Theory (Graen & Uhl-Bien, 1995). Both theories support probability of establishment and continuation of a relationship if parties of an exchange are benefited by it (Meira De Souza & Hancer, 2021). In the case of relationship between servant leadership and work meaningfulness, the leader tries to create a positive image of the work as a social/moral obligation embedded in values, ethics, religion, or service to humanity (Metcalf & Benn, 2013). It generates a social exchange between leaders, followers and any third party (others). The servant leaders and their followers are benefitted by drawing the pleasure and satisfaction of serving others (M. Lin et al., 2017). Followers further build on the image created by leader through their own perception of work and extend their cooperation to the leader for the good cause (serving others). Therefore, work meaningfulness seems to mediate the relation between servant leadership and organizational inclusion.

In the same connection, Self-Concept Theory (Shamir et al., 1993) also sheds some light on the relationships between servant leadership, work meaningfulness and organizational inclusion. The

theory does it by connecting the work perception with self-concept of an individual (Metcalf & Benn, 2013). Followers willingly include themselves in the noble cause of serving others under servant leadership to enhance their self-concept (Ronkainen et al., 2020). In simple word, servant leadership creates work meaningfulness (serving others) that leads to organizational inclusion giving work meaningfulness a mediating role between the two constructs. We hypothesize mediating role of work meaningfulness as:

Hypothesis-4 (H4): Work meaningfulness mediates the relation between servant leadership and organizational inclusion.

2.7. Moderation Effects of Demographic Variables (Gender, Age and Work experience)

After an in-depth review of the extant literature, a conceptual model was derived anticipating relationships between servant leadership, organizational inclusion and work meaningfulness. Previous research indicates the impact of servant leadership and work meaningfulness on various organizational outcomes like organizational inclusion (Franco & Antunes, 2020; Mostafa & Abed El-Motalib, 2020; Mousa & Puhakka, 2019), it is also expected that the gender, age and work experience of respondents is likely to have moderating effects on the relations between servant leadership, work meaningfulness and organizational inclusion. Hypotheses 4, 5, and 6 elucidate the moderating effects as given below. Figure 1 illustrates the conceptual model that depicts the influence pathways between servant leadership, work meaningfulness and organizational inclusion.

Hypothesis-5 (H5): Gender, age and work experience moderates the relationship between servant leadership and organizational inclusion.

Figure 1. Conceptual mode.

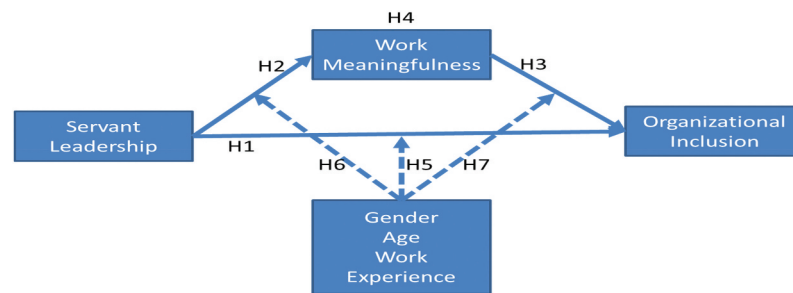
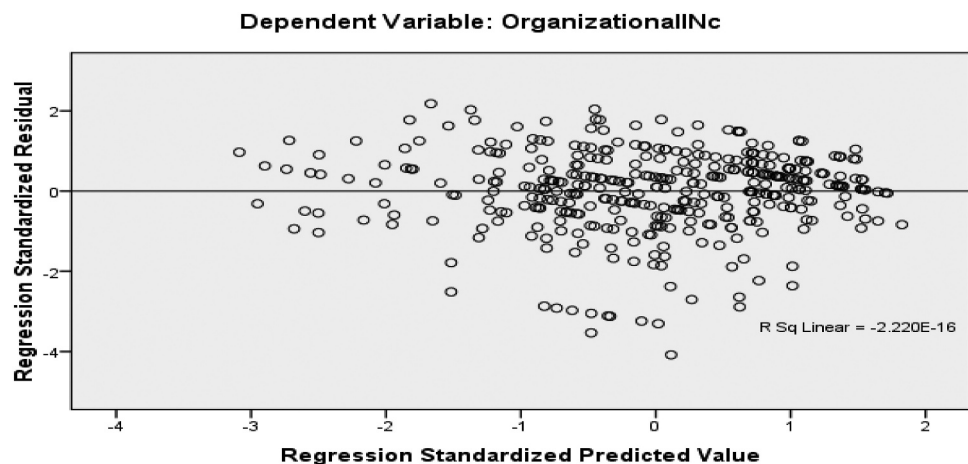


Figure 3. Scatter plot showing homoscedasticity.



Hypothesis-6 (H6): Gender, age and work experience moderates the relationship between servant leadership and work meaningfulness.

Hypothesis-7 (H7): Gender, age and work experience moderates the relationship between work meaningfulness and organizational inclusion.

3. Methodology

3.1. Study Design

The relation between servant leadership and organizational inclusion along with mediation of work meaningfulness has not been adequately explored especially using empirical data. To bridge this gap, a quantitative research approach has been used to understand and interpret the data gathered for this research from various organizations in the manufacturing and services sectors of Turkey. Manufacturing and services industries are the drivers of economy in every country. Jointly they contribute approximately 70–80% of the GDP and provide source of earning for 40–50% of the total workforce in Turkey. Motivation of workers in these sectors are closely linked with overall productivity (Farkhani et al., 2013).

3.2. Sample and Data Collection Procedure

The study population includes individual employees of manufacturing and services industries in Turkey. Evidently, this population cannot be precisely determined, and the sampling frame based on the population also cannot be established with certainty due to non-availability of relevant data. Hence, sample size for this research has been calculated by applying the Cochran’s formula, i.e.

$$n_o = \frac{z^2 pq}{e^2} = (1.96)^2(0.5)(0.5)/(0.05)^2 = 385$$

A total of 400 useable questionnaires from respondents were obtained and this sample size was considered sufficient for this study (J. Hair et al., 2011). The sample size of 400 is more than the calculated size through Cochran’s formula (385) and minimum of 111 obtained from G*Power (Effect size = 0.3, Alpha level = 0.05) 0.95 (Faul et al., 2009), and “the 50 times rule of thumb for

Table 1. Distribution of Respondents Per Sample Characteristics

Variables		Frequency	Percent
Gender	Male	231	57.8
	Female	169	42.3
Sector of industry	Manufacturing Sector	200	50.0
	Services Sector	200	50.0
Age	Less than 25 years	61	15.3
	25–35 years	180	45.0
	36–45 years	129	32.3
	46 years and above	30	7.5
Marital Status	Married	207	51.8
	Unmarried	193	48.3
Designation	Non-managerial	132	33.0
	Line Manager	217	54.3
	Middle Manager	46	11.5
	Top management	5	1.3
Work experience	Less than 5 year	125	31.3
	5–10 years	236	59.0
	10 years and above	9	2.3

artificial neural network analysis” (Alwosheel et al., 2018). Frequency distribution of demographic variables of respondents is shown in Table 1 below which includes distribution pertaining to gender, age, marital status, designation and work experience.

3.3. Measures/Instruments

For measurement of constructs, items were drawn from already existing scales found in the extant literature (used in more than three published studies) and adapted to the context of the study. This is in consonance with suggestions of Shareef et al. (2016). Items used 5-point Likert scales to minimize the respondents' frustration level and boost the response rate being less time consuming and easy to understand (Pai & Huang, 2011). Gender was measured on two points nominal scale whereas work experience was measured on three points and age on five points ordinal scales.

3.3.1. Servant Leadership

Servant leadership was measured using self-reports through already existing instrument (five-point Likert scale from strongly disagree = 1 to strongly agree = 5). It comprised 23 items, adapted from the study by Barbuto and Wheeler (2006), with the Cronbach's alpha of 0.825. Example items include “My leader puts my best interests ahead of his/her own”, “My leader does everything that he/she can to serve me” and “My leader sacrifices his/her interests to meet my needs”.

3.3.2. Work Meaningfulness

To measure Work Meaningfulness, 6-items scale developed by May et al. (2004) was adapted. It measured the response on five points Likert scale. The Cronbach's alpha value for the scale was 0.91. Example items included “The work I do on this job is very important to me”, “My job activities are personally meaningful to me” and “The work I do on this job is worthwhile”.

3.3.3. Organizational Inclusion

For measurement of organizational inclusion, 6-items scale, developed by Mousa and Puhakka (2019) has been adapted. The Cronbach's alpha for the scale was 0.86 and it measured responses on five-point Likert scale. The items were reworded to suit the study design and context. Example items included “My organization treats all members as insiders”, and “I did not feel any discrimination while working in my organization”.

3.4. Pilot Testing and Initial Modifications

3.4.1. Validity and Reliability

After adaptation and rewording of items, the instrument was pilot tested with a smaller number (100) of respondents. Similar method has been used by Kim et al. (2009) for checking the survey instrument's face and content validity. In addition, feedback from six managers, three each from manufacturing and services sectors was obtained for improvement of the instrument. Test of final items resulted in Cronbach's alpha for each variable exceeding 0.70, which indicated good construct reliability. Similarly, the validity was judged by inspecting Pearson's correlation coefficients for the total of all items of each variable as well as every item individually. The coefficients for the all totals ranged from 0.51 to 0.68 (more than 0.5) while majority of individual items had more than 0.5 explicating good validity.

3.5. Multivariate Statistical Assumptions

For multivariate analysis, the data should be tested for several assumptions for compliance (Ooi et al., 2018). The assumption of linearity was checked by calculating the deviations from linearity using SPSS/AMOS. The results in Table 2 show that the relationships between servant leadership and organizational inclusion ($p = 0.031 < 0.05$) and servant leadership and work meaningfulness were found non-linear on the basis of significance of deviation from linearity ($p = 0.001 < 0.05$), whereas the relation between work meaningfulness and organizational inclusion was linear ($p = 0.158 > 0.05$). *The non-linear relationships entailed use of neural network which could capture non-linear effects.* To assess the multicollinearity problem, we examined the Variance Inflation Factors (VIFs) and tolerances. The results showed that the VIFs fell within 1.578 to 5.971 which

Table 2. Linearity/Non-linearity of Relationships

Relation	Type	Sum of Squares	df	Mean Square	F	Sig
Servant Leadership and Organizational Inclusion	Combined	36.828	20	1.841	9.809	000
	Linearity	30.691	1	30.691	163.493	000
	Deviation from Linearity	6.137	19	0.323	1.721	0.031
Servant Leadership and Work Meaningfulness	Combined	33.631	19	1.770	9.047	000
	Linearity	25.211	1	25.211	128.863	000
	Deviation from Linearity	8.420	18	0.468	2.391	001
Work Meaningfulness and Organizational Inclusion	Combined	64.880	20	3.244	12.736	000
	Linearity	53.331	1	53.331	209.338	000
	Deviation from Linearity	11.548	19	0.608	2.386	0.158

were below the standard threshold of 10. The tolerances fell within the bracket of 0.536 to 0.117 which were greater than 0.10, indicating that there was no issue of multicollinearity between the independent variables (Hew & Kadir, 2016).

To assess homoscedasticity, we inspected the standard residuals scatter plot (Figure 3) and noticed that the residuals were dispersed around a horizontal line. Hence, homoscedasticity was verified. To evaluate the normality of distribution, we conducted the one sample Kolmogorov-Smirnov test and Shapiro-Wilk test. The result showed that the data distribution was non-normal as all p-values were smaller than 0.05. Because of the non-normality of the distribution, the variance-based SEM of partial least squares (PLS) was adopted because of its robustness against non-normal distribution (Leong et al., 2019). Because of the existence of non-linear relationships between the independent and outcome variables, artificial neural networks (ANNs) were used. SEM and ANN were used to complement each other in data analysis. Hypotheses were tested with SEM and non-linear relationships were captured by ANN (T. S. Hew et al., 2016; Tan et al., 2014). Figure 2 and Figure 3

3.6. Exploratory Factor Analysis

The instrument for measurement of constructs was being used first time in the cultural context of Turkey; therefore, it was essential to determine its suitability through exploratory factor analysis (EFA). The results of KMO and Bartlett's Test in Table 3 indicated suitability of data for application of factor analysis. Results of EFA are given in Table 4 showing loading of items on each factor. Eight items from servant leadership (five related to wisdom and one each from other dimensions) which did not load well on any factor were deleted. Resultantly, final instrument had 15 items for measurement of servant leadership and six each for work meaningfulness and organizational inclusion (total 27 items). Deletion of items which do not load well due to any change in context is in consonance with other studies (Parent & Moradi, 2009; Worthington & Whittaker, 2006).

3.7. Convergent and Discriminant Validity

For the current research, validity analysis was performed to verify the covariance composition of variables and evaluate convergent validity with average variance extracted (AVE), the composite

Table 3. KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.882
Bartlett's Test of Sphericity	Approx. chi-square	5158.557
	Df	210
	Sig.	.000

Table 4. Exploratory factor analysis (EFA)

Items	Component					
	1	2	3	4	5	6
Servant Leadership						
Service to Others						
1. This person goes above and beyond call of duty to meet my needs.	0.863					
2. This person is talented at helping me to heal emotionally	0.744					
3. This person sacrifices his/her own interests to meet my needs.	0.726					
4. This person does everything he/she can to serve me.	0.701					
5. This person seems in touch with what is happening.	0.703					
6. This person puts my best interests ahead of his/her own.	0.705					
Persuasive Mapping						
7. This person is good at convincing me to do things		0.804				
8. This person is very persuasive		0.780				
9. This person encourages me to "big dreams" about the organization		0.725				

(Continued)

Table 4. (Continued)

Items	Component					
	1	2	3	4	5	6
Organizational Stewardship						
10. This person sees organization for its potential to contribute to society			0.775			
11. This person believes that organization needs to play moral role in society			0.774			
12. This person encourages me to have a community spirit in workplace			0.735			
Emotional Healing						
13. This person is good at helping me with my emotional issues				0.847		
14. This person is one I would turn to if I had a personal trauma				0.748		
15. This person is one that could help me mend my hard feelings				0.706		
Work Meaningfulness						
1. The work I do on this job is meaningful to me					0.783	
2. The work I do on this job is worthwhile					0.776	
3. I feel that the work I do on my job is valuable					0.753	

(Continued)

Items	Component					
	1	2	3	4	5	6
4. My job activities are significant to me					0.723	
5. My job activities are personally meaningful to me					0.763	
6. The work I do on this job is very important to me					0.731	
Organizational Inclusion						
1. My organization appreciates all members regardless of their differences.						0.876
2. My organization respects the uniqueness of every member.						0.891
3. My organization treats all members as insiders.						0.775
4. I did not feel any discrimination while working at my organization.						0.793
5. My organization recruits and develops all members based on their qualifications.						0.772
6. Equality, tolerance and sameness are the main feature of my organization.						0.895

Table 5. Validity analysis

	CR	AVE	MSV	MaxR(H)
Servant Leadership (SL)	0.797	0.567	0.518	0.799
Work Meaningfulness (MW)	0.883	0.558	0.523	0.884
Organizational Inclusion	0.851	0.538	0.518	0.881

Note: CR = Composite reliability, AVE = Average variance extracted, MSV = Minimum shared variance, ASV = Average shared variance.

reliability (CR) of variables to estimate the reliability (Kline, 2011). In addition, McDonald Construct Reliability MaxR(H) was also calculated. J. Hair et al. (2011) asserted that “Coefficient H described the relation between the latent construct and its measured indicators coefficient H was unaffected by the sign of indicators’ loadings, drawing information from all indicators in a manner commensurate with their ability to reflect the construct.” Table 5 showcases that the CR of the constructs is greater than 0.70 and AVE exceeded 0.50 displaying a good construct reliability and convergent validity respectively (Byrne, 2010). Furthermore, the square root of the AVE which is greater than rest of the inter-construct correlations. Henceforth, the discriminant validity between the constructs is also determined (Fornell & Larcker, 1981). Finally, based on the loadings (Table 3), it is apparent that all items loaded strongly to their respective constructs thus confirming discriminant validity. The measurement model could explain 68.54% of the variance in organizational inclusion.

3.8. Reliability

For checking reliability, one-tailed test with a significance level of 0.05 was performed. Table 6 indicated that all the Cronbach’s alpha and CR are larger than 0.70. Henceforth, we confirm that the measurement model has a high degree of construct reliability (J. J. Hew et al., 2018).

3.9. Confirmatory Factor Analysis (CFA)

The measurement model was assessed based on fit measures, i.e. chi-square (χ^2), normed chi-square (χ^2/df), root mean square error of approximation (RMSEA) and CFI (the comparative fit index). Based on the results of the CFA, the value for chi-square $\chi^2 = 843.1$, $p > .001$; $\chi^2/df = 2.62$; RMSEA = .064 with 90% CI [.059, .069]; and CFI = .915, the model provided a reasonably good fit to the data (Byrne, 2010; J. Hair et al., 2011; Kline, 2011; Schumacker & Lomax, 2004).

3.10. Common Method Bias (CMB)

The possibility of common method bias cannot be ruled out as the data for independent and dependent variables was collected using a single instrument. Harman’s single factor test was conducted to check the data for CMB. The results of statistical analysis indicated that a single factor explained just 18.6 % of the overall variance that was below 50 %; therefore, the issue of CMB was not significant. For further verification of non-existence of CMB, common latent factor

Table 6. Reliability of Construct Measurement

Variable	Rho_A	CR	Cronbach’s alpha
Servant Leadership	0.791	0.877	0.882
Work Meaningfulness	0.887	0.913	0.894
Organizational Inclusion	0.879	0.902	0.867

Note: CR = Composite reliability

analysis changes every indicator into a single item second-order construct (J. J. Hew et al., 2018). The result showed that the bulk of the method loadings was either negligible or negative which confirmed findings of Harman’s single factor test results (CMB insignificant).

3.11. Structural Model

SEM has been applied on the data followed by ANN technique. SEM is mainly to see relationships between the three main variables, i.e. servant leadership, work meaningfulness and organizational inclusion. Servant leadership is independent variable which predicts the construct of organizational inclusion directly as well as through work meaningfulness (mediation). Through SEM, the strength and direction of relationships between servant leadership, work meaningfulness and organizational inclusion were worked out. In addition, direct effects of gender, age and work experience of respondents on organizational inclusion were examined along with their moderating effects on the relations between servant leadership, work meaningfulness and organizational inclusion. The structural model has been shown in Figure 4 and path analysis results in Table 7.

The results shown in Table 7 indicated that servant leadership, work meaningfulness and organizational inclusion were significantly related to each other as p-value of each coefficient was negligibly small (less than 0.05). The strongest relationship was between work meaningfulness and organizational inclusion, followed by servant leadership and work meaningfulness, and then between servant leadership and organizational inclusion. Work experience did not have any significant influence on organizational inclusion (p = 0.577). However, gender and age significantly affected organizational inclusion (p < 0.05). With regard to mediating role of work meaningfulness, it was found significantly mediating between servant leadership and organizational inclusion. The model provided a good fit of the data as indicated by model fit indices presented at Table 8.

4. Mediation Analysis of Work Meaningfulness between Servant Leadership and Organizational Inclusion

Mediation results were obtained from SEM (AMOS) using Bootstrap (95% confidence interval). The standardized estimates of direct, indirect and total effects on organizational inclusion were significant (p-values < 0.05). It indicated that work meaningfulness partially mediated the relation between servant leadership and organizational inclusion. Size of the indirect effect was almost half of the total effect (46%) explicating that work meaningfulness strongly mediated the relationship.

Figure 4. Structural model.

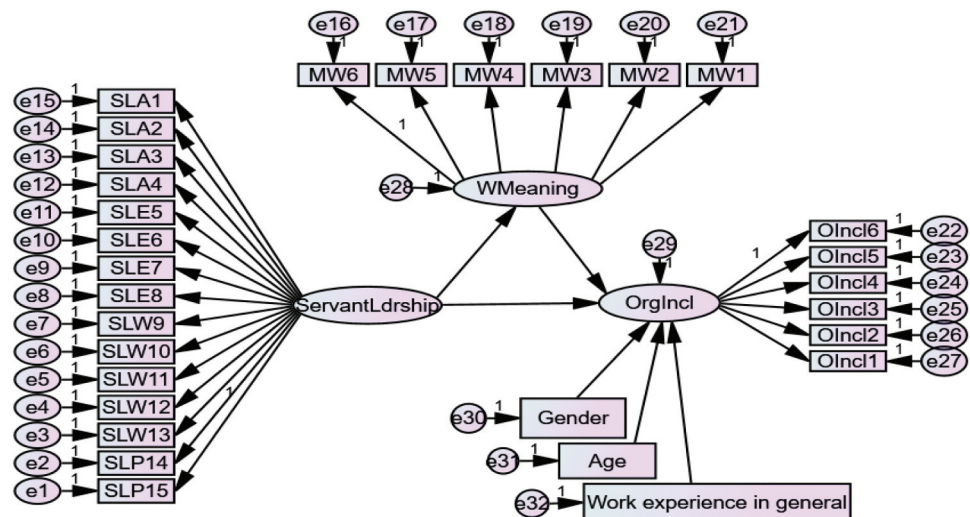


Table 7. Regression Weights: (Group number 1—Default model)

	Estimate	S.E.	C.R.	P	Label
WM←SL	.434	.048	9.041	***	par_25
OI←WM	.626	.103	6.059	***	par_26
OI←SL	.281	.055	5.129	***	par_27
OI←Gender	.236	.051	4.655	***	par_28
OI←Age	.057	.029	1.965	.049	par_29
OI←Work Experience	-.019	.035	-.558	.577	par_30
SL15←SL	1.000				
SL14←SL	.922	.066	13.926	***	par_1
SL13←SL	.848	.064	13.346	***	par_2
SL12←SL	.835	.067	12.524	***	par_3
SL11←SL	.670	.077	8.697	***	par_4
SL10←SL	.177	.064	2.753	.006	par_5
SL9←SL	.401	.075	5.376	***	par_6
SL8←SL	-.205	.106	-1.943	.049	par_7
SL7←SL	.677	.065	10.375	***	par_8
SL6←SL	.196	.069	2.822	.005	par_9
SL5←SL	.138	.078	1.766	.047	par_10
SL4←SL	.439	.075	5.830	***	par_11
SL3←SL	.556	.076	7.310	***	par_12
SL2←SL	.582	.065	8.921	***	par_13
SL1←SL	.316	.072	4.367	***	par_14
MW6←WM	1.000				
MW5←WM	.508	.088	5.787	***	par_15
MW4←WM	1.042	.133	7.830	***	par_16
MW3←WM	1.259	.116	10.842	***	par_17
MW2←WM	1.137	.116	9.833	***	par_18
MW1←WM	1.296	.120	10.805	***	par_19
OI1←OI	1.000				
OI2←OI	.616	.097	6.340	***	par_20
OI3←OI	1.101	.119	9.265	***	par_21
OI4←OI	1.199	.113	10.625	***	par_22
OI5←OI	1.359	.115	11.809	***	par_23
OI6←OI	1.183	.102	11.604	***	par_24

5. Moderation Analysis of Gender, Age and Work experience

The moderating effects of gender, age and work experience were examined by multigroup analysis and observing the critical ratios, (listed in Table 9 and 10). Results indicated that there was a significant effect of gender on the relationship between servant leadership and organizational inclusion (critical value CR = -2.965, outside the bracket of -1.96 to +1.96). Gender did not moderate the relation between work meaningfulness and organizational inclusion (CR:0.502) and between servant leadership and work meaningfulness (CR: -0.945). Influence of age (all groups) was not significant on the relation between work meaningfulness and organizational inclusion. Similarly, there was no moderating effect of age on the relation between servant leadership and organizational inclusion except age group from 26 to 35 years. With regard to the relation between

Table 8. Model Fit Indices

Measure	Estimate	Threshold	Interpretation
Chi-square (CMIN)	843.104		
Degrees of freedom (DF)	321		
CMIN/DF	2.626	Between 1 and 3	Excellent
CFI	0.909	>0.9 for acceptable	Acceptable
SRMR	0.060	<0.08	Excellent
RMSEA	0.058	<0.06	Excellent
PClose	0.929	>0.05	Excellent

Source: Gaskin, J. & Lim, J. (2016), "Model Fit Measures", AMOS Plugin. Gaskination's StatWiki.

Table 9. Mediation of Work Meaningfulness between Servant Leadership and Organizational Inclusion

Effects	Estimate (standardized)	P-value	Result
Direct Effect	0.397	0.000	Significant
Indirect Effect	0.340	0.000	Significant
Total Effect	0.737	0.000	Significant

servant leadership and work meaningfulness, age had significant influence except age group of above 45 years. Age group 26–35 only significantly affected the relation between servant leadership and organizational inclusion. Work experience had no moderating effect on the relation between servant leadership and organizational inclusion, work meaningfulness and organizational inclusion. It moderated the relation between servant leadership and work meaningfulness for group having work experience 2–5 and above 10 years only.

6. Hypothesis Testing—Results

The results obtained by running the statistical analysis on the data elucidated a significant influence of servant leadership on organizational inclusion and work meaningfulness. Similarly, work meaningfulness significantly influenced organizational inclusion. In the same connection, it was found that work meaningfulness partially mediated the relation between servant leadership and organizational inclusion. Gender, age and work experience were not found significant for all gender, age and work experience groups and, the hypotheses 5, 6 and 7 were partially supported by statistical results. Summary of the hypothesis testing results is presented at Table 11.

6.1. ANN modelling for variable ranking

Artificial Neural Network (ANN) is a computational technique replicating the process of human brain. This technique is capable of capturing the non-linear relationships in real-world data and in this study has been used to examine existence of non-linear relationships between the servant leadership, work meaningfulness and organizational inclusion. The use of neural network for analysis of data is a novel approach in social sciences and this study intends a contribution in the existing research for use of this technique. It is in line with current research methodologies in which neural network modeling has been used to solve problems in several other academic fields, such as banking (Moro et al., 2014), real estate (Rossini, 2000) and civil engineering (Tinoco et al., 2011). In this study, a neural network is established with the MLP algorithm using SPSS. As suggested by Hastie et al., (2009), the value of the predicted variable is an average of the output of all the neural network models.

Table 10. Moderating Effects of Gender, Age and Work Experience (Critical Ratios)

Ser	Relationship	Variable	Critical Ratio	Effect
1.	SL→OI	Gender	-2.965	Significant
2.	WM→OI	Gender	0.502	Insignificant
3.	SL→WM	Gender	-0.945	Insignificant
4.	SL→OI	Age(<25)	-1.810	Insignificant
5.	SL→OI	Age(26-35)	-2.121	Significant
6.	SL→OI	Age(36-45)	-0.615	Insignificant
7.	SL→OI	Age> 45	0.267	Insignificant
8.	SL→WM	Age(<25)	-2.386	Significant
9.	SL→WM	Age(26-35)	2.533	Significant
10.	SL→WM	Age(36-45)	2.018	Significant
11.	SL→WM	Age>45	1.076	Insignificant
12.	WM→OI	Age(<25)	-0.531	Insignificant
13.	WM→OI	Age(26-35)	-1.382	Insignificant
14.	WM →OI	Age(36-45)	-1.260	Insignificant
15.	WM→OI	Age>45	-1.410	Insignificant
16.	SL→OI	Exp<1	-0.410	Insignificant
17.	SL→OI	Exp2-5	-1.619	Insignificant
18.	SL→OI	Exp>10	-1.734	Insignificant
19.	SL→WM	Exp<1	-0.854	Insignificant
20.	SL→WM	Exp2-5	-2.278	Significant
21.	SL→WM	Exp>10	-2.273	Significant
22.	WM→OI	Exp<1	1.727	Insignificant
23.	WM→OI	Exp2-5	0.639	Insignificant
24.	WM→OI	Exp>10	0.186	Insignificant

Note: Servant Leadership = SL, Work Meaningfulness = WM and Organizational Inclusion = OI

The network architecture of the neural network model is 5-H-1. The input layer contained five neurons (i.e., two independent variables and three control variables) in addition to bias (error term). The input information fed in the software (SPSS) is given in Table 10. To validate the model developed in this study, the collected data were divided into two groups (training-70% and test data-30%). Li and Zhang (2010) mentioned that the ratios of training to test data used in previous studies are usually 90:10; 80:20, 70:30. The number of nodes in the hidden layer (H) was restricted to 50 nodes for a limited reiterative process by SPSS software. The generalization capability of the model is usually evaluated using the percentage of correctly predicted test data set. The neural network model used in the present study was specified as follows:

$$\text{Organizational Inclusion} = (SL, WM, G, A, OT) \tag{1}$$

In Equation (1), the organizational inclusion is taken as a function of Servant Leadership (SL), Work Meaningfulness (WM), Gender (G), Age (A) and Work experience (WE). This is a common process as per the guidelines provided by Cortez et al., (2015, December) for developing a neural network model. The overall accuracy of the neural network model is 78.95% which indicates that the Organizational Inclusion can be reliably predicted using the information contained in the five variables. The output of the neural network model does not produce coefficients like the traditional regression model. Based on this limitation, Cortez and Embrechts (2013) have suggested the use of sensitivity analysis for visualization of the importance of independent variables included in neural networks.

Table 11. Hypothesis Testing Results

Hypothesis	Contents	Results
Hypothesis-1	Servant leadership has an influence on organizational inclusion.	Supported (Table 7)
Hypothesis-2	Servant leadership has an influence on work meaningfulness.	Supported (Table 7)
Hypothesis-3	Work meaningfulness has an influence on organizational inclusion.	Supported (Table 7)
Hypothesis-4	Work meaningfulness mediates the relation between servant leadership and organizational inclusion.	Supported (Table-9)
Hypothesis-5	Gender, age and work experience moderates the relation between servant leadership and organizational inclusion.	Partially Supported (Table 8)
	Hypothesis-5a. Gender moderates the relation between servant leadership and organizational inclusion.	Supported
	Hypothesis-5b. Age moderates the relation between servant leadership and organizational inclusion.	Not Supported except age group 26-35 years.
	Hypothesis-5c. Work experience moderates the relation between servant leadership and organizational inclusion.	Not Supported
Hypothesis-6	Gender, age and work experience moderates the relation between servant leadership and work meaningfulness.	Partially Supported (Table 8)
	Hypothesis-6a. Gender moderates the relation between servant leadership and work meaningfulness.	Not Supported
	Hypothesis-6b. Age moderates the relation between servant leadership and work meaningfulness.	Not Supported except age group over 45 years
	Hypothesis-6c. Work experience moderates the relation between servant leadership and work meaningfulness.	Supported except group with one year and lesser than one year experience.
Hypothesis-7	Gender, age and work experience moderates the relation between work meaningfulness and organizational inclusion.	Partially Supported (Table 8)
	Hypothesis-7a. Gender moderates the relation between work meaningfulness and organizational inclusion.	Not Supported
	Hypothesis-7b. Age moderates the relation between work meaningfulness and organizational inclusion.	Not Supported
	Hypothesis-7c. Work experience moderates the relation between work meaningfulness and organizational inclusion.	Not Supported

Table 12. Case Processing Summary

		N	Percent
Sample	Training	271	67.8 %
	Testing	129	32.2%
Valid		400	100.0%
Excluded		0	
Total		400	

Table 13. Neural Network Input Information

Input Layer	Covariates	1	Servant Leadership
		2	Work Meaningfulness
		3	Gender
		4	Age
		5	Work experience
	Number of Units ^a		5
Rescaling Method for Covariates		Standardized	
Hidden Layer(s)	Number of Hidden Layers		1
	Number of Units in Hidden Layer 1 ^a		3
	Activation Function		Hyperbolic tangent
Output Layer	Dependent Variables	1	Organizational Inclusion
	Number of Units		1
	Rescaling Method for Scale Dependents		Standardized
	Activation Function		Identity
	Error Function		Sum of Squares

a. Excluding the bias unit

Case processing summary of neural network analysis at Table-9. No cases were rejected/ excluded from the analysis. The diagram of the neural network is given at Figure 5. At this point, “synaptic weight” implied the strength or amplitude of a connection between two nodes. The diagram indicated five input nodes, three hidden nodes, and one output node symbolizing organizational inclusion.

Table 12 and 13 displays the network informatio The input layer consists of five covariates, i.e. servant leadership, work meaningfulness, gender, age and work experience. There is only one hidden layers having three units with activation function based on hyperbolic tangent. The output layer has one unit (dependent variable) following standardized method of rescaling and activation function in this case is identity while the error function is the sum of squares.

Model summary is given at Table 14 that showed training phase sum of squares error 64.677 and relative error 0.479. The testing phase sum of squares error was 35.492 and relative error 0.585. The results listed in Table 15 show that covariates are linked with the outcome variable through hidden layer. The contribution of covariates in the outcome variable is maximum in case of work meaningfulness (0.834) and least for work experience. This result is consistent with the regression analysis already done. The induced error (bias) from input variables and hidden layer is -1.427 while from hidden layer to output layer (outcome variable) is -0.720.

Table 14. Model Summary

Training	Sum of Squares Error	64.677
	Relative Error	.479
	Stopping Rule Used	1 consecutive step(s) with no decrease in error^a
	Training Time	00:00:00.058
Testing	Sum of Squares Error	35.492
	Relative Error	.585

Dependent Variable: OrganizationalINC

a. Error computations are based on the testing sample.

Figure 5. Neural network model (5-H-1).

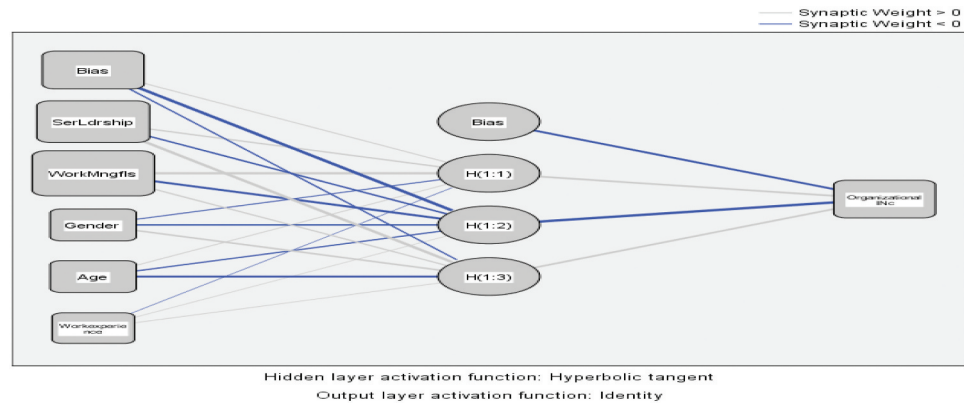


Figure 6. Sensitivity analysis—Importance graph of independent variables.

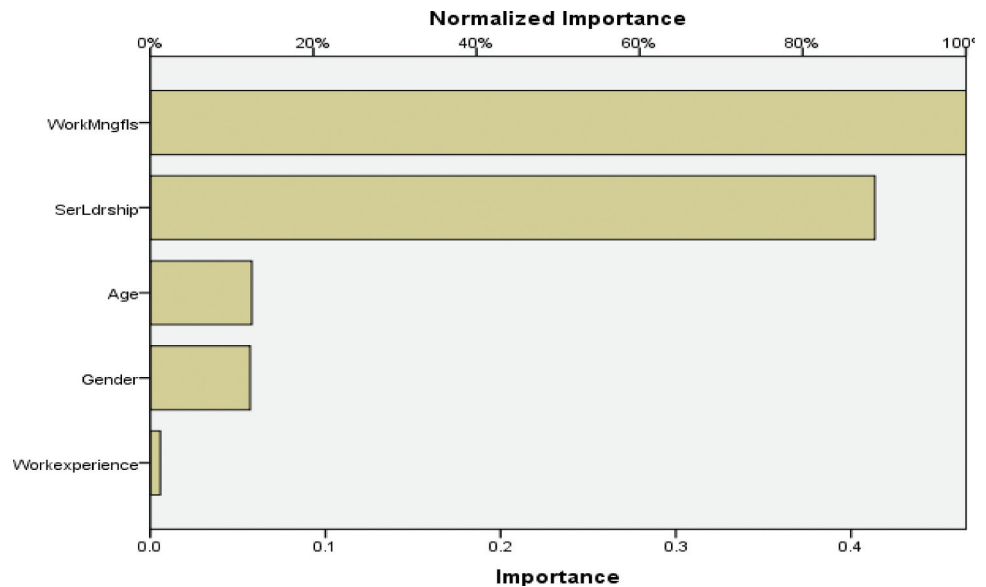


Table 15. Neural Network Results

Predictor	Hidden Layer-1				Output Layer-Organizational Inclusion	Total Contribution
	H(1:1)	H(1:2)	H(1:3)	H(1:4)		
Input Layer						
(Bias)	0.037	0.085	1.086	0.219	-	1.427
Servant Leadership	-0.035	-0.055	0.074	0.472	-	0.476
Work Meaningfulness	-0.440	0.488	0.921	-0.135	-	0.834
Gender	0.225	-0.132	0.291	0.125	-	0.509
Age	0.291	0.109	0.346	0.189	-	0.935
Work experience	0.008	-0.084	-0.059	-0.168	-	-0.303
Hidden Layer						
(Bias)	-	-	-	-	-0.720	-
H(1:1)	-	-	-	-	-0.454	-
H(1:2)	-	-	-	-	-0.267	-
H(1:3)	-	-	-	-	1.111	-
H(1:4)	-	-	-	-	0.223	-

Table 16. Independent Variable Importance

	Importance	Normalized Importance
Servant Leadership	.414	88.8%
Work Meaningfulness	.466	100.0%
Gender	.057	12.3%
Age	.058	12.4%
Work Experience in general	.006	1.2%

In sensitivity analysis, the relevance of each input variable is quantified by assessing the effect of its absence on the predicted variable. It is expected that the removal of a relevant input variable would result in significant changes in accuracy of the predicted variable. The observed errors in the predicted variable are used to establish the importance of each input variable (Jiang et al., 2016; Tinoco et al., 2011). Table 16 and Figure 6 identifies the importance of the independent variables based on relation of covariates with the dependent variable. The most dominating variable as per the results is work meaningfulness (100%), followed by servant leadership (88.8%), age (12.4%), gender (12.3%) and work experience (1.2%). The results are consistent with SEM analysis.

7. Discussion

Findings through SEM as well as ANN manifested that servant leadership had a positive impact on organizational inclusion which supported hypothesis-1 (H1) of this study. It is in consonance with the findings of study carried out by Gotsis and Grimani (2016). Similarly, Mousa and Puhakka (2019) also indicated possibility of a relationship between servant leadership and inclusive climate in an organization. Servant leaders gain support of all organizational members by helping them and going beyond their usual roles in serving others (Elche et al., 2020). Servant leaders play a vital role in conflict resolution and keeping every organizational member on board in relevant decision making (Obi et al., 2020). Once included in decision making, members of diverse workforce having cultural and other differences extend their full cooperation to servant leaders and approach them as selfless, sympathetic and caring individuals (Alfoqahaa & Jones, 2020).

With regard to the relationship between servant leadership and work meaningfulness, results highlighted it to be the strongest among all other proposed relations in our model. Employees from diverse groups having differences of gender, age, work experience and other demographic factors join them in their noble cause of service to humanity (Aboramadan et al., 2020). Employees start viewing their job and time spent at the workplace as a vital contribution for the well-being of others (Su et al., 2020). Selflessness of the servant leaders further enhances work meaningfulness (Gotsis & Grimani, 2016). The results of this study, depicting strongest relation between servant leadership and work meaningfulness support hypothesis-2 (H2) and this finding is consistent with the extant literature (Lips-Wiersma et al., 2020; Lythreatis et al., 2020). A servant leader who is himself convinced about the good cause (service to others) can convince the followers for the same. It is the conviction of leaders which makes the employees to see their work as meaningful in relation to the vision of leader and their own ethics and values (Dierendonck & Patterson, 2018).

The influence of work meaningfulness on organizational inclusion was found significant and this finding was in consonance with other studies (Franco & Antunes, 2020; Paesen et al., 2019). Leaders in organizations are always interested to find ways of increasing productivity especially the tools and methodologies that increase motivation of employees (Adler & Chen, 2011). Employees coming from diverse demographic backgrounds can be forged into high performing organizations through enhancing their sense of belonging and respect for their uniqueness (Alfoqahaa & Jones, 2020). Work meaningfulness provides a strong platform for uniting them under the slogan of a moral or ethical cause (Mustamil & Najam, 2020). It gives a spiritual blend to

the workplace and employees do their job as a moral obligation without letting the individual and group difference hindering them from “doing good”. It provides a good guideline to organizational leaders for effectively leading diverse workforce by linking organizational activities with moral and ethical values (Giambatista et al., 2020). Servant leaders through their service orientation and care for others make the work meaningful that in turn creates organizational inclusion (Alfoqahaa & Jones, 2020). In the light of this argument, the mediating role of work meaningfulness between servant leadership and organizational inclusion can be easily understood. Similar indications can be found in the extant literature supporting mediation of work meaningfulness (Lythreatis et al., 2020).

Genders was found significantly moderating the relations between servant leadership and organizational inclusion. Male employees were comparatively more affected by servant leadership with regard to organizational inclusion. This finding is in line with other studies which highlighted that influence of gender on various organizational outcomes created by different leadership styles as significant (Shulga, 2020). Differences in perception of job factors are in part predicted by gender socialization theory (Mason, 1995), which postulates that men and women are socialized into values, attitudes, and behaviors based on different underlying principles (Mason, 1995; Messner, 2000). As a result, men are more concerned about self-centered career related outcomes and control of resources, while women are oriented towards social relations, moral support, selflessness, and emotions (Eagly, 1997). The findings are supported by the fact that men and women workers respond differently to various organizational factors like leadership, change and social relations (Ghaleb et al., 2021; Kang & Busser, 2018)

Age significantly moderated the relations between servant leadership and work meaningfulness. This finding is consistent with extant literature because with a person becoming more mature, attitude towards peers, superiors and subordinate is expected to change (Frone, 2003). Employees with increase in their age are found more inclined towards morality and ethics for finding meaning in their work (Lythreatis et al., 2020). Contrarily the relations between servant leadership and organizational inclusion, and work meaningfulness and organizational inclusion were not affected by age. One of the reasons for this finding can be that the age seniority has been observed to increase belongingness to cultural and ethnic groups which restrain aged employees from mingling up with out-group individuals extensively (Rahn et al., 2021). Mostly they remain confined to their limited circle of relations and in-group ties. Similarly, with more age the rhetoric used by servant leaders for creating organizational inclusion becomes less effective and old employees require comparatively stronger stimuli like personal example by leaders or strict reinforcement measures (Goudarzian et al., 2021). There was little moderating effect of work experience on any relation between servant leadership, work meaningfulness and organizational inclusion. This finding was contrary to our expectations and did not support the hypothesis. There can be numerous underlying reasons for this finding which entail a separate detailed study to uncover them.

7.1. Contribution of the Study and Future Direction of Research

This study contributes to the existing body of knowledge in three different ways. First is the study of relation between servant leadership and organizational inclusion, especially the mediating role of work meaningfulness between these two variables. Second is the investigation of the moderating role of gender, age and work experience on the relationship between servant leadership, work meaningfulness organizational inclusion. Finally, the use of novel approach of ANN for complementing application of SEM for data analysis. This study is vital in advising significant suggestions for implementation at individual, group and organizational levels. The role of servant leaders in formulation of policies and strategies for enhancing work meaningfulness and organizational inclusion are likely to prove vital with regard to intrinsic motivation of employees.

The current study has found that ANN can reliably predict organizational inclusion through servant leadership directly or through mediation of work meaningfulness. The developed ANN model can be used as an instrument for estimating organizational inclusion by servant leadership

directly and through work meaningfulness. Work meaningfulness can produce more involved and dedicated employees who fully include themselves in organizational activities. Similarly, the influence of organizational inclusion on all organizational outcomes is also required to be analyzed in different cultural contexts. Increasing focus on deep insight into psychological relevance, servant leadership can play an important role in creation of work meaningfulness thereby structuring high performance inclusive organizations (Lips-Wiersma et al., 2020; Wang & Xu, 2019).

8. Conclusion

Servant leadership strongly impacts organizational inclusion while work meaningfulness mediates the relations between servant leadership and organizational inclusion. This study also concludes that gender and age significantly moderate relations between servant leadership, organizational inclusion and work meaningfulness. In the same vein, work experience does not moderate these relations. Generally, it can be established that servant leaders must play a persuasive role in creating organizational inclusion and work meaningfulness to decrease negative work behaviors. Servant leadership style enables leaders to embed their motivational narrative into work meaningfulness. Through their conviction of “serving others”, servant leaders can induce organizational inclusion in the employees and transfer their altruism to their followers to serve others selflessly. For this purpose, the organizational objectives are required to be suitably linked with visible actions under the umbrella of “work meaningfulness”. Consequently, the employees would start adopting a view of their surroundings through the lens of their leader.

It is natural to encounter hurdles and negative stimuli affecting positive work meaningfulness which have to be taken care of by the leaders through perpetual emotional healing endeavors (Allan et al., 2018). The relations of employees with their leaders are considered basis of work meaningfulness leading to organizational inclusion (Mousa & Puhakka, 2020). In fact, emotional healing is a pre-emptive effort by leaders to prevent conflicts before they start affecting performance of employees. Similarly, servant leaders have to manage their own impression as well as the organization as a socially responsible entity for creating work meaningfulness (Bourke & Espedido, 2019). Leaders can stimulate the employees by practicing servant leadership that creates a socially responsible and welfare-oriented organization leading to work meaningfulness (Gotsis & Grimani, 2016).

The current study seeks to develop a neural network model for prediction of organizational inclusion directly from servant leadership as well as through work meaningfulness, as a representative case. The predictive accuracy of the developed model suggests that the neural network model can produce reliable estimates of the organizational inclusion. In addition, it was found that work meaningfulness was the most influential attribute having the most significant impact on organizational inclusion followed by servant leadership, gender and age. This study has adequately highlighted that servant leadership practices can be useful in creation and maintenance of work meaningfulness leading to organizational inclusion.

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