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# EMPLOYEE VOICE: A MULTIDIMENSIONAL SCALE CONSTRUCTION AND VALIDATION

[1]DR SAMINA BEGUM, [2]DR FAISAL KHAN*, [3]PROF. DR ARAB NAZ, [4]PROF. DR. ULAS CAKAR

[1]ASSISTANT PROFESSOR, DEPARTMENT OF MANAGEMENT SCIENCES, WOMEN UNIVERSITY MARDAN, (PRINCIPAL samina@wumardan.edu.pk)
[2]ASSOCIATE PROFESSOR, DEPARTMENT OF MANAGEMENT SCIENCES, UNIVERSITY OF SWABI, ANBAR, SAWABI, (CORRESPONDING AUTHOR: FAISALKHANUTM@YAHOO.COM)
[3]PROFESSOR, DEPARTMENT OF SOCIOLOGY, UNIVERSITY OF MALAKAND, CHAKDARA, LOWER DIR,
[4]PROFESSOR, DEPARTMENT OF BUSINESS ADMINISTRATION, DOKIZ EYLUL UNIVERSITY, TURKEY

**Abstract**
In this study, a multidimensional scale for measuring the overall constructs of modern employee voice was developed. Items reflecting the logical and semantic content of the concept of employee voice were generated from the literature. The data analysis procedures include Exploratory Factor Analysis, Confirmatory Factor Analysis and different model fit indices were tested. The results provide support for a three-factor multidimensional scale, including employee provision of information, platform, and manager's response. The overall scale consists of 10 items: 4 items on employee provision of information and 3 items each loading on the platform and the manager's response.
**Keywords:** Multidimensional Scale of Employee Voice; Modern Employee Voice; Employee Voice Dimensions; Employee-Oriented Voice; Organizational-Oriented Voice

## I- INTRODUCTION

In last decade organizations focusing on adopting a two-way employee voice mechanisms, referring to a formal voice as any institutionalized form of two-way communication between management and employees (Begum and Cakar, 2019; Bryson et al., 2007; Dundon et al., 2005). Organization have adopted different two-way employee voice mechanisms, to lower the management and employee conflict and increase performance. These two-way employee voice is more of an individual rather than a collective employee voice approach. Begum and Cakar (2019) term this individual two-way employee voice as modern employee voice (MEV). A shift from collective employee voice to MEV is observed in recent decades (Begum and Cakar, 2019; Dundon and Gollan, 2007; Dundon et al., 2004; Wilkinson and Fay, 2011). MEV is an organization-oriented approach towards employee voice. The nature and procedure of MEV is a two-way communication, in which different platforms (medium) are provided by organizations where employees can raise their voice regarding issues and suggestions to their supervisor or top management (Begum and Cakar, 2019; Budd et al., 2010). The management is responsible for acknowledging the issues and providing solutions in a certain period of time.

The transformation to MEV is due to many factors such as the changing nature of business demanding quick and creative information sharing; the monopolistic approaches of unions; weaknesses and certain problems in union behaviors and structure. But one of the major reasons is the change in attitude of organizations toward their employees (Bowen and Blackmon, 2003; Farndale et al., 2011). This change of attitude was caused due to the practical need to cope with the growing competitive business environment, as managers have become widely dependable on information from all levels of organization (Srivastava et al., 2006). The transformation to MEV shifts the arrangement of voice for employee from "employee oriented" to "organizational oriented" (Begum and Cakar 2019; Wilkinson et al.,2004; Wilkinson and Fay, 2011). In literature the employee voice scale are measuring the employee oriented voice which is a one-way employee voice. Begum and Cakar (2019) developed a MEV framework highlights the importance of reconsidering dimensions of the traditional employee voice scales used in management related studies. They argue that the previous scales fails to consider the overall dimensions of MEV in organizations. Therefore, the aims of the study is to develop a multidimensional scale for measuring employee voice in the modern organization.

To address this issue a multidimensional scale for measuring employee voice in the modern organization is developed. In order to apply and test the scale, a sample consisting of 406 employees including doctors and paramedical staff at Dokuz Eylul University (DEU) hospital was selected. Scale's items were generated based on the dimensions identified from the literature. The data were analyzed, adopting exploratory factor analysis (EFA) and confirmatory factors

analysis (CFA) methodology to identify and establish the factors and the underlying items. As a result of the analysis, a three factor model with 10 items; 4 items on employee provision of information and 3 items each loading on platform and manager's response was proven to be the most appropriate model.
The rest of study is organized as follows. The multidimensionality of MEV is discussed in section-II, which is followed with the methodology of the study in section-III. The section-IV explain the result of the study and the conclusion is presented in the last section-V

## II- MULTIDIMENSIONALITY OF MEV

From literature three dimensions of modern employee voice could be classified which are; i) provision of information by employee, ii) platform and iii) manager's response (Benson and Brown, 2010; Begum and Cakar, 2019; Van Dyne et al., 2008). These dimensions are explained as below

### i) Provision of Information by Employee

There are many different terms for defining the provision of information by employees to management, such as voice behavior, employee participation, employee engagement, and etc. Information provided by employees is basically of two types; the first is information (concerns or complaints) provided when employees encountered workplace problems or different stress and strain related to job. The second occurs with suggestions for effectiveness and efficiency of organization, or by means of innovative ideas regarding new products or policies. These two types of information are classified as a) negative voice and b) positive voice respectively.

#### a) Negative voice

Negative voice behavior is a reaction of employee to a situation which constantly extend over the limits of his/her physical and mental power. Also negative voice could be raised due to the strained relationships, unfairness or mistakes conducted by manager. De Jonge and Dormann (2006) stated that continuous cognitive, emotional or physical efforts that employee requires are condition of stressors. According to Jex et al., (2001) the adverse reaction to these stressors leads to strains. Therefore the reaction to stressors and strains in the form of voice is considered as negative voice behavior. Violence in work place such as interpersonal aggression, sabotage and hostility is associated to stressors and those individual mostly have intention to leave the organization or actually exit (Chen and Spector, 1992). Mathieu and Zajac (1990) found that there is strong evidence that the commitment level of individual associated with stressors is low.
Tett and Burnett (2003) stated that on a daily basis employee confront with three different level of working environment, which can be categorized as: the task level, the social level, and the organizational level. So stressors and strains related to such workplace after increasing a limit of sustainability forces the employee to raise voice, if this negative voice is not engaged in an appropriate approach which may later increase the density of the anger of the employee and will shift the voice to a higher stage that may be the angry voice. According to Tangirala and Ramanujam (2008) if organizational environment is highly stressful and employee perceive deeply flaws in the procedures, policies and system, they may be motivated to raise voice to identify or remove those defects. This type of voice which is raised due to stress or strain is stated as negative voice.

#### b) Positive voice

Positive voice is the voice behavior in which employee suggests creative ideas which contributes to the effectiveness and increase the efficiency of the organization. This voice behavior is not the result of stress or strain but rather a reciprocal behavior to the satisfaction that employee perceives from the working environment and also the respect from management. In the case of such satisfaction, employee feels an obligation to the organization and in return provides suggestions and creative ideas for the betterment of organization (Withey and Cooper, 1989).
The difference between negative and positive voice is that; negative voice is the voice behavior that is raised due to the job dissatisfaction, it may be in the form of job, organizational and social strain and stressors that employee confront in organization. In contrast positive voice is the voice behavior that results in job satisfaction, in other word it's the voice behavior when employee perceives that organization is supportive and facilitates them to achieve a satisfactory job, organizational and social environmental condition. In such condition employee will contribute their valuable suggestions and ideas to improve the work flow of the organization (McCabe and Lewin, 1992).
Job satisfaction is the perception or appraisal of the degree of fit between individual and organization (Lok and Crawford, 2001).The underlying factors contributing to job satisfaction are feeling regarding supervisor, compensation package, and co-worker relations (Saari and Judge, 2004; Spector, 1997). Blegen (1993) states organizational variable such as individual empowerment are highly related to job satisfaction. The central practices underpinning individual empowerment includes information sharing and job autonomy (Seibert et al., 2004; Wang and Lee, 2009). According to Gardell (1977) employees who have job autonomy contribute more creative ideas and have greater willingness for participation in comparison to employees lacking job autonomy.
Relationship with supervisor and coworker are also important factors that contribute to employee satisfaction (Bass, 1997; Cohen et al., 1996). Supervisor is the focal person the employees has direct interaction and also considered as

the key role person in modeling and setting the goals of a team (McIntyre and Salas, 1995). Therefore employee's positive perception of supervisor and the relationship with coworkers can increase the satisfaction of employee regarding working environment (Kozlowski and Doherty, 1989). This can result in a very valuable outcome, employees can suggest creative ideas that can effectively contribute to the effectiveness of achieving the organizational goal.

**ii) Platform**

Provision of information by employees to management requires a medium through which they can direct their voice. Medium is one of the important elements for successful communication, and platform plays the role of the medium in MEV. Budd et al., (2010) suggested that organizations must provide a medium to conduct successful communication between their employees and management. When the organizations provide platform for employees to raise their voice, favorable outcomes such as decrease in absenteeism and increase in job performance and productivity have been observed (Macleod and Clarke, 2009). Platform also encourages employees' contribution on their jobs and further enhances productivity in organizations (Pettinger, 1999).

Providing platform to employees have also impacted union in organization, According to Taras and Kaufman (2006) and Willman et al., (2007) unions have gradually decreased due to the direct voice mechanisms which are provided by organization in advanced economies like: United States, United Kingdom and western European countries. In the absence of platform employee diverts toward union and union provides an alternate where employee can raise their voice collectively to pressurize employer (Freeman and Medoff, 1984). Batt et al., (2002) suggests that unionized organizations have higher compensation than the same level job in nonunionized setup, because union can collectively rectify work place issues, negotiate higher compensation packages and also strengthen employees by providing them a platform from which they can determine the policies that reduce pay inequality, grievance and arbitration procedures for appealing managerial decisions.

In situation where nonunionized organization are lacking platform is an indication to silent employee voice. Research has proven that employee silence has a negative effect on organizational learning, error correction, and crisis prevention (Graham 2002, Perlow and Williams 2003). The efficiency of work-group problem solving can be increased through providing opportunities for minority to express their viewpoints (Nemeth et al., 2001). MacKenzie et al., (2011) showed that if employees are given voice rather than silencing, they have positively contributed to the work-group task performance and ultimately benefited the organizational-level performance.

According to Grant and Ashford (2008) and Van Dyne et al., (2003), platform provided by the organization is pro-social in nature which motivates employee to bring constructive suggestions for the improvement of performance or change in the procedure of conducting activities related to any of the stakeholder. Morrison (2011) states that the pro-social nature of organization of providing a platform creates a sense of obligation in the mind of employees in and urges them to make constructive suggestions to help organization to operate more effectively and more efficiently.

**iii) Manager's Response**

In a two-way communication, provision of information by employees and platform will not be completed until manager's response is added to it. Manager's response is an essential dimension which plays a vital role in the conversion of employee voice into an effective two-way communication. If the manager's response is appropriate from employee's point of view, then the employee will respond in a favorable way. Cropanzano and Mitchell's study (2005) concluded that one shows respect to another as much as he or she feels to be respected by that person. Blau (1964) also stated that social change and stability in organizational environment is due to the social psychology developed through the process of negotiation and information exchange among parties. According to Stamper et al., (2009) if the working environment of organization is positive and the perception of the manager's disregard is low then the employee will behave pro-organizational and will use voice more constructively for the betterment of organization. In contrast negative working environment with lower interpersonal trust and organizational commitment would lead to counterproductive voice behavior ( Cohen-Charash and Spector, 2001). These counterproductive voice behavior may create conflict among group members due to the continuous inability or unwillingness of manager to respond effectively (Detert and Trevino, 2010; Dutton and Ashford, 1993).

In cases where manager lack resources or do not have access to resources limit the ability of resolving issues raised by employee, such circumstance engage employee in behavior that tend to increased voluntary or involuntary exit (McClean et al., 2013). If employees perceive that the manager lacks the power to act or not willing to address their concerns, this will lead to conflict within the organization (Vries et al., 2012). According to Morrison and Milliken (2000) such perception of employee may cause them to exhibit destructive rather than constructive organizational citizenship behaviors (OCB) and Van Dyne et al., (2003) added that such employees slow down the work process intentionally, they keep silent but create disturbance in work place.

According to resource-based view (RBV) organization can obtain sustainable competitive advantage within the industry based on their human resource, which is the most difficult resource to be imitable (Wan et al., 2011). The strategic human resource management (SHRM) demand that employees (human resource) must have distinctive set

of attitude and behavior that formulate and implement strategy (Wright et al., 2001). The management needs to address and resolve issues and facilitate the process of employee involvement and engagement to acquire these qualities of employee (Wright et al., 2001). Therefore organization need to provide opportunity to the employee to voice their issues related to work place stress and strain (Markey et al., 2001). Managers need to engage their concern to create an environment which increase perception of employee feelings of fairness, trust, decision control, inclusion in the group, and respect, which will strengthen the relation between leader and employee (Lind and Tyler 1988; Miller and Monge 1986).

## III- METHODOLOGY

The purpose of this study is to bring forward a scale that can measure the two-way nature of modern employee voice. The guidance for the procedure of scale development was adopted from the descriptions of DeVellis (1991) and Spector (1992). Our sample consists of 406 respondents of Dokuz Eylul University (DEU) hospital. The demographic of the data was that the female respondents were 60.84 % while the remaining 39.16 % consists of male. In 406 respondents, 47.78% are doctors, while 1.48 % are medical technicians. Administrative staffs are 26.60 %, nurses are 19.21 %, and research assistants consist of 4.93% of the respondents.

The first step for scale development was items generation, in which collecting and analyzing different items that were related to employee voice was conducted. These items were collected from previous questionnaire and also from studies and literature reflecting the logical and semantic content of the concept of employee voice. All the items were tabulated and the list of items was progressively reduced by eliminating the questions not related to employee voice. The items that had similar meaning were also removed. These items were rephrased to fit to the current study and also new items were developed based on the dimensions identified from the conceptual framework of employee voice. At this stage the number of items that were remained was 77.

Content validation was conducted within two phase. For content validity initially 8 PhD students from management science in Pakistan were contacted out of which 6 were agreed to participate. Content validity is important because it helps in specifying that the set of items reflect the content domain (DeVillis, 1991). These PhD students suggested 38 items to be drop, in total 39 items were remained. In the second phase of content validity, three PhD students and four professors from management faculty of Dokuz Eylul University were taken as expert opinion for adding, dropping or changing any unclear items. The 39 items were provided for their suggestions and they recommended making some rephrasing so that the items are easily understandable. They suggested splitting of three items. The other suggestion made was to eliminate 8 items which had similarity with other items. After making these changes, finally 36 items were left. All the items responses were scaled from Strongly Disagree = 1 to Strongly Agree = 5. The forward and backward translation of the 36 items were conducted according to the procedure of Brislin (1980).

The questionnaire was pre-tested prior to its use, with 36 university graduates. It was confirmed from the pilot group that the instructions and questions were clear and the form design was user friendly. The average questionnaire completion time was 9.8 minutes.

The data analysis was conducted through principal components analysis (PCA) extraction method as the objective was to reduce dimensionality and retain as much as possible the variation presented in the data set. The goodness of fit and measurement invariance was tested for different sample to determine if the items loading is the same or different among samples. Therefore the data set was divided into two sub-samples based on job position; Sub-sample 1 consists of doctors, research assistants and medical technicians while sub-sample 2 consists of nurses and administrative staff. In the next section the finding of the study is discussed.

## IV- RESULTS

The dataset was tested for the basic assumption underlying factor analysis, specifically factorability of the data. A visual inspection of the full correlation matrix determined that there was a number of significant correlations greater than 0.3, hence met the underlying assumption of factorability. The Bartlett's and KMO test result for the initial 36 items was conducted. The Bartlett's test was statistical significance suggests that there is linear relation between the 36 items. The KMO test value was 0.865 also shows that factorability exist among the variables. According to Hutcheson and Sofroniou (1999) the KMO value of 0.865 is at the great/meritorious status. Therefore, the sample data is favorable for factor analysis.

From the scree plot in Figure-1 it can be observed that the three factors are above the eigenvalue 2 and they are wide spread apart and vertically in straight line. The differences of eigenvalue between the factors are descending precipitously and levels out after 4 factors.

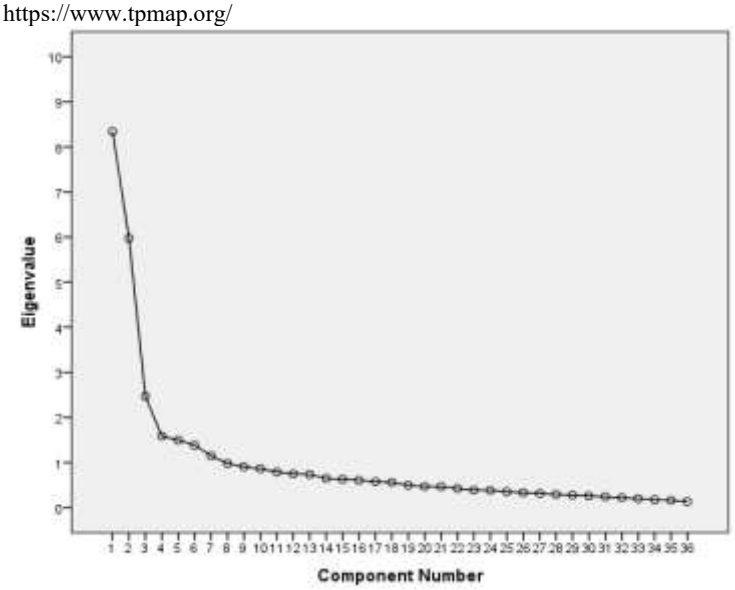


**Figure 1:** Scree Plot for 36 Items

In this study the minimum value for factor loading was set as .6 and the low limit for cross-loading was .3. The acceptable communality was items having value higher than .5.

At first the factor analysis was conducted without rotation but with varimax rotation the loading of each item was improved towards a specific factor. The items with factor loading lower than .6 were dropped. Then, factor analysis was conducted on the remaining items. The same procedure was followed several times by removing items which had cross loading issues and adding back some of the items to check if it could load significantly on any of the factor. As the items were dropped, the number of factors also decreased. The final items were 11 which were loaded on three different factors shown in table-1.

**Table 1: Exploratory Factor Analysis Results of the Employee Voice Items: Varimax Rotated Component Matrix of the Final 11 Items**

| | | Factor loading | | | Communality |
|---|---|---|---|---|---|
| | | Employee provision of information | Platform | Manager's response | |
| SQ_1 | I rise my voice on issues related to unfairness related to treatment of employees differently by management | 0.834 | | | .725 |
| SQ_30 | I rise my voice when organization does not fulfill its promises | 0.821 | | | .692 |
| SQ_28 | I rise my voice on lack of organizational support e.g. not caring about well-being of employees | 0.737 | | | .632 |
| SQ_20 | I communicate creative suggestions to management about product and services | 0.732 | | | .579 |

| | | | | | |
|---|---|---|---|---|---|
| SQ_19 | My organization encourages employee to express their disagreements regarding company issues through proper forum | | 0.873 | | .762 |
| SQ_33 | I rise my voice on lack of proper forum for registering concerns regarding job related issues | | 0.852 | | .727 |
| SQ_2 | My organization have a systematic and organized procedure to express ideas, recommendations or issues to the management | | 0.785 | | .618 |
| SQ_27 | I have been given adequate opportunity to speak about the issues I face in the organization | | 0.754 | | .581 |
| SQ_24 | The manager give response to employee complaints in adequate time | | | 0.887 | .870 |
| SQ_22 | The response of the management in reaction to my recommendation or comments is unsatisfactory | | | 0.848 | .782 |
| SQ_36 | The suggestions or recommendations I provide to the manager are truly considered by them | | | 0.827 | .714 |
| | | | | | |
| Extraction Method: Principal Component Analysis.<br>Rotation Method: Varimax with Kaiser Normalization.<br>Rotation converged in 5 iterations. | | | | | |

In CFA first model fit was checked for the 11 items which are loaded on 3 factors. This stage move on to validate for model fit of single factor, two factor, and three factor model and at last multi group CFA was conducted. The statistics showed that there is high covariance between residual e7 and e8 of the platform factors. When the two residuals were connected, the loading of item SQ_27 falls from .60 to .57. The SEM diagram of initial model and connected residual model are displayed in Figure-2 and Figure-3. According to researchers when SEM do not illustrate good fit, re-specification or subsequently retesting of model is conducted (Gerbing and Hamilton, 1996; MacCallum et al., 1992). Therefore for re-specification of the model item SQ_27 was dropped and retested, where all the statistic of model-fit were improved.

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**Figure 2:** Confirmatory Factor Analysis Results Based o

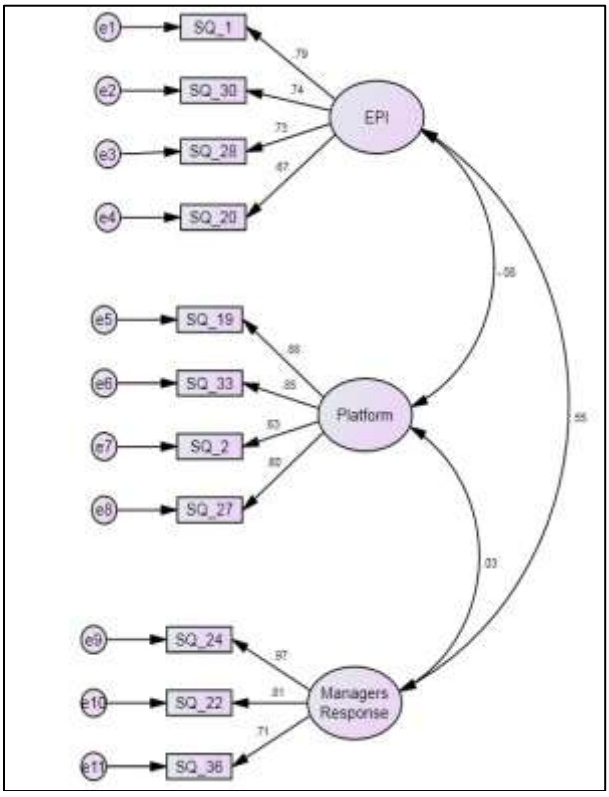
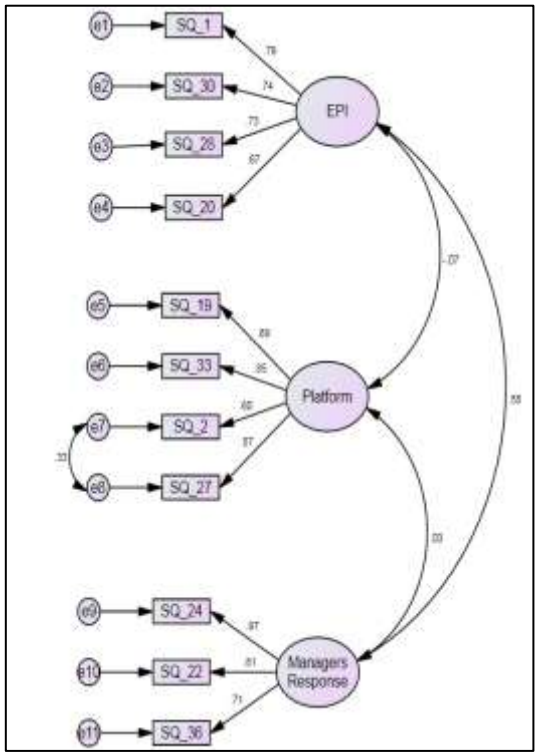



**Figure 3:** Confirmatory Factor Analysis Results Based on 11 Items with Connected Residuals




In Table-2 the model fit statistics of the three models including unmodified, unmodified with connected residuals and re-specified model are displayed. The statistics show that CMIN/DF, GFI, AGFI, CFI, RMR, SRMR and RMSEA are 2.921, 0.950, 0.920, 0.043, 0.0435, .961 and .069 respectively for unmodified model but RMSEA is significant. When the residuals were connected as shown in Figure-3 the results improved to CMIN/DF: 1.990, GFI: 0.966, AGFI: 0.943, CFI: 0.981, RMR: 0.039, SRMR: 0.0377 and RMSEA: 0.049 and becomes insignificant. The statistics are more improved when item SQ_27 is dropped as shown in the Table-3. The value CMIN/DF, GFI, AGFI, CFI, RMR, SRMR and RMSEA of re-specified model are 1.658, 0.974, 0.955, 0.988, 0.037, 0.0343 and 0.040 while the P-value is insignificant for RMESA. Therefore according to the result shown in Table-2 the re-specified model in which item 27 is dropped shows the best model fit beside the other two; unmodified model and unmodified model with connecting residuals.

**Table-2: Fit Index of Unmodified and Re-specified Model**

| | N | CMIN/ DF | GFI | AGFI | CFI | RMR | SRMR | RMSEA | PCLOSE |
|---|---|---|---|---|---|---|---|---|---|
| **unmodified model** | 406 | 2.921 | 0.950 | 0.920 | .961 | 0.043 | 0.0435 | .069 | .015 |
| | | | | | | | | | |
| **unmodified model with connecting residuals** | 406 | 1.990 | 0.966 | 0.943 | 0.981 | 0.039 | 0.0377 | 0.049 | 0.500 |
| | | | | | | | | | |
| **re-specified model** | 406 | 1.658 | 0.974 | 0.955 | 0.988 | 0.037 | 0.0343 | 0.040 | 0.787 |
| | | | | | | | | | |

Bartlett's test of sphericity is statistically significant and KMO value is 0.776 for the respecified 10 items based on Hutcheson and Sofroniou (1999) guideline shows that the shared variance is a middling value.
The overall loading of the items have been improved after dropping the SQ_27 item.

The first factor which is "employee provision of information" has four items having factor loading of 0.832, 0.820, 0.743 and 0.732. The items loaded are the same as the previous 11 item scale.

i) I rise my voice on issues related to unfairness related to treatment of employees differently by management.
ii) I rise my voice when organization does not fulfill its promises.
iii) I rise my voice on lack of organizational support e.g. not caring about well-being of employees.
iv) I communicate creative suggestions to management about product and services.

Factor loadings of items on the platform factor are 0.899, 0.897 and 0.770 and the items are listed below.

i) My organization encourages employee to express their disagreements regarding company issues through proper forum.
ii) I rise my voice on lack of proper forum for registering concerns regarding job related issues.
iii) My organization have a systematic and organized procedure to express ideas, recommendations or issues to the management.

The third factor which is the manager's response have 3 items. The factor loading are 0.888, 0.849 and 0.827. The items are below.

i) The manager give response to employees' complaints in adequate time.
ii) The response of the management in reaction to my recommendation or comments is unsatisfactory.
iii) The suggestions or recommendations I provide to the manager are truly considered by them.

The internal consistency of the three factors obtained from the 10 items factor analysis is displayed in Table-3. The Cronbach's Alpha value of employee provision of information, Platform and manager's response are 0.820, 0.822 and 0.864. All the Cronbach's Alpha values for the factor are above 0.8 which are acceptable range according to literature. The combined factors Cronbach's alpha value is .767 and standardized Cronbach's Alpha is .760

**Table 3: Reliability Statistics of 10 Items**

| Factors | Mean | Variance | Cronbach's Alpha | Cronbach's Alpha Standardized | N of Items |
|---|---|---|---|---|---|
| Employee provision of information | 2.631 | 1.142 | .820 | .821 | 4 |
| Platform | 3.618 | .916 | .822 | .820 | 3 |
| Manager's response | 3.149 | 1.099 | .864 | .863 | 3 |
| Combined value | 30.8276 | 34.232 | .767 | .760 | 10 |

After confirming that the model fit and internal consistency are valid for the 10 items scale, the next step in the CFA is the testing the goodness of fit of the three factors model in comparison to competing models.

According to Mulaik et al. (1989) alternative models may be considered in SEM because goodness of fitting models can suffer from misspecification. Therefore the competing models where; a) a single factor model in which all items were loaded to a single factor, b) two factor model in which items of manager's response and platform are combined as first factor and employee provision of information (EPI) is the second factor, and the c) hypothesized three factor model of the study. The reason to combine manager's response and platform factor is that these two factors are the main contributor to the shift of employee voice to two-way process and they are provided by the organization. As discussed prior in the literature, organization regulates manager's responsibility in giving response in a predetermined time frame and platform is also organization oriented. Therefore these two factors are considered as one factor. The goodness of fitting of all the models were tested and are displayed in Table-4.

The chi-square of all the models except the 3 factor model were significant as it is mostly the case in large sample (Bentler and Bonett, 1980). The goodness of fit statistics in Table-5 show that the hypothesized baseline 3 factor model provide a good-fit that is GFI=0.966, AGFI=0.942, CFI=0.994, RMR=0.036, SRMR=0.0356 and RMSEA=0.029 for the sub-sample 1 and the RMSEA were insignificant. On the other hand the first and second model having significant chi-square value and also the comparative indices did not have valid statistics which are required for a good model fit. The GFI and AGFI which is required to be greater than 0.90, are below for 1-factor and 2 factor model for sub-sample 1. The CFI value also requires to be greater than .90 and better if above than .95, but for 1 and 2 factor model are below the cut off value. The RMR as the literature states that it is difficult to interpret (Kline, 2005) when the questionnaire contains items with varying levels on the other hand the SRMR for 1-factor and 2-factor are also not significant. Also the RMSEA which examines the closeness of fit is out of range for 1 and 2 factor model. But for the baseline three factor model it is in the acceptable range.

**Table 4: Summary of Confirmatory Factor Analyses of Different Models**

| | **Chi-square** | **CMIN/DF** | **GFI** | **AGFI** | **CFI** | **RMR** | **SRMR** | **RMSEA** | **PCLOSE** |
|---|---|---|---|---|---|---|---|---|---|

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **1-factor model** | 499.176 | 14.262 | 0.668 | 0.479 | 0.535 | 0.171 | 0.1838 | 0.246 | 0.000 |
| **2- factor model** | 470.204 | 13.434 | 0.744 | 0.597 | 0.564 | 0.282 | 0.2039 | 0.238 | 0.000 |
| **3- factor model** | 38.052 | 1.189 | 0.966 | 0.942 | 0.994 | 0.036 | 0.0356 | 0.029 | 0.841 |

The complete standardized factor loading is shown in Figure-4, further support the hypothesized 3 factor model. The range of the standardized factor loading is .63 to .97 for the sub-sample 1. Also the average standardized factor loading is above .7 for each of the three factors.

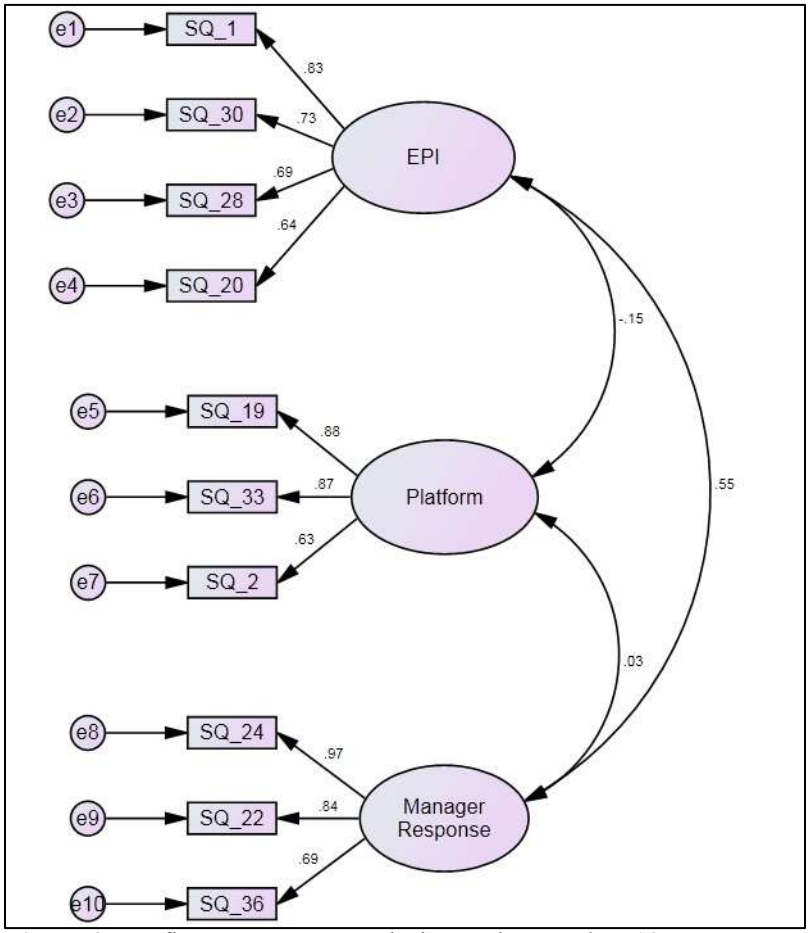



**Figure 4:** Confirmatory Factor Analysis Results Based on 10 Items

The internal consistency reliabilities of the factors are shown in Table-5. Reliability test was constructed for the three different data sets separately. The coefficient alphas for the three factors; employee provision of information, platform and manager's response were 0.820, 0.822 and 0.864 respectively for all the respondents. For the sub-sample 1, the internal consistency reliabilities were also acceptable for the three factors which were 0.808, 0.833 and 0.867. The alpha coefficients for the sub-sample 2 were 0.833, 0.787 and 0.859 for employee provision of information, platform and manager's response respectively.

**Table 5: Reliability of all the Data sets for 10 Items**

| | Employee provision of information | Platform | Manager's response |
|---|---|---|---|
| All respondents | 0.820 | 0.822 | 0.864 |
| Sub sample 1 | 0.808 | 0.833 | 0.867 |
| Sub sample 2 | 0.833 | 0.787 | 0.859 |
| | | | |

The next step after finalizing the baseline model is the construct validity test. This provides a reliability and validity across different potential situation in which it can be applied. The Multisampling Confirmatory Factors Analysis (MCFA) where groups are compared based on personal differences (gender) or even context (type of workplace setting etc.) is widely adopted to establish reliability and validity across different potential situation (Cheung and Rensvold, 2002; Vandenberg and Lance, 2000).

In this study configural invariance, metric invariance, scalar invariance, factor covariance invariance and measurement error invariance are tested as part of measurement invariance test following the approach of Byrne et al. (1989). In Table-6 the model fit statistic of each model and the chi-square differences for each model comparison are displayed. The separate models for sub-sample 1 and 2 exhibit acceptable level of model fit that are $\mathbf{X^2}$=38.052, df=32, p=.213, RMSEA=.029, and CFI=.994 for Sub-sample 1 and $\mathbf{X^2}$=71.608, df=32, p=.000, RMSEA=.082, and CFI=.952 for sub-sample 2. While the model fit level for the combined MCFA model is $\mathbf{X^2}$=109.66, df=64, p=.000, RMSEA=.042, and CFI=.975. This signifies acceptable fit measures of the MCFA and across the two groups and indicates the configural invariance.

**Table 6: Measurement Invariance Test for Sub-Sample 1 Versus Sub-Sample 2**

| | Model Fit Measures | | | | | | Model Differences | | |
|---|---|---|---|---|---|---|---|---|---|
| **Model Tested** | **$X^2$** | **df** | **P** | **RMSEA** | **CFI** | | **$\Delta X^2$** | **Δ df** | **P** |
| Separate Group | | | | | | | | | |
| Sub-sample 1 | 38.052 | 32 | .213 | .029 | .994 | | | | |
| Sub-sample 2 | 71.608 | 32 | .000 | .082 | .952 | | | | |
| Configural invariance | 109.66 | 64 | .000 | .042 | .975 | | | | |
| Metric invariance | 117.926 | 74 | .001 | .038 | .976 | | 8.267 | 10 | .603 |
| Scalar invariance | 143.471 | 74 | .000 | .048 | .962 | | 33.811 | 10 | .000 |
| EPI scalar invariance | 116.363 | 68 | .000 | .042 | .974 | | 6.703 | 4 | .152 |
| Platform scalar invariance | 133.027 | 67 | .000 | .049 | .964 | | 23.367 | 3 | .000 |
| Manager response scalar invariance | 112.172 | 67 | .000 | .041 | .975 | | 2.512 | 3 | .473 |
| Factor Covariance invariance | 111.781 | 67 | .000 | .041 | .975 | | 2.122 | 3 | .548 |
| Error Variance invariance | 124.889 | 74 | .000 | .041 | .972 | | 15.230 | 10 | .124 |

The metric invariance test shows that $\Delta\mathbf{X^2}$ is 8.267 with 10 degree of freedom and indicates a non-significant difference. The 10 degree of freedom represents the 10 item loadings that were constrained to be equal across the groups. Thus the two group's exhibit equal factor loadings and the non-significant of the test refers full metric invariance.

The scalar invariance result shows that the $\Delta X^2$ is 33.811 with 10 degree of freedom but the differences is statistically significant. This indicates that full scalar invariance is not supported. Modification indices were examined and found that two factors; EPI and manager's response factor had statistically non-significant intercept loading while the platform factor indicated a statistically significant intercept loading. Therefore partial scalar invariance can be supported.

The factor covariance invariance and error variance invariance had $\Delta X^2$ =2.122 with 3 degree and $\Delta X^2$ =15.230 with 10 degree respectively with statistically non-significant differences. Therefore there is full factor covariance invariance and also full error variance invariance.

The measurement invariance analysis demonstrate that the five invariance tests for three factor model met the criteria of configural invariance, full metric invariance, partial scalar invariance, full factor covariance invariance and full error variance invariance.

## V- CONCLUSION

Through the validation of a multidimensional measure three factors naming employee provision of information, platform and manager's response were identified as the three factors of the MEV scale. The first factor, employee provision of information is important for both the traditional scale and for the new scale. The reason is that traditional organization management are mostly authoritative and the organizational structure are centralized in nature, flow of command would come from top level and inputs from the lower level are not welcomed (Bluestone and Harrison 1988; Dow 1988;). There is no problem in utilizing the traditional scale in traditional organization, but implementing these scales in the modern organization could create problem in establishing the true nature of employee voice. The reason is the multidimensional nature of employee voice in modern organizations, it can be seen that all the previous traditional scales only focus on one dimension and do not consider the other dimensions which are part of the modern organization.

The second dimension the platform factor is lacking in the traditional scale because the platform for voice behavior in traditional organization was oriented by employees themselves in the form of union (Dundon and Gollan, 2007; Millward et al., 2000). Therefore in traditional scales there is no concept of organizational oriented platform for voice behavior. On the other hand in MEV the platform is provided by the organization (Dundon and Gollan, 2007; Wilkinson et al., 2004; Wilkinson and Fay, 2011).Through factor analysis, 3 items were identified for platform factor which addresses the availability of platform from organization side. In two-way communication a medium through which the message could be sent is an important element of a successful communication. In MEV, platform consists of a number of forms that is team meeting, open door policy, compliant box, suggestion box, joint consultative committees, works councils and social media group etc. Among the three items in platform factor, two of these items as; i) My organization have a systematic and organized procedure to express ideas, recommendations or issues to the management and ii) My organization encourages employee to express their disagreement regarding company issues through proper forum, measure the organizational willingness of providing platform for voice are consistent with literature. Numerous studies discuss that organization in the modern era have assigned a specific department as HR department to address issues of employees (Bryson et al., 2007; Edgar and Geare, 2005). Also the literature states that the modern organization provides different voice mechanism (Bowen and Blackmon, 2003; Farndale et al., 2011). Therefore these two items are expected to measure the availability of systemic and organized procedure provided by organization to understand issues and recommendations from employees. The last item 'I rise my voice on lack of proper forum for registering concerns regarding job related issues' measures attitude and reaction of employees toward unavailability of a proper forum. Employees feel psychologically safe when proper forum is provided by the organization for discussion of job related issues (Burris et al., 2008; Walumbwa and Schaubroeck, 2009). If employees demand and rise voice for proper forum it could also be considered that employees understand the meaning of MEV and also are loyal to the organization (Freeman and Medoff 1984; Hirschman, 1970). Therefore, platform factor tries to measure the organizational willingness to provide platform and employees' contribution for demanding the proper forum for registering concerns regarding job related issues.

The third dimension, manager's response and the role of manager to voice behavior in both traditional and modern organization is virtual (Freeman and Medoff, 1984; Wright and Edwards, 1998). In Traditional organization addressing the voice was not a formal job of manager. Therefore in traditional scales no such items are available that could measure manager's response (Beer, 2009). The manager in traditional organization would address the issues raised by union depending on the context of the voice. As stated in the literature large time of manager would be spending diluting the collective voice rather than addressing the issue. On the other hand in MEV managers are formally responsible to address the voice behavior which was raised through the platform provided by organization. The manager's response factor consists of three items that are; i) The manager give response to employees' complaints in adequate time, ii) The response of the management in reaction to my recommendations or comments is

unsatisfactory, and iii) The suggestions or recommendations I provide to the manager are truly considered by them. All these items consider whether manager provides response to employees' complaints and suggestions in proper ways, and whether employee is satisfactory with the response. The first two items measure if the response was given in proper time and employees' satisfaction level of the response. This is important because the more the time takes for response, the more the employees are likely to be dissatisfied, and it can result employees behavior such as exit or remain but with decreased efficiency (Hirschman, 1970; Withey and Cooper, 1989). The last item is related to manager's sincerity perceived by employees to suggestions and recommendations provided for the betterment of organization. Vandewalle et al., (1995) and Van Dyne and LePine (1998) in their studies stated about promotive behavior of employees which employees provide innovative suggestions for improvement of organization. Since this behavior is beneficial for organizations, it is important for managers to give satisfactory response to employees, so that it encourages continuous participation of employees in organization procedures. Therefore, manager's response factor with three items is expected to measure both appropriateness of manager's response and employees' satisfaction level toward the response, which are another critical aspects for healthy organization.

Support for a multidimensional MEV scale was provided by a consistent set of results: 1) factor loadings from exploratory factor analysis provided support for three separate factors; 2) the CFA results showed the three-dimensional model to be superior to competing models 3) the model fit index of three dimensions are also good-fit and the invariant analysis show that invariance met the criteria of configural invariance, full metric invariance, partial scalar invariance, full factor covariance invariance and full error variance invariance. Besides the empirical support, as Bollen and Hoyle (1990) states, theoretical significance of "conceptual dimensionality" should not be overlooked. Additional support for empirical result is provided by literature demonstrating the shift from collective employee voice to a more individual employee voice (Begum and Cakar, 2019; Dundon and Gollan, 2007; Dundon et al., 2004; Wilkinson and Fay, 2011). Therefore the scale developed in this study considers the overall dimensions of employee voice in the modern organization. The dimensions that were missing in the previous scales such as platform and manager's response are constructed in the new scale. Hence, this scale is more applicable and effective than the previous scales in measuring the true employee voice in the modern organization. The main limitation of this study was the fact that it included only one organization as a case study. This can provide richness and details of processes and outcomes within a particular enterprise but may raise the issue of low statistical representativeness (Easton, 2010).It can be problematic in generalizing to other workplaces and firms. Therefore future research should include other firms as target stimuli due to which the scope of scale application would expand to a more diverse consumer.

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