Commitment Profiles and Voluntary Turnover Intentions : An Empirical Assessment of "Two-Faces" Conceptualization of Normative Commitment

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Abstract

We investigated how affective commitment (AC), continuance commitment (CC), and normative commitment (NC) coalesced to elicit different commitment profiles to differentially exercise their effects on voluntary turnover intentions (VTOI) among 752 information technology (IT) professionals from the Indian IT sector. The key purpose, however, of this research endeavor was to empirically examine the validity of the "two-faces" conceptualization of NC [i.e. indebted obligation and moral imperative]. The empirical findings, in this connection, first comported to the multi-dimensional nature of organizational commitment (OC) comprising the three components of AC, NC, and CC. Second, the results did not exhibit the presence of high inter-correlation between the construct AC and NC. Third, of the six identified commitment profiles, highly committed [High AC–NC–CC] profile was found to be the strongest in alleviating the VTOI among the IT professionals. VTOI was found to be the most severe in employees who belonged to the least committed [Low AC–NC–CC] profile. Fourth, as regards the construct of NC, the empirical findings of this study offered very little evidence, if any, to support the "two-faces" conceptualization of NC and comported to the idea of NC as a unidimensional construct that is driven fundamentally by introjected regulation. This is because the construct of NC was not found to alleviate VTOI among employees over and above AC, a fundamental assumption of the two-face theory. Last, the findings of this study did not reveal the existence of high NC–CC commitment profile, thereby casting doubts on whether employees even experience 'indebted-obligation' towards their respective organizations.

Keywords : **Two-face theory, normative commitment, information technology, turnover intentions, organizational commitment, India**

EL Classification : E28, J24, M10, M12, M51, M54

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Within the confines of organizational commitment (OC) research, the most dominant exemplar is the three-component model (TCM) of OC that represents affective (AC), continuance (CC), and normative (NC) dimensions of employee commitment (Allen & Meyer, 1990). Though TCM is the most widely used model in OC research discourse (Meyer, Stanley, Herscovitch, & Topolnytsky, 2002), it has also been a subject of considerable conceptual and empirical scrutiny (e.g., Jaros, 2017 ; Meyer & Morin, 2016). This is because, despite the support lent by existing research towards the general validity of TCM, its components and the respective items in the TCM scale thereof are still to gain a similar degree of validity (e.g., Jaros, 2007 ,2017). For example, though there exists strong theoretical support for the general validity of the construct of AC, researchers have raised concerns over the nature of the proposed bi-dimensionality (i.e., high sacrifices and few alternatives) of CC (e.g., McGee & Ford, 1987; Jaros & Culpepper, 2014). However, one of the two dimensions of CC, that is, the "high sacrifices" is known to be a strong antecedent of employee behavior as the literature on the sociology of work has also lent theoretical credence to the CC – employee behavior relationship (Powell & Meyer, 2004). To this end, Jaros (2007) disputed that the lack of alternative employment opportunities did not necessarily mirror any form of obligation and, therefore, should not be considered as a dimension of CC. Therefore, Powell and Meyer (2004) called for revising the CC scale so as to include only sacrifice related statements. Furthermore, some scholars (Bozeman & Perrewé, 2001) even argued that focal behavioral words (e.g., quit, stay, leave, etc.) in AC, NC, and CC scale have the tendency to over predict outcome variables such as employee turnover, turnover intent, and withdrawal cognitions. This is because the afore-mentioned focal behavioral words relate closely to the criterion variables of turnover under consideration in theoretical models. Therefore, they call for researchers to either entirely remove behavioral terms from AC, NC, and CC scale or use words that only 'indirectly' point towards the possible focal behavior.

As regards the normative construct of OC, the NC dimension of OC hasn't demonstrated strong theoretical and empirical justification in the past. This is because prior research on NC has pointed out conceptual anomalies in the construct itself. This includes, in particular, NC's conceptual redundancy with AC (Bergman, 2006). This is backed by some empirical evidence that point towards a very high correlation between NC and AC (Meyer et al., 2002) and is also evidenced in NC's failure to predict attitudinal and behavioral outcomes, at the individual-level of analysis, when the effect of AC is controlled for (Jaros, 2017). Scholars (e.g., Bergman, 2006 ; Jaros, 2007) also pointed towards the conceptual inconsistencies that exist between the modified theoretical definition of NC (i.e., one that is postulated to comprise two-faces (Gellatly, Meyer, & Luchak, 2006) of 'moral imperative' and 'indebted obligation,' respectively) (Meyer, Becker, & Van Dick, 2006) and the items that are actually used in TCM to capture the same empirically. In particular, they suggested that the NC scale, in its current form, is inadequate to conceptually support or empirically capture the proposed two-faces of NC and, therefore, called for researchers to modify statements of NC sub-scale so as to specifically capture and test the validity of the dimensions of moral duty and indebted obligation as the two-faces of NC. Taken together, the extant critique of TCM in general and NC dimension in particular, does indeed cast doubts on the general validity of the NC scale in its current form. Therefore, drawing extensively from the review of two-faces conceptualization of NC by Jaros (2017), this paper, by revising the existing TCM scale so as to attenuate the conceptual inconsistencies, examines empirically the validity of two-faces conceptualization of the NC construct by exploring the commitment profiles of IT professionals and further studying the influence of these profiles on employees' voluntary turnover intentions (VTOI). Against the background of the findings of this study, we offer research implications for future researchers.

Review of Literature

The notion that the construct of NC comprised of two-faces was first conceptualized and articulated by Gellatly

et al. (2006). Their study posited that moral imperative sub-dimension of NC was represented by a profile high on AC and NC components (High AC – NC ; Low CC) of OC. Indebted obligation, on the other hand, was characterized by a profile high on CC and NC components (High CC – NC ; Low AC) of OC (Gellatly et al., 2006). The afore-mentioned viewpoint was corroborated by Meyer and Parfyonova (2010) who contended that an experience of NC is usually contingent to how an individual experiences AC and CC. While AC is posited to emerge due to the sense of "autonomous regulation," CC is postulated to manifest due to the sense of "external regulation" (Jaros, 2017, p. 528). Therefore, under the conditional presence of high AC, NC is propounded to be experienced as 'moral imperative.' When NC is experienced in the presence of high AC, the desire and the moral imperative thereof in employees to continue their membership with and also assist their respective organizations in meeting desired objectives stem from 'within,' something that reflects their "internally chosen hopes, values, and aspirations" (Jaros, 2017, p. 519). Therefore, Meyer and Parfyonova (2010) posited that a high AC – NC profile (i.e., moral duty) should essentially demonstrate significant and a stronger negative association with undesirable work outcomes (i.e., in this case, voluntary turnover intentions) when compared to a high AC only profile. On the other hand, under the conditional presence of high CC, NC is posited to be experienced as 'indebted obligation.' This condition exhibits external regulation and, therefore, has minimal positive influence on favorable job and individual level outcomes (Jaros, 2017). Therefore, Meyer et al. (2006) and Meyer and Parfyonova (2010) hypothesized a two-dimensional (i.e., 'moral imperative' and 'indebted obligation') conceptualization of NC.

The advocacy of the two-faces conceptualization of NC by Meyer and Parfyonova (2010) notwithstanding, the empirical support, however, for the two faces conceptualization is inconsistent at best (Jaros, 2017). For example, Wasti (2005) conducted two studies on Turkish employees from 46 organizations. The first study examined the effects of different commitment profiles on work withdrawal behavior, turnover intent, altruism, and job stress. The second study revised the CC scale from the original TCM to include only those items that captured high - sacrifices dimension (Meyer et al., 2002) of the CC construct. Using K-means clustering, Wasti (2005) found six specific commitment profiles (i.e., High AC ; High CC ; High AC – NC; High AC – NC – CC ; Moderate AC – NC – CC ; and Low AC – NC – CC). Wasti's (2005) study, however, did not find support for the two-faces conceptualization of the NC construct (Jaros, 2017). In particular, the findings from both the studies did not demonstrate the presence of any statistical difference between High AC – NC and High AC only commitment profiles (that is, a primary tenet to two-faces conceptualization) in their ability to influence individual level outcomes. In a similar vein, Somers (2009), by using K-means clustering, examined the influence of five different commitment profiles (i.e., High AC – NC – CC ; High AC – NC ; High CC – NC ; High CC only ; and Low AC – NC – CC) of nurses on myriad individual – level attitudinal and behavioral outcome variables. Turnover intention among nurses was found to be the lowest for High AC – NC – CC and High AC – NC commitment profiles. However, unlike Wasti (2005), citing the non-emergence of High AC only commitment profile in the study, no statistical comparison between High AC – NC and High AC only profiles were reported. Further, in a similar study by Somers (2010), he examined the influence that different commitment profiles exercised on the actual turnover behavior of 572 health-workers in USA, and found some support for the two-faces conceptualization of NC. This is because the High AC only and High AC–NC commitment profiles did not differ significantly in their ability to predict the actual turnover behavior. However, the High AC–NC profile group did demonstrate higher levels of staying intentions when compared to the commitment profile groups of High AC only and High CC–NC.

A study by Marcovitz, Davis, and van Dick (2007) found that the highest levels of intrinsic job satisfaction were demonstrated by High AC only, High AC – NC – CC, and High AC – NC commitment profiles. However, the study offered no further statistical evidence of High AC–NC commitment profile exercising greater influence on intrinsic job satisfaction when compared to High AC only commitment profile. By using latent profile analysis

(LPA), Meyer, Stanley, and Parfyonova (2012) examined the differential effects of commitment profiles on different individual-level behavioral and motivational variables of employees from three distinct types of organizations. Other important findings of this study notwithstanding, citing the non - emergence of High AC only and High CC – NC commitment profiles, no statistical comparisons between the profile groups of High CC – NC, High AC only, and High AC – NC profiles were reported, thereby offering very less support to the idea of NC comprising two-faces (Jaros, 2017).

Unlike Meyer et al. (2012), a study by Stanley, Vandenberghe, Vandenberg, and Bentein (2013) on 712 university alumni using LPA technique did elicit and demonstrate the presence of High AC and High AC – NC profile groups as two among the six-commitment profiles that emerged from this study. However, contrary to the two - faces conceptualization requirements, this study did not find any significant difference between the afore-mentioned two profile groups in their ability to predict turnover intentions and turnover behavior. Kam, Morin, Meyer, and Topolnytsky (2016), on the other hand, using LPA and latent transition analysis (LTA) technique, found some support for the two-faces conceptualization of NC. In particular, their study offered evidence of High AC–NC profile group members reporting lower levels of turnover intent when compared to the High AC only profile group members. However, even this study did not find the presence of High CC – NC profile group, casting questions on the validity of indebted obligation as one of the two sub-dimensions of NC.

Methods and Procedures

(1) Sampling and Data Collection : This study is an integral part of already published research endeavors by Ramaprasad, Prabhu, Lakshminarayanan, and Pai (2017a) ; Ramaprasad, Prabhu, Lakshminarayanan, and Pai, (2017b) ; Ramaprasad, Lakshminarayanan, and Pai (2018a) ; and Ramaprasad, Lakshminarayanan, and Pai (2018b). These studies examined the role of human resources management (HRM) practices in attenuating IT professionals' VTOI through different employee attitudes that included organizational commitment. A detailed methodology, in this connection, can be found in the afore-mentioned research articles. However, we briefly elucidate the sampling, data collection techniques, and the measures used to capture the constructs of OC and VTOI in this section.

We approached 34 IT organizations initially in Bengaluru (Ramaprasad et al., 2018a, 2018b) to request their participation in this research endeavour. In this connection, 17 IT organizations participated in this study between the time period from December 2016 – March 2017. The principal investigator of this study requested the concerned HR executives of the participating IT organizations to forward the questionnaire randomly to 200 software engineers who were associated with their respective units for more than 3 years. For this study, we operationally define a “software engineer” as one “who is directly involved in the development and/or quality assessment and/or maintenance of IT.” Further, this study adopted a web-based survey method to collect data through a structured questionnaire. In this regard, the respective HR departments of the organizations forwarded the online link of the questionnaire to IT professionals employed with their organizations. For this study, since the HR decision makers were directly involved in the choice of sample (though random) and subsequent administration of the survey instrument, there existed the possibility of reporting-bias. The principal investigator of this study did undertake some procedural and statistical precautions. The participation in this survey was completely voluntary. Though the principal investigator collected the personal contact details from each of the respondents, this information was treated with complete confidentiality, and though the HRM decision makers forwarded the online link to randomly chosen software engineers, the responses of the participants were only directly viewable by the principal investigator and no other person had the authorization to view the same. Additionally, the data were also statistically tested for the presence or otherwise of self-rating and common-method bias, the absence of which indicated that bias was not an issue with the data collected in the

second phase of this study (Ramaprasad et al., 2018a, 2018b). In all, the survey initially yielded 833 responses from 17 Indian IT organizations. Since one of the criteria was to consider responses of employees who had an organizational-tenure of at least 3 years, responses from 81 software engineers, who did not meet the criteria, were not considered for further analysis. Therefore, the final representative sample included responses from 752 software engineers. Further, 486 (64.6 %) male respondents and 266 (35.4%) female respondents participated in the survey. Majority of the sample (81.5%) fell in the age group of 25 – 35 years. Out of 752 respondents, 316 (42%) respondents had spent more than 5 years with their current employer, while 436 (58%) respondents had spent 3 or more but less than 5 years with their current employer.

(2) Measures

(i) Organizational Commitment Scale : For the present study, we have used 12 items to measure the components of 'affective' (four items; e.g. "I endorse this organization for people outside it as I feel contented with my experience in it. " ($\alpha = 0.791$)), 'continuance' (four items ; e.g. "Sometimes, I feel anxious about the probable loss of economic benefits if I can't be a part of this organization." ($\alpha = 0.873$)), and 'normative' (four items; "I owe my loyalty to this organization because of what it has done for me." ($\alpha = 0.841$)) that reflect the dimensions of organizational commitment among employees.

(ii) Voluntary Turnover Intentions : For the construct of VTOI, we adopted Shore and Martin's (1989) four statement scale for content validation. The statements used were from the original turnover intentions scale of Shore and Martin (1989) and were not subject to any further modification. This scale, in particular, captures the perception of employees that relate to their propensity to quit (i.e., three statements) and job search behavior (i.e., one statement). All the four items had different rating anchors. The sample item included, for example, "If you were completely free to choose, would you prefer or not prefer to continue working for this organization?" ($\alpha = 0.839$). All four statements have different rating anchors.

(iii) Control Variables : For the present study, the principal investigator statistically controlled for three variables, that is, age, number of job offers, and the size of the organization. Further, two variables were captured as categorical data : age (1 : 20 – 25 years, 2 : 25 – 30 years, 3 : 30 – 35 years, 4 : 35 – 40 years, and 5 - > 40 years) and number of formal job offers (1 : No offers, 2 : One offer, 3 : Two offers, and 4 : More than two offers). Furthermore, we controlled for organizational size by using log of the total workforce *(Log_{TWF})* as a proxy for organizational size effect.

Analysis and Results

(1) Data Screening

(i) Missing Data : Data were checked for verification of completeness both in terms of responses on the items that captured the dimensions of the study constructs as also the information provided by the respondents on their respective demographic characteristics. We found no evidence for the presence of missing values in the dataset.

(ii) Normality : Normality assumption of the data were assessed by comparing the skewness and kurtosis values of the residuals of all the items considered for this study against the threshold of ± 2 (Field, 2000, 2009). Skewness and kurtosis values for each residual ranged between –2 and +2, thus confirming the normality assumption.

(iii) Multicollinearity : Results of bivariate correlation analysis results and variance inflation factor (VIF)

Table 1. Means, Standard Deviations, Inter-Correlations, and Normality Statistics

Variables	Mean *(SD)*	*Age*	*Log_{TWF}*	*Job Offers*	*AC*	*NC*	*CC*	*VTOI*
Sample Size	752							
Missing Values	None							
Age	2.55 (0.49)	1.00						
Log_{TWF}	2.98 (0.43)	0.08	1.00					
Job Offers	2.02 (0.84)	–0.13**	–0.02	1.00				
AC	3.89 (0.65)	0.14**	–0.02	–0.12**	1.00			
NC	3.43 (0.71)	0.10**	0.05	–0.34*	0.42*	1.00		
CC	3.26 (0.94)	0.08	0.07	0.20*	0.38*	0.29*	1.00	
VTOI	2.07 (0.99)	–0.13*	0.04	–0.12*	–0.63*	–0.47*	–0.19**	1.00
Skewness^R					–0.139	–0.208	0.114	0.079
					~ 0.234	~ 0.986	~ 1.747	~ 0.293
Kurtosis^R					–0.456	0.189	–0.833	–0.332
					~ 0.315	~ 1.073	~ 1.896	~ 1.027
VIF					1.807	1.773	1.412	1.529

Note. *. Correlation is significant at the 0.01 level (2-tailed), **. Correlation is significant at the 0.05 level (2-tailed).

Numbers in parentheses represent standard deviation.

^{R} represents the range of skewness and kurtosis values for the study constructs.

estimates were used to examine the possible presence of multicollinearity between the constructs of the study (Kline, 2005 ; Marquardt, 1970). Table 1 exhibits the inter-correlation values among the study constructs. No bivariate-correlation *(r_{XY})* estimates are found to be greater than 0.90. The VIF values for the study constructs range between 1.117 and 1.807, suggesting that multicollinearity is not an issue in this study.

(2) Psychometric Properties of the Modified OC Scale : Having incorporated the necessary modifications in the original TCM – OC scale, driven essentially by the extant literature available on OC scales, this study adopted competing models framework (i.e., CFA procedure of one-factor, two-factors, three factors, and four-factors models) to test the factor structure of the modified OC scale comprising of 12 items on the data collected from 752 software engineers. For this purpose, χ^2/df, CFI, NFI, TLI, and RMSEA (Schreiber, Nora, Stage, Barlow, & King, 2006) estimates of the four models are compared to drive the choice of the most suitable first-order OC factor model for this study. Further, factor loadings, CR, and AVE estimates are used to test and offer evidence for the presence of scale reliability and convergent & discriminant validity in the best fitting first-order OC model.

Reliability refers to the consistency and the stability with which a measurement instrument or a scale measures a study construct. In this connection, Cronbach's coefficient alpha (α) is the most extensively adopted estimate of reliability in social sciences research (Peterson & Kim, 2013). Though many researchers continue to test and report reliability based on the alpha estimates, experts contend, more often than not, that alpha coefficient scores, which deviate from the assumption of tau-equivalence (i.e., factor loadings of all the indicators in a model are equal) (Raykov, 1997) underestimate the 'true reliability' of a measure (Cronbach & Shavelson, 2004 ; Osburn, 2000). Therefore, scholars consider the alpha coefficient as a lower - bound estimate of true reliability (e.g., Sijtsma, 2009). This is because, in reality, data that conform to the fundamental tenet of tau-equivalence are rare (Teo & Fan, 2013). Various indicators of a factor are expected to exhibit different factor loadings or weights (i.e., congeneric model). However, in studies that adopt structural equation modeling (SEM) for data analysis and

Table 2. Factor – Structure Comparison

Model	χ^2/df	CFI	NFI	TLI	RMSEA
One-factor	38.354	0.540	0.534	0.437	0.223
Two-factor	29.223	0.658	0.651	0.574	0.194
Three-factor	2.665	0.976	0.967	0.965	0.060
Four-factor	3.715	0.936	0.925	0.921	0.132

hypotheses testing, true reliability of the scale is tested and reported with the help of composite reliability (CR) estimates. The CR of a measure is computed as the, "ratio of true score variance to the observed score variance" (Peterson & Kim, 2013, p.194). The use of SEM, therefore, offers robust reliability scores through CR estimates as it allows for the construct weights to vary freely (i.e., different factor loadings) as against the case of Cronbach's alpha coefficient, where loadings of indicators are assumed to be equal.

Further, validity in research refers to the extent to which a measurement scale is able to measure what it claims to measure, that is, the intended construct. Assessing construct validity allows the researchers to examine and correct for measurement errors, if any (Westen & Rosenthal, 2003). Researchers usually develop the evidence of construct validity by examining and presenting convergent and discriminant validity estimates (i.e., sub-categories of construct validity). Convergent validity examines empirically the extent to which two or more theoretically related reflective measures of a study construct are indeed substitute measures of each other. In contrast, discriminant validity examines empirically whether two or more theoretically unrelated study constructs are indeed unrelated (Westen & Rosenthal, 2003).

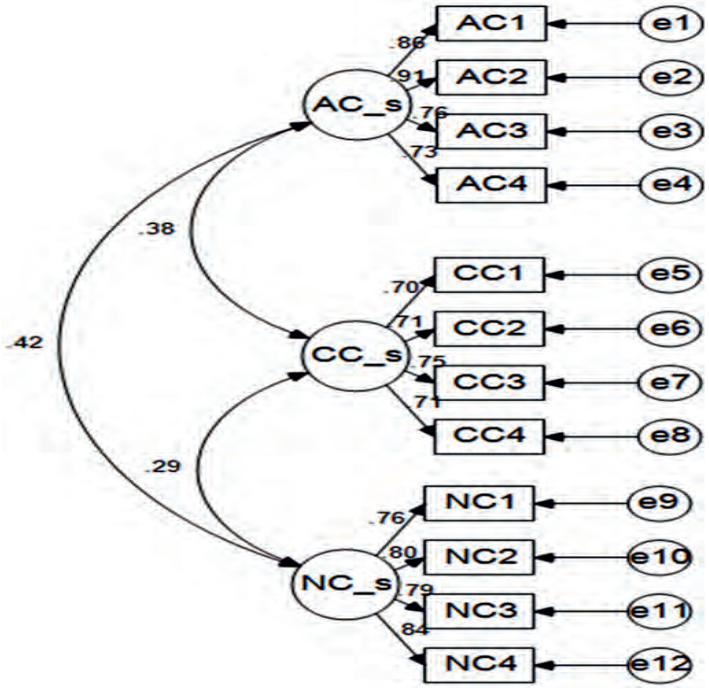
(i) Factor Structure of the Modified OC Scale : Table 2 exhibits the fit indices for one-factor, two-factor, three-factor (i.e., TCM), and four-factor (i.e., with moral imperative and indebted obligation dimensions of NC as two separate indicators) models of OC.

The results reveal that the three-factor model comprising AC, NC, and CC components of OC (i.e., $\chi^2/df < 3$; CFI, NFI, TLI > 0.950 ; and RMSEA < 0.80) offers the best fit-indices when compared to one-factor, two-factor, and four-factor models. In particular, the model fit indices of the three-factor model are comparatively superior to the four-factor model, where the OC component of NC is loaded under the two theorized sub-dimensions of 'moral imperative' and 'indebted obligation.' The results support the choice of three-factor (i.e., first-order) model for further consideration in this study.

(ii) Factor Loadings, Composite Reliability, and Construct Validity – First - Order Model : The factor loadings of all the manifest indicators of the construct of OC are above the threshold value of 0.70 (Hair, Black, Babin, Anderson, & Tatham, 1998). The factor loadings of AC range between 0.73 and 0.91, CC range between 0.70 and 0.75, and NC range between 0.76 and 0.84 (refer Figure 1).

(iii) Reliability and Validity Indices : The CR estimates (i.e., CR > 0.70) offer evidence for the presence of reliability. Further, evidence of convergent validity is developed by examining the average variance extracted (AVE) estimates. The AVE compares the variance captured by a construct with the variance that exists due to the presence of measurement errors. If an AVE estimate is greater than 0.50, it implies that the extent of variance captured by the particular construct is greater than the amount of variance captured due to measurement errors. Thus, it points towards convergent validity (Fornell & Larcker, 1981). Furthermore, for examining discriminant validity, AVE estimates are compared with the estimates of maximum shared variance (MSV – square of the highest correlation coefficient between the latent constructs). AVE estimates greater than MSV estimates offer

Figure 1. First - Order Measurement Model of the Modified OC Scale



Note. Values exhibited on the double-headed arrows demonstrate correlation coefficients between the three components of OC. Values exhibited on the single-headed arrows demonstrate factorloadings.
AC_s – Affective commitment scale ; *AC1* through to 4 – Items used to capture the construct of *AC* (refer to the Appendix).
CC_s – Continuance commitment scale ; *CC1* through to 4 – Items used to capture the construct of *CC* (refer to the Appendix).
NC_s – Normative commitment scale ; *NC1* through to 4 – Items used to capture the construct of *NC* (refer to the Appendix).

evidence of the presence of discriminant validity (ibid). Table 3 exhibits the CR, AVE, and MSV estimates of the construct of OC.

The results reveal that the CR estimates of the components of AC (0.892), CC (0.754), and NC (0.875) are well above the threshold of 0.70, thereby offering evidence for the presence of reliability. Further, the AVE estimates for the three dimensions of OC range between 0.505 and 0.675. Since all the AVE values are above the threshold of 0.50, the results offer evidence for the presence of convergent validity. Furthermore, all the AVE estimates are

Table 3. Construct Wise Reliability and Validity Estimates for the Modified OC Scale

Components	CR	AVE	MSV	AC	CC	NC
AC	0.892	0.675	0.176	**0.821**		
CC	0.754	0.505	0.176	0.419	**0.711**	
NC	0.875	0.637	0.142	0.377	0.275	**0.798**

Note. Values in bold evince the square-root values of AVE for the respective dimension.

Table 4. Correlation Estimates of the Three-Components of OC

Path			Correlations Estimates	S.E.	C.R.	*P*
AC_s	<-->	*CC_s*	.379	.027	7.972	***
AC_s	<-->	*NC_s*	.419	.036	8.228	***
CC_s	<-->	*NC_s*	.281	.026	5.836	***

Note. *** significance at $p < 0.01$.

greater when compared to their respective MSV estimates. Also, the square root values of AVE for AC, CC, and NC are found to be greater than their correlation estimates. These results offer evidence for validating the presence of discriminant validity between the factors of AC, CC, and NC.

(iv) Intercorrelations Between the Dimensions of OC : The results exhibit moderately positive but significant correlation between the dimensions of OC (refer Table 4). For example, AC and NC relate significantly but moderately (i.e. $r_{AC–NC} = 0.419$; $p < 0.01$) with each other. Similar results are evident for the relationship between AC and CC (i.e. $r_{AC–CC} = 0.379$; $p < 0.01$) and CC and NC (i.e. $r_{CC–NC} = 0.281$; $p < 0.01$).

(3) Two - Faces Conceptualization of NC - Latent Profile Analysis : To examine whether commitment profiles of this study sample support the two-faces conceptualization of NC, we adopt the latent-profile analysis (LPA) method (e.g., Morin, Morizot, Boudrias, & Madore, 2011) to identify distinct commitment profiles of the sample (e.g., Meyer et al.,2012 ; Stanley et al.,2013). A noteworthy point, in this connection, is that LPA is considered to be a superior technique for profile/group identification when compared to other configurational techniques such as median - splits, cluster analysis, and qualitative comparative analysis (e.g., Meyer, Kam, Goldenberg, & Bremner, 2013 ; Stanley, Kellermanns, & Zellweger, 2017). For this study, we used Mplus 5.21 (e.g., Stanley et al., 2013) software package to execute LPA using maximum-likelihood (ML) method.

We identified an appropriate number of commitment profiles by using the guidelines as outlined by Nylund, Asparouhov, and Muthén (2007). In particular, for this study, we decided to retain a model with five distinct commitment profiles for further analysis. This is because the model demonstrated desirable estimates of sample-adjusted Bayesian information criterion (SABIC) and bootstrapped likelihood ratio tests (BLRT), statistically significant estimates of BLRT, adequate representation of sample in all the five commitment profiles, and adequate posterior probabilities (refer to Table 5).

Though a model with six commitment profiles demonstrates lower estimate of SABIC (i.e 8123) and a BLRT (–4013) value closer to zero when compared to the five profile estimates, we decided against opting for this model.

Table 5. SABIC, BLRT, Average Posterior Probabilities, and Member Distribution for Five Clusters

Profile	SABIC	BLRT	I	II	III	IV	V
I	8681	–4451*	0.98 (144)				
II	8333	–4182*		0.95 (115)			
III	8170	–4170*			0.93 (137)		
IV	8140	–4071*				0.94 (169)	
V	8131	–4024*					0.87 (187)

Note. * Significance at $p < 0.05$; numbers in parentheses exhibit number of members included in a particular profile ; results of profile VI not shown in the above table.

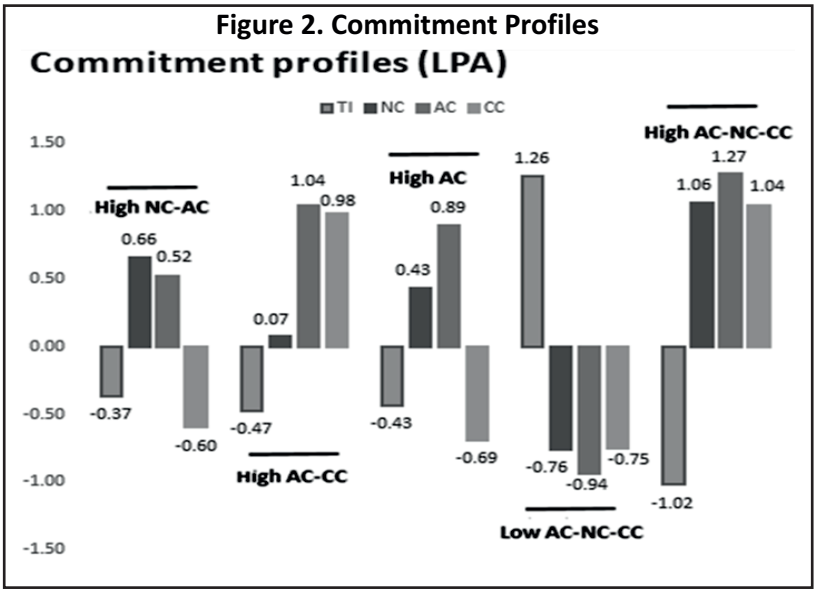
Table 6. Means of the Study Constructs in the Five-Profile Model

	Profiles				
Means / Profile Membership	**1** ***n*** **= 144**	**2** ***n*** **= 115**	**3** ***n*** **= 137**	**4** ***n*** **= 169**	**5** ***n*** **= 187**
TI	–.36972	–.47115	–.43226	1.25783	–1.01631
NC	.65916	.07100	.43213	–.75980	1.06422
AC	.52191	1.04269	.89244	–.93618	1.27169
CC	–.59776	.98262	–.68974	–.75400	1.04277

This decision was taken because profile six (High NC – CC) of the model has only 18 representations from the study sample. Table 6 presents means of TI, NC, AC, and CC associated with the identified five-profile model.

Profile 1 (n = 144 ; 19.14%) includes respondents who are high on NC and AC, but low on CC component of OC. Profile 2 (n = 115 ; 15.3%) includes respondents who exhibit high AC and CC, but low NC. Profile 3 (n = 137; 18.2%) includes respondents who are high on AC, but low on NC and CC components. Profile 4 (n = 169 ; 22.5 %) includes respondents who are low on all the three components (i.e., AC, CC, and NC) of OC. Lastly, Profile 5 (n = 184 ; 24.5%) includes respondents who are high on AC, CC, and NC components of OC. The voluntary turnover intentions are highest among Profile 4 members (mean VTOI = 1.257) and lowest among Profile 5 members (mean VTOI = –1.1016). Further, the findings of LPA do not reveal the existence of high NC – CC commitment profile. The commitment profiles are exhibited in Figure 2.

Figure 2. Commitment Profiles



(4) Analysis of Variance (ANOVA) and Post – Hoc Analysis : This study uses ANOVA and Turkey's b post – hoc analysis (e.g., Somers 2009, 2010) to examine differences in the turnover intentions across different commitment profiles identified through LPA. Between-commitment profile analysis using ANOVA and post-hoc analysis using Tukey's test (refer to Table 7) reveals that significant differences exist between Profile 1 (i.e. high NC – AC) and Profile 4 (i.e. low AC – NC – CC), Profile 1 and Profile 5 (i.e. high AC – NC – CC), Profile 2 (i.e. high

Table 7. Commitment Profiles – Post Hoc ANOVA Analysis

Profiles	*VTOI* Mean Difference	*High NC–AC*	*High AC – CC*	*High AC*	*Low AC–NC–CC*	*High AC–NC–CC*	Post Hoc
High NC–AC (*n* = 144)	–0.37						1< 4; 1 > 5
High AC – CC (*n* = 115)	–0.47	0.10					2 < 4; 2 > 5
High AC (*n* = 137)	–0.43	0.06	–0.04				3 < 4; 3 > 5
Low AC–NC–CC (*n* = 169)	1.26	–1.63*	–1.73*	–1.69*			4 > 1,2,3,5
High AC–NC–CC (*n* = 187)	–1.02	0.65*	0.55*	0.59*	2.28*		5 < 1,2,3,4

Note. * denotes the level of significance value, that is, $p < 0.01$ (Significant difference between two profile means).

AC – CC) and Profile 4, Profile 2 and Profile 5, Profile 3 (i.e. high AC) and Profile 4, and Profile 3 and Profile 5. Subsequently, Profiles 4 and 5 are statistically different from all other identified profiles.

A cursory overview of Table 7 suggests that the mean VTOI difference between a high AC – CC profile and high AC only profile is 0.04 and that no significant difference in VTOI means exists between Profile 2 (mean = –0.47) and Profile 3 (mean = –0.43). Also, the mean VTOI difference between high NC – CC and high AC only profile is 0.06 and that no significant difference in VTOI means exists between Profile 1 (mean = –0.37) and Profile 3 (mean = –0.43). The findings suggest that NC does not necessarily attenuate VTOI among employees over and above AC, a fundamental assumption of the two-face theory (Meyer et al., 2006).

Consistent with extant literature available in the domain of OC (e.g., Allen & Meyer, 1990 ; Jaros, 2007 ; Meyer, Allen, & Smith, 1993), the findings support the three dimensional (AC, NC, and CC) conceptualization of the construct of OC. Further, though CFA in many empirical studies (e.g., Chen & Francesco, 2003) finds support to situate AC and NC as distinct constructs, there also exists empirical evidence that points towards the presence of high inter-correlation between these two components of OC (e.g., Chang, Chi, & Miao, 2007 ; Ko, Price, & Mueller, 1987 ; Meyer et al., 2002). The empirical findings of this study reveal that the modified four-item NC scale demonstrates acceptable levels of discriminant validity with the AC scale. In this connection, acceptable discriminability (i.e., evidence of discriminant validity from CFA results and moderate but significant correlation) between AC and NC in particular, as is evident from the findings of this study, can be credited to the modifications that are incorporated in the AC and NC scale items. Bergman (2006) suggested that poor discriminability between AC and NC could be attributed to the words that are used in the NC items to capture the 'normative' mind-sets of individuals. For example, the original eight-item (Allen & Meyer, 1990) and the revised six-item (Meyer et al., 1993) TCM scales of OC include words such as 'feel' in their respective NC scale items that may invariably be capturing the respondents' 'affective' relationship towards the employer because of its 'emotive' tone (Bergman, 2006). In this connection, Jaros (2007) contested that discriminability between AC and NC could perhaps be achieved only if the NC scale items were modified / developed to capture, more precisely, employees' 'obligation' to their respective employers, rather than their individual 'feelings' towards them. Therefore, scholars (e.g., Bergman, 2006 ; Jaros, 2007) called for researchers to develop NC scale items excluding the words such as 'feel' to alleviate any possible cross-contamination between the constructs of AC and NC. Recall that the revised NC scale items used in this study to capture the normative mindset do not include words such as 'feel' (e.g., "I am obligated to support this organization because of its fair treatment towards me."). All the four items used in this study to capture AC, however, included the word 'feel' (e.g., "I endorse this organization for people outside it as I feel contented with my experience in it.").

A cursory overview of Table 7 suggests that the mean VTOI difference between a high NC–AC profile and high AC only profile is non-significant. The findings suggest that NC does not necessarily attenuate VTOI among employees over and above AC, a fundamental assumption of the two-face theory (Meyer et al., 2006). These

findings support the viewpoint of Jaros (2017) who argued that, "in most cases, high NC is simply redundant with high AC in influencing employee attitudes" (p. 524). Further, the NCS items used in this study were modified to capture the two postulated dimensions/faces of moral-duty (e.g., "It is imperative to be loyal to this organization as my values are largely its values.") and indebted-obligation (e.g., "I am obligated to support this organization because of its fair treatment to me.") in consonance with the most recent conceptualization of NC as proposed by Meyer and Parfyonova (2010). In this connection, Jaros (2017) presupposed that if NCS were amended to comprise two sub-scales, each with multiple statements explicitly capturing the two faces of NC, respectively, then the commitment profiles that would emerge from the use of revised NCS would probably support the two-dimensions theory of NC (i.e., high NC–AC – moral-duty ; high NC–CC – indebted-obligation). The empirical findings, however, do not support the two-faces theory of NC. That is to say, the findings that emerge from LPA do not reveal the existence of high NC–CC commitment profile. The reasons for the absence of high NC–CC commitment profiles, as is evident from the findings of this study, could be manifold. The two-face theory of NC postulates that external duress (e.g., a compulsion to stay as a lack of employment alternatives) essentially drives CC among employees (Meyer & Parfyonova, 2010). However, experts (e.g., Jaros 2007 ; Powell & Meyer, 2004) speculate that the anticipated cost (i.e., high sacrifices) can demonstrate a positive undertone (Jaros, 2017). For example, employees may choose to continue working with their current employer for fear of losing much of social investments that they may have made by building robust social and interpersonal relationships. In such cases, employees' desire to remain with the organization would primarily emanate from their own experiences of rewarding interpersonal relationships (i.e., a favourable situation) within the organization. This proposition finds support in this study as AC and high-sacrifices only CC exhibit a significant and positive association ($r_{AC–CC} = 0.38$; $p \leq 0.01$). Therefore, the underlying assumption of the two-face theory of NC that employees always experience CC due to externally driven compulsions that is usually onerous and burdensome is in all probability not correct. These findings offer evidence to consider NC as a unidimensional construct that is characterized by the presence of moral-commitment, at best. In this connection, recall that, for this study, we did not retain a six-profile model (i.e., that included high NC–CC commitment profile as the sixth profile) for further analysis due to inadequate member representation (i.e., $n = 18$) from the study sample.

The empirical findings of this study are consistent with other empirical studies that have used the LPA technique to identify employee commitment profiles (e.g., Meyer et al., 2012 ; Stanley et al., 2013). These results cast doubts on whether employees even experience 'indebted-obligation' towards their respective organizations (Jaros, 2017). Interestingly, in organizations that foster an enabling and a supportive work environment, employees are expected to reciprocate positively to the organization more out of the sense of 'moral imperative' (e.g., Jaros, 2017 ; Somers, 2010). On the contrary, the high NC – CC profile may exist in organizations that cultivate and harbor poor and non-supportive work-cultures. In such cases, the source of the obligation to be 'duty-bound' among employees is perceived to be onerous, coerced, and often alienating (Somers, 2010). Indeed, IT organizations strive hard to create a supportive work environment (Ramaprasad et al., 2018a, 2018b). Therefore, the absence of high NC–CC profile could be because of the supportive work-environment and organizational culture to which software engineers are exposed to in their respective IT organizations. Further, unlike Meyer and Parfyonova (2010) who adopted the self-determination theory (Deci & Ryan, 2000) and situated the source or motivation behind the emergence of NC to be either due to 'autonomous regulation' (i.e., presence of high AC) or external regulation (i.e., presence of high CC), Jaros (2017) situated 'introjected regulation' (i.e., motivation that is triggered by a combination of both external and internal forces) as the primary source of NC. Even if NC is argued to comprise of two sub-dimensions, they cannot exist in isolation (i.e., in the absence of the other sub-dimension). This proposition still situates NC as a unidimensional construct. In essence, NC can be argued to manifest essentially due to introjected regulation, where, "an employee high in NC feels obliged (i.e., duty-bound) to comply with organizational requirements (an external force),

but only when these requirements have been, to an extent, internalized as morally correct (an internal force)" (Jaros, 2017, p.529).

Practitioner Implications

This study has found that the other dimensions of OC (i.e., NC and CC) do not attenuate VTOI among employees' over and above AC. This implies that though multi-dimensional in nature, it is only the component of AC that exercises the strongest influence on employees' turnover intent. Further, given the inconclusive conceptual validity of NC and the fact that both NC and CC are relatively weaker in predicting VTOI among employees when compared to AC, it would, then, be beneficial for the practitioners and researchers to focus only on the construct of AC and ascertain what management and/or HRM practices would significantly improve AC among employees so as to elicit beneficial individual and organizational level outcomes.

Conclusion

The 12-item modified OC scale offers cogent evidence of acceptable psychometric properties in terms of scale reliability and construct validity. The empirical findings, in this connection, also comport to the multi-dimensional nature of OC comprising the three components of AC, NC, and CC. The results also do not exhibit the presence of high inter-correlation between the construct AC and NC. As regards the construct of NC, the empirical findings of this study also offer very little evidence, if any, to support the two-face conceptualization of NC and comports to the idea of NC as a unidimensional construct driven fundamentally by introjected regulation. This is because the construct of NC did not alleviate VTOI among employees over and above AC, a fundamental assumption of the two-face theory, and also, the findings of this study do not reveal the existence of high NC – CC commitment profile, thereby casting doubts on whether employees even experience 'indebted-obligation' towards their respective organizations.

Limitations of the Study and Future Research Directions

This findings of this study, despite revising NC scale items to include the postulated two sub-scales (moral–imperative and indebted–obligations), did not find support for the two-faces conceptualization of NC. However, the results should be interpreted with cautious optimism. First, given the fact that the 752 respondents who participated in this study hardly experienced high-levels of NC and CC simultaneously (i.e., $n = 18$), studies in future that adopt sample sizes far exceeding the conventional ones may offer support to the proposition of indebted obligation. That is to say, employee commitment profiles with high-levels of NC and CC may emerge from the findings of LPA. Second, scholars like Jaros (2017) speculated that, "it might be the case that indebted obligation profiles are more likely to emerge in some types of organizations" (p. 525). Given this possibility, future researchers can approach establishments like security (e.g., police departments) or military units (e.g., army) where few personnel are expected to experience commitment positively (moral imperative) but where significant number of others are expected to experience their commitment towards their respective organizations/ units negatively (indebted obligation).

Last, it is argued that employees who hold positions at the "lower" levels of management are, more often than not, subject to stricter control mechanisms and rules, lower levels of pay, and lesser employment benefits when compared to those who hold positions in the "middle" or "upper" levels of management. Therefore, employees at the lower-levels demonstrate involvement with their respective organizations that are more negative and instrumental in nature (i.e., indebted obligation). The sample of this study, however, comprised of software

engineers who held positions predominantly in the middle or upper-level management. Future studies are, therefore, encouraged to sample, for example - in a manufacturing industry, both lower-level (i.e., blue-collar workers) and middle/upper level (i.e., line-supervisors, production managers) so as to test the two-faces conceptualization of NC as also to augment the possibility of finding both NC profiles (i.e., indebted obligation and moral imperative) from profile analysis.

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Authors' Contribution

Dr. Badrinarayan Srirangam Ramaprasad, Dr. Nandan Prabhu K. P., and Prof. Shreelatha Rao together conceived the research idea to test the highly debated "two-faces" conceptualization of normative-commitment (NC) and accordingly revised the original three-component model of organizational commitment so as to test the research question by using an appropriate research design. All three afore-mentioned contributors were instrumental in survey instrument development and validity assessment of the same. Moreover, Dr. Badrinarayan Srirangam Ramaprasad was the principal investigator of this research endeavor. Post data collection, Dr. Badrinarayan Srirangam Ramaprasad, Prof. Shreelatha Rao, and Dr. Nandan Prabhu K. P. were involved in robust data analysis using structural equation modeling [SEM] and latent profile analysis [LPA] that was relevant for this study. Dr. Badrinarayan Srirangam Ramaprasad in collaboration with Dr. Nandan Prabhu K. P. authored the research article.

Conflict of Interest

The authors certify that they have no affiliations with or involvement in any organization or entity with any financial interest, or non-financial interest in the subject matter, or materials discussed in this manuscript.

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Appendix

S. No.	Statement
Ac1	The source of my dedication to this organization is the strong sense of emotional attachment I feel towards it.
AC2	I am very happy being associated with this organization as I feel a 'strong' sense of belonging to it.
AC3	I endorse this organization for people outside it as I feel satisfied with my experience in it.
AC4	I feel proud to be a member of this organization as it has a great deal of personal meaning for me.
CC1	Sometimes, I feel anxious about the probable loss of economic benefits if I can't be a part of this organization.
CC2	I fear losing much of the social investments I have made in this organization through strong interpersonal relationships if I am not associated with it.
CC3	I am not concerned about my career progression if I am not associated with this organization.
CC4	If I am not a member of this organization, I would be sad because my life would be disrupted.
NC1	It is morally correct to dedicate myself to this organization as it has a mission that I believe in.
NC2	It is imperative to be loyal to this organization as my values are largely its values.
NC3	I owe my loyalty to this organization because of what it has done for me.
NC4	I am obligated to support this organization because of its fair treatment towards me.

About the Authors

Dr. Badrinarayan Srirangam Ramaprasad has been extensively involved in research that relates to employee psychology, employee attitudes, and employee well-being over the past one decade. His area of expertise is in the domain of advanced statistics, change management, and organizational behavior, and accordingly, in the process, he has conducted many valuable workshops for students, faculty members, and industry experts in the past.

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