

CSR AND ORGANIZATIONAL COMMITMENT: A META-ANALYSIS

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Abstract - Corporate Social Responsibility (CSR) has been a crucial topic of research for past few decades. In recent years, researchers have commenced exploring the internal consequences of CSR at employees' level; however, it is still in its embryonic stage. Purpose of this paper is to systematically review the relationship between Employees' Perception of CSR and Organizational Commitment. Accordingly, all relevant articles published in last decade on aforesaid theme and indexed in Scopus, the largest database of peer-reviewed literature, are thoroughly reviewed using both narrative & meta-analytic approach. Further, moderator analysis and meta-regression are undertaken using SPSS. Overall, the findings confirm presence of positive linkage between CSR and organizational commitment; however, wide variations are found in the magnitude of association across the literature. Country type (developed/developing), sector (manufacturing/service), CSR towards customers, tenure and gender are found to be confounding the CSR-OC association causing heterogeneity in outcomes across literature; however further probe is required to detect all possible moderating variables.

Index Terms - Corporate Social Responsibility (CSR), Meta-Analysis, Meta-Regression, Organizational Commitment

I. INTRODUCTION

Since 1990s, CSR is a vital theme of deliberation among corporates and researchers due to augmented CSR regulations and stakeholders' cognizance. The preliminary research concentrated on investigating the relationship between CSR and Corporate Financial Performance (CFP) [1]. However, no conclusive relationship could be established. Certain researchers suggested that CSR investigation from stakeholders' perspective would provide better insights [2]. Yet the focus was majorly on external stakeholders – investors & customers [3], [4]. CSR has critical implications for internal stakeholders (employees), besides external ones. Thus, it is imperative to cognize the internal bearings of CSR.

Meta-analysis has emerged as an important tool to recapitulate prior research findings [5]. Hitherto, no study has examined CSR and Organizational Commitment (OC) linkage in a meta-analytic framework which institutes the rationale for current study. Purpose of this paper is to develop a profound understanding on the relationship between Employees' Perception of CSR and Organizational Commitment through a systematic review of extant literature in a narrative as well as meta-analytic framework.

II. THEORETICAL BACKGROUND

A. Concept of CSR & Organizational Commitment (OC)

CSR is commonly defined as “the continuing commitment by business to contribute to economic development while improving the quality of life of the

workforce and their families as well as of the local community and society at large” [6]. Employees are the backbone of any organization. CSR serves as an imperative instrument in attracting quality workforce [7] and promoting favorable employee work outcomes in the form of Organizational Commitment [8], Job Satisfaction [9], Organizational Identification [10], and the like. Thus, employees' CSR perception has a great bearing on their job attitude. Perceived CSR can be analysed in two parts: Perceived Internal CSR and Perceived External CSR. Internal CSR implies how an organization addresses the needs of its internal stakeholders - employees, while External CSR includes contribution of company towards external stakeholders like community, investors, customers, etc.

Reference [11] recognized three kinds of organizational commitment - Affective Commitment (AC) (i.e. emotional attachment to the organization), Continuance Commitment (CC) (i.e. alleged costs accompanied with leaving the organization) and Normative Commitment (NC) (i.e. sense of obligation towards the organization). Many researchers have postulated positive relationship between perceived CSR and OC while drawing upon social identity theory [7], [12], social exchange theory [13] and organizational justice theory [14], [8].

III. HYPOTHESES

Majority of studies have suggested positive association between CSR & OC, e.g. [12], [9]; however different CSR measures have varying relationship with types of OC and that too through diverse mechanisms [15]. Almost all studies reported statistically significant correlations, barring a few instances. This is perhaps

on account of publication bias [16]. The primary moderators of CSR-OC association identified through literature review include country (developed/developing), type of CSR & OC measures, and type of organization (service/manufacturing); thus, the following four hypotheses are posited:

H1: The degree of association between CSR and OC differs between developed and developing nations.

H2: Different CSR measurement strategies cause differences in degree of CSR-OC association across studies.

H3: Different OC measurement strategies cause differences in degree of CSR-OC association across studies.

H4: CSR-OC association differs between different types of organizations.

IV. METHOD

A. Literature Search

At the outset, a literature search was performed on Scopus database for articles published in last decade from 2007 to 2017 using wide range of keywords which yielded 56 articles. However, only fifty articles containing required data were deemed suitable for meta-analysis from which total 63 correlation observations were extracted. Of these, 20 observations represent internal CSR & OC correlation; while 43 denote external CSR & OC correlation. Since internal and external CSR are different constructs, they need to be analysed separately [17]. Thus, in present study meta-analysis has been performed in three parts pertaining to entire sample, external CSR and internal CSR respectively. Nevertheless, the sample contains 13 articles that assessed both internal and external CSR and thus, reported multiple correlations with OC. To avoid double counting, a composite correlation has been computed by averaging the multiple correlations [17].

B. Meta-Analysis Procedure

To begin with, all relevant data, including sample size, correlation coefficient and other attributes like methodology, publication details, country, type of OC & CSR measures, control variables, mediators and moderators, etc. were extracted from each article and appropriate coding was done to facilitate systematic review. In case, no correlation was reported in an article, it was imputed using beta coefficient based on method described by [18] as follows:

$$r = 0.98\beta + 0.05\lambda \quad (1)$$

Where, $\lambda = 1$, if β is non-negative; and $\lambda = 0$, if β is negative. In any meta-analysis, the foremost requirement is to compute effect size (ES) being the principal unit of analysis. Thus, Fisher's z was calculated to normalize each correlation coefficient.

Subsequently, meta-analysis methods outlined by [17] were employed to compute weighted mean correlation and variance while making necessary corrections for sampling and measurement errors. Besides, Heterogeneity tests Cochran's Q and I^2 were conducted to determine the degree of inconsistency in outcomes across sample studies. Later, moderator analysis (MetaF analog to ANOVA) and meta-regression analysis were performed to identify the factors moderating CSR-OC relationship, using SPSS macros by [19]. The following general meta-regression model equation adapted from [20] has been used in this study:

$$ES_{ci} = \beta_0 + \beta_1 X_{i1} + \dots + \beta_k X_{ik} + e_i \quad (2)$$

where, ES_{ci} = Corrected effect size for i^{th} study; β_0 = Constant term; X_{ik} = k^{th} independent variable (dummy) representing study characteristics for i^{th} study; β_k = Regression coefficient corresponding to k^{th} independent variable; e_i = Error term.

V. NARRATIVE REVIEW: KEY FINDINGS

A number of study characteristics have been analyzed in order to integrate prior research findings. In terms of time-period, out of total sample of fifty studies, only 10 studies got published before 2013. The sample size also oscillates widely across studies between 80 and 9403 with mean 641 and median 301. Besides, 50% studies comprise sample from service sector firms, wherein hospitality and banking firms are leading. Although 60% studies are conducted in context of developing nations, only two studies belong to India, while maximum studies (15) hail from Europe. The most popular tools adopted in prior studies are CFA and SEM. As regards type of CSR measure, 20 studies have analysed internal CSR, while 43 studies have analysed CSR in external or general sense. Further, the most researched facet of CSR is observed to be community & philanthropic responsibilities being assessed in 50% studies; followed by employees/internal CSR. In contrast, the least explored CSR elements are – environment and suppliers. Regarding OC, affective commitment has been assessed in 80% studies, while NC and CC aspects still remain under-explored demanding more research. The most widely used scales for measuring OC are Allen & Meyer scale [11] and Mowday et al. scale [21]; while popular CSR measurement scales are Turker scale [22] and Maignan & Ferrell scale [23] with each scale having average reported reliability of 0.8 approx. It is observed that twenty-eight studies employed one or more control variables with Age, Tenure, and Gender being most common ones. However, there are mixed rather contradictory outcomes across studies with regard to role of such demographic factors in influencing CSR-OC association. A number of studies advocate that CSR

associates with OC only indirectly [24], [25]. As far as our sample set is considered, 50% studies involved mediation analysis, while only eleven studies encompassed moderation analysis. The most commonly used mediators and moderators are Job Satisfaction and Organizational Citizenship Behavior (OCB).

Furthermore, all sample studies but one treated CSR as independent variable and OC as dependent variable. Reference [26] is a unique study that treated OC as an explanatory variable and found significant positive impact of OC on all CSR factors. Most of the studies have suggested significant positive CSR-OC association; however, the degree of correlation varies considerably across studies from 0.22 to 0.78.

VI. META-ANALYSIS RESULTS

A. Mean Effect Size and Heterogeneity Test

Inverse variance weighted mean effect size computation and heterogeneity testing is done using MEANES.SPS macro by Wilson [19] under both fixed and random effects model. The mean effect size so obtained is transformed back into correlation ‘r’ using ‘FISHERINV’ function in MS Excel to determine meta-analytic weighted mean correlation which is found to be 0.546 for entire sample. Results are presented in Table I indicating existence of high heterogeneity beyond chance since $p < 0.05$ and I^2 values also exceed 90%. Thus, perhaps study characteristics are systematically associated with correlations and effect sizes causing wide variances in outcomes across studies. Moreover, in case of heterogeneous data, random effects model is more suitable over fixed effects model which assumes homogeneity

Table I: Mean Effect Size and Heterogeneity Test Results

Relationship between	Sample Size for Meta-Analyses	Mean Effect Size (Fixed Effects Model)	Mean Effect Size (Random Effects Model)	Heterogeneity Q	I^2 (%)
CSR and OC (Entire Sample)	63	0.562** (0.509)#	0.613** (0.546)#	1448.29**	96
CSR and OC (Entire Sample without double-counting)	50	0.579** (0.522)#	0.616** (0.548)#	918.42**	95
External CSR and OC (excluding Internal CSR observations)	43	0.527** (0.483)#	0.601** (0.538)#	815.62**	95
Internal CSR and OC (excluding External CSR observations)	20	0.610** (0.544)#	0.638** (0.564)#	549.65**	97

#. Figures in parentheses denote meta-analytic weighted mean correlation.**. Significant @ 1% level

B. Correction for Measurement Error

Since different studies use diverse measures for CSR & OC, there is a need to correct the reported/observed correlations (r_o) for measurement error [17]. The artifact attenuation factor (A) is computed as the product of the square roots of scale reliabilities of variables CSR and OC. Subsequently, corrected correlation (r_c) is computed for each sample study by dividing r_o by ‘A’ factor. Further, weighted mean corrected correlation is determined using revised

weight ($N \cdot A^2$) which considers both sample size (N) as well as attenuation factor, as recommended by [17] and is found to be 0.635. Finally, corrected variance, sampling error variance and standard deviation (SD) are computed using formulae described under [17]. Results are displayed in Table II. Since corrected SD values are quite weighty denoting large variation in outcomes across sample studies, there is a need to conduct moderator analysis to search for moderator variables that account for such variances.

Table II: Mean Correlation and SD after Correcting for Measurement Error

Relationship between	Weighted Mean Corrected r	Variance of Corrected Correlations	Corrected Sampling Error Variance	Corrected Variance of Corrected Correlations	Corrected SD of Corrected Correlations
CSR and OC (Entire Sample)	0.635	0.0151	0.0011	0.014	0.118

CSR and OC (Entire Sample without double-counting)	0.632	0.0131	0.0013	0.012	0.109
External CSR and OC (excluding Internal CSR observations)	0.599	0.0148	0.0014	0.013	0.1155
Internal CSR and OC (excluding External CSR observations)	0.677	0.0118	0.0008	0.011	0.1051

C. Moderator Analysis

Moderator analysis is performed METAF.SPS macro by Wilson using random effects model via restricted maximum likelihood (REML) method. MetaF analysis is analogous to one-way ANOVA. For this purpose, subset method is followed wherein entire data is split into subgroups based on study characteristics which are potentially moderate the CSR-OC association. Four moderators corresponding to four hypotheses have been analysed, however, none of them is found to be significant since $p > 0.05$

indicating no significant difference in CSR-OC association across the sub-groups. Results are shown in Table III.

However, MetaF ANOVA analysis has some limitations. It is restricted to analyzing the effect of only one categorical variable at a time. This calls for further investigation in the form of meta-regression analysis which allows investigation of multiple categorical variables simultaneously.

Table III: Results of Moderator Analysis

Variable	Sample Size for Meta-Analysis	Corrected Mean Effect Size (ES)	Corrected Standard Error (SE)	Between Group Variance (p-value)
Country Type as Moderator				
Developed Economy	20	.722	.06	0.227
Developing Economy	30	.815	.049	
CSR Type as Moderator				
Internal CSR	20	.779	.061	0.973
External CSR	43	.777	.042	
OC Type as Moderator				
General OC Measure	9	.818	.091	0.619
Affective OC Measure	41	.768	.042	
Type of Organization as Moderator				
Service	21	.837	.058	0.283
Manufacturing	13	.779	.074	
Miscellaneous	16	.697	.067	

D. Meta-Regression Analysis

Inverse variance weighted Generalized Least Squares (GLS) regression has been performed using Wilson's SPSS Macro MetaReg.sps through REML method. We have run three regression models to examine the effect of multifarious study characteristics (dummy variables) on the strength of association between OC & Overall CSR (Model 1); OC & External CSR (Model 2); and OC & Internal CSR (Model 3) respectively. Table IV provides the summary of

regression models indicating that model-fit is good since $p < 0.05$ and R-square denoting coefficient of determination is also sufficiently large being more than 0.5 for each model. The population correlation of OC with overall CSR is estimated to be 0.553; with external CSR 0.675; and with internal CSR 0.235. Thus, correlation of OC with overall CSR and external is found to be positive, significant and of moderate-to-high degree, however, internal CSR and OC correlation is rather low and insignificant.

Table IV: Regression Model Summary

Descriptives

Regression Model	Mean ES	R-Square	No. of Studies
Model 1 (OC & Overall CSR)	0.777	0.560	50
Model 2 (OC & External CSR)	0.776	0.581	43
Model 3 (OC & Internal CSR)	0.781	0.887	20
Homogeneity Analysis			
Regression Model	Model (df, p)	Residual (df, p)	
Model 1	(22, 0.03*)	(27, 0.39)	
Model 2	(20, 0.04*)	(22, 0.37)	
Model 3	(14, 0.00**)	(5, 0.30)	
Key Estimates			
Regression Model	Std. Error of Variance Component	Constant Term	Estimated Population Correlation
Model 1	0.011	0.623**	0.553** (Moderate)
Model 2	0.011	0.820**	0.675** (High)
Model 3	0.009	0.240	0.235 (Low)

** Significant @ 1% level

* Significant @ 5% level

Table V: Meta-Regression Analysis Results

Moderating Variable	Notation	Standardized Beta (Std. Error)		
		Model 1 (Overall CSR)	Model 2 (External CSR)	Model 3 (Internal CSR)
Dummy variable (DV) equals 1 if study is published in recent years after 2012; otherwise 0.	Year	0.134 (0.13)	NA	0.281 (0.197)
DV equals 1 if the study is conducted in context of a developed country; otherwise 0.	Country	0.592** (0.094)	0.566** (0.094)	0.185 (0.157)
DV equals 1 if data is based on European countries; otherwise 0.	Europe	0.43* (0.112)	0.128 (0.119)	- 0.017 (0.189)
DV equals 1 if the sample is drawn from service sector organizations; otherwise 0.	Service	0.187 (0.096)	0.137 (0.097)	0.302 (0.144)
DV equals 1 if the sample is drawn from manufacturing organizations; otherwise 0.	Manufacturing	0.149 (0.111)	- 0.073 (0.122)	0.696* (0.206)
DV equals 1 if article was published in ethics based journal (e.g. Journal of Business Ethics); otherwise 0.	Ethics_Journal	- 0.148 (0.084)	- 0.076 (0.09)	0.309 (0.132)
DV equals 1 if Affective Commitment (AC) was used to measure OC; otherwise 0.	AC	- 0.028 (0.136)	- 0.073 (0.138)	NA
DV equals 1 if well-known scale (like Allen-Meyer; Mowday et al.) was used to measure OC; otherwise 0.	OC_Scale	0.177 (0.097)	0.2214 (0.108)	0.251 (0.15)
DV equals 1 if well-known scale (like Maignan-Ferrell; Turker) was used to measure CSR; otherwise 0.	CSR_Scale	- 0.087 (0.15)	- 0.16 (0.152)	- 0.141 (0.113)
DV equals 1 if Economic Responsibility was used to measure CSR; otherwise 0.	Eco_CSR	0.352 (0.205)	0.079 (0.209)	NA
DV equals 1 if Legal Responsibility or CSR towards Government was included in CSR measure; otherwise 0.	Legal_CSR	0.192 (0.211)	0.248 (0.214)	NA
DV equals 1 if Ethical Responsibility was included in CSR measure; otherwise 0.	Ethical_CSR	- 0.421 (0.196)	- 0.367 (0.198)	NA
DV equals 1 if Discretionary/Philanthropic Responsibility or CSR towards Community was included in CSR measure; otherwise 0.	Phil_Com_CSR	0.175 (0.143)	0.304 (0.16)	NA

Moderating Variable	Notation	Standardized Beta (Std. Error)		
DV equals 1 if CSR towards Environment was included in CSR measure; otherwise 0.	Envnt_CSR	0.169 (0.217)	0.03 (0.265)	NA
DV equals 1 if CSR towards Customers was included in CSR measure; otherwise 0.	Cust_CSR	- 0.694* (0.209)	- 0.726* (0.202)	NA
DV equals 1 if Internal CSR towards employees was included in CSR measure; otherwise 0.	Internal_CSR	- 0.108 (0.122)	NA	NA
DV equals 1 if the study includes Control Variables; otherwise 0.	CV	0.288 (0.16)	0.235 (0.164)	0.287 (0.194)
DV equals 1 if Age was included as a control variable; otherwise 0.	Age	- 0.111 (0.172)	- 0.201 (0.185)	NA
DV equals 1 if Tenure was included as a control variable; otherwise 0.	Tenure	0.261 (0.134)	0.26 (0.137)	1.175** (0.162)
DV equals 1 if Gender was included as a control variable; otherwise 0.	Gender	- 0.143 (0.134)	- 0.189 (0.132)	- 0.794* (0.198)
DV equals 1 if Education Level was included as a control variable; otherwise 0.	Edu_Level	- 0.219 (0.12)	- 0.171 (0.122)	- 0.474# (0.188)
DV equals 1 if Firm Size was included as a control variable; otherwise 0.	Firm_Size	NA	NA	0.141 (0.231)
DV equals 1 if the study includes Mediator/Moderator variables; otherwise 0.	Med_Mod	0.108 (0.092)	0.042 (0.097)	- 0.284 (0.217)

** Significant @ 1% level

* Significant @ 5% level

Significant @ 10% level

Table V provides detailed description of dummy variables used in the three models and the corresponding beta coefficients. Paradoxically, dummy variable (DV) Country is found to be negative and significant in Model 1 and 2, implying that CSR-OC association at overall & external CSR level is often higher for developing nations. Further, Cust_CSR variable is also negative and significant for both model 1 and 2. This implies that CSR towards customers is less correlated with OC. Thus, perhaps employees give relatively less importance to customer-oriented CSR actions. Further, the DV Europe is found to positive and significant in Model 1, thus, overall CSR and OC relationship is usually greater in European countries as compared to other parts of the world. Lastly, as regards Model 3, three DVs – Manufacturing, Tenure, and Gender are found to be significant @ 5% level. Thus, degree of correlation between internal CSR and OC is higher for manufacturing firms than service firms. Moreover, tenure and gender are observed to be significantly confounding the internal CSR and OC relationship but in opposing directions since inclusion of tenure as a control variable leads to greater association, while inclusion of gender leads to lower effect size. However, other control variables like age, education level and firm size have no significant effect on CSR-OC relationship. Thus, meta-regression results lend full support for hypothesis 1 (developed/developing country context), while only partial support for hypothesis 2 (CSR Type) since only customer aspect is found to be significant although

other CSR measures are found insignificant. Further, manufacturing sector is found to be significant only in model 3 at internal CSR level but not at overall CSR level, thus, providing only partial support for hypothesis 4. Nevertheless, the findings fail to support hypothesis 3 (type of OC).

CONCLUSION

The current study revisits the CSR-OC relationship through rigorous narrative and meta-analytic review. Overall, the findings confirm presence of positive linkage between CSR and organizational commitment; however, wide variations are found in the magnitude of association across the literature. Consequently, moderator and meta-regression analyses are carried out to investigate the effect of several factors and study characteristics. Although moderator analysis fails to provide any significant results, meta-regression analysis provides some important insights. The results show that the degree of CSR-OC association is greater in context of developing countries; nevertheless it is highest in European context. Moreover, relationship of OC with internal CSR (towards employees) is found to be stronger in manufacturing sector. As regards type of CSR measures, only customers dimension is found to be influencing CSR-OC association and that too in negative direction conveying less correlation between customers-oriented CSR and OC. Other types of CSR and OC measures have been found to have no effect on CSR-OC association. Among control variables, only

tenure and gender are found playing significant role in influencing the given relationship.

Although the current study has attempted to examine moderating effect of numerous study characteristics, but only few significant moderators could be identified. In light of huge variation in outcomes across studies, there is a need to investigate the relationship further to identify all possible confounding variables. Besides, hitherto the researchers have largely centered on philanthropic/community CSR and affective commitment elements, while other aspects like CSR towards environment & suppliers along with normative and continuance commitment still remain under-explored and need to be explored further.

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