DOI: https://doi.org/10.52131/pjhss.2023.1101.0328

Pakistan Journal of Humanities and Social Sciences

Volume 11, Number 1, 2023, Pages 38–51
Journal Homepage:
https://journals.internationalrasd.org/index.php/pjhss

Systematic Review and Development of Responsible Leadership Scale

Sulaman Hafeez Siddiqui[1], Ali Ijaz[2], Aisha Javeria[3], Muqaddas Naz[4]

[1] Associate Professor, Institute of Business Management and Administrative Sciences, The Islamia University of Bahawalpur Pakistan. Email: sulman.siddiqui@iub.edu.pk
[2] Ph.D. Scholar, Institute of Business Management and Administrative Sciences, The Islamia University of Bahawalpur Pakistan. Email: aliijaz0092@gmail.com
[3] Ph.D. Scholar, Institute of Business Management and Administrative Sciences, The Islamia University of Bahawalpur Pakistan. Email: aiesha.jav@gmail.com
[4] Hailey College of Commerce, University of the Punjab, Lahore, Pakistan. Email: muqaddasnaz469@gmail.com

ARTICLE INFO

Article History:
Received: November 03, 2022
Revised: January 29, 2022
Accepted: January 29, 2022
Available Online: February 12, 2023

Keywords:
Responsible Leadership
Banking Sector
Economic Social and Environmental dimensions

Funding:
This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

ABSTRACT

The purpose of this paper is to develop a universally accepted measurement scale of Responsible Leadership (RL) based on the triple bottom approach (3BL) which covers environmental, economic, and social aspects at the same time. Systematic literature review of RL conducted along with in-depth interviews conducted with experts of industry and academia. Based on in-depth interviews, a content validity ratio analysis was conducted to examine the content validity of the questionnaire. A sample of 329 respondents working in the banking sector was taken for data analysis. Respondents' demographic shows that the male section is dominant in the banking sector as 83.6% of respondents were male and 16.4% were female. The economic dimension consists of eight items that have a Cronbach alpha value of 0.97, the social dimension has eight items that have a Cronbach alpha value of 0.90, and the environmental dimension consists of nine items that have a Cronbach value of 0.92. Initially, CFA was conducted with 25 items, then implemented modification indices and the final CFA was conducted with 23 items and all indicators of model fitness were found up to standard. The outcome of the present study is in form of a measurement scale based on the triple bottom approach which covers economic, social and environmental aspects of leadership.

Corresponding Author's Email: aliijaz0092@gmail.com

1. Introduction

Ethical scandals and irresponsible behaviour of leaders raised serious concerns in international communities (de Bettignies, 2022; James & Priyadarshini, 2021; Liu & Lin, 2018). These concerns led to paying attention to RL in corporations. Leadership in business and other aspects of society plays a crucial role due to its decision-making and policymaking along with resource allocation which in turn influences the economic, environmental and social activities as a whole. Maak and Pless taking view of these scandals proposed that a leader should play his/her role as a key manager and replace the traditional concept of shareholder primacy, taking care of all the stakeholders either inside or outside the organization to fulfil corporate social responsibility (Maak & Pless, 2006). The induction of stakeholders' culture instead of shareholders' culture develops a new theory that copes with the deficiencies prevailing in previous leadership theories and played an effective role in balancing the conflicts among inside and outside stakeholders in the organization (Maak, 2007; Muff, Delacoste, & Dyllick, 2022). RL contributes to promoting the trust of the public, corporate reputation and achieving sustainable development for organizations and society (Han, Wang, & Yan, 2019; Javed, Rashid, Hussain, & Ali, 2020; Voegtlin, Patzer, & Scherer, 2012).

eISSN: 2415-007X

Over time, dimensions are being included in the perspective of RL. Various researchers define RL according to their perspectives like ethical perspective, stakeholder's perspective etc. Dassah defines RL as "Responsible leaders see beyond their organizations, anticipate and embrace socio-environmental concerns and go beyond short-term profit to long-term sustainability as the ultimate mark of success." (Dassah, 2010). Marvis and colleagues presented RL as a multidimensional perspective that suggests a Responsible Leader has three various levels individual, organizational and societal. "RL is a function of an individual leader, organizational leader, and leader of business in a larger ecosystem of investors, consumers, competitors, regulators, and other interests that provide a context for and also have to act responsibly to legitimate and sustain responsible business leadership." (Mirvis, DeJongh, Googins, Quinn, & Van Velsor, 2010). The multidimensional perspective of RL covers all aspects related to individual, organizational and societal which provides the basis that it goes beyond from individual notion of leadership. Defining RL required knowledge of other disciplines like psychology because it's a broader concept of leadership (Ketola, 2010).

Vogtlin and Muff pointed out the need for self-awareness and reflective capacity that is considered inner dimensions of RL. Vogtlin defined RL by the inner dimension as "RL can thus be understood as the awareness and consideration of the consequences of one's actions for all stakeholders, as well as the exertion of influence by enabling the involvement of the affected stakeholders and by engaging in an active stakeholder dialogue." (Voegtlin, 2011). Voegtlin considers the stakeholder's cultural perspective as much attention paid towards consequences of actions for stakeholders either inside or outside the organization. Muff paid attention to the personal identification that defined RL as "RL requires a deeper empathy and values-based ethic: an innate understanding of oneself, as well as of colleagues, organizations, communities, the environment, and how all these factors relate to one other." (Muff, 2013). Siddiqui defined RL in the perspective of the triple bottom approach as "RL takes care of economic, social, and environmental aspects simultaneously" (Siddiqui, Viswanathan, & Rasheed, 2020). Understanding oneself and colleagues, their way of reacting toward decision and their approach to attaining shared goals are helpful for responsible leaders.

RL becomes a frontier topic of research in the field of leadership and researchers paid much attention. This paper provides a major contribution as the 3BL approach is used in defining RL on one hand and on the other hand scale development and validation which will help researchers to use this scale and able to measure the RL construct in a better way. This paper first discusses the various perspectives of RL. Secondly, previously used scales and their dimensions were explored. Thirdly, the development of the RL scale in a rigorous manner and validation of a scale along with model fitness was discussed. In the last section of this paper, directions for future research on RL are highlighted.

2. Literature Review

RL is one of the most researched topics in academia and practice nowadays due to its domains covering various aspects which are essential for business success. Whereas, still needed an in-depth study for universal scale development that can cover all aspects of RL as there is no universal scale yet defined (Shi & Ye, 2016). This paper clarifies RL along with scale development and validation which covered all aspects of RL. Previous various studies were conducted to clarify the RL concept but these studies were confined to some perspectives and not covered all perspectives that an RL should cover.

2.1 Stakeholders Perspective

Maak and Pless conducted earlier research on RL (Maak & Pless, 2006). Maak and Pless considered RL as an ethical and relational phenomenon that takes place in social interactions with stakeholders. RL balances diverse stakeholders' claims to achieve long-lasting trustful relations and sustainable development of corporations as well as society (Maak, 2007; Siddiqui et al., 2020). The stakeholders' perspective of RL defines that every stakeholder is important in the eyes of the leader (Javed, Akhtar, Hussain, Junaid, & Syed, 2021; Muff et al., 2022).

2.2 Relational Perspective

The relational perspective is an ingredient of the stakeholder's perspective taken by Chinese scholar Song and colleagues that provides a similar RL definition. It's aimed at

developing beneficial relations for both inside and outside the organization. This approach is based on strong relations between stakeholders to achieve shared goals and mutual benefits (Song, Sun, Yu, & Peverelli, 2009). RL is defined as "the art of creating and keeping good relationships with all key stakeholders" according to the relational perspective (Javed et al., 2020; Taştan & Davoudi, 2019).

2.3 Ethics and Democracy Perspective

Voegtlin considered ethics and deliberative democracy to be the philosophical foundations of RL. Veogtlin considered RL as conflict resolution by the process of democratic consultation to achieve shared goals and mutual benefits (Voegtlin, 2011). Voegtlin emphasized the process of democratic consultation and equal dialogue opportunity for achieving mutual goals. RL have numerous characteristics and an ethical perspective is one of the essential characteristics of RL (Lips-Wiersma, Haar, & Wright, 2020; Rosenbluth & Shapiro, 2018).

2.4 Triple Bottom Perspective

The idea of the triple bottom approach was presented by Maak and Pless but they focused on stakeholders' perspectives more. If RL is linked with stakeholders theory and corporate sustainability debate, it looks like the idea of sustainable development at large (Maak & Pless, 2006). Responsible leadership takes care of economic, social, and environmental aspects simultaneously without ignoring anyone (Siddiqui et al., 2020).

2.5 Profit with Principles Perspective

A responsible leader cares about profit with principles as money is not everything for which a business started. Leaders start a business to make a difference as their businesses also need profit but their aim must be profit with principles. Leaders with this kind of aim will maintain proper stakeholder culture and develop a system in which their business will also prove beneficial for society. "Money is important: I got to make red blood cells to live, but the purpose of my life is not to make red blood cells." (Freeman & Laasch, 2020).

Leadership role in organizations shifted from the single, profit-based bottom line to the triple bottom line approach that includes social, economic and environmental perspectives (Elkington, 2001; Googins, Mirvis, & Rochlin, 2007). A business leader of the 21st century is an individual who is responsible for ethics, responsibility and accountability (Siddiqui et al., 2020). Instead of short-term benefits, responsible leaders tend to move towards long-term sustainable development (Dassah, 2010). It is imperative to elaborate on RL in the context of the 3BL approach that covers economic responsibility, social responsibility and environmental responsibility (Figure 1). This 3BL approach links and synthesizes the concept in an actionable way (Siddiqui et al., 2020)

Figure 1: Dimensions of responsibility among Responsible Leaders

Source: (Siddiqui et al., 2020)

With the help of the 3BL approach in RL, this study aims the development and validation of the RL scale which covers all the dimensions of responsibility among responsible leaders. This perspective leads to the conclusion that RL is the integration of a leader's view about environmental aspects of the workplace, economic conditions of shareholders, and social effects of the organization on society as all stakeholders are vital and considered crucial for success. In particular, a leader's vision regarding 3BL is highly significant for RL which can be depicted in the decision-making process of leaders. In nutshell, RL decides after careful consideration of all stakeholders and their decisions impact either socially, economically, or environmentally on all the stakeholders either inside or outside the organization.

3. Scale Development: A Critical Synthesis of Literature

Doh and Stumpf developed a scale based on three dimensions namely stakeholders' culture, HR practices, and managerial support (Doh et al., 2011). This scale developed on the theory of stakeholder's culture. The RL concept is elaborated by the stakeholders' theory. Christian Voegtlin developed a discursive RL scale by utilizing stakeholders' culture in which four items scale was used (Voegtlin, 2011).

Table 1: Previously used Responsible Leadership Scales along dimensions explored

Author Source	Elements/ Dimensions
(Doh & Stumpf, 2005)	• Ethically correct and values-based behaviour and action • Relationship with stakeholders
(Cameron & Caza, 2005)	• Ethically correct and values-based behaviour and action • Change and active engagement • Understanding the interdependencies of the system
(Schraa-Liu & Trompenaars, 2006)	• Understanding the interdependencies of the system • Relationship with stakeholders
(Pless, 2007)	• Ethically correct and values-based behaviour and action • Relationship with stakeholders • Change and active engagement
GRLI, 2008, p. 10-11	• Understanding the interdependencies of the system • Ethically correct and values-based behaviour and action • Change and active engagement • Ethically correct and values-based behaviour and action
(D'Amato, Eckert, Ireland, Quinn, & Van Velsor, 2010)	• Understanding the interdependencies of the system • Change and active engagement
(Hansen, 2010)	• Understanding the interdependencies of the system
(Voegtlin, 2011)	• Stakeholders' relations
(Doh, Stumpf, & Tymon, 2011)	• Stakeholders' culture consists 4 items • HR Practices consist of 5 items • Managerial Support consists 4 items
(Tsui, 2013)	• Self-awareness • Understanding the interdependencies of the system • Ethically correct and values-based behaviour and action
(Blakeley & Higgs, 2014)	• Role of Human Resource Development
(Koh, 2016)	• People Orientation • Ethical Traits • Ethical Accountability • Context
(Witt & Stahl, 2016)	• Stakeholders' Perspective • Societal Perspective
(Haque, Fernando, & Caputi, 2018)	• Aggregate of Virtues • Stakeholder Involvement • Model of Leaders' Role • Principles and Ethical Values
(Yasin, Namoco, Jauhar, Rahim, & Zia, 2020)	• Adapted Christian Voegtlin Scale and based on stakeholders' dimension • consists fourteen items
(Siddiqui et al., 2020)	• Triple Bottom Approach to Responsible Leadership

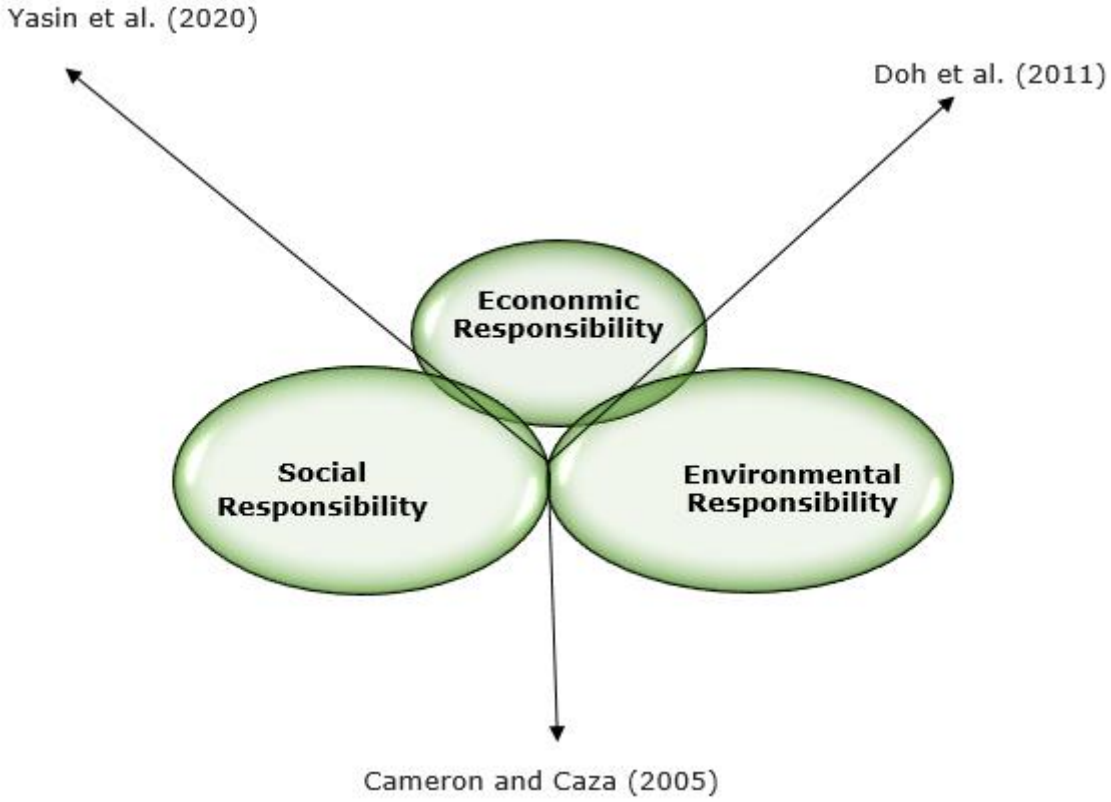
Source: Authors' Compilation

These scales are used to measure RL through subordinates of concerned managers/leaders. Whereas Camron and Caza developed an RL scale which is measured by

supervisors/leaders themselves instead of subordinates/ team members and consists of six items under four dimensions namely positive climate, positive communication, positive connections, and positive inspiration (Cameron & Caza, 2005). Raheel Yasin along with his team members developed the RL scale which is adapted to the Christian Voegtlin scale in which extensive stakeholders' roles accounted for RL (Yasin et al., 2020).

Based on the table 1, literature shows that various researchers used different kinds of scales to measure the RL. Now, in the present paper, the researcher presented the picture of previously used scales along with the dimensions. In the below-given diagram, anyone can easily understand why there is a need of developing a universally accepted measurement scale of RL. In the literature, it's obvious that researchers try to fill the gap by including all dimensions namely economic, environmental, and social but unable to include every aspect of responsibility in terms of RL. In the present paper, the researcher paid extensive focus on all three dimensions and included questions that are essential for the measurement of responsibility in the RL of organizations. Here is the diagram of previously used scales in terms of economic, social, and environmental dimensions of RL.

Figure 2: Previously used scales of Responsible Leadership in terms of the Tripple Bottom Approach



4. Methodology, Analysis, and Results

The present study tries to develop and validate the results of the RL scale which is the need of the hour. Yang Shi and Maolin Ye stated that researchers on RL hold various opinions regarding measurement and have not yet reached any agreement (Shi & Ye, 2016). Table 2.1 highlights the previous measurement scales for RL. Whereas Siddiqui et al suggested that leadership will only be RL when considering all the 3BL approaches including socially responsible, environmentally responsible, and economic responsible which provides a new way of looking towards RL (Siddiqui et al., 2020). This paper tries to develop the Responsible Leadership scale based on the triple bottom approach which will cover all aspects of Responsible Leadership.

4.1 In-Depth Analysis of Interviews

For the development of the scale, researchers use two sources initially, the first is the review of the literature and the second is the in-depth interviews with concerned authorities who have extensive knowledge of that construct. After paying extensively focusing on the literature

review for initial validation purposes, 33 items questionnaire was designed. This proposed questionnaire is conceptually divided into three main dimensions: social aspects of RL, economic aspects of RL, and environmental aspects of RL. These dimensions along with their corresponding items were validated through discussion with managers/leaders of various banks along with academic professionals who have a grip on the leadership studies/research. Managers/leaders who participated in the study have command along with experience in the field of banking and currently practising as managers and various other posts in the banking sector.

In the first phase, opinions were sought from 82 professionals belonging to industry and academics both. These professionals examined the appropriateness of the instrument by judging its comprehensiveness, clarity and representativeness (Miles, Huberman, & Saldaña, 2018). Professionals were asked to tell about the item's representativeness for their dimension/sub-dimension by indicating their acceptability and vice versa. Based on the responses of professionals, the content validity ratio (CVR) was calculated. CVR is defined as the degree that is used to validate whether the content is accurately measuring the scale intended to measure the construct (YAGHMAEI, 2003). CVR can be calculated through the formula CVR= ne – (N/2)/ (N/2), N denotes the total number of participants who participated whereas ne denotes the number of respondents who specified that item is essential and measuring the same construct for which it is assumed to measure. CVR values range between -1 to +1 which means -1 is perfectly disagreement that this item should not be included in the questionnaire, zero is considered a 50/50 chance of its measuring capability whereas +1 indicates that the item is perfectly measuring the same construct/scale for which it is supposed to measure (Lawshe, 1975).

Based on CVR values, items will be included or excluded from the questionnaire. When values of CVR are greater than 0, it means that more than 50% of respondents consider it to be included in the questionnaire. Whereas, if the value of CVR is 49% or below, it indicates that respondents didn't consider that item for questionnaire and this item must be excluded from questionnaire. Eight items were rejected on the basis of CVR analysis because CVR value lies below 0 which indicates that respondents consider these items were not measuring the construct properly. On the basis of CVR values, 25 items along with their respective dimensions retained in the scale having CVR value equal to zero or above for explanatory factor analysis.

4.2 Exploratory Factor Analysis and Results Discussion

Based on in-depth interviews analysis, 25 items had a CVR value of more than zero which means that experts consider these items a valid measure of RL in the banking sector of Pakistan. For conducting a proper study for scale development purposes, a sample of 329 respondents of the banking sector taken from various studies revealed that a sample of 150 observations is enough for accurate results of EFA (Guadagnoli & Velicer, 1988; Hinkin, 1995). The convenience sampling technique was used to collect data from banking sector respondents from Pakistan. For improving the response rate and accuracy of responses, questionnaires were shared via Google surveys and face-to-face at their offices. Google surveys helped in the covid pandemic essentially as known respondents have asked to share the link with their colleagues and banking sector employees. Questionnaires having missing values were deleted and the remaining questionnaires having complete responses were considered for exploratory factor analysis. Brief details of respondents are presented in table format as follows:

Table 2: Summary of Responses

Source	Respondents number	Percentage
Google Surveys	88	26.75%
Face to Face surveys at Bank	241	73.25%

Source: Author's Compilation

Sample data was collected mainly based upon face-to-face surveys in which 360 questionnaires were distributed but due to the covid pandemic, 86 bank officers didn't fill whereas 33 questionnaires were incomplete. The remaining 241 questionnaires were filled properly that were used for data analysis. Google surveys were used to collect data from bank officers across the country which played a crucial role in the collection of sample data. Through Google survey, 221 questionnaires send to bank officers but 88 officers filled out the

questionnaire and submitted it. These appropriate questionnaires were used for the analysis purpose of the study.

Table 3: Summary of Gender characteristics

Gender	Number of Respondents	Percentage
Male	275	83.6%
Female	54	16.4%

Source: Author's Compilation

Male respondents are dominant in the banking sector as out of 329 sample male sample size is 275 which is 83.6% of the sample size whereas female respondents were 54 which was 16.4% of the sample data.

Table 4: Descriptive statistics along with reliability

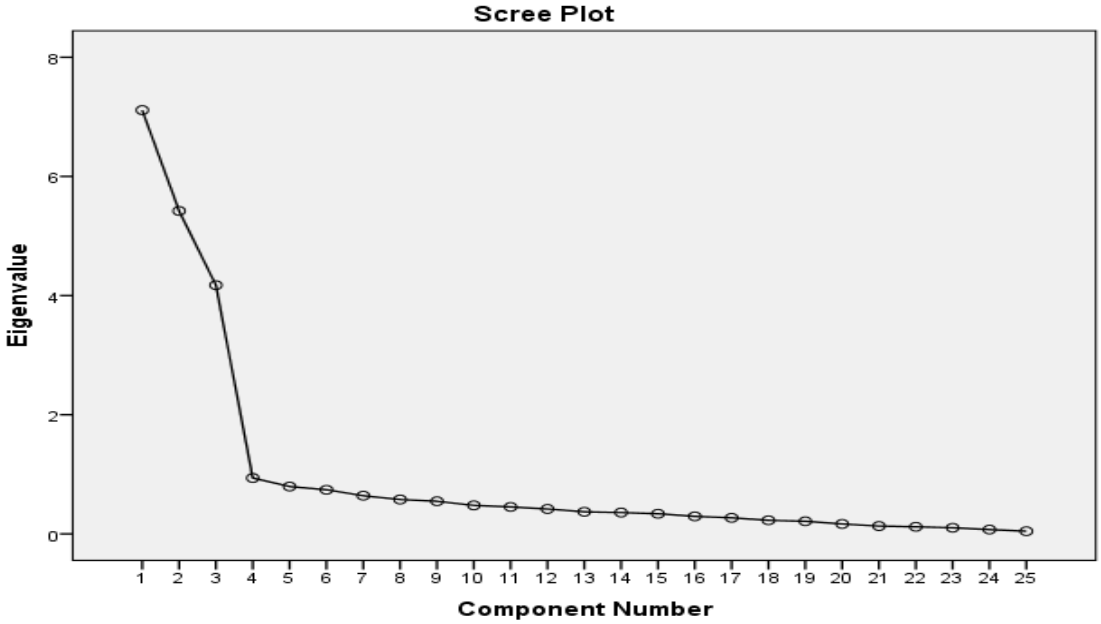
Responsible Leadership's dimensions	Items	Mean	SD	Cronbach's α	Skewness		Kurtosis	
					Statistic	Std. Error	Statistic	Std. Error
Economic Aspects of RL	8	3.78	.81	.97	-.787	.134	.580	.268
Social Aspects of RL	8	4.13	.56	.90	-.991	.134	.577	.268
Environmental Aspects of RL	9	3.41	.88	.92	-.395	.134	.141	.268

Source: Author's Compilation

Exploratory Factor Analysis (EFA) was performed through SPSS 21 by applying principal component extraction and varimax rotation mainly. The purpose of performing EFA was to access the internal consistency of items and construct (Costello & Osborne, 2005). Item's validity is based on their loading to concerned factors analysed as loading play a vital role in determining the validity of items for concerning factors (do Rego Leite & Pasquali, 2008). High loadings of statements show the high validity of statements for factors. Items loading classified from poor to excellent. An item's loading value up to 0.45 is considered a poor loading, items having loading more than 0.45 and up to 0.55 are considered as good, and items having loading more than 0.55 and up to 0.71 are considered very good loadings, whereas, items having loading more than 0.71 are considered as excellent loadings (Comrey & Lee, 1992). The RL scale has three dimensions which are based on eigenvalues and factor structure (Hair, Black, Babin, Anderson, & Tatham, 2006). RL's dimensions include economic aspects of RL that have eight items and eight out of eight items having loadings more than 0.71. It indicates that all items of the economic dimension of RL have excellent loadings. The second dimension of RL is environmental aspects which have nine items and eight items loading above 0.71 whereas one item's loading is 0.70. The third dimension of RL is social aspects which have eight items and six items having loading more than 0.71 which is an excellent value for EFA analysis and the remaining two values lie in the very good category. These dimensions clearly indicate that their item values having excellent loading which is highly beneficial for EFA and considered for further CFA analysis.

EFA was conducted through principal component analysis. Factor loadings are analysed through a rotated component matrix. Items loading having more than 0.50 on any dimension are considered as the item for that dimension (Moore & Benbasat, 1991). Eigenvalue depicts how many factors should be part of research as a value above one of the eigenvalue states the number of factors recommended for the study. In this study, three factors were suggested by eigenvalues which explained the 66.83% variance of the study. The scree plot diagram indicates the values above one which is three in number. Therefore, three-factor took for the RL scale. Sample accuracy was tested through the Kaiser-Meyer-Olkin test which is a measure of sampling adequacy. This measure has a value of 0.884 which states that sample adequacy is acceptable for further statistical analysis.

Figure 3: Scree plot



RL scale is based on three factors. Factor one is the economic aspects of RL. Economic aspects of all stakeholders are reviewed for making a decision that has effects on all stakeholders. Responsible leaders take care of all economic aspects either for corporations, staff or entire stakeholders. Economic aspects consist of 8 items. For example, 'My Manager considers the enhancement of shareholders worth'. The variance explained by the economic aspects of the RL factor is 28.45 per cent. Economic aspects of RL were theorized by researchers previously as an important factor/dimension of RL (Siddiqui et al., 2020). Factor two is the environmental aspects of RL. Environmental aspects deal with the environmental priorities of leadership. How a leader takes environmental aspects of an organization toward the society as a whole. This factor consists of 9 items. For example, 'My Manager gets the members to work together for environmental goals. The variance explained by the environmental aspects of the RL factor is 21.68 per cent. Environmental aspects were theorized previously by researchers (Siddiqui et al., 2020).

Factor three is the social aspects of RL. Social aspects include leadership roles with all the stakeholders of society. Social aspects consist of 8 items. For example, 'My Manager is being responsible towards society. The variance explained by this factor is 16.70 per cent. Previously this dimension is theorized by various researchers (Maak & Pless, 2006; Siddiqui et al., 2020; Voegtlin, 2011). Reliability results reveal that Cronbach's alpha of all factors was acceptable for each dimension. Economic aspects Cronbach's alpha is 0.97, environmental aspect Cronbach's alpha is 0.92 and social aspect Cronbach's alpha is 0.90. Findings of the EFA are shown in table 5 in which each item loading is stated in front of the item.

Table 5: Rotated Component Matrix of Responsible Leadership

Sample Items	Factors (Kaiser-Meyer-Olkin = 0.884)		
	Economic Aspects of RL	Environmental Aspects of RL	Social Aspects of RL
Economic Aspects of Responsible Leadership			
EA3 My Manager considers the most important thing is the well-being of team members.	.946		
EA7 My Manager creates collaboration among shareholders with stakeholders' priories.	.931		
EA4 My Manager considers the economic benefits of the organization in the decision-making process.	.910		
EA5 My Manager considers the Profit with Principles policy.	.905		
EA2 My Manager was determined to push forward and get results.	.895		

EA6 My Manager considers the enhancement of shareholders' worth.	.883		
EA1 My Manager weights different stakeholders' claims before making a decision.	.880		
EA8 My Manager tries to reduce trust gaps between an organization and its stakeholders.	.851		
Environmental Aspects of Responsible Leadership			
ENA6 My Manager stimulates the team members to think about green ideas.		.847	
ENA5 My Manager encourages team members to achieve environmental goals.		.846	
ENA4 My Manager gets the members to work together for environmental goals.		.789	
ENA3 My Manager provides a clear environmental vision to all team members.		.788	
ENA7 My Manager acts by considering the environmental beliefs of the team members.		.786	
ENA9 My Manager is efficiently utilizing a diverse workforce for achieving organizational sustainable environmental goals.		.754	
ENA1 My Manager is responsible for achieving positive change in the organization.		.730	
ENA8 My Manager utilizes his stakeholder's network to help in the creation of an organizational sustainable environment.		.712	
ENA2 My Manager inspires the team members with environmental plans.		.704	
Social Aspects of Responsible Leadership			
SA7 My Manager is responsible for society.			.893
SA1 My Manager takes an active role in the community.			.840
SA6 My Manager considers the consequences of decisions for the affected stakeholders.			.790
SA8 My Manager emphasises corporate social responsibility practices.			.777
SA2 My Manager takes ethics seriously.			.724
SA3 My Manager responds well to a diverse group of stakeholders.			.712
SA4 My Manager leads by example.			.687
SA5 My Manager is effective.			.626
Total Variance Explained			66.83%
Sphericity Bartlett Test			762.41
Degree of Freedom			300
Significance			0.000

Source: Author's Compilation

Notes: 1- Extraction Method: Principal Component Analysis.
2- Rotation Method: Varimax with Kaiser Normalization.
3- Rotation Converged in 4 iterations.

Results of EFA provide the basis for Confirmatory Factor Analysis (CFA) through using AMOS 21. CFA is a multivariate statistical technique used to analyse the structural model. It is also used to examine the multiple interrelated relationships among models (Hair et al., 2006). CFA is used to study various complex relationships in the model. The goodness of fit and statistical significance of the model are the main parameters of model fitness indices (Hair Jr, Matthews, Matthews, & Sarstedt, 2017). The goodness of fit was calculated through various indicators $\chi 2$ goodness of fit static, comparative fit index (CFI), root mean square error of approximation (RMSEA), goodness-of-fit index (GFI), Tucker-Lewis index (TLI), adjusted goodness-of-fit index and lastly normal fit index (NFI).

Usually, chi-square values are used to determine the fitness of the model but for better model fit use additional indices like CFI, NFI, GFI, AGFI, TLI and RMSEA. These indices provide a better measure of model fit. All-important model fit indices used in the present study such as GFI, AGFI, CFI, NFI, TLI, and RMSEA to test the postulated model. Model fit indices provide the basic assessment that how theory fits the sample data. Various researchers provide the guidelines of model fit as to how many values should indices have for model fitness.

Responsible leadership have three dimensions namely economic aspects of RL, environmental aspects of RL, and social aspects of RL. Initial standardized confirmatory factor analysis results reveal the statistics of model fitness. The initial values of measurement model were as (χ2 = 1139, χ2/df = 4.19, GFI = 0.785, AGFI = 0.743, NFI = 0.843, CFI = 0.875, TLI = 0.863 and RMSEA = 0.09). These values were not acceptable for the well-fitted model. In the second confirmatory factor analysis, three covariances were created among error terms based on modification indices. After covariance were created, values of the measurement model were as (χ2 = 750.269, χ2/df = 2.789, GFI = 0.831, AGFI = 0.796, NFI = 0.897, CFI = 0.931, TLI = 0.923 and RMSEA = 0.07). These indices of model fit still can be improved to get better model fit results. For that purpose, the third and final standardized confirmatory factor analysis was done after deleting three items SA3, SA6 and ENA8 due to high covariance among other items. Analysis done while using 22 items and results are as (χ2 = 574.492, χ2/df = 2.830, GFI = 0.853, AGFI = 0.817, NFI = 0.912, CFI = 0.941, TLI = 0.933 and RMSEA = 0.07). These model fit indices are shown in Table 3.5 whereas figure 3.3 shows the confirmatory factor analysis based upon 22 items. Researchers provide the levels for the better model fit indices as in the present analysis of CFA CMIN/DF value is 2.830 and accepted value of CMIN/DF is less than 5 (Bentler, 1990; Marsh & Hocevar, 1985) and according to (Hair, 2009) the value of CMIN/DF should be less than 3 and in the present study, the value of CMIN/DF is 2.830 which is excellent and good for model fitness. If the value of CMIN/DF lies between 1 to 3 then it's excellent for model fitness (Gaskin & Lim, 2016). In the present study, CMIN/DF is 2.830 which is excellent for model fitness. CFI value should be more than .90 for model fitness (Bentler, 1990; Heckler, 1996) whereas in our study its value is 0.941 which is acceptable for model fitness. RMSEA value is 0.70 whereas an RMSEA value less than 0.80 is acceptable (Gaskin & Lim, 2016).

Figure 4: Initial Standardized CFA of Responsible Leadership

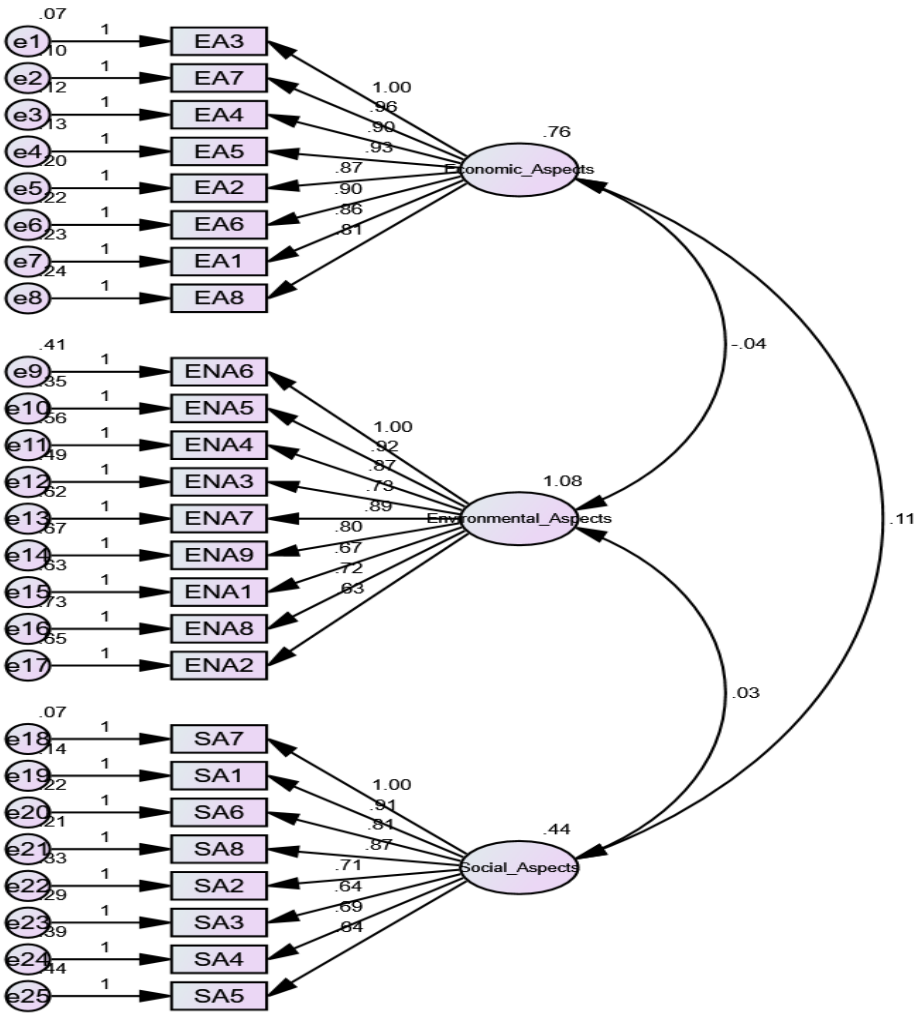


Figure 5: Final Standardized CFA of Responsible Leadership

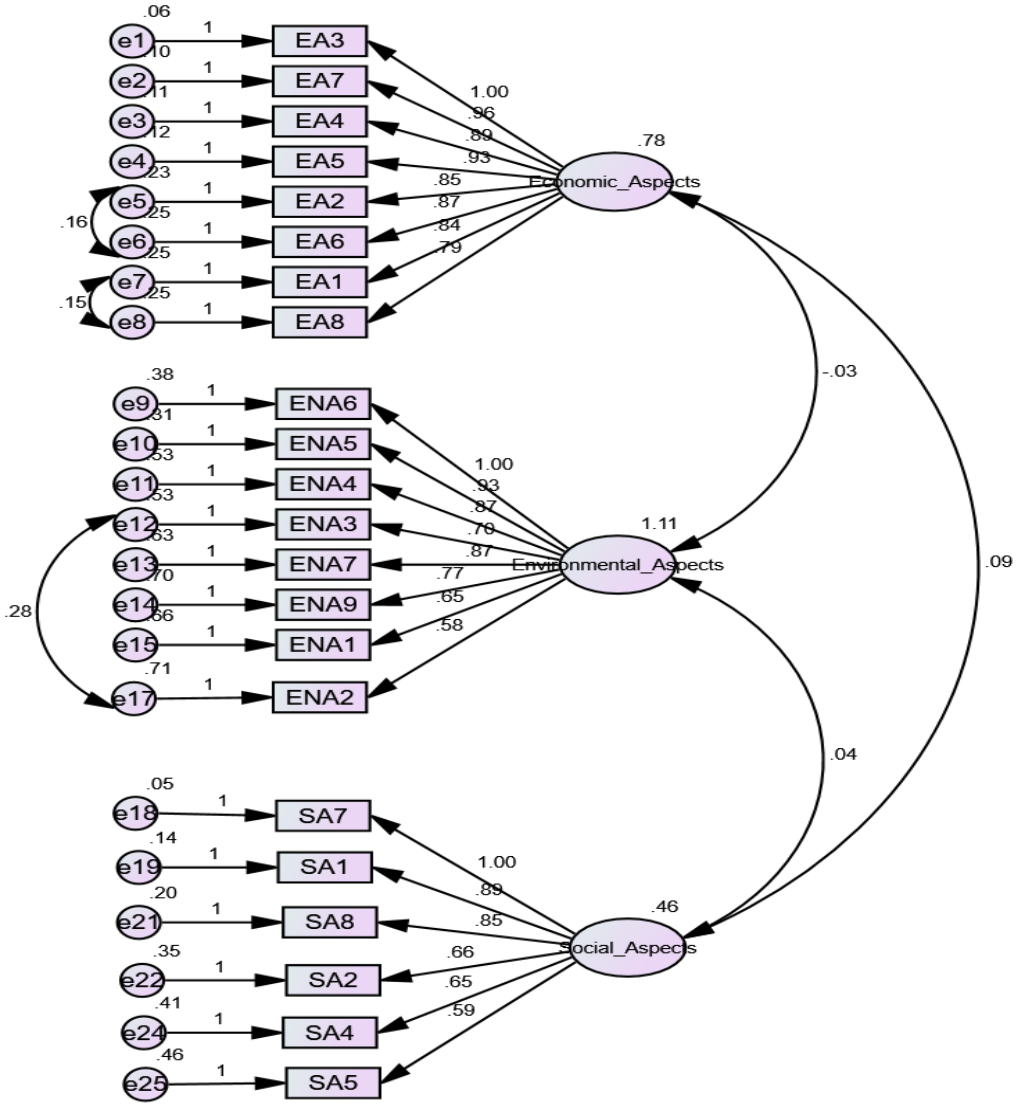


Table 6: CFA Goodness of Fit results of Responsible Leadership Scale

RL Scale	Results of Goodness of Fit									Items Deleted	Reason for deletion	Modification Indicies
	$\chi 2$	$\chi 2$/df	Df	GFI	AGFI	NFI	CFI	TLI	RMSEA			
CFA1	1139	4.19	272	.785	.743	.843	.875	.863	.09	-	-	-
CFA2	750.269	2.789	269	.831	.796	.897	.931	.923	.07			Covariance among error terms e12 & e17, e7 & e8, e5 & e6
CFA 3 Final	574.492	2.830	203	.853	.817	.912	.941	.933	.07	SA3, SA6, ENA8	High covariance with other items	

Source: Author's completion

Measures of reliability and validity refer to the consistency and accuracy of the survey questionnaire. Validity refers to the instruments' ability to measure the same construct that the authors intended to measure and reliability refers to the questionnaire's ability to produce the same results or replicability of results through the survey questionnaire (Ong, 2012). In case of lack of reliability of the survey questionnaire, it may be the cause of deviation in the questionnaire. Validity is measured by face, content and construct to get accurate results from data. A panel of experts along with a few respondents measured the face and content validity

of the survey questionnaire. Those items which are vague and unclear are pointed out by experts and respondents modify accordingly to get accurate results. Construct validity is measured through confirmatory factor analysis and reliability is measured through correlation matrix and Cronbach's alpha. Cronbach's alpha is a valid measure of internal consistency of survey questionnaires (Puteh, Ibrahim, Adnan, Che'Ahmad, & Noh, 2012).

5. Conclusion

This paper aims at the development of the RL scale which is an emerging topic both in academia and industry. Numerous studies were conducted on RL scale development (Cameron & Caza, 2005; Doh et al., 2011; Pless & Maak, 2011; Yasin et al., 2020) whereas the triple bottom approach missing in these studies. The current study has some limitations as firstly it is limited to the banking sector only. The banking sector was chosen for conducting this research study in Pakistan. Secondly, geographically its limited scope as the population was banking sector of Pakistan. Thirdly, leadership is required in every sector whereas the current study has taken the financial industry and especially the banking sector.

This study provides the scale development of RL after careful EFA, CFA as well as data normality and reliability with a sample size of 329 respondents. The RL scale has three dimensions namely economic aspects of RL, social aspects of RL and environmental aspects of RL. Scree's plot depicts that the dimensions of RL will be three. These three dimensions have 25 items and all those items have factor loadings of more than .60 included for analysis. Those items having factor loading of more than .60 are considered very well (Comrey & Lee, 1992). Data normality was tested through skewness and kurtosis. Data reliability was tested through Cronbach alpha as all dimensions have above 0.90. In nutshell, a comprehensive RL scale was developed.

Based on the limitations of the current study, RL should be tested with other variables such as sustainability practices and presentism. Other industries should be taken for RL like telecom, IT, services, and manufacturing. For finalizing a universal scale, it is highly recommended to study this scale's validity and reliability with other industries. Future studies regarding RL should expand the research and include multiple cultures along with various methodologies including panel interviews, focused groups and implementation of the current scale.

References

Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological bulletin, 107*(2), 238.

Blakeley, K., & Higgs, M. (2014). Responsible leadership development–crucible experiences and power relationships in a global professional services firm. *Human Resource Development International, 17*(5), 560-576.

Cameron, K., & Caza, A. (2005). Developing strategies and skills for responsible leadership. *Handbook on responsible leadership and governance in global business*, 87-111.

Comrey, A. L., & Lee, H. B. (1992). A First Course in Factor Analysis, 2nd Edn. Hillsdale, NJ: L. In: Erlbaum Associates.

Costello, A. B., & Osborne, J. (2005). Best practices in exploratory factor analysis: Four recommendations for getting the most from your analysis. *Practical assessment, research, and evaluation, 10*(1), 7.

D'Amato, A., Eckert, R., Ireland, J., Quinn, L., & Van Velsor, E. (2010). Leadership practices for corporate global responsibility. *Journal of Global Responsibility*.

Dassah, M. (2010). Responsible Leaders: Attributes and Roles in a Multi-challenged Global Business Environment and Implications for Leadership Development. *The Next Generation Responsible Leaders*, 30-37.

de Bettignies, H.-C. (2022). Developing responsible leaders in China within a global context. In *Dialogue with China: Opportunities and Risks* (pp. 61-70): World Scientific.

do Rego Leite, U., & Pasquali, L. (2008). Estudo de validação do Inventário de Perspectiva de Tempo do Zimbardo. *Avaliação Psicológica, 7*(3), 301-320.

Doh, J. P., & Stumpf, S. A. (2005). Towards a framework of responsible leadership and governance. *Handbook on responsible leadership and governance in global business*, 3-18.

Doh, J. P., Stumpf, S. A., & Tymon, W. G. (2011). Responsible leadership helps retain talent in India. In *Responsible Leadership* (pp. 85-100): Springer.
Elkington, J. (2001). The triple bottom line for 21st century business. *The Earthscan reader in business and sustainable development*, 20-43.
Freeman, R. E., & Laasch, O. (2020). From management sucks to responsible management rocks! In *Research Handbook of Responsible Management*: Edward Elgar Publishing.
Gaskin, J., & Lim, J. (2016). Model fit measures. *Gaskination's StatWiki*, 1-55.
Googins, B. K., Mirvis, P. H., & Rochlin, S. A. (2007). *Beyond good company: Next generation corporate citizenship*: Macmillan.
Guadagnoli, E., & Velicer, W. F. (1988). Relation of sample size to the stability of component patterns. *Psychological bulletin, 103*(2), 265.
Hair, J. F. (2009). Multivariate data analysis.
Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. (2006). Multivariate data analysis . Uppersaddle River. In: NJ: Pearson Prentice Hall.
Hair Jr, J. F., Matthews, L. M., Matthews, R. L., & Sarstedt, M. (2017). PLS-SEM or CB-SEM: updated guidelines on which method to use. *International Journal of Multivariate Data Analysis, 1*(2), 107-123.
Han, Z., Wang, Q., & Yan, X. (2019). How responsible leadership motivates employees to engage in organizational citizenship behavior for the environment: A double-mediation model. *Sustainability, 11*(3), 605.
Hansen, E. G. (2010). *Responsible leadership systems: an empirical analysis of integrating corporate responsibility into leadership systems*: Springer Science & Business Media.
Haque, A., Fernando, M., & Caputi, P. (2018). Responsible leadership, affective commitment and intention to quit: An individual level analysis. *Leadership & Organization Development Journal*.
Heckler, C. E. (1996). A Step-by-Step Approach to Using the SAS™ System for Factor Analysis and Structural Equation Modeling. In: Taylor & Francis Group.
Hinkin, T. R. (1995). A review of scale development practices in the study of organizations. *Journal of management, 21*(5), 967-988.
James, K., & Priyadarshini, R. (2021). Responsible leadership: A new paradigm for organizational sustainability. *Management and Labour Studies, 46*(4), 452-470.
Javed, M., Akhtar, M. W., Hussain, K., Junaid, M., & Syed, F. (2021). "Being true to oneself": the interplay of responsible leadership and authenticity on multi-level outcomes. *Leadership & Organization Development Journal*.
Javed, M., Rashid, M. A., Hussain, G., & Ali, H. Y. (2020). The effects of corporate social responsibility on corporate reputation and firm financial performance: Moderating role of responsible leadership. *Corporate Social Responsibility and Environmental Management, 27*(3), 1395-1409.
Ketola, T. (2010). Responsible leadership: Building blocks of individual, organizational and societal behavior. *Corporate Social Responsibility and Environmental Management, 17*(3), 173-184.
Koh, C. A. G. C. (2016). Factors influencing responsible leadership in Singapore: examining the role of context.
Lawshe, C. H. (1975). A quantitative approach to content validity. *Personnel psychology, 28*(4), 563-575.
Lips-Wiersma, M., Haar, J., & Wright, S. (2020). The effect of fairness, responsible leadership and worthy work on multiple dimensions of meaningful work. *Journal of Business Ethics, 161*(1), 35-52.
Liu, C.-M., & Lin, C.-P. (2018). Assessing the effects of responsible leadership and ethical conflict on behavioral intention. *Review of Managerial Science, 12*(4), 1003-1024.
Maak, T. (2007). Responsible leadership, stakeholder engagement, and the emergence of social capital. *Journal of business ethics, 74*(4), 329-343.
Maak, T., & Pless, N. M. (2006). Responsible leadership in a stakeholder society–a relational perspective. *Journal of business ethics, 66*(1), 99-115.
Marsh, H. W., & Hocevar, D. (1985). Application of confirmatory factor analysis to the study of self-concept: First-and higher order factor models and their invariance across groups. *Psychological bulletin, 97*(3), 562.
Miles, M. B., Huberman, A. M., & Saldaña, J. (2018). *Qualitative data analysis: A methods sourcebook*: Sage publications.

Mirvis, P., DeJongh, D., Googins, B., Quinn, L., & Van Velsor, E. (2010). Responsible leadership emerging: Individual, organizational and collective frontiers. *Center for Responsible Leadership Research Report, University of Pretoria, Pretoria*.

Moore, G. C., & Benbasat, I. (1991). Development of an instrument to measure the perceptions of adopting an information technology innovation. *Information systems research, 2*(3), 192-222.

Muff, K. (2013). Developing globally responsible leaders in business schools: A vision and transformational practice for the journey ahead. *Journal of Management Development*.

Muff, K., Delacoste, C., & Dyllick, T. (2022). Responsible Leadership Competencies in leaders around the world: Assessing stakeholder engagement, ethics and values, systems thinking and innovation competencies in leaders around the world. *Corporate Social Responsibility and Environmental Management, 29*(1), 273-292.

Ong, S. F. (2012). Constructing a survey questionnaire to collect data on service quality of business academics.

Pless, N. M. (2007). Understanding responsible leadership: Role identity and motivational drivers. *Journal of Business Ethics, 74*(4), 437-456.

Pless, N. M., & Maak, T. (2011). Responsible leadership: Pathways to the future. In *Responsible Leadership* (pp. 3-13): Springer.

Puteh, M., Ibrahim, M. H., Adnan, M., Che'Ahmad, C. N., & Noh, N. M. (2012). Thermal comfort in classroom: constraints and issues. *Procedia-Social and Behavioral Sciences, 46*, 1834-1838.

Rosenbluth, F., & Shapiro, I. (2018). *Responsible parties: Saving democracy from itself*: Yale University Press.

Schraa-Liu, T., & Trompenaars, F. (2006). Towards responsible leadership through reconciling dilemmas. In *Responsible leadership* (pp. 158-174): Routledge.

Shi, Y., & Ye, M. (2016). Responsible leadership: review and prospects. *American Journal of Industrial and Business Management, 6*(08), 877.

Siddiqui, S. H., Viswanathan, K., & Rasheed, R. (2020). Linking Responsible Leadership and Sustainability Challenges. In *Oxford Research Encyclopedia of Education*.

Song, J.-W., Sun, Z.-Q., Yu, J., & Peverelli, P. (2009). Responsible leadership and the establishment of corporate social capital. *Chinese Journal of Management, 6*(7), 988-994.

Taştan, S. B., & Davoudi, S. M. M. (2019). The relationship between socially responsible leadership and organisational ethical climate: in search for the role of leader's relational transparency. *International Journal of Business Governance and Ethics, 13*(3), 275-299.

Tsui, A. S. (2013). The spirit of science and socially responsible scholarship. *Management and Organization Review, 9*(3), 375-394.

Voegtlin, C. (2011). Development of a scale measuring discursive responsible leadership. In *Responsible leadership* (pp. 57-73): Springer.

Voegtlin, C., Patzer, M., & Scherer, A. G. (2012). Responsible leadership in global business: A new approach to leadership and its multi-level outcomes. *Journal of business ethics, 105*(1), 1-16.

Witt, M. A., & Stahl, G. K. (2016). Foundations of responsible leadership: Asian versus Western executive responsibility orientations toward key stakeholders. *Journal of Business Ethics, 136*(3), 623-638.

YAGHMAEI, F. (2003). Content validity and its estimation.

Yasin, R., Namoco, S. O., Jauhar, J., Rahim, N. F. A., & Zia, N. U. (2020). Responsible leadership an obstacle for turnover intention. *Social Responsibility Journal*.