Social Business Efficiency: Instrument Development and Validation Procedure Using Structural Equation Modeling

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Abstract: The efficiency assessment, implementation of appropriate control and responsive measures for Social Business (SB), the concerned bodies need an efficient and inclusive measuring instruments for Social Business Efficiency (SB Efficiency). By pursuing social benefit aims, the profit-making firms under the broad definition of Social Business (SB) can boost the value of their products or services or can exploit new business areas. However, profit-seeking and social benefit aims converging firms reveal a form of SB that has engrossed little deliberation in either theoretical or empirical research on SB Efficiency. Hence, to fill up the research gap, the objectives of this study were two-folds, namely to: measure SB Efficiency in its broadest sense using Structural Equation Modelling (SEM) procedure and determine relevant components for SB Efficiency and develop instruments to measure SB Efficiency in the SME sector. The study found valid and reliable instruments for measuring SB Efficiency. The instruments consist of five components namely Social Value, Social Welfare, Satisfaction, Innovativeness and Resource Leveraging. All components fulfilled the socio-metric properties required of measurement instrument in the social science, namely dimensionality, validity and reliability.

Key words: Social Business (SB), SB efficiency, Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA) and Structural Equation Modelling (SEM)

INTRODUCTION

For social benefits or self-satisfactions or profit making for the poor people or to relief the troubles of misfortune human beings, animals, etc. many compassionate persons all around the globe are working in the community in or out of the form of Social Business, day or night. The entrepreneurial actions are usually qualitative although some of its constituents such as the produced or transferred units of goods, the number of employees, number of innovations and so on could be considered as quantitative. Similarly, Social Business (SB) is a sort of business entity which does not exclude from this fact. For example, to provide or transfer medical facilities to disaster-stricken places, how could the social enterprises or social business organizations will able to allocate resources without determining its efficiency. As, the invested money, efforts, hours, lives, etc. for the social business organization are the resources which are scarcer than such resources for the general business enterprises, so they are required to be spent or used in a more economical and efficient way. Consequently, the efficiency of SB needs to be evaluated as much as possible, since the scarcity of the allocated resources.

In this regard, the concern bodies need to have tangible quantitative results to analyze the efficiency of the SB. In other words, the actual results could act as a benchmark to correct any deviations from the pre-planned actions and apply them as standards for the measurement of SB Efficiency. Therefore, all the stakeholders including all benefactors of such SB organizations require a measurement tool to be able to assess the efficiency of SB, to implement of timely appropriate control and also to take necessary responsive measures. Hence, this study developed and proposed a measurement instrument of SB Efficiency.

Inside the economic system of developing or underdeveloped countries, there are two main types of organization models. The private sector where companies sell products or services to make money and non-profit organizations financed by the government like healthcare and education, etc. Where the governments and the

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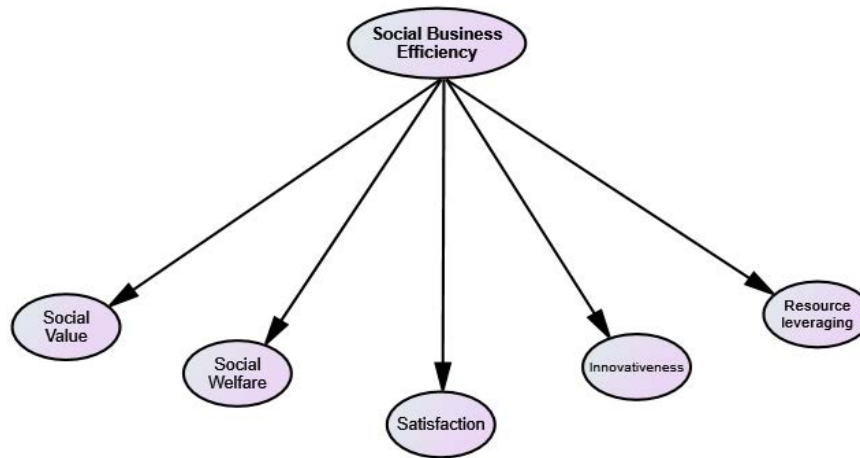Sarawak, 94300 Kota Samarahan, Malaysia

Fig. 1: Social business efficiency dimension

marketers both are trying to reach their maximum limits of charities or contributions may fill the gap between rich and poor or minimize the imbalance between these two groups for the betterment of society. However, due to forgetting to involve the poor people into economic development, we are not going to achieve better or proper development of the country or economy though that target poor group or misfortune human beings of the society is full of potential and has never had a real opportunity.

Consequently, Yunus *et al.* (2010) introduces the SB concept which is a revolutionary dimension to the free market economy as a solution to the above-mentioned issue. According to Yunus (2007), SB is a company that is created to solve social problems and run by the society's poor group of peoples. SB provides a necessary framework for tackling social issues by combining business know-how with the desire to improve the quality of peoples' life. Here as, according to De Villis *et al.* (2013), SB runs as a non-dividend business that is created with an objective to address and solve a social problem by applying business principles. Yunus *et al.* (2010), also mentioned that SB is unlike an NGO or a CSR initiative, as SB is not a charity and it follows a business model completely.

According to Peredo and McLean (2006) instrument of social entrepreneurship uses the entrepreneurial and social dimensions and Covin and Wales (2012) argued that wherever possible, measurement instrument should consist of content that is specific to the needs of the research at hand. In this study consequently, SB Efficiency is characterized by responsiveness to the society or marketplace and inborn ability to react to meet in people or social demands (Fig. 1). SB Efficiency is also characterized as multi-dimensional construct having five

underlying assumptions or dimensions that are social value, social welfare, satisfaction, innovation and resource leveraging. The first three aspects are social dimensions and the last two are entrepreneurial dimensions. These dimensions distinguish SB from traditional business.

Value creation is a process of unique combinations of resources to produce value. However, from a SB perspective, the social value may be summarized as the net social and environmental benefits generated by a business organization to the society through its social activities reported either as both financial and non-financial performance. According to the definition given by Sustainable Procurement Task Force, social value is a process whereby organizations meet their needs for goods, services, works and utilities in a way that achieves value for money on a whole life basis regarding generating benefits to society and the economy while minimizing damage to the environment. In the SB, the primary focus is on social value creation (Mair and Marti, 2006, 2007). Hence, social entrepreneurs endeavor to create social value through innovative and entrepreneurial business models (Seelos and Mair, 2005) and also by fulfilling very basic humanitarian needs; for example, providing medicines or food which may be an issue of life or death for those who receive them. Consequently, social value creation is a core component of SB Efficiency.

Social welfare means organizing social services for the assistance of disadvantaged groups like underprivileged people or misfortune human beings or animals of the society. According to Levine *et al.* (2012), Battilana *et al.* (2012), Haigh and Hoffman (2012) and Scheuerle *et al.* (2015), SB leads to social welfare. The primary outcome of SB is social problem solving (Yunus, 2007). Austin *et al.* (2006), believes that the central goal of

the social entrepreneur is to maximize public welfare. The social entrepreneurs use certain inputs like time, money or in-kind resources for their activities (Korosec and Berman, 2006) and through this input or activities lead to social welfare which are directly measurable as the SB outputs can be specified relating to number of lives or institutions touched, services or products are reported quantitatively (Zainudin *et al.*, 2012). Consequently, this study can say no social welfare, no SB. Hence, to achieve social welfare is another core element of SB Efficiency.

Satisfaction is the act of fulfilling or minimizing needs, desires or appetite which ropes to feel gained from such fulfillment. Thus, the satisfaction of social entrepreneurs of SB or donors or contributor with the current contribution or donation in SB influences their intent to donate or contribute in the future and the donors or social entrepreneurs' satisfaction varies among the types of SB activities. Donation or contribution or supporting history is positively correlated with the success of the SB or on achieving the core objectives (i.e. social benefits) for future donation whereas the primary motivation among all benefactors was altruism. According to Yunus (2007), the satisfaction gained in achieving the social goals are the only motive behind the investment or contribution in SB. Hence, SB Efficiency will be evaluated according to the level of satisfaction achieved by fulfilling the social needs or minimizing the social demands.

Innovation indicates an ability of an organizational to maintain a flow of internally and externally driven new ideas that are possible to translate into new products, services, processes, technology applications or markets and according to Slater and Narver, (2000); Morris and Kuratko, (2002); Kuratko *et al.* (2005); Osman *et al.* (2011), entrepreneurs are innovators. So, social entrepreneurs are innovators who create systemic change in domains of social value creation such as education, the environment, trade, health and banking. According to Drayton, cut across the disciplinary and organizational boundaries the most important innovations is to solve old problems. Social entrepreneurs create social value and do social welfare throughout a continuous process of innovation and bring to light new ideas about the social benefit without the personal one. According to Trexler (2008), Social entrepreneurs are society's change agent and a pioneer of innovation that benefits humanity.

Resource leveraging explains the recognition of resources that are used nonconventional way or utilized optimally and also ensure the control over the resources. SB is a kind of business which is viewed as a process of creating value by combining resources in new or innovative ways. These resource leveraging, explore and exploit opportunities to create social value by stimulating social change (Alvord *et al.*, 2004) or meeting social needs. Social entrepreneurs must create novel business structures and unique strategies for resource leveraging between very limited, unequal and often dynamic resources to create social value (Seelos and Mair, 2005) as the invested resources are scarcer for the SB than the general business enterprises. So, SB organizations are required to be more strategic and efficient for using resources to get the maximum social benefit. Subsequently, the proper resource leveraging is crucial for achieving SB Efficiency.

Hence, this study is trying to describe SB as a stable, non-loss, non-dividend providing but profit making business which is ruled from the investment of underprivileged people of the society or compassionate individuals of the society. This in turn, aimed at social benefits like education, health, environment or whatever problems are needed to address for the advancement of society and rich peoples or compassionate persons of the society will achieve satisfaction from it whereas underprivileged peoples can gain some indirect benefits.

MATERIALS AND METHODS

This study followed the generally accepted guidelines and phases outlined in instrument development literature (DeVellis, 2003; Hinkin, 1995). Thus, Churchill's (1979) and DeVellis (2003) multi-phased protocol followed for developing a multivariate measurement instrument for Social Business Efficiency (SBE) constructs and Gerbing and Anderson (1988)'s guidelines for establishing measurement reliabilities (Table 1 for the protocol used in developing the instruments for measuring the SB Efficiency).

As Bangladesh is still a developing a country, the society expect various social support to fulfill their needs or demands. In this regard, Yunus started explaining the poverty tumbling way through the SB. Consequently, researchers performed this research in the various division of Bangladesh to develop the instrument for measuring SB Efficiency. In the phases of the research process, researchers took into consideration and involved representatives of the different groups of the society. This will be discussed more in detail when to explain the stage 2 (focus group discussion) of this research process.

In this research, researchers are wanted to depth discussion on the overall efficiency of different SB in the

Table 1: Overview of the stages of the instrument development process

Preliminary study: item generation for the instrument	Preliminary item generation for the instrument
	Create operational definitions for the five SBE dimensions
	Items drawn from definition given by Yunus (2007) and relevant SB literature
	An initial pool of 25 items generated by the researchers of this study
Focus group discussion	Focus group discussion
	Check relevance and completeness of selected SB efficiency domains
	Check relevance and completeness of selected SB efficiency indicators
Delphi panel and pretest	Content validity assessment
	Expert' comments, expert opinion and expert validation
	Reduced the pool to 15 items through a substantive validity test
	15 items pretested by local social business management staff to refine wording and ensure clarity
Survey instrument development and administration	Instrument development and administration
	Develop a survey instrument to assess SB efficiency on the retained indicators
Pilot study: construct validation assessment	Construct validation assessment
	Sample collected from all over the country (Bangladesh)
	Pilot survey data was collected from 100 Bangladeshi social businesses
	Exploratory Factor Analysis (EFA) to determine items dimensionality and Cronbach Alpha to determine internal consistency
Main study: validation of the instrument	Validation assessment
	Confirmatory Factor Analysis (CFA) procedure in SEM to ensure constructs validity, convergent validity and discriminant validity
	Develop Discriminant Validity Index Summary to assess discriminant validity among constructs
	Compute Average Variance Extracted (AVE) and Composite Reliability (CR) for assessing construct reliability
	SEM structural model to confirm nomological validity

first focus group session and second session; they considered the view of management staff involved in the management of a SB. In the first focus group session, ten management staff of different SB were involved and in the second focus group, three representatives from the SB organization, five researchers and two civil servants of the Bangladesh government were involved.

Establishing two focus groups discussion involving 20 key items with a different background researchers gain the opportunity to go insight into different perspectives of measuring the efficiency of the SB. Particularly, researchers try to know from the participants whether the five SB Efficiency dimensions and the 20 items selected in stage 1 are suitable for assessing the SB Efficiency or there were items or indicators missing. As a result of the focus groups discussion five more indicators were added, resulting 25 items selected and approved in this stage of instrument development.

Generally, focus groups discussion is not anonymous and potentially making people less outspoken (Cowton and Downs, 2015; Bruggen and Willems, 2009). To overcome these disadvantages of focus groups discussion, the researchers of this study used the Delphi technique to reach a consensus on the dimensions and items and also do the pre-test. According to Worrell *et al.* (2013), the Delphi technique covers a structured and iterative process in which subject matter experts share their anonymous opinion during subsequent rounds. Specifically, this Delphi panel includes ten (10) panelists with different backgrounds: managers of SB and experts on SB (academics, government officials) and as such

having an acute attention to SB Efficiency. By organizing their opinions after each round, the researchers pursue consensus within the panel of experts (Schmidt, 1997; Rowe *et al.*, 2005; Heiko, 2012). The required consensus was achieved after two rounds which resulted in the exclusion of 10 items and the selection of 15 items. Table 2 gives an overview of the removed and accepted items. As pre-test is crucial and is often recommended by scholars to identify problems that might likely be encountered of item discrimination, internal consistency, response rates and parameter estimation in general. So, for the purpose of testing the newly developed instrument quality, primarily 20 respondents were selected in pre-test who have expertise in questionnaire development and customization as recommended by Hertzog (2008). Accordingly, the instrument was developed and used based on the recommendations of the experts.

Survey instrument development and administration: The above 15 selected items were used for the development of this instrument. Questionnaires are the most commonly used method of data collection in field research (Hinkin,1998). In the next section (i.e., pilot study), the developed items and the instrument will be used to measure the efficiency of a SB. Given the purpose of developing a measurement instrument suitable for a broad range of SB, the questionnaire were distributed to the management staffs of 395 SB in Bangladesh through postal mail service.

For the respondents to clearly understand the research instrument, in this study the instrument was first

Table 2: Operational definitions and items of the five dimensions of SB efficiency

SB efficiency dimensions	Operational definition andItems of the five dimensions of SB efficiency	According to focus group	According to Delphi Panel
Social value creation	Our social business creates value for society through social service	X	X
Creation of unique combinations of resources to produce value	Our social business's pricing structure is designed to reflect value created for society	X	
	Our social business's pricing structure is appropriate to create value to the peoples	X	
	Our social business integrates functions to provide better serve to the targeted social needs	X	X
	Our social business's driving force is the value creation behind its operation	X	X
Social welfare			
Social welfare means organizing social services for assistance of disadvantaged groups of the society	Our social business looks beyond current underprivileged people for more welfare for our society	X	X
	Our social business looks beyond current markets for more opportunities of social business	X	
	Our social business would characterize as social welfare driven	X	
	Our social business integrates functions to do social services for minimizing social needs	X	X
	Our social business's driving force is the social welfare behind its operation	X	X
Satisfaction			
Satisfaction is the act of fulfilling or minimizing needs, desires, or appetite, which ropes to feel gained from such fulfillment	Our social business minimizing the social needs for achieving organizational satisfaction	X	
	Our social business trying to maximize the social welfare for achieving organizational satisfaction	X	X
	Our social business minimizing the social needs for achieving investors satisfaction	X	
	Our social business trying to maximize the social welfare for achieving investors satisfaction	X	X
	Our social business's main driving force is the satisfaction behind its operation	X	X
Innovativeness			
Innovation involves with an ability of an organizational to generate new ideas that are possible to translate into new products, services or markets	Our social business tries to use innovative approaches for getting the social job done more efficiently	X	X
	Our social business tends to be more innovative for making profit	X	
	Our business enterprise creates an atmosphere that encourages innovativeness	X	
	Our social business's motive is to be more innovative for sustainability	X	X
	Our social business's driving force is the innovativeness behind its operation	X	
Resource leveraging			
Resource leveraging explains the recognition of resources that are used nonconventional way or utilized optimally and also ensure the control over the resources	Our social business able to leverage resources by nonconventional way	X	X
	Our social business has always found a way to get resources need to social job done	X	
	Our social business able to leverage resources by sharing among other social business organization	X	
	Our social business's pride is doing more social works with less resources	X	X
	Our social business's driving force is the resource leveraging behind its operation	X	X

prepared in English language and later translated into Bangoli language. In translating the survey instruments into Bangoli language, guidelines suggested by Maxwell (1996) were followed. The guidelines suggest three processes which include forward translation, back-translation and translation review by a bilingual expert. First, the credentials of the translator were considered, having expertise in translation and background in bilingual education which comprises of English and Bangoli language. The bilingual expert was requested to participate in the translation process first from the English language to Bangoli language and back to the English language. Additionally, a different bilingual expert was invited to evaluate the accuracy and improve the reliability of the translation to ensure semantic equivalence.

After a period of intensive follow-up (through telephone), a total of 103 managers completed the survey, yielding a response rate of 26.07%. After removing incomplete surveys, our results are based on the responses from management staff of 100 organizations. The age of the organization in our sample varies between 2 and seven years old. The employees range from 1 to 250 with an average of 12 employees. A total of 93% of the organizations is small organization with < 50 employees. EFA plays a vital role in this study to examine the

Table 3: KMO and Bartlett's test for the items of EM construct

Bartlett's test of sphericity	Values
Kaiser-Meyer-Olkin measure of sampling adequacy	0.889
Approx. Chi-square	4510.297
df	439.000
Sig.	0.000

Table 4: Total variance explained for EM construct

Total variance explained

Initial eigenvalues			Extraction sums of squared loadings			Rotation sums of squared loadings		
Total	Variance (%)	Cumulative (%)	Total	Variance (%)	Cumulative (%)	Total	Variance (%)	Cumulative (%)
4.260	28.399	28.399	4.260	28.399	28.399	2.797	18.646	18.646
3.279	21.861	50.261	3.279	21.861	50.261	2.793	18.619	37.265
2.460	16.401	66.662	2.460	16.401	66.662	2.762	18.414	55.679
1.953	13.021	79.682	1.953	13.021	79.682	2.729	18.195	73.874
1.530	10.197	89.880	1.530	10.197	89.880	2.401	16.005	89.880

interrelationships among the items of five dimensions of SB efficiency which are used to reveal the clusters of items that have the adequate ordinary variation to justify their grouping together as a factor. In significance, this process compresses a group of items into a smaller set of combination factors with a minimum loss of information and hence laid the foundation of structural equation modelling (Hair *et al.*, 2006, 1998, 2010). In this study, Kiser-Meyer-Olkin and Bartlett's test of sphericity were used to measure sampling adequacy that is recommended to cheek the case to variable ratio for the analysis being conducted. Bartlett's test of sphericity should be significant at (p<0.05) for the factor analysis to be appropriate (Hair *et al.*, 2010). The KMO ranges from 0-1 but the generally acceptable index is over 0.6 (Awang, 2014, 2015). Total variance explained was also examined as an extraction process of items to reduce them into a manageable number before further analysis. In this process, items with eigenvalues exceeding 1.0 are extracted into different components (Awang, 2014; Pallant 2007). Additionally, rotated component matrix was examined and only items with a factor loading above 0.6 were retained for further analysis (Awang, 2014, 2012). Nevertheless, in the process of the Exploratory Factor Analysis (EFA), Reliability Analysis for the measuring items was conducted and only items with a Cronbach's Alpha of 0.7 and above were considered. Hair *et al.* (2006, 2010) and Awang (2010, 2014) suggested that a Cronbach's Alpha of 0.60 or higher provides a reliable measure of internal consistency, whereas a score of 0.70 reveals that the instrument possesses a high-reliability standard.

Exploratory Factor Analysis (EFA): To determine the underlying dimensions or items of the SB Efficiency construct and also to validate the quality of the instrument, a pilot study was conducted using one

hundred (100) respondents. There were five dimensions and 15 newly developed items for the SB efficiency construct of this study. Among fifteen items of SB Efficience construct, three items belong to social value creation dimension, three items belong to social welfare dimension, three items belong to satisfaction dimension, three items belong to innovation dimension and three items belong to Resource Leveraging dimension. The result of the pilot study is therefore presented in Table 3 as follows:

Kiser-Meyer-Olkin (KMO) and Bartlett's test of Sphericity was used to measure sampling adequacy that is recommended to check the case to variable ratio for the analysis being conducted. KMO and Bartlett's test play a significant role for sample adequacy especially in academic and business studies. The KMO ranges from 0 -1 but the general acceptance index is 0.6 and above. In Table 3, the KMO value of 0.889 is excellent as it exceeds the recommended value of 0.6. Additionally, the Bartlett's Test of Sphericity is of paramount importance to the study and thereby shows the validity and suitability of the responses collected to the problem being addressed through the study. Therefore, the significance value of Bartlett's Test of Sphericity must be less than 0.05 for the factor analysis to be acceptable. The significance value of Bartlett's Test in Table 3 is 0.000 which meet the required significance value of less than 0.05 (Awang, 2010, 2014). Therefore, KMO value close to 1.0 and Bartlett's test significance value close to 0.0 suggest that that data is adequate and appropriate to procced further with the reduction procedure (Awang, 2010, 2014).

Total variance explained is an extraction process of items to reduce them into a manageable number of components before further analysis. In this process, components with eigenvalues exceeding 1.0 are extracted into different components (Pallant, 2007; Awang, 2010; 2014). As can be seen in Table 4, the output reveals that

Table 5: Rotated component matrix of SB efficiency construct

Item code	Component				
	1	2	3	4	5
T1	0.892	-	-	-	-
T2	0.969	-	-	-	-
T3	0.965	-	-	-	-
C1	-	0.971	-	-	-
C2	-	0.968	-	-	-
C3	-	0.904	-	-	-
SV1	-	-	0.952	-	-
SV2	-	-	0.920	-	-
SV3	-	-	0.930	-	-
E1	-	-	-	0.965	-
E2	-	-	-	0.944	-
E3	-	-	-	0.872	-
R1	-	-	-	-	0.839
R2	-	-	-	-	0.875
R3	-	-	-	-	0.924

Extraction method: principal component analysis. Rotation method: varimax with kaiser normalization

Table 6: Reliability statistics for the seven component of EM construct

Component	No. of items in a component	Cronbach's alpha	Cronbach's alpha based on standardized item
Component 1	3	0.957	0.959
Component 2	3	0.955	0.957
Component 3	3	0.935	0.944
Component 4	3	0.956	0.956
Component 5	3	0.871	0.871

the EFA has extracted five components of SB efficiency construct with eigenvalue 4.260 for component number 1, 3.279 for component number 2, 2.460 for component number 3, 1.953 for component number 4 and 1.530 for component number 5 respectively. This indicates that the items are grouped into five distinct components and would be considered for further analysis. The above table also shows that total variance explained is 89.880%.

The results in Table 5 show that the EFA procedure has extracted five components. Each component has certain number of items with their respective factor loading. In this study, only item having factor loading above 0.6 will be retained since it indicates the usefulness of items in measuring the particular construct (Awang, 2010; Salkind 2010). As a result, the rotated component matrix shows that all 15 items having factor loading value above 0.6. Therefore, all 15 items will be considered for further analysis fewer than five dimensions of SB efficiency construct.

Reliability analysis for the measuring items: Reliability analysis is a technique used to assess the measuring items under each construct and evaluate the degree to which they are error-free. The well-known value of Cronbach's alpha is used to measure the reliability of items. Nevertheless, several authors differ on the acceptance value of Cronbach's alpha as an indicator of internal consistency of items. Burns and Burns (2008) suggest a Cronbach's alpha of more than 0.5 for valid internal consistency reliability. Nunnally and Burnstein (1997), Hair *et al.* (1994a, b) and Awang (2010, 2014) suggested that a Cronbach's Alpha of 0.6 or higher provides a reliable measure of internal consistency, while a score of 0.70 reveals that the instrument possesses a high reliability standard and is considered in this research.

As shown in Table 5, there are 3 items of component 1 which is Social Value Creation component, 3 items of component 2 which is Social Welfare, 3 items of component 3 which is Satisfaction, 3 items of component 4 which is Innovativeness and 3 items of component 5 which is Resource Leveraging of SB efficiency construct in this study. The Cronbach's Alpha for each component is computed and possesses a high reliability standard as 0.957, 0.955, 0.935, 0.956 and 0.871 for component 1, component 2, component 3, component 4 and component 5 respectively. Thus, the results show that all reliability measures for the five components of SB efficiency construct has exceeded the required value of 0.6. As a result, the extracted component with their respective items as shown in Table 6 are reliable and appropriate to measure the SB efficiency construct. Therefore, the study could employ those items for data collection in the field study.

Validation of the SB efficiency instrument: Convergent and Discriminant Validity were confirmed using the Confirmatory Factor Analysis (CFA) procedure and measurement model testing along with calculating the Average Variation Extracted (AVE) and Composite Reliability (CR) to demonstrate Convergent Validity and Construct Reliability respectively. Nomological validity was determined by examining the results of Structural Equation Modeling (SEM) procedure.

For the main study, the self-administered questionnaire was distributed to the management staffs of 500 randomly selected SB in Bangladesh through postal service. After intensive follow-up through telephone, a total of 390 managers completed the survey, yielding a response rate of 78.05%. After removing the incomplete surveys, 384 fully completed responses were received from management staff of different SB organizations.

RESULTS AND DISCUSSION

Respondents consisted of 76% male and 24% female of social business management staff. Their average age was 45 and the firms have been in operation for an average of 5 years. The 75% of the businesses had ten or fewer permanent employees and 22% had no employees other than themselves and nearly 62% of the respondents had a college degree.
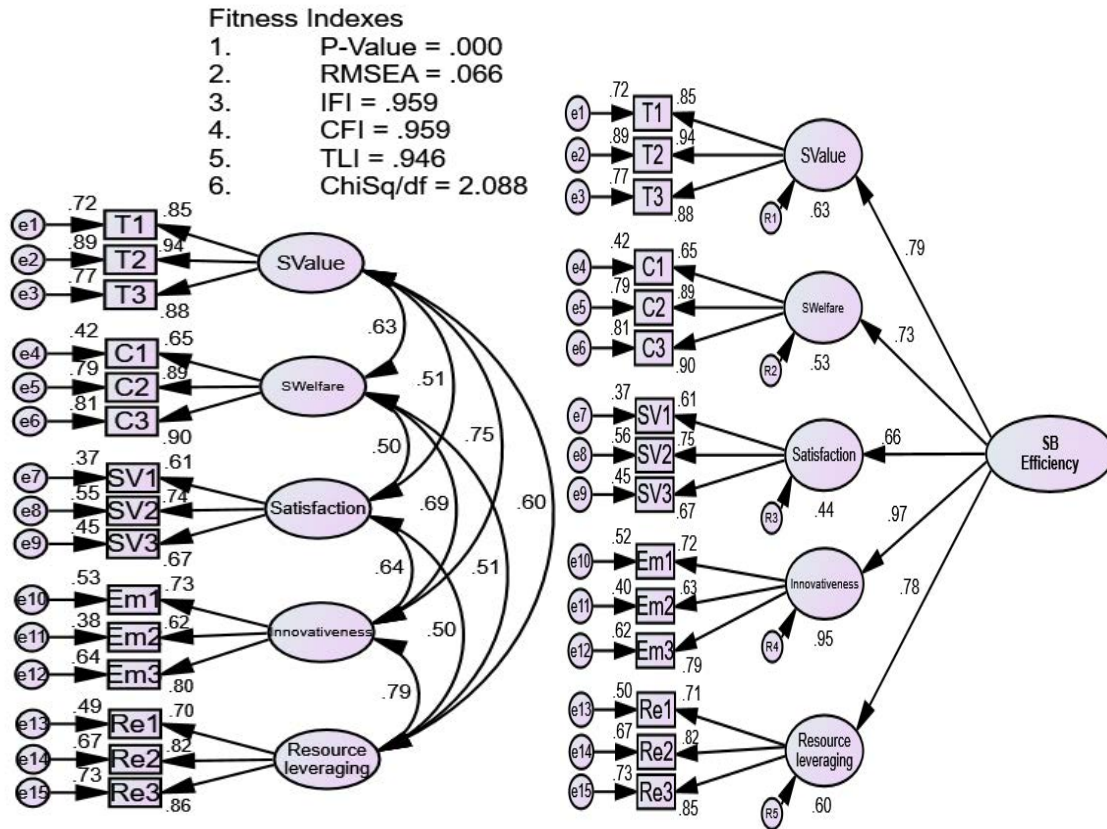
Fig. 2: The SB efficiency model-factor loading for items and their respective component

The confirmatory factor analysis for the sb efficiency items: AS shown in Fig. 2, the CFA results confirmed the 15 items comprised of five components measuring SB Efficiency. The SB Efficiency scale indicated good Fitness Indexes (ChiSq/df = 2.088, CFI = 0.959, IFI =0 .959, TLI = 0.946, RMSEA = 0.066). The Fitness Indexes obtained have achieved the required level for Construct Validity (Awang, 2014, 2015). The Cronbach's α values for the five dimensions exceeded the minimum acceptable level of .70 recommended by Nunnally and Bernstein (1994a, b) and Awang (2010, 2014) which reflect the internal validity or internal consistency indicating the items measuring the same construct are holding together very well.

The CFA loading of each item with its intended components was examined to assess convergent validity. All factor loadings, ranging from 0.61-0.94, exceeded the suggested cut-off of 0.50 (Nunnally and Bernstein, 1994a, b). All items were statistically significant (p<0.001) which supports the convergent validity of SB efficiency scale.

The discriminant validity was also assessed through the examination of the correlations between the constructs. For the five dimensions defining SB Efficiency, the correlations ranged from 0.50-0.79 which were below Kline (1998)'s and Awang (2015) criterion of r<0.85 to determine discriminant validity. Discriminant validity was also considered satisfactory by calculating the square root of the Average Variance Extracted (AVE) for each SB components and comparing it against the correlation between that particular component and correlation with other components within the SB Efficiency construct. All AVE values were greater than the threshold value of 0.50 (Fornell and Larcker, 1981; Awang, 2015).

Having established the validity and reliability of the measurement model, the nomological validity was determined by testing the structural model. Results yielded acceptable model fit (ChiSq/df = 1.852, CFI = .952, IFI = 0.952, TLI = 0.942, RMSEA = 0.058). In the model, the statistically significant paths were found in each path and the path coefficients ranged between 0.60 and 0.96 which supports the nomological validity of the SB Efficiency scale.

Therefore, the present study contributes to the advancement of research on SB Efficiency, particularly in the context of SME. These businesses face many

challenges about marketing due to numerous constraints (Huang and Brown, 1999) that push them to find unconventional and innovative marketing efforts (Bjerke and Hultman, 2002; Hills *et al.*, 2008). Drawing on Yunus and other relevant literature, this study has successfully established the components of SB Efficiency (i.e., social value creation, social welfare, satisfaction, innovativeness and resource leveraging). Moreover, it is also clear that SB efficiency is a multi-dimensional construct.

CONCLUSION

This study has confirmed the validity and reliability of the new SB Efficiency instruments. Construct Validity, Convergent Validity and Discriminant Validity were confirmed with the procedure in both EFA and CFA. The Cronbach's α value ranged from 0.87-0.95. Nomological validity was confirmed using Structural Equation Modeling (SEM) procedure. As posited, the study found significant relationships between the antecedent, SB Efficiency and all of its components which support the Nomological validity of the new SB efficiency scale. The same processes for testing reliability and validity were performed and confirmed with a national sample of SB management staffs. The nomological validity of the SB efficiency scale was confirmed; all SEM model path coefficients were statistically significant. Finally, the instrument development processes and the validation procedures for all constructs in the present study have ensured that the new tool for SB efficiency is internally consistent, multi-dimensional and stable across samples. Thus, the developed SB efficiency instruments would help future researchers to minimize the gap of quantitative analysis on the SB concept.

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