

Assessment Tool for Social Responsibility Performance According to the ISO 26000

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Abstract—The present paper is concerned with a statistical approach involving latent and manifest variables applied in order to assess the organization's social responsibility performance. The main idea is to develop an assessment tool and a measurement of the Social Responsibility Performance, enabling the company to characterize her performance regarding to the ISO 26000 standard's seven core subjects. For this, we conceptualize a structural equation modeling (SEM) which describes various causal connections between the Social Responsibility's components. The SEM's resolution is based on the Partial Least squares (PLS) method and the implementation is running in the XLSTAT software.

Keywords—Corporate social responsibility, latent and manifest variable, partial least squares, structural equation model.

I. INTRODUCTION

SEM has been widely used in several social and economic sciences' fields, as a practical statistical model able to assess concepts that involve latent parameters; there is a rich literature concerned with SEM models applied in many disciplines such as marketing [6], information system, Business excellence [7] and corporate social responsibility [8].

Social Responsibility (also known as corporate social responsibility) is an integral component of the company's operations, or organizations, whereby it voluntarily contributes to society in terms of economic, environmental, ethical and social investment. Organizations should measure these components in order to produce a positive and suitable impact for both society and the organization, about the different stakeholders' expectations. For this, social responsibility is considered as a dynamic and complex concept connecting various latent elements that should be measured by observed variables.

In the present paper, our objective is presenting a SEM using PLS approach, which enables a company to measure its SR performance index as the result of the different actions in the SR's seven core questions described in the ISO26000 standard.

By a holistic and interdependent approach, the main idea is to construct a performance index based on the evaluation of seven dimensions: Organizational governance index, Human Rights index, Labour practices index, the environment index,

Fair operating practices index, Consumer issues index and community involvement and development.

II. ABOUT SEM

SEM is based on measurement and structural model [8]. Throughout the literature, it is shown that SEM provides a convenient framework to assess complex phenomenon, where it is difficult to determine causation between latent interdependent factors, as customer satisfaction and loyalty [3], [5], health and environmental risk assessment on society [15], serious games on knowledge management [1], corporate social responsibility in a global economy [8], [9]. In such systems, the SEM model is used to represent causal relationships among the latent variables. To estimate the strength of these causal connections, it is necessary for each latent variable to be explained by a manifest (observed) variables [9]. In practice, these manifest variables are measured by using measurement instruments such as survey, questionnaire [2]. In Fig. 1, we represent a path diagram illustrating a SEM.

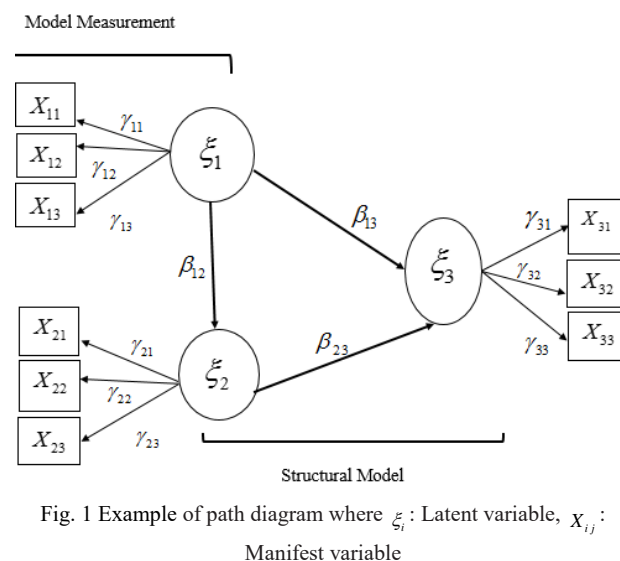


Fig. 1 Example of path diagram where ξ_i : Latent variable, X_{ij} :

Manifest variable

The path diagram is composed from two connected sub models; the structural and the measurement models. Structural model shows the different causal connections between latent variables through structural coefficients β_{ij} ; (β_{ij} represents the connection from ξ_i to ξ_j). As for the measurement model, each latent variable ξ_i is explained by several manifest

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variables X_{ij} through outer coefficient γ_{ij} . The outer and structural coefficients are computed using multiple linear regression techniques. The purpose of the SEM approach is to test the postulated causal relationship and the structural model's goodness of fit. There are two approaches for estimating SEM, which are the best known: The Linear Structural Relations method (LISREL) developed by Jöreskog [10] and the PLS developed by Wold [11]. The PLS method is suitably adapted to the SEM performance models [3], [5], [7]. Suitable for forecast realizations, the PLS method evaluates the latent variables as linear combinations of the manifest ones; it estimates simultaneously the weights (inner and outer coefficients) associated to the SEM Model. These weights are calculated in a way that maximize the model's goodness of fit, and thus the ability to explain the ultimate endogenous latent variable.

A. Using Formative Measures

A SEM can be specified as either reflective or formative measurement model depending on the expected objectives [16]. The reflective measurement model assumes that the indicators (observed variables) are caused by the constructs (latent variables); as for a formative measurement model, indicators are considered to be the cause of an emergent construct as relevant dimensions, independent and not necessarily correlated.

The formative measurement model is suitable for our SR model, since each core subject, according to the ISO 26000, is declined in several relevant issues which constitute formative indicators.

B. Why Is PLS Useful for the Estimation of SEM?

There are the two primary techniques for estimating SEM: Covariance-SEM (CB-SEM) [5], [10] and PLS SEM [11]. The PLS approach has been increasingly disseminated in a variety of disciplines as strategic management [13], marketing [14] and management information systems disciplines.

According to Hulland [14], the PLS approach is most appropriate for analysis exploratory especially with small samples, which seems to be convenient in our modeling context.

III. SOCIAL RESPONSIBILITY PERFORMANCE INDEX MODEL

A. ISO 26000 Standard: A Quick Survey

Published in 2010, the guideline ISO 26000 [12] is considered as an international framework that defines the SR as the responsibility of an organization for the impacts of its decisions and activities of society and environment according as more as possible to the stakeholders expectations.

The ISO26000 guidelines are conceptualized around the following social responsibility principles:

1. **Accountability:** Organizations should take responsibility for any impacted societies and environments, including the significant consequences caused by intentional or unintentional decisions and activities of the organization. They should do the same for the interested parties that are

significantly impacted by the decisions and actions of the organization.

2. **Transparency:** Organizations should be transparent about their decisions and activities that may impact on others.
3. **Ethical Behaviour:** Organizations should act with morality, including integrity, honesty and justice.
4. **Respect Stakeholder:** Organizations should respect and focus on the benefits of stakeholders.
5. **Respect Rule of Law:** Organizations should respect legal regulations.
6. **Respect International Norms:** Organizations should respect related international norms that will contribute to the benefits of continuous development and social welfare.
7. **Respect Human Rights:** Organizations should recognize the importance of human rights.

The formulation of the ISO 26000 considers not only the corporate relations with society, environment, laws, cultures and politics but also the diversity of organizational policies as well as differences in economic conditions. As the ISO 26000 conforms to regulations of international conduct, it is judged to be a set of reference standards for CSR that have been thoroughly considered in all aspects. However, the ISO 26000 is not a management standard, nor is it a new standard especially established for corporations to obtain certification, contracts or supervision.

The ISO 26000 standard is guidelines when corporations intend to engage in CSR to define the scope of its social responsibility, identify relevant issues and set priorities, an organization should address the following seven core subjects [12]: Organizational Governance, Human Rights, Labour Practices, The Environment, Fair Operating Practices, Consumer Issues, and Community Involvement and Development, as illustrated by Fig. 2 [12].

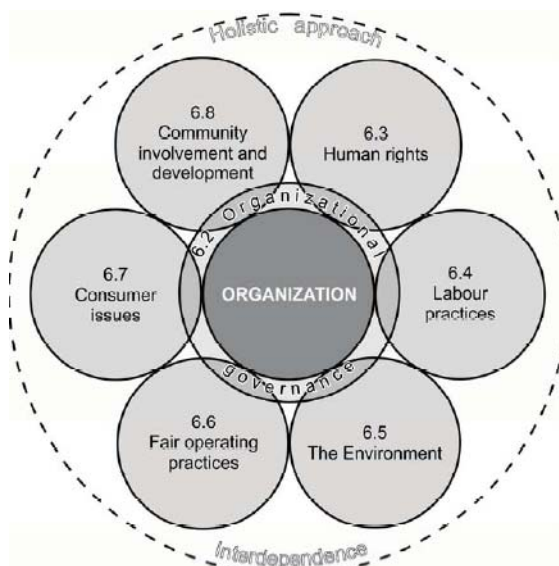


Fig. 2 The seven core subjects according ISO26000

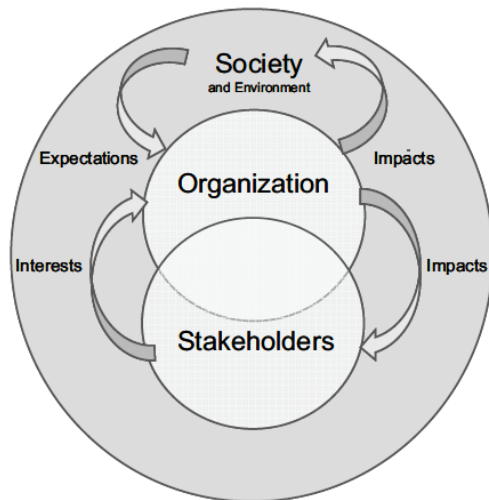


Fig. 3 Relationship between an organization, its stakeholders and society according ISO26000

According to the SR principles mentioned above, actions upon these core subjects should be based on two fundamental practices: The recognition by the organization of its social responsibility by identifying the relevant issues and actions corresponding to the core subjects, and the identification and the dialogue with its stakeholders. In this context, companies need a framework to assess their SR practices and actions, regarding to the stakeholder's expectations. The final objective is to develop a social responsibility performance index helping an organization to measure its CSR

commitments in each core subject and to be aware of which of them needs more improvements.

B. The Model Foundations

Under all these considerations, the main idea of our model is to introduce a Social Responsibility Performance Index (SRPI) as a global evaluation, realized by the stakeholders, about the commitment and the actions of a company regarding the seven core social responsibility subjects. In our approach, SEM is used to test postulated causal connections between the seven core subjects and the SRPI.

The foundations of our model are as follows:

- Each core subject is a latent variable interconnecting with the other latent variables
- Each core subject, but not necessarily each field of action (issue), has a certain degree of relevance
- Each latent variable is explained by a set of manifest variables (measurement items) that are measured by a questionnaire intended for a representative sample of stakeholders
- According to ISO 26000 guidelines, although all the core subjects (latent variables) are interrelated and complementary, the "Organizational Governance has the special characteristic of being both a core subject on which an organization should act and a means of increasing the organization's ability to behave in a socially responsible manner with regard to the other core subjects" [12]. Then the Social Responsibility Performance Index based on a structural equation model can be described by Fig. 4.

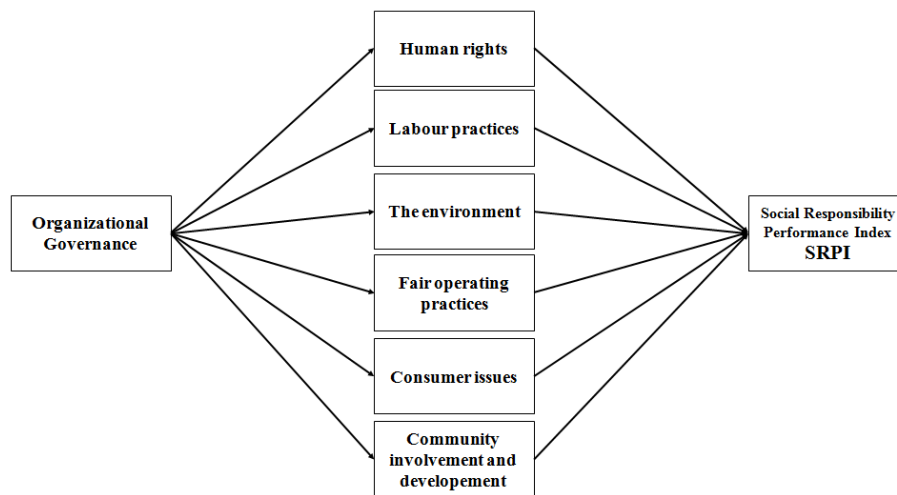


Fig. 4 SRPI Model

As shown in Fig. 4, the SRPI model is illustrating the following hypothesis:

- An organization should look at the Social Responsibility strategy holistically so as it considers all core subjects and issues and their interdependence.
- According to ISO 26000 "The organizational governance variable has the special characteristic of being both a core

subject on which organizations should act and a means of increasing the organisation's ability to behave in a socially responsible manner with regard to the other core subjects" [12]: For this Organization Governance is considered as the exogenous variable of the model.

- The SRPI is the ultimate endogenous variable; it reflects the simultaneous effect of all the relationships estimated in the model between the core subjects and their issues.

C. Methodology Adopted

Manifest variables have a fundamental role to measure social responsibility performance; they are a basic input of the SEM model and considered as indicators of the latent variables. More precisely, the manifest variables are the scores given by respondents as part of the questionnaire survey realized in [8]. Moreover, we assume some standard statistical hypotheses related to SEM [7], [8], [15]:

- The manifest variables are independent
- Respondents sampling is random and representative

- The minimum sample size required is between 30 and 100
- All the relationships are linear (Multilinear Regression)
- Multivariate Normality of distribution
- No flattening and no asymmetry

An Appropriate scale interval is defined (from 1 to 10) for all the respondents' scores.

As mentioned before, we have developed a questionnaire survey intended for a random sample respondents considered by the organization as a representative stakeholders sampling. Each latent variable is associated with a series of questions to measure the degree of relevance about the core subject. Fig. 5 illustrates our methodology.

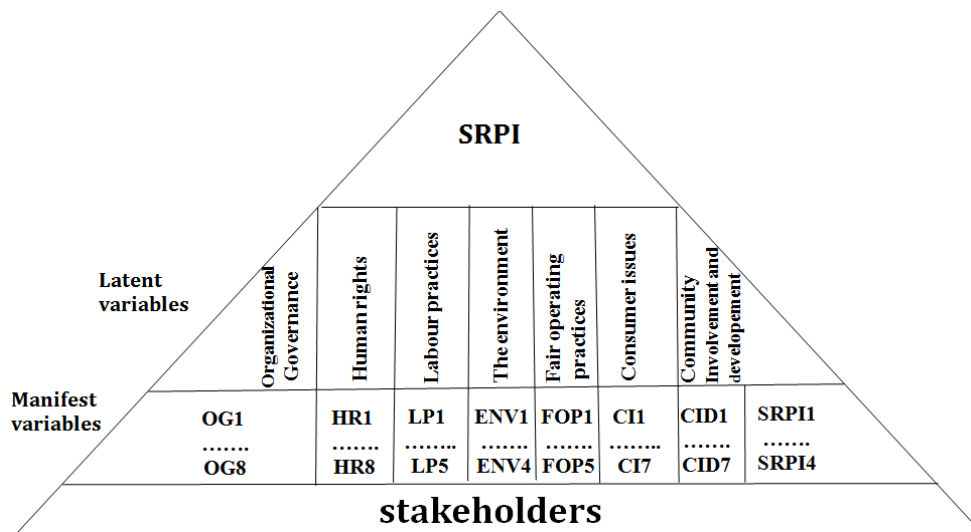


Fig. 5 Methodology Adopted

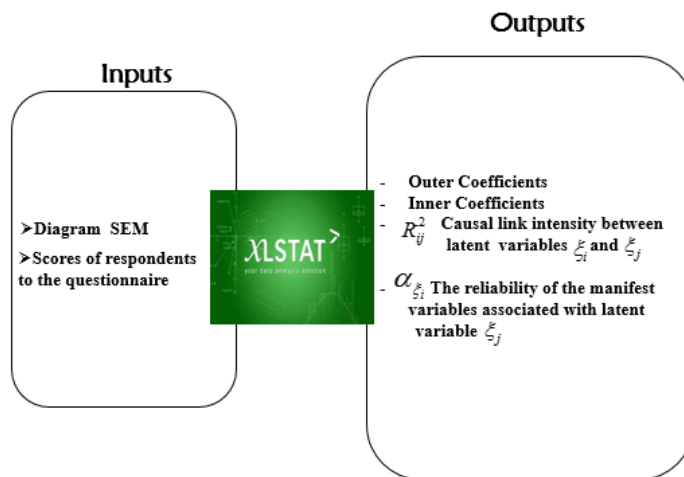


Fig. 6 Inputs and Outputs of the XLSTAT software

IV. IMPLEMENTATION OF THE SRPI MODEL

The PLS is a powerful method of analysis because of the minimal demands on measurement scales [17].

The implementation step is very crucial to facilitate the use of the model, and make an effective decision tool, accessible to decision makers and managers without necessarily mathematical or statistical prerequisites. For this, we use the

XLSTAT software [4], which is a statistical software for processing and analysing data. Operating in the Microsoft EXCEL environment, it allows estimating the following parameters:

- Outer and inner coefficients
- Inner R-squares R_{ij}^2 , the causal link intensity between latent variable ξ_i and ξ_j
- α_{ξ_i} Reliability of the manifest variables associated to the latent variable ξ_i

Inspired by the work of Formel et al. [3] about the American customer satisfaction index, we can compute an index I corresponding to each core subject and the Social responsibility performance Index, by [3]:

$$I = \frac{\sum_{i=1}^n w_i \bar{x}_i - \sum_{i=1}^n w_i}{(N-1) \sum_{i=1}^n w_i} \times 100$$

where \bar{x}_i : Arithmetic average of manifest variables, n: Number of manifest variables, w_i : Outer coefficient (weight), N: Number of points on the scale. Hence, the global CSR performance is measured by the SRPI such that:

$$0\% \leq SRPI \leq 100\%$$

V. CONCLUSIONS

The present work developed a SEM with the objective to assess the social responsibility performance, regarding the guidelines of the ISO 26000. Based on the principles and considerations of this norm, we present a Social Responsibility model enabling a company to evaluate its Social Responsibility commitment and actions, with the support of its stakeholders.

Once the model is stated, our next step is to run its implementation for a corporation, by using the XLSTAT [4] Software. This requires the following steps:

- Making on line the survey questionnaire;
- Identifying the stakeholders cartography of the company ;
- Selecting a random sample of respondents and collecting their scores (manifest variables)
- Introducing the data collected in the XLSTAT Software;
- Running the corresponding program files to obtain the parameters and the scores of the SRPI model;

REFERENCES

- [1] Bayart, S. Berteze, and D. Vallat "Les serious games: des leviers en faveur du knowledge management," 2013.
- [2] C. Fornell, D.F. Larcker. "Evaluating structural equation models with unobservable variables and measurement error", Journal of Marketing Research, Vol.18, N°1, pp.39-50, 1981.
- [3] C. Fornell, M. Johnson, and E. Anderson, "The American customer satisfaction index: nature, purpose, and findings," J. Mark., vol. 60, no. October, pp. 7-18, 1996.
- [4] Data analysis XLSTAT software, <https://www.xlstat.com/fr>.
- [5] E. Jakobowicz, Thèse: "Contributions aux modèles d'équations structurelles à variables latentes," pp. 1-204, 2007.
- [6] G. Joreskog and D. A. G. Sorbom. "Recent Developments in Structural Equation Modeling": Journal of Marketing Research, Vol. 19, No. 4, Special Issue on Causal Modeling, pp. 404-416, 1982.
- [7] G. K. Kanji and W. Wallace "Business excellence through customer satisfaction," Total Qual. Manag., vol. 11, no. 7, pp. 979-998, 2000.
- [8] G. K. Kanji and P. K. Chopra "Corporate social responsibility in a globaleconomy," Total Qual. Manag. Bus. Excell. vol. 21, no. 2, pp. 119-143, 2010.
- [9] G. Giannarakis, D. Galani, C. Georgia, and N. Litinas, "The weight of Corporate Social Responsibility indicators in measurement procedure," World Acad. Sci. Eng. Technol., vol. 4, no. 6, pp. 341-349, 2010.
- [10] G. Joreskog. "Structural analysis of covariance and correlation matrices," Psychometrika, vol. 43, no. 4, pp. 443-477, 1978.
- [11] H. Wold "Partial least squares," Encycl. Stat. Sci., no. 2, pp. 581-591, path modeling in accounting research," Int. J. Account. Inf. Syst., vol. 12, no. 4, pp. 305-328, 1985.
- [12] ISO 26000 Guidelines Corporate Social Responsibility. Geneva, ISO, 127p, 2010.
- [13] J. F. Hair, C. M. Ringle, and M. Sarstedt, "Partial Least Squares: The Better Approach to Structural Equation Modeling?," Long Range Plann., vol. 45, no. 5-6, pp. 312-319, 2012.
- [14] J. Hulland "Use of partial least squares (PLS) in strategic management research: A review of four recent studies," Strateg. Manag. J., vol. 20, no. 2, pp. 195-204, 1999.
- [15] P. K. Chopra and G. K. Kanji, "Environmental health: Assessing risks to society," Total Qual. Manag. Bus. Excell. vol. 22, no. 4, pp. 461-489, 2011.
- [16] W. W. Chin, "The partial least squares approach to structural equation modeling," Mod. Methods Bus. Res., no. October, pp. 295-336, 1998.
- [17] W. W. Chin, "Structural Equation Modeling Analysis with Small Samples Using Partial Least Squares," 1999.