Metrics Development for Measuring Virtual University Social Responsibility

Azam Esfijani/PhD student  
Digital Ecosystems and Business Intelligence Institute  
Curtin University  
Perth, Western Australia  
azam.esfijani@postgrad.curtin.edu.au

Elizabeth Chang/Professor of IT  
Digital Ecosystems and Business Intelligence Institute  
Curtin University  
Perth, Western Australia  
elizabeth.chang@cbs.curtin.edu.au

Abstract—Online learning systems in general and virtual universities in particular received considerable attention and had an increasing growth through two last decades. However, the acceptance and enough support from stakeholders sounds to be the main challenges of this kind of educational systems. Regarding this issue, the recent study is aimed to propose and validate a methodology for measuring social responsibility of virtual universities, by which higher education systems would be able to evaluate how each virtual university is responsible to its stakeholders and it can provide a useful scale to be used for ranking of this higher education institutions. The factors that comprise university social responsibility are inherently fuzzy and subjective in nature; therefore, in this research we propose to make use of Fuzzy Logic for measuring and quantifying this concept. Additionally in this research, based on the identified factors, we will develop ontological manifestations of social responsibility of virtual universities.

Keywords; virtual university; social responsibility; metrics; ontology; fuzzy logic

I. INTRODUCTION

Online learning systems in general and virtual universities in particular received considerable attention and had an increasing growth through two last decades. However, the acceptance and enough support from stakeholders sounds to be the main challenges of this kind of educational systems [1]. Despite the ability of these educational institutions in overcoming the barriers of time and place; receiving enough trust from students and also employers has appeared as a critical issue with them [2], [3].

The growing request for social responsibility in higher education systems results in a considerable attention to different approaches and methods for defining, benchmarking and evaluating the university contributions to improve the quality of life of its society which is called University Social Responsibility (USR). A variety of terms have been used by scholars and practitioners to identify the quality and quantity of such a contribution. USR and University Community Engagement (UCE) are the most common terms in this literature. While the UCE emphasizes on serving society and citizens through trinity of missions (i.e. teaching, research and service) [4]; USR highlights the ethical aspects of university performance and procedures [5], [6]. In online education literature, however, there is no evidence of USR measurement or even identification. While having a validated measurement approach for USR can assist a virtual university to would be able to determine its overall social responsibility score and be able to identify the area(s) in which it is not performing well. Based on this information, it may develop strategies to improve its USR score. Also implementing such a measurement mechanism in virtual education systems can provide a reliable criterion for people who want make decision to enroll in a high quality virtual university. Possessing a reasonable social responsibility score can also increase the consumer trust in the field of online education. Therefore this project is aimed to develop a virtual university social responsibility (VUSR) measurement approach through content analysis of USR literature to extract the main factors of the concept. The identified factors can be used for USR definition and evaluation in the context of virtual education. Once the methodology developed, it also can be a useful scale for ranking of virtual universities based on their contribution to provide high quality education and improving the quality of life of their society.

II. RESEARCH OBJECTIVES

The main issue that we have identified in the existing body of literature and intend to address in this research is to develop a methodological framework for measuring VUSR. Additionally, in this research we will be making use of virtual universities for validation purposes. The research objective will be addressed through the followings:

- To identify the key factors and indicators of VUSR
- To propose an ontology for the concept of VUSR
- To develop a framework for evaluating each of the identifying VUSR factors and indicators and the overall VUSR.
- Validation and verification of the developed methodology.

III. RESEARCH APPROACH

As the objective of this study is to develop a methodological framework for measuring VUSR concept,
it therefore falls under the science and engineering research domain. As Galliers mentioned [7], the approach includes three levels: 1) Conceptual level: analysing the existing body of knowledge to generate new ideas and concepts. 2) Perceptual level: modelling and developing tools and systems through designing a new method. 3) Practical level: applying the results in the real world examples to validate and verify the output. This research study will comprise the five steps in three mentioned levels:

1. Conceptual level
   1.1. Identify the knowledge gaps in the literature
2. Perceptual level
   2.1. Identifying key factors of VUSR
   2.2. Proposing an ontology for VUSR
   2.3. Developing fuzzy logic based measure for VUSR and prototype system
3. Practical level
   3.1. Verification, application and validation of the methodology

Figure 1. The proposed approach for measuring VU social responsibility

IV. RESEARCH SIGNIFICANCE

This section presents the significant contributions made by this study under two sections, namely scientific and practical significances.

A. Scientific significance

- This research is the first of its type in proposing and developing an ontology for CSR in VUs.
- This research is the first of its type in developing a reporting structure for CSR.
- This research is the first of its type in proposing a methodological framework for modelling CSR in VUs.
- This research is the first of its type in making use of fuzzy logic to measure CSR. It is important to note the factors that comprise CSR are fuzzy in nature and can be best modeled and represented by making use of fuzzy logic.

B. Practical significance

- The outcome of this research will be a methodology for assessing social responsibility in VUs. This could be useful not only for virtual universities, but more broadly in educational contexts.
- This research constitutes seminal work in the development of a methodology and metrics for measuring CSR in VUs.
- The outcome of this research can be used by VUs as a mechanism for developing positioning strategies. Based on the CSR evaluation methodology, a given VU would be able to determine its overall CSR score and be able to identify the area(s) in which it is not performing well. Based on this information, it may develop strategies to improve its CSR score.

V. CONCLUSION

The outcome of this research will be a methodology for measuring social responsibility of virtual universities. This could be useful not only for virtual universities, but more broadly in educational contexts. It can be used by VUs as a mechanism for developing positioning strategies.

REFERENCES

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