



Readiness assessment model for institutionalization of SMEs using fuzzy hybrid MCDM techniques



Özer Uygun, Tuba Canvar Kahveci*, Harun Taşkın, Beytullah Piriştine

Department of Industrial Engineering, Sakarya University, Esentepe Campus, Sertdivan, Turkey

ARTICLE INFO

Article history:

Received 3 January 2014
Received in revised form 16 June 2015
Accepted 10 July 2015
Available online 17 July 2015

Keywords:

Institutionalization
Fuzzy DEMATEL
Fuzzy analytic network process (ANP)
TOPSIS
Multi-criteria decision making (MCDM)

ABSTRACT

The process of institutionalization encompasses the creation of formal structure, emergence of informal norms, and the development of impersonal/objective procedures, including administrative rituals, ideologies, legalization, and a constant focus on legitimization. Forming the basis of institutionalization, institutional theory traces the “emergence of distinctive forms, processes, strategies, outlooks, and competences” from patterns of organizational interaction and adaptation in response to internal and external environments. In this context, the institutionalization readiness level of organizations is a focus of investigation for developing models to evaluate organizations using precise indicators. In this study, the fuzzy hybrid multi-criteria decision-making approach is used in order to measure institutionalization readiness of small and medium sized enterprises (SMEs). Firstly, factors indicating the institutionalization readiness level of SMEs are determined. Then, the weights of the factors are calculated by obtaining expert opinions, along with fuzzy DEMATEL and fuzzy analytic network process (ANP) methods. Several SMEs are evaluated according to these predefined factors, after which the TOPSIS method is implemented for measuring the level of institutionalization of the SMEs.

© 2015 Elsevier Ltd. All rights reserved.

1. Introduction

Today's competitive markets force organizations to respond to and change with their environment. Organizations able to understand changes in their organizational environment, adapt innovations, achieve continuous improvement, and employ strategic thinking along with an effective knowledge management system will survive or even thrive in challenging markets. Conversely, organizations lacking systemized and structured processes which are compatible with operational and strategic implementations in all areas of the institution will wither or die. Institutionalization plays a key role in the success of the organizations. One desired outcome of institutionalization is making organizations more robust and consistent.

The institutional theory describes institutionalization. This theory is one of the main theories used to examine the interactions between an organization and its environment, while explaining the reasons for which organizations desire institutionalization. Institutional theory has been examined from a number of different

researcher perspectives. A generally accepted definition of institutionalization includes creation of a formal structure, emergence of informal norms, development of impersonal/objective procedures, administrative rituals, ideologies, legalization, and a focus on legitimization. Institutional theory therefore traces “the emergence of distinctive forms, processes, strategies, outlooks, and competences” (Selznick, 1996) from patterns of organizational interaction and adaptation in response to both internal and external environments. Institutionalization generally refers to the systemization of an organization through the structuring of its processes and organizational management within a set of objectives and targets compatible with its vision, mission, principles, and values.

However, while institutionalization theory does help determine the key characteristics of the institutionalized organizations, the theory does not address how organizations may achieve institutionalization. Until recently, few studies have examined the start of the process of institutionalization itself. There is a need to assess the institutionalization situation of organizations before generating an institutionalization plan. Additionally, attempts to measure institutionalization at the firm level are rare (Alpay, Bodur, Yılmaz, Çetinkaya, & Arkan, 2008). Therefore, one of the main goals of this study is an approach to measuring the institutionalization level of organizations. Since the assessment of institutionalization process is based on multiple criteria, multi-criteria decision-making

* Corresponding author. Tel.: +90 264295 56 81, +90 2642955041; fax: +90 2642955664.

E-mail addresses: ouygun@sakarya.edu.tr (Ö. Uygun), tcnvar@sakarya.edu.tr (T. Canvar Kahveci), taskin@sakarya.edu.tr (H. Taşkın), beytullahpiristine@gmail.com (B. Piriştine).

techniques have been used in this study. Conversely, the group decision-making approach has been applied in the measurement model in order to take into account more than one expert opinion during the assessment process.

Implementation of the proposed institutionalization assessment model has been carried out in three phases. The first phase consists of the assessment model and determination of interrelationship among main criteria. The second phase is calculation of the weights of each sub-criterion. The next phase is the assessment of several SMEs according to this model. During the first phase, fuzzy DEMATEL, in combination with the CFCS defuzzification method, has been implemented to determine the interaction among seven main criteria (Table 1). Interaction among criteria is required by the ANP method as a baseline in the second phase. According to the interactions obtained by DEMATEL technique, the Fuzzy ANP method is then applied to calculate the weights of each sub-criterion. In the third phase, five SMEs are investigated and graded according to each sub-criterion. Each SME is scored between 0 and 100 according to their institutionalization levels through implementation of the TOPSIS method. The weights of sub-criteria calculated by fuzzy ANP method are used as input during the implementation of TOPSIS method, which is then applied in order to score and rank the SMEs in terms of institutional readiness.

The remaining of this paper is organized as follows. After related works are presented in Section 2, the proposed assessment model for readiness of the organizations for institutionalization is given in Section 3. The technical background is presented in Section 4 with explanations of the fuzzy DEMATEL, fuzzy ANP, and TOPSIS methods. Implementation and discussions of the results are provided in Section 5. Finally, conclusions are drawn in Section 6.

2. Related works

2.1. Institutionalization

There are various definitions of the institutionalization in the literature. The basis of institutionalization is the institutional theory often attributed to Selznick (1996). He noted that organizations adapt and develop values specific to themselves to adapt to environment, thus become legal and achieving stability. Per another definition, institutionalization is considered a tool which provides social stability (Zucker, 1997). According to Zucker, institutionalization may be realized by developing appropriate and meaningful behaviors within the environment to gain legitimacy and conformity and transferring them to next generations. Institutionalization occurs by developing shared values within the environment and also through imitation of other successful competitors as a means of adaptation to environment. After that, organizations must institutionalize in order to affect cognitive and normative pressures through manipulation of the environment (Apaydin, 2009). The purpose of institutionalization include gaining legitimacy and resources while ensuring organizational survival.

The main consideration in institutionalization theory is finding the characteristics of institutionalized organizations, then explaining the interaction between the organizations and their environment. The organizations typically considered are governments and professional organizations. This theory accepts that organizations cannot simply act rationally to follow their interests. They must also take into consideration the expectations of the institutional environment into consideration. Therefore, here institutionalization is the organizational progress in common with environmental change and achieving standards. According to this

Table 1

Main and sub-criteria of the institutionalization assessment model.

Main criteria	Sub-criteria
C1: Strategic management	C11: Strategic analysis C12: Strategy definition and planning C13: Strategic performance evaluation
C2: Process management	C21: Process identification and monitoring C22: Process improvement and innovation C23: Process implementation
C3: Technology management	C31: Technology planning C32: Research and development, innovation management C33: Marketing and commercialization of technology
C4: Product management	C41: Product planning & product data management C42: Product specifications C43: Product innovation
C5: Knowledge management	C51: Enterprise knowledge definition and storage C52: Usage of knowledge and knowledge technology C53: Knowledge culture and performance of knowledge management
C6: Human resource management	C61: Human resource planning, selection and orientation C62: Personnel development and performance evaluation C63: Participation of management, labor relations and organizational structure
C7: Enterprise environment	C71: Suppliers C72: Market and competitors C73: Customers

definition, the three following subjects are of note. (1) Institutionalized organizations changes along with the environmental change; (2) They learn this change; and (3) They develop new standards according to new circumstances.

One of the fundamental characteristics of the institutionalized organizations is the ability to systematically execute their processes. According to this view, the institutionalization is a systemization of organizations. Professionalism is another characteristic of institutionalized organizations (Kahveci, 2007). Institutionalized organizations also have a common and an eligible organizational culture. Organizational culture must be structured based on strategic management activities and supported by information systems to fully achieve the expected results of the institutionalization process.

Ironically, the institutional approach has yet to become institutionalized. As such, there remains little consensus on the definition of key concepts, measures, or methods within the theoretical tradition. Also, there has been a lack of attention given to conceptualizing and specifying the processes of institutionalization. The common idea of the researchers mentioned above is that institutionalization is a process which influences every aspect of organizations, including strategies, structure, decisions, activities, behaviors, and performance. As institutionalization has a broad and deep impact on organizations, it demands further research (Apaydin & Coşkun, 2008).

Consequently, important questions remain concerning the determinants of variations in levels of institutionalization, as well as how such variation might affect the degree of similarity among sets of organizations. There is a need to develop more direct measures and better documentation of claims of the institutionalization of structures, since outcomes associated with a given structure are more likely to depend on the stage or level of institutionalization. Also, attempts to measure institutionalization at the firm level remain rare (Alpay et al., 2008).

Download English Version:

<https://daneshyari.com/en/article/1133406>

Download Persian Version:

<https://daneshyari.com/article/1133406>

[Daneshyari.com](https://daneshyari.com)