Stakeholder Engagement Automation System (Fulcrum)

Miguel A. Barrientos and Natan Zaidenweber
Fulcrum Ecosystem Inc.
1415 Indiana St., Suite 206, San Francisco CA 94107
nz@fulcrumecosystems.com

Introduction

Today's demanding information society is progressively raising the bar of accountability by demanding virtual windows into the internal operations of public and private institutions. Increasing competition, greater pressure for transparency and changing societal expectations make it impossible for companies to operate and make decisions without being in close contact with those around them – their stakeholders.

Stakeholder engagement is an investment that helps "internalize externalities" – accounting for the unforeseen costs associated with development and innovation. This engagement creates a knowledge base throughout the organization when it is conducted properly. It decreases uncertainty and risk while increasing public cooperation and making regulation more predictable. However, it does require unprecedented levels of collaboration. This collaboration must be meaningful and comprehensive. It also must include a clear process for involvement, constant communication between program managers and stakeholders, and mechanisms to address concerns or identify issues and reach agreements. It is also well known that today's business processes demand a "triple bottom line" of environmental stewardship, social equity and financial returns.

We developed a web-based application for automating the stakeholder engagement process, actively monitoring the engagement process, keeping tract of ongoing discussions in a non-lineal format, creating a unified repository of information through the project life cycle, identifying root issues and building consensus, and finally, promoting sustainable development and business design. This application is called Fulcrum and provides a complete framework with expertise in triple bottom line methodology.

Technology Description

Fulcrum is based on computational environments in which stakeholder communities can interact with distributed resources and interpret the data to personalize, extended and constructs information spaces. It provides a unique technology framework that combines knowledge management techniques, collaboration methodologies, text/data mining

techniques and probabilistic decision analysis with dynamic and flexible user interfaces. The main components of Fulcrum are described as follows:

- Information items based on text documents, images, audio and email messages are used as atomic units of information. They are considered as active and dynamic objects, imbued with semantic properties and activities tags. A collection of information units is related together by structural links. These links can be represented like citations, web links, patterns of user traversal, or other connections. Each document is qualified by a set of keywords which record its basic semantic tags, and can include keywords, author names, and topic classifications. These keywords can be provided by authors, editors, or annotators; or can be induced from document contents. Keywords can have semantic relations among them.
- Built-in services for messaging, scheduling, contact and process management, discussion and/or dialogue stakeholder groups, and document-centric workflow provide a seamless collaboration environment with tools for monitoring and accountability.
- A decision analysis framework based on probabilistic Bayesian networks for mapping potential consequences of decisions by linking them to key issues. A monitoring system based on a decision model that represents relationships among different information sources, actions and utility associated with actions in terms of risk assessment is used for identifying root issues.
- A mechanism for generating surveys is used to capture stakeholder opinions about specific topics regarding Economic, Social and Environmental (ESE) impacts. Results of these surveys are used to support a probabilistic decision model. This model provides a set of Requirements/Features whose probabilistic representation will map with ESE impacts.
- Tools for extracting key information from text, organizing documents by subject, finding predominant themes in a collection of documents, and searching for relevant documents using powerful and flexible queries are part of Fulcrum. It also contains a feature extraction tool to automatically recognize significant vocabulary items in text documents.

Concluding Remarks

Fulcrum provides a complete platform through which all perspectives and issues can be aired – the prerequisite for effective decisions. It represents an approach to ensure the dialogue that needs to take place is happening and that the appropriate stakeholders are receiving the information they need to fully participate.