Stakeholders’ Values in Collaborative Commerce Marketplaces

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ABSTRACT
Despite the claims on how stakeholders could benefit from electronic marketplaces (eMarketplaces), the actual user take-up of eMarketplaces have been modest and in many cases even failed to deliver their promises. We believe this is due to the lack of preparations in dealing with values of such ventures during the strategic planning of the organisations concerned. Given that values are critical to all major decisions, there is a need for a systematic approach for identifying, understanding, articulating and structuring all the stakeholders’ values in eMarketplaces to ensure their success. This paper presents a framework for stakeholders’ values identification in eMarketplaces with a particular focus on collaborative commerce marketplaces (CCMs). A case study of a successful regional CCM for small-to-medium enterprises (SMEs) is used to demonstrate and illustrate this framework.

Keywords: values, objectives, value-focused thinking, collaborative commerce marketplace, SMEs

1. INTRODUCTION
Emerging trends in information technology (IT) such as electronic marketplaces (eMarketplaces) have changed the way in which businesses are conducted. Single organisational business concepts and methodologies are no longer adequate in addressing eMarketplaces where collaborations occur amongst stakeholders of the eMarketplaces. For instance what was purely a manufacturing project may now be seen as a combination of service and manufacturing project with a number of links in between the initial conception of the project to the final delivery of the project.

Researches in the area of competitive advantage have also extended Porter’s model on gaining competitive advantages in the 1980s, to maintaining and sustaining competitive advantage to take account of eMarketplace environment [4], [28].

Today, it is widely accepted that innovation is the new engine for sustaining competitive advantage and growth within organisations. It is suggested that sustainable competitive advantage is the result of exploiting and enduring the core of relevant capability differentials cultivated by responsible management of tangible and intangible internal skills and assets [1], [16], [18], [27], [34]. However these characteristics of innovation must add value to organisations to contribute to organisational outcomes and achievements. Porter and Millar [29] defined a measurement of value creation based on customer’s opinion of what adds value to the product or service received. In eMarketplaces this value can be defined as the ratio of service level and the associated transition costs (i.e. costs such as implementation of an information system, user and system interfaces).

Lowering the cost sourcing or sales by stakeholders in the eMarketplace is an example of value creation in the supply chain of the eMarketplace [5]. This instance of value creation can be achieved by for example, automating the transactions involved in the process [20].

Technological opportunities such as those provided by the rapid and evolving developments in IT also play a vital part in leading the way to innovative opportunities and in some cases the demise of certain industries. For instance, the emergence of MP-3 and MP-4 technology may make CDs obsolete within ten years [35]. Hence the key to success is to lead innovation by examining the values of stakeholders in the chain of stakeholders albeit buyers or sellers. We believe that the success of eMarketplaces requires an understanding of the various stakeholders’ values in the system. Individual organisations have their own sets of values that are critical for their success and when organisations interact or collaborate in an eMarketplace, these sets of values may differ from their original ones. Even though values are critical in all major decisions, often they are not articulated or structured [23], [24].

Researchers in the area of eMarketplaces found that despite the claims on how businesses could benefit from the introduction of eMarketplaces and how they could have access to global economy, the actual user take-ups of eMarketplace have been modest and in many cases failed to deliver their promises [6], [13], [19], [26]. It is found that in the United Kingdom, an overwhelming 92 percent of companies’ supplier relationships are still being maintained through traditional channels and only two percent are conducted over the web [3]. We believe this is due to the lack of preparations in dealing with values of such ventures during the strategic planning of
the stakeholders concerned. Therefore, there is a need for a systematic approach for identifying, understanding, articulating and structuring all the stakeholders’ values in eMarketplaces to ensure their success.

However, the current state of eMarketplaces is not all bleak. Considerable research underway in Europe on effective collaborative commerce models (CCMs) has produced some success. One of the most advanced practical examples is the West Midlands Collaborative Commerce Marketplace (WMCCM, www.wmccm.co.uk), one of the first practical examples of breeding environment for collaborative networked organisation amongst SMEs (detailed discussion is provided in Section 5).

The objective of this paper is two-fold:
- To present a framework for stakeholders’ values identification in eMarketplaces with a particular focus on collaborative commerce marketplaces (CCMs); and
- To demonstrate and illustrate the value-based framework using a successful regional CCM for small-to-medium enterprises (SMEs) as a case study.

The remainder of this paper is structured as follows: Section 2 provides background information on CCM; the value-based framework for stakeholders in CCM is formulated in Section 3; Section 4 presents the research methodology adopted; Section 5 provides an illustration of a value-based framework using West Midlands Collaborative Commerce Marketplace (WMCCM) as a case study; Section 6 facilitates a discussion of the implications for eMarketplaces; and finally finishes with a conclusion and further work in Section 7.

2. COLLABORATIVE COMMERCE MARKETPLACE (CCM)

The definition of eMarketplace has gone through a series of refinement and updates to take account of the changes and complexity of eMarketplace environment by numerous researchers [2], [8], [10], [12] [14], [17], [30], [31], [36]. According to Stockdale and Standing [33], eMarketplace is “an interorganisation information system that allows multiple buyers and sellers, and other stakeholders, to communicate and transact through a dynamic central market space, supported by additional services”.

Through the integration of collaborative supply chain services with eMarketplace, individuals, organisations, and/or any other stakeholders may collaborate and share information with each other without relying heavily on one self’s pre-invested infrastructure.

eMarketplace generally may be classified into three categories from the perspective of eMarketplace operators: (i) independent eMarketplace; (ii) consortium eMarketplace; and (iii) private eMarketplace [25].

A CCM is an independent eMarketplace system which is based on a group of stakeholders (mainly SMEs) co-operating as market makers for common interests like being within a geographic area, having similar business objectives, or in a comparable type of industry. Besides the existing eMarketplaces’ functionality and characteristics, a CCM also serve stakeholders and their customers by supplying competence profiling, brokerage facility, collaborative/virtual teaming capability and electronic communication capability. Not only does it put a strong emphasis on service and capability, it also accentuates the competence of stakeholders in applying their skills and processes in other unrelated products or services.

Through competency profiling, a first tier stakeholder may identify new or alternative sources of supply for a particular product. The brokerage system, on the other hand enables the identification of all possible virtual stakeholders that can supply those competencies. Furthermore, collaborative/virtual teaming capability provides stakeholders a framework and mechanism for creating rich relationship across a distributed supply chain with stakeholders geographically dispersed.

In addition, a CCM may take on the role of vertical multi-national industry specific eMarketplaces by presenting stakeholders with an effective way to reach the lower tiers of the supply chain where other stakeholders, in particular SMEs, predominate.

3. A VALUE-BASED FRAMEWORK FOR CCM

Various models have been developed to identify the factors that influence the success or failure of eMarketplaces [11], [15].

The model developed by Gengatharen [15] is based on the current literature available on the implementation and adoption of technology in general and evaluated against two eMarketplace case studies. It summarises the factors affecting the success or failure of eMarketplaces into four categories: eMarketplace characteristics (for example: critical mass, training and technical support, compatibility and trust); market makers characteristics (for example ownership structure, focus, financial resources); participants’ characteristics (for example: size of firm, financial resources); and environmental factors (for example: regional profile, existing trading relationships).

Another descriptive model developed by Fairchild [11] identifies the critical success factors for eMarketplaces, again based on a literature review. This model groups the success factors into four classes: context-related success factors (for example: motives of stakeholders, critical mass and frequency of purchases); process-related success factors (for example: learning cost, trust, partnerships and entry barriers); and outcomes for participants. One specific aspect that is mentioned in this...
model as part of the context-related factors is the motives of stakeholders for entering such an eMarketplace.

According to Fairchild [11] and Gengatharen [15], the participants (or stakeholders) that take part in eMarketplaces are identified as buyers, sellers and market makers or investors. Each of these stakeholders has a motive that supported their decision in joining an eMarketplace. The decisions they make are based on their own set of values [11].

Values may be in many forms and may include constraints, criteria, measures, alternatives, targets, aspiration levels or concerns [21], [23], [24]. Accordingly, the stakeholders’ values in a CCM may be categorized into three groups: individual values, combined values and derived values as depicted in Figure 1.

![Figure 1 Value-based framework for CCM](image1)

Individual values are those values that may be offered by the CCM itself. These values address the overall activities undertaken by stakeholders in the CCM. For example, stakeholders from various organisations may collectively bid for projects in the system.

The third set of values consists of those that further addresses innovations of the CCM and are defined as derived values. This involves transforming the combined values of the CCM to identify innovations such as new business opportunities of the CCM.

According to Keeney [21], the set of values may be obtained through interviewing decision makers in the organisations concerned. Values of an organisation are reflected in fundamental objectives that are defined by Keeney [22] “as a statement of something that one wants to strive toward”. Unlike fundamental objectives, means objectives are of interest only “because of [their] implications for the degree to which another (more fundamental) objective can be achieved” [21]. Means objectives may be simply defined as means of achieving fundamental objectives providing a link from decision alternatives to the business values.

Therefore, the identification of stakeholders’ values in CCMs will provide input for the formulation of both fundamental and means objectives using Keeney’s value-focused thinking methodology [9], [21], [22]. Seng [32] applied this methodology into a business model for CCM by layering the objectives according to strategic, tactical and operational perspectives of the CCM. As such the value-based framework in Figure 1 serves as input to the strategic layer of the business model for CCM as illustrated in Figure 2.

![Figure 2 Strategic layer of business model for CCM](image2)

### 4. RESEARCH METHODOLOGY

Case study research as advocated by Cavaye [7] investigates pre-defined phenomena but does not involve explicit control or manipulation of variables. A research methodology using the case study approach combines data collection techniques such as interviews, observation, questionnaires and document and text analysis. Following data collection, both qualitative data and analysis methods and quantitative methods may be used [37]. Here the research has less prior knowledge of constructs and variables and the aims of case research are list below:

- To provide a description of phenomena;
- To develop theory;
- To test theory;
- To provide evidence for hypothesis; and
For CCMs such as the WMCCM, some $8 million of new business for its stakeholders allows this to be done at low cost. It has generated over $2 million from a CCM to verify the framework for successful CCM implementation. The target CCM is described below.

5. CASE STUDY: WEST MIDLANDS CCM

The West Midlands Collaborative Commerce Marketplace (WMCCM, www.wmccm.co.uk) is one of the first practical examples of breeding environment for collaborative networked organisation which started three years ago. Currently it has over 3,100 registered stakeholders (mainly SMEs), covering a broad spread of industrial competences, with over 200 of them competence profiled to capture not only what they can do now but what they can do. The key objective of WMCCM is adding value. This is achieved by identifying what stakeholders can really do, making that available to the outside world in an independent trusted manner, and creating networked organisations quickly in response to opportunities. On-line collaborative working allows this to be done at low cost. It has generated over $8 million of new business for its stakeholders.

For CCMs such as the WMCCM, some combined values (innovative opportunities) provided to stakeholders in the system are as follow:
- Quickly generate new capability;
- Conduct collaborative new product or service development or enhancement;
- Collectively offer or bid for a project;
- Share expensive infrastructures and resources;
- Access to other national and international markets;
- Increase business agility; and
- Make capability more widely accessible.

On their own, stakeholders in the WMCCM would not be able to utilise these opportunities. Based on Figure 1, some individual values are as follow:
- Increase market share;
- Compete with cheap imports;
- Find new markets/customers; and
- Use of eMarketplace technology without incurring setup costs.

Collectively, individual values of stakeholders in the CCM are changed according to the overall model of the CCM. In the WMCCM, some combined values of stakeholders are sharing of expensive resources such as equipment and information systems which stakeholders on their own may not be able to afford and the ability to keep pace with technology via access to global markets.

Another set of values are the derived values of the CCM model. In the case of the WMCCM, an example of a derived value is the resulting or new contracts. The following case study from the WMCCM clearly demonstrates this derived value for the stakeholders concerned. An initiative undertaken by the West Midlands Regional Development Agency (UK) in 2004 to examine the prospects for railway manufacturing predicted a three percent per year increase in the coming decade. Discussions with the main OEMs (French and Canadian companies) identified several areas where there was a shortage of suppliers: one of these was for passenger carriage toilet modules. From an engineering perspective, processes to manufacture a particular product or component can be identified by physical examination of the product or component. For example, in the case of the railway toilet modules, some processes are metal fabrication, plastics moulding, electrical harness design, and manufacture and assembly of parts/components. In the West Midlands region it was difficult to find a single company that possessed all these capabilities. In this case, using the partner search function, a networked organisation, with all the necessary competences, was put together, and asked to build a prototype on behalf of the OEMs. They used the Collaborative Project Spaces on the WMCCM system to co-ordinate the work. Import substitution capability of this type, provided immediate opportunities for local SMEs in the West Midlands region.

The derived value of this case is that by looking at local end products, there was no way of meeting this need, but by looking at competences in terms of engineering processes and skills, a local capability can nearly always be built. In addition, it also provided an opportunity to introduce local suppliers to a market leader in the railway toilet field (in this case either Swedish or Finnish) to assist in capacity building.

The above example is only one case of derived values for stakeholders in the CCM.

6. DISCUSSION AND IMPLICATIONS

The stakeholder values perspective as presented in this paper articulates the benefits in terms of values for potential entrants to eMarketplaces such as those of the CCM. Current literature suggests that while eMarketplaces are attractive and are hailed as weapons of competitive advantage, the uptake of this technology has been slow and in many cases even failed to deliver their promises. We believe that this is due to the lack of preparations in dealing with values of such ventures during the strategic planning of the organizations concerned. As presented in this paper, by clearly identifying all types of values (i.e. individual, combined and derived) for the various stakeholders in the eMarketplace, it is then possible to work out the business objectives (i.e. fundamental and means) in order to drive the business processes at various levels of the organisations concerned.
7. CONCLUSION AND FURTHER WORK

Interactivities between stakeholders in eMarketplaces are both complex and different amongst the various stakeholders concerned. In the absence of a clear articulation and structure of stakeholder values that can provide a direct link to organisational business objectives, chances of successful eMarketplace ventures are reduced. By considering eMarketplace values from three perspectives (i.e. individual, combined and derived), stakeholder values can be obtained for input into business objectives. Further work of this project involves validation and elaboration of the stakeholder values framework using more cases from the WMCCM.

REFERENCES


