Levering Crowd Sourcing
to Facilitate the Development of Sustainable Tourism Industry

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Abstract
Sustainability of Sri Lankan tourism industry has forced the segment to investigate the alternative models. This paper explains how crowd sourcing would constitute for a promising business model in tourism industry. Study utilized 35 cross case studies to identify stakeholders, their roles and develop stakeholder map. Focus group discussions with key stake holders and co-creation research competition were used to test the model. First phase of the model is idea generation which begins with internal and external technology base. Researchers, industry experts, educators, students, industry partners, governments, local communities and clients were the key stakeholders of generating ideas. Sustainable tourism innovations begin with the generation of ideas with the collaboration of external crowds. Phase two of the model aims to filter the generated ideas and develop selected ideas into products and services. Commercialization of developed products and services belongs to third phase. Co creation model generated economical outcomes for the tourism sector and the solutions were vital for the sustainability of the sector.

Key words: crowd sourcing, open innovation, tourism

Introduction
Tourism industry shows promising returns to the Sri Lankan economy. Over the last couple of years industry has bounced back as faster growing segments of the country’s economy receiving priority in government development agenda. Sri Lanka is well known tourism destination for global visitors and the history dates back to centuries. Industry supports to increases the economic growth, disposable income and leisure time, political stability and aggressive tourism campaigns, were among the other factors have fuelled the critical growth of Sri Lankan tourism.

Industries need to match their face with the dynamic environment. Proper matching will support industry to survive and gain healthy profits. Industry is evolving throughout to cater for its ever changing global customer base. The tourism industry is one of the biggest industries and its markets are largely saturated with constantly falling profit margins on the
one hand and with fast changing needs and demands of customers on the other hand. Tourism an industry provides both products and services essentially needs to consider the boundaries of social, economical and environmental aspects for the sustainability.

The crying need of the hour is change the face to cater global consumer demands, renewal and differentiation is based on a complex field of forces, therefore the capacity to innovate become an essential component for the existence of the business. Core of the innovation literature focused more on product innovation rather than innovation in services. The capacity to innovate, that is, the potential to adopt the use new technology in productive and management process (Eatwell et al., 1981), is increasingly seen as a factor in determining competitiveness.

Innovations in tourism industry aim to cater for the tomorrow’s global customer. Industry innovations based on its available resources, especially the talent of its human resources and the enabling environment. A country just revealed from three decades of civil war is not capable enough to provide the enabling environment. But promising growth of recent years are eyeing on strategies to tap the future opportunities. Therefore, immature modern tourism industry of Sri Lanka needs to receive the supportive hand. The diffusion of innovation is very important for the growth of the sector.

The development of information communication industry and its revolutionary impact on product, process and organizational levels of companies has caused an rapid innovation. Paradigm shift in innovation management from “closed” to “open” innovation facilitate by the ICT, especially the social media networks. Industry has its own focus, specialization or diversification, and varying countries have recognized their own pathway for the development of the industry. Both specialization and diversification essentially need to identify its own pathway and it will turn to yield greater output in-terms of innovation activity (Feldman, 1999). Further, diffusion of innovation is very important for the growth of a sector and consequently that of a region.

Wisdom of crowds: a strategic approach for the tourism industry

Traditionally tourism industry and its supply chain were focus more on service providers and develop strategies to facilitate service provider’s role. Traditional supply chains were concern on cost minimizing strategies rather than sustainability. Modern tourism value chains are more concern on consumers and catering to the demands of diverse customers. Similarly, ICT affect the strategic behaviour of firms in the tourism industry (Pechlaner and Osti, 2001), such as mergers, concentrations, strategic alliances and vital cooperation (Schertler, 1998; Govrs et al., 2000). Rapid diffusion of knowledge that caters the demands of the modern tourism industry of the developing sates (Sheldon, 1993).

Glaeser et al., (1992) explain the impulse of technology differentiation in the growth of industry and the fundamental role that extremely play in the diffusion of innovations. Tourism industry needs to innovate service because otherwise their offerings are likely to bear obsolete and have no demand (Meneses and Teixeira, 2013). The role of innovation in
the tourism sector intends to increase the competitiveness of the firms and increase the product and service quality while introducing new products (Weiermair, 2006; OECD, 2008; Sundho, 2007).

Customer orientation plays a fundamental role in tourism innovation. Today, customer behaviour of the tourists is changing continuously and tourists expectations are the expense that destinations can offer (Robinson and Novelli, 2005; Novelli et al., 2005; Weiermair, 2006).

**Open innovation vs Closed innovation**

An innovation is the implementation of new or significant improved (good or service), or a products, an new marketing method in business practices, work place organized or external reactions (OECD, 2005). Francis and Bessant (2005) stated that innovation has to create value for the firm or industry. Another important characteristic of innovation in services is the role of human resources (Cainelli et al., 1998; Sirili and Evangelista, 1998; Djellal and Gallouj, 1999; Hipp et al., 2000). In services innovation knowledge is very much embodied in people and in the skills (Meneses and Teixeira, 2013). In house R&D and innovations were received much attention in research literature. Closed innovation models considered in house generation of ideas, filtering of the ideas and develop products and services. Further, resource requirements for closed innovation are vital and the availability and the quality of resources affect the innovations. On the other hand, maintaining in house R&D teams and facilitating their operations were capital intensive venture which adversely work on capital deficit developing country destinations.

Open innovation or sourcing the wisdom of crowds caters the demands of many resource poor tourism destinations. The approach, open innovation expands the boundaries of innovation process and absorbs the wisdom of crowds to develop strategies.

Open innovation theory (Chesbrough, 2003) explain the opening of innovation process in organizations in order to actively integrate the customers and users, in some cases even competitors, into the innovation process and thereby to make use of the wisdom of crowds. Open innovation process adds new flavour to the tourism supply chains where consumers were attracted into the process of value creation activity. The process converts the producer driven tourism supply chains into customer driven value chains. Customer driven modern tourism value chains create value to the products and services as well as concern on sustainability of the industry.

Present study was based on key question of how will innovations in tourism industry change from closed innovation perspective towards social and sustainable purposes in open environments when users and service providers interact more intensively. Absence of R&D departments or sections within the service providers as well as among the industry stakeholders for industry innovations divert the research focus towards to possible intervention of open innovation in tourism industry in Sri Lanka.
Conceptual framework

Study focus was to develop a model for sustainable tourism industry through the open innovation process. Figure 1 explains the conceptual framework where open innovation environment composed of three pillars, people, planet and profit functioning separately. Collaborative approach of the 3 pillars will develop sustainability for the tourism industry.

![Conceptual framework](image)

Key study objective was to identify the appeal of open innovation into tourism industry in Sri Lanka. Specific objectives were lineup to examine the open innovation landscape, identify external crowds of the tourism industry and find out the involvement of external crowds and their wisdom on co-creative activities. This article was developed into four sections. First, introductory note on open innovation concept as strategic approach for the tourism industry. Second, conceptual framework and the research method and third section was on findings. Final section devoted on conclusions and recommendations.
Methodology

Study locations were selected from the southern, western and central provinces of Sri Lanka to add cross sectional flavour to the research as well as to represent the various geographically important tourist destinations. Filed research was conducted during early 2013 and primary data were obtained from the 35 cross case studies. Tourist hotels were selected on the basis of scale of operation where 12 large scale tourist hotels and 23 small and medium scale tourist hotels were considered for the data collection purpose.

Authors were employed structured questionnaires and in-depth interviews as their key data collection tools. Structured questionnaire composed of two main sections. First section was designed to collect the brief information of the hotel and its operations. Second part was directed to identify the external crowds and their intervention in product, process development as well as marketing. Questions were designed to identify the external crowds and their intervention on sustainability. Five point rating scale were used to measure the degree of importance of both internal and external sources on open innovation efforts.

Questionnaires were e-mailed to 65 tourist hotel managers and marketing managers and interviews were conducted on prior arrangements with them. Telephone survey was conducted along with the questionnaires for further clarifications. Processors who have returned the e-mailed questionnaire were invited to join the telephone survey and discussions were held with prior arrangements. Further, industry stakeholders and their representatives were interviewed for the purpose of institutional analysis. Comparative institutional analysis (Herrera et al., 2005) was employed which aimed to identify the structure of the institutions, efficiency of institutions on resource implementation of conservation strategies, institutional choice on resource conservation measures and institutional changes based on external environment. Open innovation landscape was developed using the results of the institutional analysis.

Results and discussion

Open innovation landscape

Study has designed to identify the crowd sourcing partners and the open innovation landscape of the tourist hotels of Sri Lanka. Study reveals that open innovation platform composed of 3 phases, idea generation, and development and marketing. Results of the institutional analysis were used to develop the existing open innovation landscape for the industry (figure 2). Institutional analysis highlighted that value chain members were maintaining closer ties with the hoteliers and they were playing critical role in identifying and implementing conservation measures beyond boundaries. Other external sources were maintained varied relationships with hoteliers but their involvement was influential on sustainable industry.

Study reveals that external crowds of tourism industry belong to the 3 main categories. They were in-house, industry and macro-environmental crowds and showing varying degrees of
involvement. Owners, managers, employees and share holders were identified as in-house crowds providing ideas towards the sustainable development of the business venture. Industry crowds were value chain members (service providers, customers, logistic suppliers, banks and financial institutions, Insurance firms, marketers, promoters, input suppliers, human resource suppliers, legal firms, environmental management services, waste management, etc.), universities and research institutions, and lobbying groups. Marco environmental crowds composed of central and local governments, NGOs, international tourism organizations, statutory bodies, media, standards and certification institutions, and general public.

![Figure 2: Open innovation environment of the tourism industry](image)

**Open innovation process in tourism industry**

**Phase one: idea generation**

First phase begins with searching both internal and external ideas on product and process development. Conservation efforts attract much attention due to heavy dependency on environment for sourcing raw materials and some of the consumer segments places high demand on responsible products and processes. Figure 3 explain the 3 phases, idea generation, selection and conversion of the open innovation process.
Phase two: idea selection

Internal crowds were playing important role in responsible product development phase where fair contribution of the internal crowds was critical. Furthermore, intervention of external crowds became crucial when sourcing raw materials globally. Ideas of owners, managers and other employees were involved in finalize the product or service offering based on sustainability Positive contribution of both internal and external crowds observed during product and service development phase. Product or service development phase accommodates the ideas of external crowds through market surveys, internships, competitions, voting’s, etc. Spin offs of large hotels and 5 star category.

![Open innovation process diagram](image)

Figure 3: Open innovation process

Phase three: idea conversion

Final stage, idea conversion is critical to any manufacturer and growing concerns on resource and energy conservation and environmental issues broaden the scope. Resource integration, both internal and external was mutually beneficial combination commercializing the products and services. Marketing facilitates to broadcast the open innovation strategy and to enhance the global awareness on concepts. Resource conservation efforts and environmental concerns act as popular marketing strategy and play a great role in communicating product ideas to target segments.

External crowd sourcing facilitates to identify the new market opportunities such as enter into new tourism segments (eco, agriculture, heritage, green, culture, health, etc.), emerging
markets (South Asia, Southeast Asia, Latin America, Russia, etc.). Collaborative marketing strategies led to promote both brand and conservation efforts. On the other hand, marketing campaigns act as promising strategy to promote conservation measures and sourcing of responsible products.

Open innovation in tourism industry and role of its actors

Research has focused to identify the intervention of both internal and external sources on open innovation process. First measured the involvement of internal sources where internal sources were categorised into 3 groups, top management of the hotel, employees of the hotel and employees of the subsidiaries of the hotel. Open innovation process of the large scale hotels were combine effort of the top management, own employees and employees of its subsidiaries where as small and medium hotels showed different pattern (see figure 4). Top management and own employees were key partners of the open innovation process of the small and medium hotels. Organizational structures as well as scale of operation makes comparable small external crowds to the small and medium scalars.

![Figure 4: participation of internal crowds in open innovation](image)

Next focus of the study was to identify the involvement of value chain members on the open innovation process.

Large scale hotels were the members of diverse, complex and longer value chains compared to medium and small scale hotels. Large processors and retail chains were act differently compared to small and medium scalars in open innovation process (see figure 5). Consumers, logistic suppliers and financing crowds were critical to the open innovation process of large scale hotels where as competitors, human resource suppliers, business consultants and ancillary service providers were moderately involved. All value chain sources were considered less important for small and medium scalars except the intervention of own.
Figure 5: Participation of value chain members in open innovation

Figure 6 presenting the external crowds and their involvement in open innovation process. Travel agents, consultancy firms and financial institutions were ranked as highly important players in open innovation process where as airlines, hotel schools, research institutions and universities, local and central governments were ranked next (see figure 6). All institutional sources considered for analysis were less important for the small and medium scale hoteliers. Results revealed that open innovation process of small and medium scalars depends on the quality of its internal crowds but large scale hotels were greatly involve with their external crowds.

Figure 6: Participation of institutional source in open innovation
Conclusions

The focus in this research was to investigate the open innovation landscape of tourism industry of Sri Lanka. Further, the study designed to identify the open innovation process, its members and their involvement on open innovation process. Sustainability of tourism industry through the wisdom of crowds was another important aspect that research has focused.

Findings of the study lead to develop open innovation model for tourism industry and to identify the external crowds. Open innovation landscape of the tourism industry of Sri Lanka composed internal and external sources. Open innovation process composed of three stages, idea generation, idea selection and idea conversion. Open innovation process of small and medium scale hoteliers were heavily depended on its management and employees while large scale hotels manage wider networks of external crowds and open innovation process enlighten with their involvement. In general, most of the innovative initiatives were born through the collaborative process. Both internal and external sources were engaged into foster the creative partnerships that have made a difference in market place.

Further, open innovation strategies were parallel with the size of the network and larger scale hotels were strengthen with large number of strategies compared to rest in the sample.

Own employees were considered as most vital internal source for all service providers. Open innovation in tourism sector help to establish networks among value chain members, assist in development of rich pools of knowledge and skills that draw from value chain and other sources, bridge the gap between consumers and service providers, lead to generate creative ideas and approaches, help to improve market intelligence and can create a dialogue on sustainability of fishery resources and individual responsibility.

External institutions were less involved with the process of small and medium scale processors. Governmental institutions were playing key role as a legislator facilitator. Their way of collaboration based on establishment of rules, regulations and policies which guide the better industry practise.

Moreover, participation of trade fairs and exhibitions, industry associations, professional meetings, conferences, and industry associations were considered as important to the open innovation process of the large scalars. Large hoteliers were the top gainers of co-creation activities. Winning respect, establishes trust among partners, build market image, value creation and brand promotion were the perceived benefits to them. Establish trust among partners were the key single benefit received by both small and medium hoteliers. Co-creation provides economical desirable, socially acceptable and environmentally compatible solutions for the hotel industry. Co-creation depends on the available crowds/size of the network.

The tourism industry has made sustainable gains in the collaborative environment. Despite of benefits as well as promising returns, there is still the shadow of road blocks that actors feel need to be dissolved. Considering the ongoing infrastructure development in the country,
government is seeking to increase their share of activities. Development of tourism industry will generate solutions for burning issues of income and employment generation, lowering the burden on government on employment opportunities, using the untapped resources in North and East, dissolve the regional disparities and economic growth. Further, study eyed to identify new models and methodologies of multi-user driven innovation for sustainable tourism industry. Photo safaris, social media networks, walk’n talk, brainstorming, geo-coaching, community mapping, and individual experience maps were possible strategies to implement and attract the wisdom of external crowds.

**References**


