Sustainability Modelling of eCommerce for Rural Community

A case from Long lamai eCommerce Initiative

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Abstract—eCommerce is able to improve the visibility and economy of rural community. However, it is a challenge to promote the eCommerce to a wider rural community. One reason is that there is a lack of understanding of the notion of sustainability in the deployment of this technology. Sustainability is always an important property in all kind of technology deployment for rural community. Questions like; How to sustain certain projects once the funding is finished? Who will pay for the project after that? Does the project still exist after certain time? This paper presents an initial sustainability model to support the eCommerce project for Long Lamai community. The model is based on the early management in eCommerce project for Long Lamai. In this paper, we first present the factors that influence the sustainability of eCommerce for the community. This is followed by the modeling of those factors using agent-oriented modeling. Finally, we validate the model through the eCommerce project refinement. The model has been shown to be valueable in order to understand the community well and to strategize the eCommerce deployment for the community in a sustainable way. The contributions of this paper is the theoretical framework of the sustainability model as well as its practicality in supporting rural community projects.

Keywords- modelling, sustainablility agent model, e-commerce, rural

I. INTRODUCTION

E-commerce is always associated with trading products and services through the Internet. By setting up an eCommerce application, business owners would be able to market their products and services to the outsiders. This has given an opportunity to conduct their businesses online, while directly interact with customers and suppliers anytime and anywhere. The eCommerce has changed the traditional way in doing business whereby buyers are able to deal directly with the sellers via the eCommerce website. In this case, the buyers are able to query about the products and services.

Throughout the years, the adoption of ICT in Bario has changed the liveliness of the Bario community. The number of visitors to Bario has increased, thanks to the promotion of the tourism industry in Bario through web based applications (e.g. web booking and forum). From our observation, there are around 10 web-based applications (e.g. eCommerce application) that have been used directly and indirectly by people in Bario to promote their lodge services. Through the online lodge booking applications, customers are able to interactively query the availability of a lodge and other services that are available. Other online applications like blog, enable the lodge owner and customer to promote their lodge service and share their experience respectively. Overall, the features of the online applications have been used to promote the lodge service in Bario. The applications allows the customer to view the lodge information, enquire for lodge service, perform the checking on the availability of the lodge, reserve a room without having to proceed to payment and comment on the lodge service.

The eCommerce application (e.g. online booking, blog) has helped promoting the tourism industry to the outsiders. It provides 24*7 booking service, which allows the user to access the services or products from everywhere at anytime. It reduces the trouble for the community to maintain the booking service as everything is done automatically by the system after the service or product is published. In addition, no software licensing is required or special tool is needed for the product marketing and management. Everything is done online; from product marketing, sales reporting and income management.

However, it is a challenge when it comes to promote the eCommerce to wider rural communities. One reason is that there is a lack of understanding of the notion of sustainability in the deployment of this technology. Sustainability is always an important property in all kind of technology deployment for rural communities. Questions such as, how to sustain certain project once the funding has finished? Who will pay for the project after that? Does the project still in existent after certain time?

A project needs to be sustainable so that it will not end up as a failure. In this paper we show that a project can be sustained eventhough there is no funding and the community can still be able to enjoy the benefits of the project in a long run. In this paper, we introduce a concept of sustainability under the eCommerce flagship for rural community. We argue that the eCommerce deployment

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