Measurement of Grid Mobile Commerce Process Based on Users

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ABSTRACT

Aiming at defects of traditional mobile commerce process, grid management thoughts are applied in its optimization. Grid mobile commerce process measure model is put forward on the basis of mobile commerce process which studying from users’ point and according to DIT (the Distance of Information-state Transition). Shopping online by mobile phone has been done in ways of traditional mobile commerce process and grid mobile commerce process respectively according to usual shopping on-line habits. Those two shopping’ DIT values are measured and results are compared based on DIT theory. In conclusion, the measurement method provides a quantitative analysis thought on grid mobile commerce process, meanwhile, comparison results show that grid mobile commerce process constructed is superior to traditional mobile commerce process from a user’s experience point of view.

KEYWORDS

DIT, Grid Management, Measure, Mobile Commerce Process

INTRODUCTION

SAP (Ruo, 2013) released the latest survey data last week shows that more than 98% of consumers would love to carry out more mobile interaction with Banks, telecommunication industry, retailers, public undertaking unit and other enterprises. 67% of Chinese consumers who purchase by their mobile devices expect to receive more mobile shopping experience. Meanwhile, Chinese mobile transaction has tremendous potential. How to optimize the mobile commerce process to make business activities launch better has become an increasingly important question. For researches on mobile commerce process, Yang et al. (2009), Liu et al. (2009) studies a certain node of mobile commerce process, Samanta et al. (2010), Tian and Yan (2013) focus to put forward to a system model related to services or safety. Poustchi and Habermann (2009) use case study research to examine organizational and process changes through M-BPR along with the resulting benefits. This paper will study optimized commerce process from users’ experience point of view though several participants are involved.

Grid management (Chang & Liao, 2012), stemmed from grid computing is a newly arisen management mode of modern grid system which realizes information integration, operation synergies, resource sharing. In recent years, grid management obtains good application effects in some areas-city management, electronic research, e-commerce, e-government and other aspects. Grid applied in mobile commerce can also provide much attractive solutions on overall optimization, resource sharing, efficient management and other issues in mobile commerce process.
With the continuous development of humanistic ideas, as well as the rapid growth of science and technology, more and more products not only focus on its quality, but start to pay more attention to user’s experience. Chang et al. (2014) carries out analysis and optimization of mobile business process by adopting ASME to improve user’s experience. Measure theories and methods for website measurement gradually evolve into placing greater emphasis on user’s subjective experience instead of bias toward technology than before (Yu, 2009). Guo et al. (2013) analyzes how to achieve the status of ESS with the effect of various factors on consumer trust. Lin et al. (2014) studies the evolution of customer trust. The advance of measure theory is to realize the direct quantitative measurement of management, control and operation convenience from user’s experience. It can also be applied to the measurement of e-commerce website (Yu, 2009), e-government process (Chi & Wang, 2007), WEOU, ease of search (Zhang, 2011) and production usability (Song, 2012), but basically, there is no measurement research on mobile commerce process.

This paper will construct grid mobile commerce process based on measure theory from perspective of process reengineering to solve traditional mobile commerce process problems, by using DIT theory and model to measure six representative mobile commerce processes from user’s perspective, by comparison and analysis of indicators’ and total DIT, some proposals are offered for mobile commerce website improvement and process optimization. By measuring and comparing the traditional mobile commerce process and grid mobile commerce process two results have been deduced. It is confirmed that grid management idea optimizes conventional mobile commerce process.

The rest of this paper is organized as follows: Section 2 presents the relative basic theory the paper will utilize. Section 3 presents the grid mobile commerce process after analyzing the disadvantages of traditional one. Section 4 describes the methodology. Section 5 applies the methodology to the traditional and grid commerce process. Section 6 concludes this paper.

RELATIVE BASIC THEORY

Grid Management

Grid management, a new arisen management theory, is based on grid techniques and applies to resources and economic management, enables resources sharing through internet and problems coordinate solved by means of all kinds of unified protocols of grid techniques (Foster et al., 2001). The basic characteristics of the grid management (Yuan et al., 2007) are as follows:

1. Grid management system structure, based on the layered structure of Internet, build the information passage between transverse nodes according to business process and information flows in order to form reticular information networks.
2. Grid management will reduce additional work in grid nodes and centralize public service functions by reengineering the business process, and finally realizes resource sharing and reunification.
3. Grid management truly embodies the management idea of “people-oriented” and “the user is supreme”, the platform provides users a convenient, efficient and transparent service so as to achieve the goal of taking customer experience as first priority.
4. Grid management realizes resource sharing, namely, process sharing, data sharing, serve port sharing.
5. Grid management improves the management efficiency through the establishment of an independent supervisory authority, standardization of grid nodes ‘rights and responsibilities, and supervision of these nodes’ operation processes.
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