

**PROFILING MOBILE BUSINESS CUSTOMERS FOR MASS
CUSTOMIZATION**

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CUSTOMIZATION**

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ABSTRACT

Nowadays, traditional services are being replaced by mobile or M-business that is more efficient, faster and accessible. To enable M-business operators to service many customers efficiently but with the impression of a personalized individual service, a method called mass customization is used. For this service to work, detailed information about each customer is needed and is achieved by customer profiling. The big challenge is how to profile M-business customers who have very short attention span and want to quickly conclude a transaction on their mobile device to avoid expensive air time charges and restriction to their mobility. Currently, M-business companies do not have sufficient strategic information about their customers to correctly target them for mass customization. To answer this question, research was conducted in Iran and Malaysia to determine what technique is most suitable for profiling. Various on-line psychographic profiling methods are available and three methods, namely Big Five, Neuro Linguistic Programming (NLP), and ProScan were found to be most suitable. Big Five was found to be the best method but requires customers to answer 40 to 120 questions. NLP on the other hand, only requires customers to answer a minimum of 10 questions. The number of questions to be answered matters significantly in a M-business service. This was confirmed by a survey conducted in Iran and Malaysia, on the willingness of the respondents to answer profiling questions. After NLP was chosen, another survey was conducted to determine the different NLP profiles of M-business customers. This information was used to design and implement a prototype system for a mobile news service that is able to profile customers by NLP and then mass customize news messages either in the form of text, audio, or interactive multimedia messaging system.

ABSTRAK

Ketika ini, perkhidmatan tradisional banyak digantikan oleh perniagaan mobil atau M-bisnes yang lebih efisien, laju dan mudah diakses. Untuk membolehkan pengendali M-bisnes memberikan khidmat kepada ramai pelanggan dengan cekap tetapi dengan gambaran bahawa khidmat itu lebih bersifat peribadi dan khusus, suatu kaedah yang dipanggil pelanggan massa digunakan. Untuk khidmat ini berfungsi, maklumat terperinci tentang setiap pelanggan diperlukan dan ini dicapai melalui kaedah pemprofilan pelanggan. Cabaran besar di sini ialah bagaimana memprofilkan pelanggan M-bisnes yang mempunyai rentang perhatian yang singkat dan mahu cepat menamatkan urusan pada peranti mobil mereka untuk mengelakkan caj guna masa yang mahal dan kekangan pada pergerakan mereka. Pada ketika ini, syarikat M-bisnes tidak mempunyai maklumat strategik mengenai pelanggan mereka yang mencukupi untuk dapat menasarkannya pelanggan mereka dengan tepat melalui pelanggan massa. Untuk menjawab soalan ini, penyelidikan telah dilakukan di Iran dan Malaysia untuk menentukan teknik apakah yang paling sesuai untuk pemprofilan. Terdapat banyak kaedah pemprofilan psikografik atas talian dan tiga kaedah iaitu Big Five, Neuro-Linguistic Programming (NLP) dan Proscan didapati paling sesuai. Big Five dikenalpasti sebagai paling baik tetapi pelanggan perlu menjawab 40 hingga 120 soalan. NLP pula, hanya memerlukan pelanggan menjawab minimum 10 soalan. Bilangan soalan untuk dijawab sangat bermakna dalam khidmat M-bisnes. Hakikat ini disahkan melalui tinjauan yang dilakukan di Iran dan Malaysia berdasarkan kesanggupan responden menjawab soalan pemprofilan. Selepas NLP dipilih, satu lagi tinjauan telah dilakukan untuk menentukan pelbagai profil NLP bagi pelanggan M-bisnes. Maklumat ini telah digunakan untuk merekabentuk dan melaksanakan sebuah sistem prototaip bagi khidmat berita mobil yang mampu memprofil pelanggan berdasarkan NLP dan kemudian mengkhususkan berita secara pelanggan massa dalam bentuk teks, audio atau sistem pesanan multimedia interaktif.

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CHAPTER 1

PROJECT OVERVIEW

1.1 Introduction

In the fast developing industry, traditional services are being replaced with modern methods, by which accuracy, speed and access increases to a large extent. E-business is giving a new definition to the way businesses are being conducted via the Internet. The new way of doing business requires new models of markets and customer services. One of these new businesses is M-business.

Accessibility is an important element in M-business. With M-business, customers can access various types of on-line business and services at any place and at any time through various mobile devices such as hand phones and personal digital assistant (PDA). Customers can order and purchase various goods and services at their

leisure when they are on the go at places where previously it was not possible to do so because of lack of info-structure.

1.2 Background

Any new technology will have some setback. Business organizations want to have more new customers while retaining old customers. To be able to do so, organizations need to know more about their customers so that they can produce better products and services.

But knowing their customers is not just based on data. Through M-business, a large range of data regarding customers is transacted daily by service providers. Some of this data is for temporary use, e.g. the address to receive goods, but some other data are valuable information for long-term use. This kind of information can give the service provider the ability to segment the type of customers according to their geographic, demographic, behavior and psychographic. For example, an on-line advertisement company can send appropriate advertisements that are more appealing to targeted customers via short messaging system (SMS) if they know the customer's preference. Currently, the company has to send bulk messages to all its customers that flood their message inbox and at many times make them angry because the content are offensive and not appropriate for them. A better way to target customer is thus needed badly by these organizations. On-line news agencies like CNN and Star On-line have similar problems in targeting their M-Business customers for the appropriate news in terms of topic, language and timing.

This valuable information for targeting customers can be obtained by a technique called profiling that is the process by which the shopping pattern of customers are categorized for later judgment about their market demands and preferences for services.

After profiling, service providers are able to use the information for mass customization. Mass customization means service providers are able to provide products or services with features that are suitable to the requirements and needs of each customer in the masses. For example, Dell Computers provide facilities for their on-line customers to choose the configuration of their laptops in terms of processor speed, memory capacity, disk drives, DVD players and even colour. Similarly, when you travel by Air Asia, you can customize your ticket with various options such as the baggage weight allowance, type of meals, seat location and priority.

Currently, M-business companies do not have enough information about their customers in terms of geographic, demographic, behavior and psychographic to make better judgment for mass customization. In normal business, the company can solve this issue by face-to-face interviewing the customer or through observation.

1.3 Statement of the problem

“M-Business companies do not have sufficient strategic information about their customers to correctly target them for mass customization”.

Figure 4.1 shows the Rich Picture for the problem for M-business news agency. It shows not all customers like to receive the same type of news message. Each customer likes to receive news in various types of message. For example, some of them like text SMS messages but the others like Multimedia Messaging System (MMS).

1.4 Research question

Based on the problem statement, we suspect the problem can be solved by profiling. However, due to the nature of M-Business, we have to ascertain which type of profiling is most suitable. As such our research is to answer the following question,

“What technique is most suitable for profiling M-business customers for mass customization?”

1.5 Research objective

1. To study various techniques to profile M-business customers.
2. To develop a framework that will be able to profile M-business customers for mass customization.
3. To develop a proof-of-concept web-based system to profile M-business customers for mass customization.

1.6 Scope

1. The strategic information for mass customization will be determined from geographic, demographic, behavior and psychographic means.
2. M-business mass customization for news services will be used as the case study.
3. The study is to focus on M-business customers in Malaysia and Iran. The choice is due to Malaysia being a multi-lingual and multi-cultural ethnic society while Iran is more of a monolingual and mono-cultural ethnic society.

1.7 Importance of research study

M-business is a multi-billion business in the world. According to Gartner (www.mobilebusinessbriefing.com) the mobile business is US\$ 4.2B in 2009 and is forecasted to grow to 6.77B in 2010.

As far as we know, there is no other work in the same area. Based on the literature review and looking at the current services, there is not any profiling and mass customization.

The work can contribute to other areas since profiling and mass customization is getting to be of great interest in the business field.

1.8 Thesis outline

This outline of this thesis is shown in Figure 1.1. The thesis is structured into six chapters. The first chapter is the introduction and touches on the problem background. Second one is literature review. Third one is research methodology. Fourth one is data analysis and finding. Fifth one is discussion and the last one is conclusion.

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