

# AN EVALUATION MODEL FOR METAMARKET ORIENTED WEBSITES

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**Abstract:** Website is an important part of e-business. There are many researches done about website design and evaluation, almost focus on technical aspects of website neglecting the importance of evaluating website, based on business requirements. This research tries to determine suitable set of criteria for website evaluation in the field of metamarkets. To do so at first the metamarket and website elements are discussed. Then we have selected some metamarket websites and examined the website elements in each of them. Finally there is conclusion about the suitable set of criteria and evaluation model for metamarket website evaluation that some of them are much more important. Also there are recommendations for those who want to establish metamarket website.

## 1 INTRODUCTION

One of the most important issues in any type of commerce (electronically or traditionally) is selecting and installing a robust business model. As mentioned by Joan Magretta, (2002) A well defined business model remains essential to every successful business. Well defined and managed business model could bring substantial value to organizations. Business model gets the enterprise direction, defines the proper capabilities and activities, and creates values for the enterprise. In fact a business model defines the linkages among key strategy, capability, and value drivers of business performance (Lynda M. Applegate, 2009). It could be said that if there is an enterprise, there should be a business model, and if there is a successful enterprise there should be a powerful and beneficial business model.

As cited by Scott M. Shafer et al. a business model is a representation of a firm's underlying core logic and strategic choices for creating and capturing

value within a value network. We can conclude that business Model has two parts, the means side and the ends side. In the mean side there are underlying core logic and strategic choices which could lead to the ends side, creating and capturing values. Also it should be considered that business model is not the business strategy. While the business strategy defines a roadmap to the desired future, business model determines how to walk the way (Scott M. Shafer 2005).

Evolution of information and communication technology in recent years significantly affected on how the businesses conduct in their operations and also resulted in new types of organization with novel business models which are fundamentally depended on technology. Dotcom or e-commerce companies are such companies, known by their powerful presence in the World Wide Web. For these companies, business model is an important aspect of the business as well, that is called e-business model.

In this paper we will focus on metamarket as our favorite business model which has been introduced

by Rayport and Jaworski (2001). Other authors like Applegate (2003) introduce a kind of e-business model that is a market enabler for buyers and sellers.

Obviously, one of the most important components of an e-business model is its interface resources with the customers and mainly the website. Website is inseparable part of each e-business model and if well designed, it can play a significant role in business success.

Therefore each investor and entrepreneurship who wants to establish ecommerce website should be able to pre-evaluate its website effectiveness and efficiency and become sure about its proper performance before taking it in front of the customers. For this reason many website evaluation criteria have been introduced by different authors but almost considered criteria about technical and general aspects of a website neglecting the importance of special e-business model aspects that should be reflected in website. The main purpose in this paper is to find criteria for evaluation and design the metamarket websites.

In the next section we will review the concept of metamarkets and define the term, comparing different authors' viewpoint about this concept – which sometimes use different terms for the concept. The third section is a review about website evaluation criteria in some papers and classification of these criteria. Then we will evaluate some metamarket websites which have an excellent rank in Alexa.com reports then the observations have been summarized. Finally there is a conclusion about the proper criteria for evaluating and designing the metamarket websites and also some recommendations for entrepreneurships and investors in this area.

## 2 METAMARKETS

As mentioned by Applegate et al 2003, the successful entrepreneurial organizations of 1990s built businesses that leveraged a non-proprietary, shared internet infrastructure to unite buyers and sellers in fragmented markets. In fact internet and other communication and information technologies gave power to market makers and buyer/seller connectors to create market value and expand the network economic of scale and scope (Applegate et al 2003).

Nowadays market connectors, using internet and other communication networks, have more power in the e-business world. Rayport and Jaworski (2001) introduce the metamarket switchboard, category

switch board and auctions business models which are company and user derived. By "company and user derived" they mean that both company and users provide content and value added services to the site. Metamarket switchboard model brings together many buyers and sellers based upon the activities that customers engaged in to meet particular goals. The revenue model may include transactions, product sell and advertising (Rayport, jaworski 2001). Other business models cited by Applegate et al. (2003), like aggregators and infomediaries are similar to metamarket model discussed by Rayport and Jaworski. These models are trying to bring together many buyers and sellers and create the place in which people virtually conduct in transactions. Thus we define metamarket as "technology based e-business model in which many buyers and sellers (service providers, producers, retailers and so on) can use website facilities to bring together and conduct in transactions based upon customers' needs. In this paper we will examine some successful metamarket websites and introduce a metamarket website evaluation model.

## 3 WEBSITE ASSESSMENT

As told earlier website is one of the most important elements in e-business models which are established based on internet, web and other electronic facilities. In fact the website is the customer interface resource and if designed well, can play essential role in business success. Therefore many authors interested in determining how should be a well defined website and what are the criteria to evaluate it. This section reviewed some papers in this area.

Wen-Hsien Tsai et al (2010) after reviewing the literature in this context consider ten criteria to evaluate the national park websites quality: navigability, speed, links, relevancy, richness, currency, attractiveness, security, personalization, and responsiveness.

Alastair G. Smith et al. (2001) used two categories of criteria for New Zealand's five governmental websites evaluation. First category contains eight criteria which are related to information contents of the website. These criteria are orientation to website, content, currency, metadata, services, accuracy, privacy and external recognition. Second category contains five criteria which are related to how much it is easy for user to use the website. These criteria are links, feedback mechanisms, accessibility, design and navigability.

Blanca Hernandez et al. (2009) in their research about the main factors that must be taken into account when designing a commercial website studied the features which determine website quality. These features are accessibility, speed, navigability and content quality. *Accessibility* is about to appearing in the top results provided by the principal search engines, and enjoying great popularity on the internet, which can be measured by the number of links and by page-rank, obtained by for example Google. *Speed* is about the website loading time in compare with other websites that is affected by many factors such as the equipment used, the time of the connection, the traffic to the page, etc. *Navigability* is the usability of the website and the ease with which users can find relevant information, access the homepage and avoid getting lost when searching for products (Evans & King, 1999). And finally *content quality* is about the website information which are informing, interacting and transactional contents.

Another framework regarded elements in designing an e-commerce website, is the 7Cs framework introduced by Rayport and Jaworski(2001). This framework concerns a website as a customer interface supported with a wide range of internal and inter-organizational systems. Also it provides a comprehensive framework for the evaluation of interfaces in that it alerts researchers to major issues in interface design that should be taken into account (Lee 2004). This model introduces website's seven main elements in website design and evaluation. Let' take glance on these elements.

**Context** of the website captures its aesthetic and functional look-and-feel. In fact context is a container for website contents.

**Content** is defined as all digital subject matter on the site. While context largely focuses on the "how" of site design, content focuses on "what" is presented.

**Community** is defined as the interaction that occurs between site users.

**Customization** is defined as the site's ability to tailor itself or to be tailored by each user.

**Communication** refers to the dialogue that unfolds between the site and its users.

**Connection** is defined as the extent of formal linkage between the site and other sites.

**Commerce** capabilities are those features of the customer interface that support the various aspects of trading transactions.

Comparing 7C's framework with other presented criteria for web site design and evaluation reveals that this framework is more comprehensive and can

cover the others. This is shown in the Appendix 1.

As seen in most cases introduced criteria are general and the role of business model is neglected. Thereby for introducing evaluation criteria we have considered this table of criteria to be sure about comprehensive attention to website different elements in literature. Blanca Hernandez et al (2009) cited that most of the existing literature is undertaken in a general context without differentiating between the types of firm or sector analyzed and does not take into account that the factors considered may not be applicable in all cases. Thus, we can't be sure that these criteria will be suitable for metamarket websites evaluation, but could be a proper start point to obtain such an evaluation model.

Table 1: Comparing 7C's framework with other criteria models for website evaluation.

Website element	Related criteria presented by other authors
<b>Context</b>	Navigability, Speed, Accessibility, Page-Rank
<b>Content</b>	Relevancy, Richness, Currency, Accuracy ,Attractiveness, Content Quality, Orientation to Website, Content, Metadata
<b>Community</b>	
<b>Communication</b>	Responsiveness, Feedback mechanisms
<b>Customization</b>	Personalization
<b>Connection</b>	Links,
<b>Commerce</b>	Security, Privacy, Services

The above mentioned table has been considered as the initial reference for metamarket website evaluation model. In this table some criteria are redundant and should be merged. Also by examining the metamarket websites, other criteria have been observed which haven't been considered in website evaluation literature. As a result, the following table shows the refined model. After examining four selected metamarket websites, this model can be finalized.

#### 4 EXAMINING METAMARKET WEBSITES AND RESULTS

To determine proper website aspects of metamarkets, we have reviewed some websites with metamarket model. These websites are examined based on criteria presented in table 2. Selected websites are Babycenter.com, Edmunds.com,

Theknot.com and Monster.com. All of these websites have excellent rank in Alexa.com reports which shows their popularity and success.

Babycenter.com is a website which guides parents before and after child's birth and gives clinical and other kid's related advices. The services are how to get pregnant, how to deal with kid problems, communicating with other parents and share experiences, and shopping related services and goods from other providers all over the world. The rank of Babycenter.com in Alexa.com reports is about 1025.

Edmunds.com is the website trying to help people find an ideal new or used car in United States by offering information about car vendors. Many car manufacturers are willing to have advertisement in this website. The rank of Edmunds.com in Alexa.com reports is about 1500.

Theknot.com is a website, trying to help people having desirable wedding ceremony and couples can build their personal profile and receive advices, service and product offers from different vendors about their ceremony. Theknot.com rank in Alexa.com reports is about 3250.

Finally Monster.com is a job finding website which helps people to find job all over the world and plan for their career and also promote their skills. The rank of this website in Alexa.com reports is about 550.

Evaluation results for these websites are shown in table 3. This table shows our observation. All criteria have been examined for each website (based on measures described in table 2) and have been valued 1 through 5 (1 means zero support and 5 means full support of criterion). Also for each criterion the average and variance have been calculated.

## 5 ANALYSIS AND CONCLUSION

Regarding the results shown in table 2, we can

determine which criteria should be considered in metamarke website design. In this section we will review our findings about proper set of metamarke website designing criteria based on 7Cs elements introduced by Rayport and Jaworski.

High variance value for a criterion determines that there is no convergence about it in successful metamarke and this criterion is not so important in evaluation and design of metamarke websites. The suggested evaluation model can be finalized by eliminating such a criterion and specifying a weight for remaining base on average score. (Table 3).

Based on these finding we have some recommendation for those entrepreneurs who want to establish a metamarke website:

1. For a metamarke website to be successful, it should focus on specific and valuable subject (rather than special product or service) and connect customers and vendors around the subject.
2. Customer requirements will change over the time, so website owners should recognize customer requirements lifecycle and serve the customer base on this lifecycle.
3. Never neglect the importance of communities both internal communities and social networks.
4. Website should be able to recognize customers and serve them personally. To do so, it will be useful to create user profiles and there should be searching tools on these profiles.
5. Plan for website optimization in search engines, this make the website more popular.
6. To prepare customer requirements, metamarke should make coalitions with other businesses and never relay just on internal resources.
7. In addition to above mentioned recommendations, other general aspects in website design, cited by other authors should be regarded.

Finally it should be noted that designing a website is just a part of a successful business model

Table 2: Results of evaluation.

Website element	Criterion	BabyCenter.com	Edmunds.com	TheKnot.com	Monster.com	Average	Variance
Context	Speed	2	3	3	3	2.75	0.25
	Navigability	5	4	5	5	4.75	0.25
	Accessibility	5	5	5	5	5	0
Content	Attractiveness	5	3	5	5	4.5	1
	Richness	5	5	5	5	5	0
Community	Internal Communities,	5	5	5	5	5	0
	Social Networks Participation	5	5	5	5	5	0
Communication	Feedback mechanisms	5	5	5	5	5	0
	User Content	4	1	1	1	1.75	2.25
Customization	Personalization	3	3	5	5	4	1.3333333
connection	Links	5	5	5	5	5	0
	Affiliate Program	4	5	5	5	4.75	0.25
Commerce	Commercial Facilities	3	1	5	1	2.5	3.6666667
	Security	1	1	4	1	1.75	2.25

and we should never neglect the importance of back-end resources and systems.

Table 3: Final evaluation model with weights.

Website element	Criterion	Average
Context	Speed	2.75
	Navigability	4.75
	Accessibility	5
Content	Attractiveness	4.5
	Richness	5
Community	Internal Communities,	5
	Social Networks Participation	5
Communication	Feedback mechanisms	5
Customization	Personalization	4
Connection	Links	5
	Affiliate Program	4.75

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## APPENDIX

Appendix 1: Initial evaluation criteria for metamarket websites.

Website element	Criterion	Definition	How to Measure	Reference
Context	Speed	This criterion refers to quick connection and delivery, minimal use of large graphics and bright colours, easy access to links, and website loading speed	Alexa.com Report about the speed	(Bilsel et al., 2006) (Smith, 2001) (Rayport 2001) Wen-Hsien Tsai et al (2010)
	Navigability	This criterion measures how easy it is to navigate around the site, how easy it is to return to the home page of the site, how easy it is to find relevant information how many links are required to get from one point in a site to another, and what search tools the site provides	Navigational tools like menu and Site Map, search Facilities,	(Miranda-González & Banegil-Palacios, 2004), (Smith, 2001) (Rayport 2001) Wen-Hsien Tsai et al (2010)
	Accessibility	It is about to appearing in the top results provided by the principal search engines. The more accessibility, the more visits to website	Alexa.com Report about number of visits to website	Smith, 2001 (Rayport 2001) Blanca Hernandez et al. (2009)
Content	Attractiveness	This criterion consists of whether web pages are fun to read and help visitor promote their excitement, such as through graphics, online games, cartoons, screensavers, software downloads, and Q&As	Multimedia contents	(Cao et al., 2005; Huizingh, 2000; Miranda-González & Banegil-Palacios, 2004).
	Richness	This criterion refers to detailed level and scope of information content. That is, formations contained on the website are rich in content	Life cycle based contents, Subject Oriented contents	(Bilsel et al., 2006). Wen-Hsien Tsai et al (2010)
Community	Internal Communities	This criterion refers to Built-in communities in which user can participate	Facilities like chat, message board, number and variety of communities	(Rayport 2001)
	Social Networks Participation	This criterion refers to the company's presence in social networks	Number and importance of social networks in which the company participates	Authors suggestion
Communication	Feedback mechanisms	Facilities for users to provide comments, request clarification, suggest improvements and corrections to site.	Email, FAQ, Newsletter, User Comments, Q&A	Smith, 2001
	User Content	This criterion refers to the contents of website which are provided by users.	User ability to share the idea, photos, movies, topic, articles and rating	(Rayport 2001)
Customization	Personalization	This criterion includes an individualized interface, effective one-to-one information, and customized service Customized content of the website can provide a user with the relevant and up-to-date information that will address his specific needs	Registration, User Profile, Cookies, Customized Contents	(Lee & Kozar, 2006). (Ho & Lee, 2007). (Rayport 2001)
Connection	Links	This criterion refers to availability of links to other related websites.	Alexa.com reports about number of website links in other websites	(Buşuyükoçkan & Ruan, 2007), Wen-Hsien Tsai et al (2010), Smith, 2001
	Affiliate Program	This criterion refers to the website's ability to support other websites services	Number and significance of affiliate programs	(Rayport 2001)
Commerce	Commercial Facilities and Services	This criterion refers to website ability to support commercial transaction between buyers and sellers.	Facilities like Shopping cart, Financial transactions, Order Tracking	(Rayport 2001), Smith, 2001
	Security	This criterion deals with how a website proves to be trustworthy for customers. A confident website should assure the secrecy of its users' personal and private data as well as prevent the content of a message from being tampered with	Authentication and Authorization facilities in website	(Ho & Lee, 2007) (Buşuyükoçkan et al., 2007; Chu, 2001) Hsien Tsai et al (2010)