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An Analysis of e-Mortgage Sites in New Zealand

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Abstract

The New Zealand mortgage market is undergoing tremendous change with more lenders, more offers, and more options available to the borrower to structure home loans to suit their needs. The rapid growth in use of the Internet by mortgage operations is both a consequence and a symptom of the rapid development of the mortgage market as well as of the underlying information and communication technology. Given the increasing number of online mortgage service providers and increasing advertising to promote awareness of their websites, it is important to evaluate the effectiveness of the Internet solutions. A multi-method approach (including website content analysis, two surveys, and interviews) was adopted for this study.

1. Introduction

As in so many other fields, the advent of the Internet has provided opportunities for doing old things in new ways. According to 2001 Census statistics, 1,368,204 dwellings were owned in the country, with 31% of dwellings owned with a mortgage. The mortgage broker who serves as the intermediary between the bank (mortgagor) and the customer (mortgagee) can play an important role in the daily lives of New Zealanders. A mortgage is typically a household's biggest expense. The Internet has already demonstrated its ability to be a critical competitive advantage for organisations that can provide better services for customers. With high Internet penetration in New Zealand and the local penchant for adopting new technologies, the possible market for e-mortgages is substantial. It is therefore worth studying the effectiveness and trends of Internet mortgage services in New Zealand.

The main objective of this research project was to evaluate the effectiveness of the mortgage provider and broker websites in New Zealand. The current situation and performance of all identified e-mortgage services were explored. Questions such as "Does e-mortgage provide a better service than the traditional way?" and "Will e-mortgage change the way New Zealanders arrange, and/or pay, their mortgages in the future?" were addressed.

A multi-methodological approach was used. Websites and other electronic communications were analysed, the institutions offering e-mortgages and brokering were interviewed, and potential and current clients were surveyed.

2. Study Methodology

Due to the exploratory character of this research, data collected using multiple methods and from multiple sources were considered necessary to add rigour to the study [10]. This suggestion was affirmed by Mingers [4] within the context of information systems research; he asserted that a multi-methodological approach by combining different research methods would produce more reliable and richer research results. A multiple-methods approach was therefore adopted to provide a more complete picture of the online mortgage industry. The research methods utilised and their primary purposes are as follows:

Content analysis, which focuses on the characteristics of the online mortgage services websites, was used to assess and rank site capabilities against the model proposed to serve as a benchmark.

Two *surveys* were used to investigate the industry's Internet usage and to obtain consumer perceptions about online mortgage services capabilities, respectively. One survey was targeted at online mortgage brokers, the other at customers.

Interviews were conducted to gain an in-depth understanding of online business operations from the perspective of the mortgage market players.

2.1 Content Analysis

Berger [1] described content analysis as a communication media research technique based on quantitative means, for example, counting the amount of the presence of identified elements used to measure the concept in the study. To conduct such an analysis, a predefined model is required to serve as a benchmark. Therefore, content analysis in this study consists of two steps. Tailored online mortgage site evaluation models were developed, followed by a process of systematic analysis of websites. Before starting with the content analysis and the survey, an online mortgage website evaluation model was initially developed to provide the fundamental background to the study.

Based on a literature review of items relevant to website evaluation, in particular to measurement of online financial operations [3] [5], and preliminary observations of the New Zealand online mortgage websites, standards for measuring the mortgage sites were established. The primary ideas of the model are the components in Hersey's e-commerce website evaluation model and the categories in the abstract site usability model [7]. Due to

the unique features of each industry some of the components and /or categories considered to be inappropriate were tailored to meet the requirements of the online mortgage services market. The same approach was adopted by Satitkit [8] and Chung [2], who developed the adjusted models for measuring travel industry websites and Internet banking services, respectively.

2.1.1 Evaluation Model Components

This general online mortgage website evaluation model has six dimensions used to measure the concept of an effective online mortgage website, with each dimension consisting of several elements. Due to differences in their types of business operations, the model for online mortgage lending evaluation varies slightly from the model for online mortgage broking websites. The online mortgage broking model is depicted in Figure 1. In general, the online mortgage site evaluation model consists of six categories. These categories are:

- Information
- Mortgage transactions
- Trust
- Ease of use
- Marketing and customer focus
- Non-functional requirements

Content analysis should be a multistage and systematic process [9]. This point is also illustrated by Neuendorf's flowchart [6] for the typical process of content analysis research. The description of the process employs three main steps, sampling, coding, and analysis.

2.1.2 Sample Identification

The mortgage sites came from various sources:

1) 35 mortgage lenders' sites were collected from two websites located at: <http://www.nzherald.co.nz/money/ratetables/html/mortgagerates.htm> and <http://www.interest.co.nz/mortgages.html>, respectively. The New Zealand Herald online edition was ranked as among the top twenty by Hitwise (at <http://www.hitwise.co.nz>), the industry leader in comparative website monitoring and analysis. Interest.co.nz serves as a guide for the best options of interest rates derived from almost all professional organisations in the money market, including both banks and other financial institutions.

2) 40 mortgage brokers' sites were identified via the NZSearch search engine (a well-known web directory in New Zealand), via the Yellow Pages online edition finance section (at www.yellowpages.co.nz), and from the first survey conducted at the preliminary stage of this study.

The list totalling 75 online mortgage service websites in New Zealand, all that could be identified, constitutes the sample population of this study.

2.1.3 Coding

All of the sample sites were evaluated by using the same coding scheme. Binary scores (0 or 1) were used to

record the appearance of the characteristics on the sites against the two predefined models. A score of 1 is assigned to the elements identified while looking at the websites. In contrast, a score of 0 reflects the absence of such an element. It should be noted that some elements, such as page loading speed, and page presentation could not be simply scored by establishing their occurrence. Attitudes to such elements differ from person to person, therefore judgment of these elements tend to be somewhat subjective. To attempt to limit the subjectivity rules in terms of a range or a list of acceptable requirements are defined. The elements with performance within the accepted range or meeting the requirements were judged as 1, otherwise they were scored as 0.

The major advantage of this coding is that it maintains objectivity. Each site was assessed three times in order to minimise or eliminate judgment variance. Microsoft Excel was used for coding, which took place on 20 March 2002.

2.2 Surveys

Two surveys were carried out in the study, targeting industry players and consumers respectively.

The first survey outlines Internet usage in the mortgage broking industry. Members of the New Zealand Mortgage Brokers Association (NZMBA) were selected as a representative sample. The survey was administered via e-mail. A list of the email addresses was collected from the New Zealand Mortgage Brokers Association website located at <http://www.nzmba.co.nz>, section "locate a member." The emailing list there is arranged on an organisation basis. Some organisations such as Mortgage Link Ltd, which is a co-operative of selected 35 offices and 65 mortgage brokers throughout New Zealand, Mike Pero Mortgages and Mortgage Choice with a franchise model are deemed as one single organisation specified in the study. They and their members share the same site. The survey was distributed twice within a period of ten days due to the limited response of the first survey.

The second survey was a web-based survey. It was created and published using WebSurveyor Corporation's online survey software and hosting services. It is ranked highest by PC Magazine for ease of use in America and located at <http://www.websurveyor.com>. The online mortgage web survey was published at <http://websurveyor.net/wsb.dll/8390/onlinemortgagewebsurvey.htm> on 26 March 2002 for a period of three months. In addition, this site was posted online on 24 April 2002 through link at <http://www.propertyinvestor.co.nz/>, a Residential Property Investor Magazine in New Zealand. Other means such as university staff and postgraduate students mailing list and newsgroup sites in New Zealand were used for the site promotion.

2.2.1 Pilot Test

Prior to publishing the mortgage web survey online, a hard copy version of the questionnaire was pilot tested by seven people including lecturers and postgraduate students. They were chosen because they are mortgage

borrowers and/or experienced Internet users. Inappropriate expressions of items or scales were modified to make sense and be logical. A revised questionnaire was tested again to assure the reliability and validity of the survey. Due to the characteristics of a web survey's presentation, four staff and postgraduate students in the MSIS department of the University of Auckland tested the final online version of the online mortgage survey.

2.3 Interviews

Interviews were conducted to gain an in-depth understanding of online mortgage operations from a mortgage market player perspective. The main emphasis was on strategy issues of online mortgage solutions in the mortgage industry. Major players who use the Internet for doing online mortgage business and /or the top 15 sites, ranked as the most innovative online mortgage sites in website content analysis in this study were invited to participate. Three organisations agreed to participate in the study. They are as follows, in the order of our obtaining permission to conducting interviews.

Mortgagenet Investments Ltd www.mortgagenet.co.nz

Wizard Mortgage Corporation www.ewizard.net.nz

Cains Lockie Mortgage Banker www.emortgage.co.nz

3. Analysis

3.1 Survey Results

3.1.1 Industry Survey

The data in this survey were gathered from the mortgage broking industry survey emailed (except one which was required to sent by post) to the NZMBA members. There were 120 unique sites of which 110 took delivery of the email (i.e. 10 messages failed). Twenty-four responded via email; four dropped out for reasons of company voluntary liquidation, duplication, enquiry, and unwillingness to be involved. Therefore, the response rate of 18% resulted from 20 completed and returned valid questionnaires. Fifteen replies were collected via email, four via fax, and one by post. The three key findings from the industry survey are:

(1) There has been a rapid growth of Internet presence in the mortgage broking industry in New Zealand, accounting for 40% of those studied. Although the adoption of the online mortgage service lags by several years compared with other financial services, such as banking, the entire mortgage broking market has been experiencing an increase in online mortgage operations in recently years.

(2) The field of online mortgage broking in New Zealand is relatively new. The Internet is mainly used as an advertising and brand-building tool; the majority (87.5%) of the mortgage broking sites are information-based rather than providing transactional facilities.

(3) The effectiveness of the web operation is still a major concern. First, the current online mortgage broking

service is considered to be less effective, as the majority of mortgage brokers (70 percent) surveyed indicated feeling neutral on the degree to how satisfied they are with their web presence. Second, brokers have not been convinced an increased amount of business has been generated from an online service, therefore they are watching, waiting for market trends, and then planning, rather than making decisions in a rush. Third, the effectiveness of investment in time, cost, and effort versus returns is taken into account. Finally, a personal touch is considered to be critical in the mortgage business.

3.1.2 Consumer Survey

People in their 30s and 40s are more likely to use an online mortgage service to arrange their mortgages. 49 out of 65 respondents (75.4%) were aged from 30 to 49. Increasing educational levels have contributed to the ability of customers to accept the online services. Half (33 out of 65 or 50.8 %) of customers are property investors, followed by first home buyers, accounting for 26.2% (17 out of 65). This would be a useful guide for developing a mortgage website, particularly the content design, when considering the target audience.

Mortgage borrowers are still comfortable with traditional services to arrange their mortgages. Face-to-face is regarded as an essential component of a mortgage business. In addition, mortgage borrowers are more likely to make a mortgage application in a traditional way rather than taking an online application.

Customers primarily use mortgage websites as an information gathering medium and an educational tool. The majority of the respondents access mortgage websites for the purpose of information-related activities such as shopping for mortgage rates, making comparisons among mortgage options, and gaining market intelligence. This was reflected in comments made by the customers on desired future improvements, which mainly included a desire for more detailed information, more options for comparisons, more powerful functionality, and faster response. Interactive features received more attention among the site users. Facilities in the forms of a powerful mortgage calculator, enquiry email, and various e-forms such as comments, feedback and request forms gave customers a good sense of two-way interaction. The lower percentage of transactional facility usage may be attributed to the fact that they were not popular at this stage, as well as that the website itself was not fully geared for mortgage business transactions. The absence and or the lack of such facilities were also observed in the content analysis of the mortgage websites.

Timesaving, convenience and reduced cost are the major benefits experienced by the online mortgage customers. In fact, the Internet has already demonstrated its ability to have a powerful impact on changes in time, cost and service. The online mortgage service is simply one reflection.

Participants felt more strongly about the importance of certain elements. Like most e-business consumers, the mortgage consumers are concerned with security issues.

Safety of information storage and transaction was ranked as the biggest concern of the customers. Information attracts considerable attention from the customers. There is an increasing demand for more up-to-date, more accurate and more detailed information displayed on a mortgage website. It is interesting to note that online servicing and electronic advice on mortgage options were important to the customers this survey reached. This would imply an increased awareness of the benefits of using online transaction processing. Therefore, changes in the mortgage facilitation process are expected. Other important issues include response time, page loading speed, and interactive tools. In contrast, some issues related to site marketing such as site brand, site innovations, and site personalisation are not considered to be important factors for a mortgage website. The low importance of e-subscription as perceived by the customers was contrary to what the mortgage service providers thought.

Although there is tremendous room for more effective mortgage website operation in New Zealand, overall the customers were satisfied with the current online mortgage services and indicated a greater probability of future adoption of online mortgage services.

3.2 Content Analysis

Content analysis, used to evaluate the effectiveness of the online mortgage websites, is quantitative in nature. The content domain chosen for examination in the study is of the online mortgage websites in New Zealand. The sample includes thirty-five mortgage lender websites and forty mortgage broker websites. The content analysis process followed the Neuendorf [6] flowchart for the typical process of content analysis research. The websites surveyed were evaluated based on the benchmarking models developed. Two evaluation models in terms of mortgage lending sites and mortgage broking sites consist of six dimensions, namely information, mortgage transaction, trust, ease of use, marketing and customer focus and non-functional requirements, but they differ in a few elements.

3.2.1 Lender Site Content Analysis

According to <http://www.interest.co.nz>, which also has a link from <http://www.nzherald.co.nz/money/>, there were fifty-six institutions providing their mortgage rates and products through the observation conducted on 18 March 2002. These included eleven banks, four trustee companies, nine building societies, five insurance companies and twenty-seven finance companies respectively. Out of the 56 mortgage lenders, 35 were found to have an Internet presence, via the web directory at <http://www.nzsearch.co.nz> by entering key words such as institution name. This gives an Internet usage of 62.5% for the mortgage lending industry in New Zealand.

The average score of each site, or the average number of elements used by a selected mortgage lender site was 15.8 per website, less than 17, the 'pass' or 50% mark for

representing all the 34 elements required in the evaluation model. Therefore, this figure reflects a fact that the overall adoption of elements measured on mortgage lender sites was low.

Additionally, the average numbers of elements utilised per website for different kinds of organisations was calculated. They are 21.3 (213/10) for the banking sector, 15 (60/4) for trustee companies, 13.75 (55/4) for insurance companies, 13.5 (162/12) for finance companies, and 12.4 (63/5) for building societies respectively. These average scores provide for comparisons among the different types of mortgage lender organisations. Other than the banks, which have a higher adoption of the elements required in the mortgage lender evaluation model, the others have a low occurrence of the identified elements.

3.2.2 Element Score Analysis

The same method as described above was applied to the calculation and the presentation of scores gained by each element across the selected population of the mortgage lender sites. The elements with higher scores illustrate their importance and / or usage in developing mortgage lender websites. The dashed line shows the maximum value obtainable for an element. The sample population of 35 mortgage lender sites determines this maximum value.

The average score for all elements, or the average number of organisations using an element, was 16.3 (553/34). The averages for each element were also calculated across the six dimensions classified in the evaluation model. They are 32.3 (97/3) for the information dimension, 9.1 (91/10) for mortgage transactions, 18.7 (56/3) for trust issues, 18.75 (75/4) for ease of use, 12.0 (132/11) for the marketing and customer focus dimension, and 34 (102/3) for non-functional requirements. These average scores show that the elements adopted by the organisations vary significantly with respect to the different dimensions to which the elements belong. Non-functional requirements and information received the most attention by the lender organisations, accounting for 97.1% and 92.3%, respectively. In contrast, the usages of the capabilities in terms of marketing and customer focus and mortgage transaction were low, accounting for 34.3% and 25.7%, respectively.

3.2.3 Broker Site Content Analysis

The average score of each site, or the average number of elements used by a mortgage lender site, was 14.1 (564/40) per website, which was less than 17.5, the fiftieth percentile for all the elements required in the evaluation model. Therefore, this figure indicates that the adoption of the elements measured in the model was below what may be expected. The overall standard of the online mortgage service website design was relatively low; they provide limited facilities at the online mortgage sites. The result is consistent with the observation of the lender sites.

The average scores for each element, or the average number of the organisations that use a specific element was 16.1 (564/35). The averages for each element were also calculated across the six dimensions classified in the evaluation model. They are 30.2 (151/5) for the information dimension, 10.25 (82/8) for mortgage transactions, 12.75 (51/4) for trust issues, 10 (40/4) for ease of use, 12.73 (140/11) for marketing and customer focus dimension, and 33.3 (100/3) for non-functional requirements. These average scores show that the dimensional average scores varied considerably. The information and non-functional requirements dimensions were considered essential parts in mortgage broker website design, accounting for 75.5% and 83.3% respectively. In contrast, the remaining four dimensions have an unacceptable level of organisational adoptions, accounting for only 25.6%, 25%, 31.9%, and 31.8% respectively.

The interviewees represented small organisations that had been in the mortgage lending and/or broking business for between 3 to 6 years. They used a combination of DIY and outsourcing to develop and maintain the site. Having up to date information was considered to be essential by all of them.

What are the factors that contribute to a successful website? "It must be easy to use; it must be very clear, (clear with the content), nice straight letters, you know, clear like that (show me a white paper with black letters on it). It's going to be quick down loading, very quick down loading, easy to navigate, Yes, very easy to navigate, easy to use."

3.3 Interview Results

All three interviewees stressed that the business could not just be electronic, but would be one component of an overall strategy "I think it's an ideal way to transact mortgage business, um, there are a couple of blockages, people have to sign mortgage documents, and also people still like talking to people, so the human factor is still evident, I think the Internet is going to be a helpful strategy, it's a part of your strategy. Here, we are not totally to rely on the Internet, the Internet is an important channel, and also an important marketing mechanism, but it's integrated with all the other marketing." Another found "You have to have the face-to-face to support the Internet presence"

The Internet site was seen as a communication channel, one that could allow the broker to make the initial contact and allow people who were overseas to invest in property in New Zealand and to take up a mortgage to do so. "I've got clients living all around the world now - Sweden, Japan, the USA, the Philippines, France, England. I could have never got without the Internet, too hard to find them, I can find them, now they can find me which is nice." The development of a mailing list or similar strategy was also seen as the major selling point of their business, although each had their own unique way of promoting this. "I've got a database now, it's actually close to 5000 subscribers

I've built up, and it's taken me five years to build that database. But it's good target marketing because ... most are property investors, because that's whom my site is designed to attract."

4. Discussion and Conclusions

In general, the online mortgage service sites that scored in the high category are considered fairly good with respect to the design and implementation of the six dimensions identified in this study. On one hand, they are informational in nature; on the other hand, they have a sophisticated web presence, not only offering a wide range of capabilities such as online transactions, online tools, and e-marketing incentives, but also taking advantage of new IT technologies to enable an interface with site navigability and media richness. Most of the high scoring online mortgage provider web sites represent leading players in the mortgage market in New Zealand.

Both mortgage lender and mortgage broker organisations represented multiple strategic business considerations on their websites, covering six dimensions in this study. This is consistent with findings from the literature. However, the performance of each dimension differs quite significantly. Six dimensions surveyed in the content analysis comprised information, mortgage transaction, trust, ease of use, marketing and customer focus, and non-functional requirements. Figure 1 provides statistics on specific site characteristics (elements) for the Broker sites. Information and non-functional requirement were the most frequently implemented elements. Most sites did fairly well with in terms of page loading, the use of graphics and animation, and the content organisation and presentation. Websites examined did not make heavy use of the site for marketing and customer focused activities. Activities such as mortgage glossary, site personalisation and e-subscription, were used by few of the responding organisations. Only two of the mortgage lenders provide site customisation, and none of the mortgage broker organisation applied this function to their websites. On the mortgage transaction side, the performance was considerably poor. The online tools used to process a mortgage arrangement were provided by very few organisations. About 31.4% of the mortgage lender and 40% of the mortgage broker offer an online application. None of the online mortgage service providers offer online mortgage approval. When we consider ease of use, although the overall navigability of the sites was considered good with the use of navigation tools, location indicator, and internal and external links, other facilities such as site map, online help and search function appear at relatively few online mortgage service sites.

The results of the content analysis allow a comparison between lender sites and broker sites (Table 1). The mortgage lender sites outscore the mortgage broker sites in terms of the overall capabilities and performance of the online services provided satisfaction.

Element on Mortgage Broker Sites

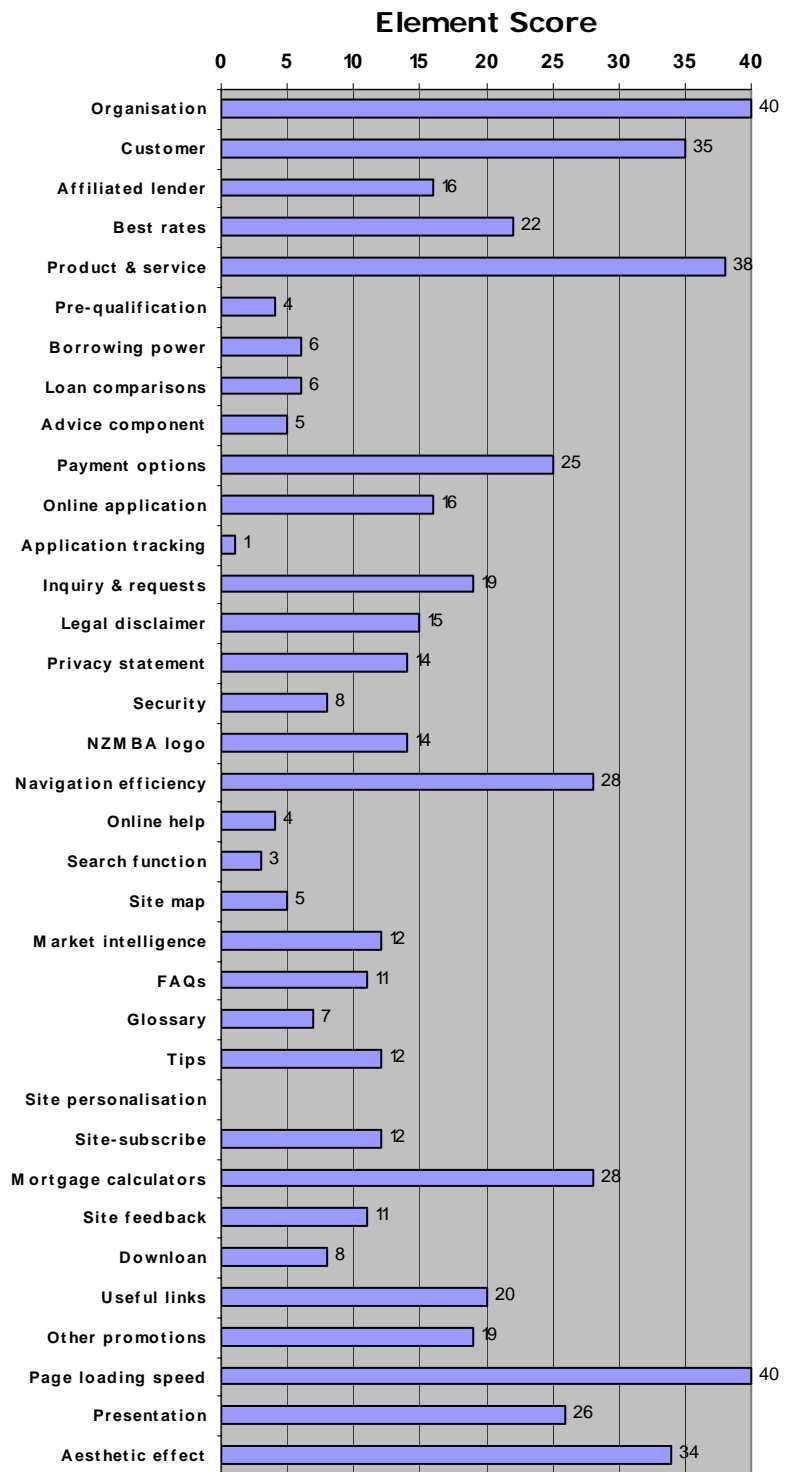


Figure 1: Scores for each element on mortgage broker sites

Table 1. Online mortgage websites score summary

	Lender Sites (Total 35)			Broker Sites (Total 40)		
Site Scores	Low (17 or lower)	Medium (18 to 24)	High (25 to 34)	Low (17 or lower)	Medium (18 to 24)	High (25 to 35)
Percentage	22 (62.9%)	9(25.7%)	4 (11.4%)	30 (75.0%)	7 (17.5 %)	3 (7.5%)
Summary	<ul style="list-style-type: none"> ➤ Most of the sites providing online mortgage services received low scores ➤ Bank sites dominated the high scores with 7 in the top 10 ➤ Three non-bank sites also were ranked in the top 10 ➤ Overall, online mortgage lending sites are of poor performance 			<ul style="list-style-type: none"> ➤ Most of the broker sites received lower scores ➤ The sites ranked in the top 10 included the most visible mortgage broker sites and primarily those among the medium and leading players in the market ➤ Overall, online mortgage broking sites performed poorly 		

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