



## Macquarie University ResearchOnline

---

**This is the author's version of an article from the following conference:**

Burton, Suzan & Fong, John (2005). Peer to peer recommendations: a comparison of electronic discussion boards, *European Marketing Academy Conference* (34th : 24 - 27 May 2005 : Milan, Italy).

**Peer-to-Peer Recommendations:**  
**A Comparison of Electronic Discussion Boards**

*Track: New Technologies and Internet Marketing*

*Keywords: Word-of-Mouth; Peer-to-Peer Recommendations; Internet Marketing*

**Abstract**

The important influence of peer recommendations on consumer purchases has been strongly established. However, the growth of electronic discussion boards has recently created an additional channel for product recommendations and endorsements between people who have never met, and anecdotal reports suggest that such recommendations can be influential in subsequent choice. This study examines and compares Peer-to-Peer recommendations on digital camera electronic discussion boards within US and China based websites. The analysis showed differences in the pattern of brand mentions across the two websites and a significant country of origin effect among users of a Chinese web site, in the form of a significantly higher frequency of negative references to brands originating from Japan. Information seeking behaviour was also found to vary between the two sites, with users of the China based website more likely to request information, thus possibly increasing the likelihood of, and influence of, Peer-to-Peer recommendations for users of this website.

## **1. Introduction**

The important influence of word-of-mouth on consumer purchases has been strongly established (Herr, Kardes, & Kim, 1991; Laere & Heene, 2003; Scott, 2003; Sillence & Baber, 2004). However, the growth of electronic discussion boards has recently created an additional channel for product recommendations and endorsements between people who have never met, and anecdotal reports (Goodman, 2001; Guardian, 2004) suggest that such recommendations can be influential in subsequent choice.

The marketing literature has also identified the cultural differences in the online behaviour of consumers and their varying preferences for foreign and domestic products (Chau, Cole, Massey, Montoya-Weiss, & O'Keefe, 2002; Knight, 1999). This study extends the literature on online behaviour and different cultural preferences of consumers, presenting the first analysis and comparison of the behaviour of consumers from different cultural backgrounds on discussion boards on different purchasing websites. It also contributes to the knowledge of marketers, providing a better understanding of the behaviour of consumers on discussion boards based in different cultures, helping to identify differences in the behaviour of customers which can potentially be used by marketers to better respond to, and target these customers in order to overcome barriers to consumer choice.

## **2. Literature Review**

Word-of-Mouth (WOM) communications have been shown to exert a strong influence on consumers' judgments of products (Herr et al., 1991). This influence is prevalent when considering the purchase of a new product or service (Brown & Reingen, 1987; Scott, 2003). As such, the influence of WOM has a strong bearing on a purchase outcome. Prior research on WOM has focused on interpersonal (or face-to-face) influence (Anderson, 1998; Bearden & Etzel, 1982; Rogers, 1983) and has largely neglected online WOM (sometimes referred to as Peer-to-Peer Recommendations). Peer-to-Peer recommendations occur when people interact with each other online and are likely to happen within purchasing websites that have discussion boards. Discussion boards and other online communication tools like chatrooms and newsgroups are increasingly being recognized as important sources of information that influence the adoption and use of products and services (Subramani & Rajagopalan, 2003). Furthermore, these tools serve to draw people with similar interests and present an opportunity for Peer-to-Peer recommendation to take place.

It has been recognized that the country of origin of a product or a service affects consumers' perception of it (Baker & Ballington, 2002; Nagashima, 1970; Saminee, 1994). Consumers often perceive stereotype images about countries and these images are subsequently used as information cues in judging products from different origins (Lotz & Hu, 2001). This is often termed the Country of Origin (or CoO) effect, and Johansson (1989) asserted that the CoO effect could be seen as a 'mental shortcut to decision making' and can be categorized as positive or negative. Country of origin effects have not previously been explored on internet sites, where people from different countries have the opportunity to interact freely. Under these circumstances, it is not clear whether CoO effects will be increased or decreased. Thus an analysis of any CoO effects on the various internet sites would extend the literature in this respect.

This study is the first to undertake qualitative and quantitative of two different discussion boards, drawing comparisons between a US and a China based website, namely

“eBay” and “EachNet”. Specifically, it uses the content within the discussion boards to explore the frequency and type of Peer-to-Peer recommendation that takes place. The first website, eBay, has enjoyed much success as the premier online auction website. eBay hosts several discussion boards and, in 2001, had a total of 60 million registered users (Gomes-Casseres, 2001). The site’s discussion boards enable strangers to communicate about products that they have already purchased or are considering purchasing. It is therefore a good source of information for users or for potential purchasers who wish to find out more about a product before making a purchase and thus likely to provide a potentially important source of WOM. EachNet is the Chinese equivalent of eBay, providing a forum for Chinese language auctions and discussions. It was established in 1995 and was subsequently bought by eBay in 2003. In 2003, it had a total of 4.3 million registered users (Hof, 2003). The layout of EachNet is similar to eBay and it also hosts several discussion boards. The discussion boards on both sites are used extensively by each online community, providing a good basis for comparison between the two sites. Behaviour of consumers on sites such as this has been largely unexplored, and an examination and comparison of both sites has the potential to provide a richer understanding of online consumer behaviour in two cultures.

US and China based websites are compared because Chinese and Westerners have been shown to display different behaviours due to social and cultural differences (O’Keefe & O’Keefe, 1997). Whether these behavioural differences extend to different behaviours in online information seeking and giving has not been investigated, but understanding any differences between these two different market segments is important to allow marketers to explain and possibly influence buyer behaviour. In addition, America’s and China’s online communities are poised to become the largest and second largest in the world (CIA, 2003). As such, marketers who are selling consumer products, and/or performing online marketing, in these countries will increasingly need to investigate the various channels that consumers use to interact with each other and be aware of the possible implications that come with these channels.

### **3. Methodology**

As the aim of this study is to generate a deeper understanding of Peer-to-Peer recommendation, the research design is based on an analysis of the contents on the discussion board. Specifically, the research examines the discussion postings on the discussion boards in a bid to better understand the frequency and type of Peer-to-Peer recommendation.

Data was collected from the “Photography” discussion board on eBay and EachNet and were analyzed. The reason behind this specific choice of discussion topic is that Digital Cameras are considered to be a “technological product” with high consumer involvement (Poiescz & deBont, 1995). As such, it is likely to be a product where consumers may do research on the internet before making a purchase and, as a consequence, Peer-to-Peer recommendation might take place.

Online observation was carried out on the discussion boards of both eBay and EachNet and all discussion postings that related to Digital Cameras were downloaded daily over a three month period from March to May 2004. Postings were then coded to determine the frequency of mentions, country of origin effects and the extent of direct requests for information. Coding was performed by a bilingual research assistant and checked by the bilingual first author. For eBay, 248 discussion postings from 76 participants were downloaded. For EachNet, 304 discussion postings from 181 participants were downloaded.

In all, a total of 552 discussion postings from 257 participants over the three month period were analyzed and coded.

## 4. Results

### 4.1. Market Share versus Frequency of Brand Mentions

An analysis of Market Share versus the Frequency of Brand Mentions for the various brands of digital cameras was conducted. Table 1 shows the number of brand mentions and for comparison, provides market share of the various brands in US and China respectively. The six brands listed were the most frequently mentioned on both websites. This finding is consistent with current data that estimates that these brands account for almost 75% of the global digital camera market share (InfoTrends, 2003).

**Table 1: Market Share vs. Frequency of Brand Mentions**

Brands	eBay			EachNet		
	Market Share in US	No.	Percentage (%)	Market Share in China	No.	Percentage (%)
<b>Canon</b>	15%	122	26.8%	17%	62	15.9%
<b>Fuji</b>	9%	64	14.0%	11%	51	13.0%
<b>Olympus</b>	12%	56	12.3%	10%	40	10.2%
<b>Sony</b>	22%	51	11.2%	20%	86	22.0%
<b>Nikon</b>	7%	42	9.2%	8%	32	8.2%
<b>Kodak</b>	18%	37	8.1%	9%	43	11.0%
<b>Others</b>	17%	84	18.4%	25%	77	19.7%
<b>TOTAL</b>	100%	456	100%	100%	391	100%

Source of Market Share: IDC & CEInet, 2004

There was a significant difference in the number of brand mentions per posting on eBay (mean 1.84 std 2.41 brand mentions per posting), compared to EachNet (mean 1.37, std 2.89,  $p = 0.039$ ). There was also no significant association between US and China's market share ( $p = 0.208$ ). The number of brand mentions on each site might be expected to reflect market share in each country, but there was no significant association between brand mentions and US market share for eBay (Spearman's rho,  $p = 0.787$ ). In contrast, for EachNet, there was a significant association between Chinese market share and relative frequency of brand mentions (Spearman's rho,  $p = 0.005$ ).

### 4.2. Country of Origin Effects

In order to investigate any CoO effect in discussion postings, each discussion posting that contained a reference (either positive, negative or neutral) to a product's CoO was coded and the results are shown in Table 2.

**Table 2: Country of Origin Effect (% of Postings)**

References	eBay (248 Postings)		EachNet (304 Postings)	
	No.	Percentage (%)	No.	Percentage (%)
<b>Positive Reference</b>	0	0%	9	3.0%
<b>Negative Reference</b>	0	0%	19	6.3%
<b>Neutral Reference</b>	1	0.4%	3	1.0%
<b>TOTAL</b>	1	0.4%	31	10.3%

There was a significant difference between the percentage of CoO references between the two websites ( $Z = 5.50, p < 0.001$ ). In fact, eBay had only one (neutral) CoO reference while EachNet had 31 (10.3% of postings), of which the majority were negative. Although EachNet's positive CoO references included references to US, China and Japanese based brands, most of the negative CoO references referred to brands that originated from Japan. Negative CoO references fell into several categories; comments which appeared to relate to the Second World War (in which Japan invaded parts of China); comments that appeared to relate to the way Japan exports its products and general anti-Japanese sentiments which specifically suggest an unwillingness to purchase.

*Translated comments which appeared to relate to the Second World War:*

“When we purchase a Japanese product today, this would translate into an additional bullet for the Japanese in the next war. The bullet manufactured using the profit made might very well be used to kill your son! For the sake of our dignity and future generations, let's stop the Japanese from making money from us!” [23 March 2004]

“Fuji, Konica, Sony, JVC, Panasonic, Toshiba, Olympus. These companies have all financially supported the Japanese right wing government in re-writing textbooks which deny the war in Nanking and the Japanese invasion of China.” [11 April 2004]

*Translated comments which appeared to relate to the way Japan exports its products:*

“It has been said: In terms of product quality, Japan always exports its best to America and Europe, keeps the average quality for itself and exports the worst quality products to China!” [3 April 2004]

*Translated comments containing general anti-Japanese sentiments which suggest an unwillingness to purchase Japanese products:*

“My classmates have been influenced by me – they no longer use Japanese products! Using Japanese-made products is a humiliation to our ethnic group!” [28 April 2004]

“As citizens, we are unable to control the political direction of our country. We can however start from ourselves by not purchasing Japanese products. It is only after cultivating this behaviour, will our country have a better future.” [30 March 2004]

In contrast, there were only nine discussion postings that contained positive CoO references and only three of these made references to products from Japan. The following is a typical example:

“It is best to buy original imported products. I would recommend the Fuji A210 which I’m currently using. It is the original product and made in Japan – can’t deny their quality.” [16 April 2004]

The data thus suggest that CoO effects (specifically negative feelings towards Japanese people and Japanese based brands) may present a barrier to the success of these brands for some Chinese speaking consumers. This further emphasizes a need for Japanese based brands to be aware of the situation and perhaps take necessary steps to correct the negative perception so as to influence the future purchase behavior of Chinese speaking consumers.

#### 4.3. *Direct Requests for Information*

To measure the extent of information seeking by the participants in the electronic discussion board, the number of postings containing direct requests for recommendations was recorded in eBay and EachNet.

**Table 3: Postings with Direct Requests for Information**

	eBay (248 Postings)		EachNet (304 Postings)	
	No.	Percentage (%)	No.	Percentage (%)
<b>Direct Requests for Recommendations</b>	19	7.7%	54	17.8%

Table 3 above shows the results of the analysis conducted to determine the number of direct requests for information. There was a significantly higher percentage of discussion postings containing direct requests for information on EachNet ( $Z = 3.65, p < 0.001$ ). The higher percentage of EachNet (17.8% as compared to 7.7% on eBay) suggests that EachNet participants were more likely to request product recommendations and/or information, thus possibly increasing the likelihood of, and influence of, Peer-to-Peer recommendations.

## 5. Discussion and Limitations

This study has shown that there is a significant correlation between the various brands in China’s market share and the total number of brand mentions on EachNet. The reverse was not true for eBay, suggesting that the participants on EachNet provide a better reflection of the market share for the various brands. The reasons for the difference are not clear; participants on discussion boards are unlikely to be representative of the generally market, but they may be more likely to be seen as experts, and thus more influential in the choices of their off line peers. The divergence between market share and ‘share of voice’ on the US based site may thus suggest a potential problem for the brands like Sony and Kodak, which have high market share, but lower brand mention rates on the discussion site. In general however, both discussion boards have very different patterns of brand mentions and this possibly reflects the different perception and awareness level of each of the respective individual brands in the respective markets.

There were also significant differences between the frequencies of Country of Origin (CoO) references. CoO references were almost absent from eBay postings, but occurred in 10.3% of EachNet postings. In particular, EachNet had a much higher proportion of negative CoO references, and most negative references referred to Japan and/or brands that originated from Japan. Although the reasons underlying these negative CoO references were often unclear, it appears from the context that they reflected general anti-Japanese sentiments, possibly related to the Japanese occupation of parts of China during World War II, resulting in an unwillingness among some consumers to purchase Japanese products. The positive CoO references suggest that although there are feelings of resentment, some Chinese speaking consumers still use Japanese brands because of their good quality. Overall, both the positive and negative CoO references suggest a challenge for Japanese brands in selling to Chinese speaking buyers, and possibly an opportunity for non Japanese brands in penetrating into these market segments.

There was a significant difference in the percentage of postings directly seeking information ( $p < 0.001$ ) with more than twice as many postings on EachNet directly requesting information (17.8% as opposed to 7.7% on eBay). This finding could possibly be related to Roger's (1983) generalization of personality variables associated with innovativeness which suggested that "early adopters seek information about innovations more actively than late adopters". Rogers, however, did not discuss the information seeking behaviour of early adopters across different cultural groups. Our results suggest that there is a difference, with Chinese speaking consumers requesting information significantly more frequently. The results do not, however, explain the reasons underlying this behaviour. Perhaps, as suggested by Lam & Lin (2003), WOM occurs more frequently within the Chinese community and cultural values such as "Guanxi", tend to encourage information seeking and giving.

A limitation of this study is the inability to ascertain the true nationality of the participants on eBay and EachNet. While these websites are based in the US and China respectively, it is unlikely that the participants represented only Americans and Chinese, since there are no barriers to inhabitants of other countries using these sites. However the results do show differences in the behaviour of the people who use these different sites. Another limitation is the focus on only the Digital Camera product category of eBay and EachNet. It is possible that the results discussed cannot be generalized to other product categories. However, given the absence of any studies looking at Peer-to-Peer recommendations, our study suggests clear differences in consumer behaviour across websites from two different cultures. This could be worth exploring for other product categories to see if the results are representative of participants using other discussion boards.

## **6. Conclusion**

This study extends the literature on WOM to include Peer-to-Peer recommendations. The findings show that online discussion boards are certainly providing a venue for Peer-to-Peer recommendations, and suggest that the behaviour of consumers on a US based site, eBay, is very different from that of consumers using EachNet, a comparable Chinese language site. Increasingly, marketers will need to take into consideration the growth of electronic discussion boards, which have become an additional channel for product recommendations and endorsements between people who have never met. These recommendations and endorsements may have an influence on a consumers' subsequent purchase choice, and



understanding differences in the behaviour of customers on different sites can allow marketers to detect, and potentially overcome, barriers to consumer choice.

## References

- Anderson, E. W. (1998). Customer Satisfaction and Word of Mouth. *Journal of Service Research*, 1(1), 5-17.
- Baker, M. J., & Ballington, L. (2002). Country of origin as a source of competitive advantage. *Journal of Strategic Marketing*, 10, 157-168.
- Bearden, W. O., & Etzel, M. J. (1982). Reference Group Influence on Product and Brand Purchase Decisions. *Journal of Consumer Research*, 9(September), 183-194.
- Brown, J. J., & Reingen, P. H. (1987). Social Ties and Word-of-Mouth Referral Behaviour. *Journal of Consumer Research*, 14(December), 350-362.
- Chau, P. Y. K., Cole, M., Massey, A. P., Montoya-Weiss, M., & O'Keefe, R. M. (2002). Cultural Differences in the Online Behavior of Consumers. *Communications of the ACM*, 45(10), 138-143.
- CIA. (2003). *The World Fact Book*. Retrieved 1 May 2004, from <http://myway.mywebsearch.com/jsp/GGweb.jsp?searchfor=size+of+chinas+internet+community&fr=50&st=bar&ptrS=ZCxdm021>
- Gomes-Casseres, B. (2001). The History of eBay. *IEF*, 24.
- Goodman, B. (Writer) (2001). Merchants of Cool. In B. Goodman & R. Dretzin (Producer). US: PBS.
- Guardian, T. (2004, 31 July 2004). Amazon to ban mystery reviews. *The Sydney Morning Herald*, p. 18.
- Herr, P. M., Kardes, F. R., & Kim, J. (1991). Effects of Word-of-Mouth and Product-Attribute Information on Persuasion: An Accessibility-Diagnosticity Perspective. *Journal of Consumer Research*, 17(4), 454-462.
- Hof, R. D. (2003). Online Extra: EachNet: Bringing E-Commerce to China. *Business Week Silicon Valley*, 3.
- InfoTrends. (2003). *Digital camera sales to near 53 million in 2004*. Retrieved 1 May 2004, from <http://www.dpreview.com/news/0311/03111901infotrends53mil.asp>
- Johansson, J. (1989). Determinants and Effects of the Use of 'made in' Labels. *International Marketing Review*, 6(1), 47-58.
- Knight, G. (1999). Consumer preferences for foreign and domestic products. *Journal of Consumer Marketing*, 16(2), 151-162.
- Laere, K. V., & Heene, A. (2003). Social Networks as a Source of Competitive Advantage for the Firm. *Journal of Workplace Learning*, 15(6), 248-258.
- Lam, D., & Lin, X. (2003). *Guanxi and Word-of-Mouth*. Paper presented at the Australia and New Zealand Marketing Academy, Adelaide, D. R. Kennedy, 1437-1442.
- Lotz, S. L., & Hu, M. Y. (2001). Diluting negative country of origin stereotypes: a social stereotype approach. *Journal of Marketing Management*, 17, 105-135.
- Nagashima, A. (1970). A comparison of Japanese and U.S. attitudes towards foreign products. *Journal of Marketing*, 34, 68-74.
- O'Keefe, H., & O'Keefe, W. M. (1997). Chinese and Western behavioural differences: understanding the gaps. *International Journal of Social Economics*, 24(1/2/3), 190-196.
- Poiesz, T. B. C., & deBont, C. J. P. M. (1995). Do we need involvement to understand consumer behavior? *Advances in Consumer Research*, 22(1), 448-452.
- Rogers, E. M. (1983). *Diffusion of Innovations* (3 ed.): New York: The Free Press.
- Saminee, S. (1994). Customer evaluation of products in a global market. *Journal of International Business Studies*, 25(3), 579-604.
- Scott, D. (2003). Marketing's new fascination: figuring out word-of-mouth. *Advertising Age*, 74(45).

- Sillence, E., & Baber, C. (2004). Integrated digital communities: combining web-based interaction with text messaging to develop a system for encouraging group communication and competition. *Interacting with Computers, 16*(1), 93-113.
- Subramani, M. R., & Rajagopalan, B. (2003). Knowledge-Sharing and Influence in Online Social Networks via Viral Marketing. *Communications of the ACM, 46*(12), 300-307.