

## **Extending media richness theory to explain social media adoption by microbusinesses**

Debashish Mandal and Robert J. McQueen

### **Abstract**

This study uses the canonical action research method to investigate social media adoption in microbusinesses. A post positivist approach is followed based on a predetermined premise that along with Media Richness Theory (MRT), theories of access/quality and social interaction may be required to explain the media choice preference. It is found that in terms of richness, the social media interface of the Facebook business page is considered richer than email in its capacity to express by photos, and to transmit web links but it does not necessarily lead to greater use of the tool. Individual differences from social interaction theory and the ability to learn the “command language” from access/quality theory dominated the use behaviour leading to the owner’s inability to take advantage of this rich media. The incapability of MRT to explain rich communication through email is carried forwarded to social media adoption. The access/quality theory is found to be operating as a theory-in-use over the espoused theory of MRT. The microbusiness owner tries to minimise cost by minimising accessibility attributes while expecting maximum quality attributes. Overall, the access/quality theory best explained the adoption process with limited role from the MRT, and a decisive role by individual differences from social interaction theories for understanding the difference in level of adoption within the participating microbusinesses.

### **Keywords**

Media richness theory, social media, action research, microbusiness

The Media Richness Theory (MRT) has been previously used to examine email adoption for inter- and intra-office communication. Investigations by Lee (1994) and Markus (1994) have reported failure in the explaining capacity of MRT in rich use of a lean medium like email. “Richness is defined as the potential information – carrying capacity of data” (Daft & Lengel, 1984, p. 196). MRT proposes a hierarchy of information media based on information richness using four distinguishing factors: the feedback capability of the medium; number of channels used such as audio, video or both the source of the information, personal or impersonal; and finally, language variety, such as verbal or non-verbal, as in body language and photos (Daft & Lengel, 1984). MRT postulates that businesses may select the medium based on the difficulty of the task. The focus of this research is on the selection of social media tools such as the Facebook business page as a sales and marketing tool for gaining new customers and engaging existing customers. The Facebook business page is an interactive social media customer communication tool with multiple (customer to customer, business to customer and customer to business) asynchronous capabilities (Hopkins, 2012). In the current scenario, social media such as Facebook are being adopted by businesses for interaction with their customers (Hopkins, 2012). Several investigations (Aasheim & Stensønes, 2011; Ahmed, 2012; Shahkat, 2011) have used MRT to explain Facebook adoption in banks, community and large organisations. This study plans to use MRT to explain the adoption of the Facebook business page by microbusinesses. Microbusinesses are defined as those with less than ten employees (European Union, 2003) and this research selects participants based on this criteria.

This paper tries to make an original contribution by testing the proposition that the microbusiness owner may not be able to use the rich interface of Facebook due to the cost in terms of time and capability required to use the technology. The paper is structured to specify first, the microbusiness context and the variables in the trait theories to develop the conceptual framework. Second, the action research method is explained and the process of the five phases is detailed along with the data collection and analysis procedure. Third, the six main results of the investigation are presented along with quotes from the data to exemplify these. Finally, before concluding, in the discussion section, the findings are examined with respect to the literature to establish any extensions to MRT.

## **Literature Review**

The literature review explores the challenges faced by microbusiness owners during information system adoption and the difference between highly growth-oriented owners and the stability seeking, satisfied owner. Second, the literature identifies that by the application of MRT, the Facebook business page is positioned as a richer tool than email for business communication. However, the explanatory power of MRT is challenged in the case of email which is classified as a lean medium but can be used for rich communication. Third, alternative media choice theories are examined to identify 11 variables which may be applicable in the context of microbusinesses. Finally, a conceptual framework is developed with propositions predicting the behaviour of the variables in the context of Facebook business page adoption by microbusinesses.

### ***The challenges faced by microbusiness owners during information system adoption***

The three challenges of affordability, customer relationship capability and variation within entrepreneurs are identified that may influence the choice of information system technologies by microbusinesses. Challenges faced by microbusinesses during the adoption of information systems are related to limited resources and the capabilities of the owner (Wolcott, Kamal, & Qureshil, 2008). Along with these challenges, the owners are faced with the problems of awareness about information technology, infrastructure and interventions by private/government sectors (Qureshil, Kamal, & Wolcott, 2009). Surveys by authors (Bharati & Chaudhury, 2006; Qiang, Clarke, & Halewood, 2006) indicate that the owners are not aware of information system technologies that they can use to increase their competitiveness and business performance (Qureshil et al., 2009). Four distinct opportunities emerge from the use of information systems by microbusiness owners: (a) low cost leadership, (b) product

differentiation, (c) focus on niche markets, and (d) customer intimacy (Qureshil et al., 2009). Owners are particularly influenced by customer needs and select information systems to improve their relationship with customers (Qureshil et al., 2009). Following this requirement, owners are willing to “create deliberate attempts to experiment to acquire new knowledge” which will allow them to improve customer relationship by adopting information systems (Devins, Gold, Johnson, & Holden, 2005, p. 544). However, not all owners may be motivated towards adopting new information systems since some are entrepreneurs “relentless in pursuit of opportunities” and others who “pursue personal goals” prefer stability over growth (Chell & Baines, 2000, p. 198). The challenges and opportunities of information system adoption, and variability within the owners might lead to differences in the choice of medium for communication with customers.

### ***The use of MRT to explain Facebook business page richness over email***

Adoption and use of social media, particularly the Facebook business page, has been explained successfully by using MRT. In the hierarchy of richness, the Facebook business page has been found to be richer than email and one or two levels below face-to-face communication (Aasheim & Stensønes, 2011; Kaplan & Haenlein, 2010). Adoption and use of the Facebook business page by financial institutions as a customer interaction tool has been explained using MRT (Aasheim & Stensønes, 2011). Facebook, in terms of richness, makes an ideal tool for dissemination of information, collaboration, education and moral support during disaster management (Ahmed, 2012). Finally, the rich interface of Facebook has been extremely effective in spreading climate change awareness among employees of a business (Shahkat, 2011). Although the present investigations seem to find support for the proposition that Facebook business page is richer than email, the position of email in the hierarchy of richness is questionable (Markus, 1994). MRT is criticised for not explaining the

richness of email communication, leading to the proposition that richness is not a feature of the medium but an evolving property of the interaction between the medium and the members of the organisation (Lee, 1994). The email richness dilemma (lean or rich) has been considered by several researchers (Dennis & Kinney, 1998; El-Shinnawy & Markus, 1997; Lee, 1994; Markus, 1994) who have reported anomalies in the explanatory power of MRT. This has resulted in the development of alternative theories in the form of social interaction theories (Carlson & Davis, 1998). Both the social interaction theory and parallel trait theories such as social presence theory and access/quality theory are considered next, keeping in mind the affordability constraint of microbusiness.

#### ***Examining theories of access/quality social presence and social interaction***

The access/quality theory considers information acquisition attributes rather than traits of the media to postulate that cost is associated with accessibility and the benefits are the quality of information obtained (Carlson & Davis, 1998). The access/quality theory assumes that information should possess features such as “relevancy, accuracy, reliability, and timeliness” (Zmud, Lind, & Young, 1990, p. 443), which are grouped as quality characteristics of the system. The accessibility characteristics are described using attributes such as “convenient, dependable, easy to use, reliable, technique of use (command language) and experience in using the system” (Culnan, 1984, p. 146). Others have added variables such as “time” (Rice, Kraut, Cool, & Fish, 1994, p. 288) devoted to use the system and “receiver access” (Zmud et al., 1990, p. 444).

Social presence theory postulates that human beings are intuitively tuned towards understanding the physical location of the person with whom they are communicating and that they feel most comfortable during face-to-face communication (Short, Williams, & Christie, 1976). Rather than determining richness, as in MRT, social presence theory places

importance on the distance between the communicating people, but the results are quite similar to MRT (Carlson & Davis, 1998). On the other hand, social interaction theory places more importance on the influence of social factors and group behaviour in the selection of media by individuals. The social interaction theory proposes “mechanisms by which social influences act on users to guide their selection of media. This serves as an organizing influence for understanding media selection” (Carlson & Davis, 1998, p. 341). The access/quality, social presence, and social interaction theories provide alternative explanations of the media selection process for communication in businesses, and each of them bring their own set of variables. Next, the variables from these theories are examined, considering the technology of the Facebook business page and in the context of microbusiness.

### ***Selecting variables from the alternative theories relevant in the Microbusiness Context***

The three alternative theories of access/quality, social presence, and social interaction, rather than increasing predictive capability, tend to increase the number of variables (twenty-two) responsible for media choice, leading to enormous complexity (Carlson & Davis, 1998). Applying the context of (a) microbusinesses (affordability, customer relationship and entrepreneurial variation) and, (b) the Facebook business page (richer than email), eleven variables out of the twenty-two may be of concern for this investigation. These are (1) individual differences, (2) social influences, (3) media experience, (4) task, (5) information quality, (6) access quality, (7) ease of use, (8) time, (9) relevancy, (10) media richness, and (11) feedback. Of the eleven variables, seven belong to the access/quality theory, and social presence theory: media experience, information quality, access quality, task, ease of use, time, and relevancy. Two variables: individual difference and social influence, are from social interaction theory. The remaining two: media richness and feedback are in MRT.

Using the three theories of access/quality, MRT and social interaction theory, the conceptual framework for this investigation can be modelled in three steps.

### ***Conceptual Framework***

First, in the context of microbusiness wherein affordability and limited resources are the major concern in implementing information systems, the access/quality theory would possibly play the dominant role in adopting the Facebook business page. Using the access/quality theory, it is conceived that the microbusiness owner would try to minimise cost at the expense of quality of information transmitted and obtained through interaction with customers on the the Facebook business page. Second, the microbusiness owner may try to exploit the interface of the Facebook business page in terms of the variables of MRT such as: (a) they might take advantage of the immediate feedback (asynchronous) from the customers; (b) use the variety of communication cues available, such as links to website/blogs, links to videos from YouTube or self-published video, calls to action and polls for gathering customer feedback; (c) personalisation in terms of visiting the profile of customers, gathering information about them to give a personalised effect to the communication by quoting their names (Aasheim & Stensønes, 2011) and other information available on their profile; and (d) the capability of language variety, which includes emotions in form of 'smiley' and the capability of 'liking' the comment made by customers (Hopkins, 2012). However, the exploitation of the richness of the Facebook medium may be controlled by the access/quality trade-off. The cost minimisation strategy could be reversed when the microbusiness owner gains new customers from the Facebook business page, resulting in greater use for profit maximisation. This strategy may be dependent on the final step which considers the variation between owners (entrepreneur and the others). The variables of individual differences, along

with the influence of extended family and friends, may play a dominant role in both adoption and continued use of the Facebook business page.

The propositions in the conceptual framework are tested for conformance or deviation by collecting and analysing data using multiple methods. It is well documented that the use of multiple methods results in different understanding of the same phenomena, especially in computer mediated communication theories such as MRT (Carlson & Davis, 1998; Lee, 1994). The multi-method research methodology designed to collect data for analysis is described in the next section.

### **Research design**

The research has a post positivist philosophical orientation. Knowledge building is accomplished by trying to find evidence that agrees or disagrees with the conceptual framework. Action research is used as an interventionist method, complemented by participant observation performed in a natural setting to focus on collecting situational data. The method positions the researcher to better understand the rationality behind the actions of the owners when using the Facebook business page. The conceptual framework guides the data collection process, which is primarily through participant observation and unstructured interviews undertaken during the adoption process of Facebook. The variables from the conceptual framework act as the starting set of codes. The NVivo software application was used to impose the codes on the data. Analysis was performed using the theory in use and espoused theory concept, which is explained later in this section. Data collection and analysis were done simultaneously throughout the seven-month research process. The validity and reliability of this investigation is discussed below in the section on limitations of the research.

### ***Setting***

Four microbusinesses with brick and mortar retail outlets, involved in variety of business, such as food (P1), computer (P2), cake (P3), and beauty (P4), were selected using the maximum variation in sampling logic. The participants consented to the research and a minimal researcher-client agreement was executed as required in the canonical action research method (Davison, Martinsons, & Kock, 2004). The action research cycle of five phases was planned on a two-cycle basis. The first cycle established the Facebook business page and trained the users, and the second cycle focused on how to make the page successful. The process was implemented in a staggered fashion: i.e., cycle one was first implemented in P1, where data were collected, evaluated and analysed, with learning specified to feed into cycle one in P2, and the process was repeated for P3 and P4. Participant observation in the form of working in the businesses to serve customers and discussion with the participant was performed in P1 and P2. This was not possible in P3 and P4, due to the specialised nature of the business. However, in P3 and P4, the order booking process was observed to gain better insight into this important customer interaction process of the business. The participant observation lasted 32 hours in P1, 60 hours in P2, and 4 hours in each of P3 and P4.

### ***The phases of action research***

The five phases over two cycles were not as linear as it would appear from the discussion below, and the researcher had to iterate between the phases. Sometimes it was difficult to understand which phase was being undertaken and the respective roles of the researcher and the participants. Participant observation was used during the diagnosis and evaluation phases of the investigation to gain an understanding of the problems and the results.

### ***Diagnosing***

The four participants pointed out to the researcher that they were interested in using social media marketing, but lacked the knowledge and skills. They wanted to gain new customers by using the tool, but didn't know how that was possible. The participants had already heard about the Facebook business page and wanted to specifically use that tool, since they felt that it was most suitable for their business. The researcher explained to the participants the basis of the theory in terms of media richness and the purpose of the research as developed in the conceptual framework. The problems diagnosed during cycle two came from the participants. They identified four main problems: (a) the rigours of building a fan base on the page; (b) developing engaging content on the page; (c) identifying the optimal time and number of times; and (d) suitability for their business.

### ***Action planning***

The researcher explained the process of adoption, time required, and the activities to be performed to regularly populate and use the tool. The participants participated in this process by committing the availability of infrastructure, such as a computer and broadband connection, and agreeing to devote time to develop content necessary to populate the page. The content, which comprises the sales talk and sales promotion part of using the page, was one of the contributions made by the participant to the action research process.

### ***Action taking***

The act of building the Facebook Page was undertaken during cycle one, and the participants were trained on how to log in to the page, how to post as a page, posting links from external sites, and finally, how to invite customers to the page. During cycle two, the participants came up with innovative solutions to develop a fan base and helped the researcher by

experimenting with the page, posting sales and alternative content, including exclusive sales deals on the Facebook page.

### ***Evaluation***

For the participants, the evaluation of the actions was available immediately in terms of a quantitative increase in the fan base on the page and comments on communications made by them. The most significant criteria for success was gaining new customers, which was measured and understood through the exclusive sales deal. For the researcher, evaluation focused on how much of the richness of the Facebook medium was used by the participants, and whether the medium richness played a deterministic role, or whether the access/quality theory was dominant in predicting the behaviour of the participants. The researcher evaluated the participants on the basis of how they differed in terms of using the page, and why some were more successful than others in using the page.

### ***Specifying learning***

Experiential learning took place in both the cycles through which the participants, and the researcher learned what would and would not work. Theoretical learning mostly happened in the second cycle, essentially through the process of reflecting on the evaluation with respect to the theory. The researcher took the higher role, since this phase involved the learning related to theoretical development, and the participants agreed or disagreed with the researcher's claims.

### ***Data Collection – Unstructured Interview and Field Notes***

The whole five phases over the two-cycle process involving the researcher and the microbusiness owner were audiotaped and, wherever possible, field notes were collected by

the author. The taped conversation was immediately transcribed on the same day and important notes were made in the form of “memoing” and a “contact summary sheet” for each particular contact. A huge amount of data (approximately 100 hours) were generated from the unstructured interviews during the action research cycles and participant observation, which were partially transcribed for coding. During cycle one, no specific questions were asked, as the evaluation of action taking depended on simple quantitative numbers, such as an increase in the size of the fan base on the page. During cycle two, the primary focus was on the gain of new customers. In addition to this, the researcher looked for evidence of behaviour in agreement or disagreement with propositions made in the conceptual framework. For example, the researcher wanted to know whether the participants found the page cheaper in terms of using for advertising and marketing, and, to that effect, asked the owner how they felt about it. Over the period of cycle two (4 months), the researcher repeatedly asked this question (along with other questions), in various formats or connotations and together with other questions, to get feedback that may be different or altered in relation to other questions. Rather than having a set of questions, the researcher found it more effective to use the 11 variables as key terms and to use them as often as possible during interaction with the participants. Sample questions were: “what do you think of time?”, “is it simple to use?”, “why don’t you post the link of that specific page from your website?” “you could use this photo. It would be great if you tag your family members as well, then their friends would also see it” and finally the most critical question “did you gain new customers?”.

### *Data analysis – Espoused theory and theory in use*

The coding process began using the initial eleven variables from the conceptual framework, but, after examination of data, new codes, such as “codification effort”, were added. The

number of times the data contained each code indicated its importance. The “codification effort” code is operationalised further by ground codes such as “what to post” or “email is better” to link this code with the main 11 variables in an effort to establish links similar to the process of axial coding. In this particular example, the ground codes were linked to “ease of use”, “media richness”, and “time”. The codification effort code was linked to information quality and relevance, indicating that the most important variables appear to belong to the access/quality theory. The relationship between the variables was established following the “deductive logic” (Baskerville, 1999, p. 4), “espoused theory” and “theory in use” (Baskerville & Wood-Harper, 1998, p. 95) concept. Deductive logic means that the researcher, through selective coding, narrows down on the most important variables out of the 11. The result indicated that the access/quality theory was more important than MRT. This is similar to espoused theory – the theory that is being used, such as the Facebook business page is richer than email and should be used to gain new customers, versus the actual theory being used “theory in use” – which implies that the cost of information is more important than quality. Implied meaning and relations extracted from the data, including the author’s understanding, were transmitted to the participants, discussed, and, on agreement with the participants, the results and relations between the variables are fixated and reported in this paper.

## **Results**

The most important result is related to the technical use and experience in use of the Facebook business page. This is called the *command language*, which the owner has to develop for effective use of the social media tool. The second important finding was the greater difficulty of using the Facebook business page in comparison with email and other media. Third, the participants found that when using social media it is not possible to

ascertain whether all customers have received the communication, similar to email. Fourth, it was found that the richness of the Facebook business page provided no significant additional benefit when compared with text messages, photo, and video communication over the medium. Following conventional wisdom, the fifth important finding was the individual differences and variability in the level of adoption within the four participants. Finally, the sixth finding, which is related to the fourth finding, was that the businesses were primarily interested in gaining new customers from the Facebook business page.

### ***Need for Developing the Command Language to use the Facebook Business Page***

All participants faced the problem of developing the necessary information to populate the Facebook business page on daily basis. This was observed, for all participants, by the inactivity on the page after installation and completion of the first cycle. Participants were questioned about the inactivity and gave a common response: “I am not sure what to write!” P2 was concerned about negative publicity and initially afraid to use the page. P2 said that: “we are not able to satisfy all our customers all the time and these customers may post on the page... I am not sure how to deal with such a situation.” P3 was confident in this matter and followed the advice of the researcher to like community pages and start communicating on those pages to develop language capability. P3 tried to learn from pages of similar businesses, showed a proactive effort to use the page, and quickly mastered the command language through regular interaction with the researcher and pages. P4, similar to P1 and P2, hardly used the page and when urged to invigorate use retorted that: “we have nothing to say on a regular basis! I cannot shout out that today the nails are 50% off...it just doesn’t work in our business...I have to develop suitable content which cannot happen overnight!” Overall, all participants faced a learning curve in developing the command language on the page.

***The Facebook business page was more difficult to use than other media***

All participants found that the page was difficult to use for advertising and reaching out to new customers in comparison to the local newspaper, email and radio advertising. They pointed out that the setup time for newspaper and radio was much less and it did not involve much of their time to create and run the content on regular basis. The process was outsourced. P2 proposed outsourcing Facebook activity to the researcher. Second, the Facebook business page constantly updates its features, leading to complexity in understanding and application by the participants. During the implementation period, three major changes were introduced by Facebook leading to several re-training sessions undertaken by the researcher. Third, the tactics of ‘liking’ ones business page post by personal profile and making family and friends ‘like’ the post is a cumbersome task and cannot be “undertaken on daily basis.” Fourth, physical accessibility to an internet-enabled computer to access the Facebook business page is a problem for all the participants at the retail outlet since they have to manage a number of other things, including the checkout counter. Separate time has to be allocated to update content on the page, which puts pressure on the resources of the owners. Fifth, broadband access was a problem for P4 who said that there was just a dial-up connection at her rural home, and she could not access Facebook at home. This was a major problem since she did not have the time at the shop during the day and could not access the Facebook page from home. Finally, related to the difficulty of the command language, the information is available in the public domain and each time new information is provided it has to be cross checked for its suitability, which involves time, a major resource constraint for the participants.

***Problem with communication reliability at the receivers end***

The communications made by the participants do not always reach the extended network of Facebook users who have agreed to receive such communications. This is due to the rank

system of Facebook, which shows communications made by the business to the users based on their level of interaction with the business. Participants P1 and P2 compared this with the email database system they use to communicate with their customers and found that the email system is more effective than the Facebook business page. The argument from the researcher that the communication statistics show how many people have seen that communication did not hold much ground, since, as one of the participants said, “it is not necessary that people who have seen it may be our customers or interested in our products.” P3 and P4 did not use email marketing and did not have a similar viewpoint; in fact, they saw an opportunity in other people seeing their post, saying, “it would lead to publicity for our shop”.

### ***Negligible utility of the rich media interface of Facebook***

The participants found limited use of the richness capabilities of the Facebook business page. They used it by posting videos from YouTube, uploading photos of products and services, and responded to customers in a personalised manner using ‘smiley’ and the ‘like’ function. But the experience of all of the participants was that the rich media did not generate a greater amount of responses and feedback from customers. Simple text messages such as: “we need a favour to ask. what do you think will be great gift from computer shop for our lovely mum?” or “Facebook special 5% off on all purchases quote at checkout fb5” evoked the maximum response by way of ‘likes’ and comments. One of the participants commented on the media richness theory: “the theory is plausible, but I'd say that the highest use of the page comes from the simplest interface, not necessarily the most attractive.” Both the responses on the page and the viewpoint of the participants seemed to support this claim that the rich capabilities of the Facebook business page do not necessarily enhance engagement and, in any case, it does not evoke a greater response from customers.

### ***Differences between the participants in use behaviour***

The participants displayed remarkable differences in use behaviour and their approach towards the Facebook business page. P1 had a sceptical attitude and did not believe that the page would provide any new customers. Both the owners found that other media were easier to use and more effective than Facebook. For P1, this was a second source of income wherein one of the owners had a full time job. P2 had greater faith in this new medium, believed that, “the future of advertising is in social media,” and hence wanted to do everything needed to make the page successful. P2 however, was sceptical about negative publicity and wanted methods on how to deal with such publicity effectively. In case of P2, the business is his primary source of income. P3 had a relaxed attitude towards the page and wanted to explore other facilities such as browsing through different cake manufacturers and communicating in the community pages. She commented, “we are in the creative field and I like to see designs and photos of other businesses to capture the general trend.” P3 created one more community page for her cake decoration club, indicating the trend towards engaging the customer rather than simply trying to sell. For P3, the business was the main source of income. P4 was less comfortable using a computer in comparison with other participants. Her business was mostly operated by phone and she felt comfortable talking with customers during their beauty sessions and over the phone. P4 had a website and an email address, but hardly used the same for the business and this reflected on use of the Facebook business page. For P4, the business was the primary source of income.

### ***Gaining new customers is the primary purpose rather than customer engagement***

Participants P1, P2 and P4 had the primary motive of exploring the utility of the Facebook business page as a customer acquisition tool, similar to a website. Their expectation was that, as in the case of a website, that once put up it, “very much hangs in there” and they hoped to

get customers through Google search. This had been explained to them by website vendors, who had charged them for performing and demonstrating search engine optimisation. The participants wanted to know how the Facebook interface could help them to gain new customers. They did not want to use their existing customers and their network to initiate the electronic word of mouth marketing and were less interested in providing customer care services through the page. P3, on the other hand, was a long established business (30 years+) in the region and was not looking for new customers. This led to P3's interaction on the page being less selling-oriented to more engagement-oriented. P3 did not use email and radio marketing and only ran a free advertisement if the newspaper offered a special in that locality. According to P3, "we are known to most old people here and they recommend us to the others... it has been like this for years ...we just rely on our existing customers for acquiring customers".

## **Discussion**

The most important aspect of this study is to establish the significance of the access/quality theory to explain the adoption process of the Facebook business page by microbusinesses. The second important contribution made by this research is carrying forward the email richness dilemma associated with MRT to use of the Facebook business page and social media in general. Third, individual differences and social influence have been found to have an impact on the adoption process; for example, owners with entrepreneurial inclination may be in a better position to adopt information technology. Fourth, the research finds support for the premise of the access/quality theory, based on maximisation of quality leading to minimisation of accessibility. Finally, the identification of the underlying theory in use, in this case access/quality theory, rather than the espoused theory of MRT is a major contribution of this research.

### ***Relevance of the variables of access/quality theory***

The variables of the access/quality theory are found to be more relevant than MRT and social interaction theory in explaining social media adoption by microbusinesses. First, the accessibility attribute of knowing and learning the command language, along with experience in using media, played a dominant role in the adoption of the Facebook business page by the microbusinesses. This is in agreement with Culnan, (1984) who has advocated that the technique of using the information system, along with the level of experience in using the system, may determine the level of use of the system. Second, the accessibility criteria of ease of use, which is an across the board construct used in technology adoption, played the second most important role in deciding the level of adoption by the participants (Culnan, 1984; Rice et al., 1994). The participants found the page more difficult to use than existing media, including email, which hindered their adoption of the page. Third, there was no guarantee that all customers would be able to receive communications made by the businesses. This study agrees with the issue raised by Zmud et al. (1990) of receivers' access in computer mediated communication. Finally, the quality variables, relevancy and accuracy, are controlled by the capabilities of the owners to develop command language to use the page and develop relevant and accurate information for customers. The reliability and timeliness is controlled by the time devoted to use the page, but ultimately depends on the receiver's access. Since, in this case, receiver access is not guaranteed, there is a likelihood that both of the quality attributes reliability and timeliness suffer, causing a reduced adoption by microbusinesses.

### ***MRT limitation in explaining email richness is carried forward to social media***

This study agrees with the observation of Lee (1994) that richness is the property of interaction between the communicating partners. The study found no support for greater engagement or feedback from the customers in response to the posting of photos and videos by the microbusinesses. On the contrary, simple text messages sometimes evoked greater responses, indicating that the communicating partners socially constructed the context and did not need richer media for communication. The research rejects the idea that Facebook is a richer medium than email (Aasheim & Stensønes, 2011; Kaplan & Haenlein, 2010), but did not find enough evidence to claim that email be more useful than Facebook business page or the other way round. Overall, the research found that the Facebook business page is a lean medium according to the classification proposed by MRT theory and could be placed a few notches higher in the richness hierarchy than email, due to its capability to use a variety of non-verbal language such as photos and videos. This is shown in Table 1. Otherwise, according to this research, the position of the Facebook business page is almost at the same level as email but, in any case, not higher than telephone as found by other investigators (Aasheim & Stensønes, 2011).

### ***Role of the entrepreneurial spirit of the microbusiness owner***

The difference between the owners, including their income status (primary income from the business), played a detrimental role in deciding the extent of adoption. This research finds support for the variables individual difference and social influence from the social interaction theories. The individual difference in the form of an entrepreneur (participants P2 and P4) and satisfied owner (participants P1 and P3) is visible in their adoption process and is in agreement with the observation of the microbusiness literature (Chell & Baines, 2000).

Table 1 Positioning Facebook on the hierarchy of MRT

<b>Information</b>					
<b>Richness</b>	<b>Medium</b>	<b>Feedback</b>	<b>Channel</b>	<b>Source</b>	<b>Language</b>
<b>High</b>	Face-to-Face	Immediate	Visual, Audio	Personal	Body, Natural
↑	Telephone	Fast	Audio	Personal	Natural
	Facebook	Slow	Limited	Personal	Natural/Non-
	Business Page		Visual		Verbal
	Email	Slow	Limited	Personal	Natural
				Visual	
	Written Personal	Slow	Limited	Personal	Natural
			Visual		
	Written Formal	Very	Limited	Impersonal	Natural
		Slow	Visual		
<b>Low</b>	Numeric Formal	Very	Limited	Impersonal	Numeric
		Slow	Visual		

Adapted from (Daft & Lengel, 1984)

### *Cost minimisation relationship between accessibility and quality attributes*

The microbusiness owner tries to optimise the cost of the adoption process by devoting less time in gaining experience and learning the command language necessary for providing and getting the quality of information. This is consistent with the access/quality theory, which says that accessibility is more important than quality of information (Carlson & Davis, 1998).

The microbusiness owner tries to gain new customers using the information system with minimum accessibility attributes, leading to minimum quality attributes. The research found

no evidence of reversal of the cost minimisation relation to profit maximisation when new customers are gained through the Facebook business page.

### ***Espoused theory of MRT versus theory in use of access/quality***

The predominance of the affordability variable of microbusinesses, along with cost minimisation of accessibility attributes favours the espoused theory of MRT in favour of the use theory of access/quality. The microbusiness owners were trying to use the Facebook business page as a richer medium than email and websites to communicate with their customers. However, in reality, neither the customers nor the owners displayed any preference for the richer media. The owners wanted to use the Facebook business page in the hope of gaining new customers. In the background, the cost minimisation principle of access/quality played a predominant role (Carlson & Davis, 1998). This observation was put forward to the participants and with the exception of participant P3, the others agreed about the predominance of the cost minimisation principle of access/quality theory. P3, on the other hand, found an alternative use of the Facebook business page by using it for business intelligence, rather than gaining new customers. She found that the Facebook interface was richer in the sense that she could view photos of others' products and keep abreast of present happenings in her industry.

### **Implications for research and practice**

The agreement of the results with the conceptual framework indicates that the conventional wisdom and theories applicable in a larger context may not be suitable in the microbusiness context. MRT, which was found suitable in other, larger businesses, and following the conventional wisdom, as a richer media, should have made the Facebook business page extremely desirable for microbusinesses. The results of this study indicate that, in the microbusiness context, established theories may not explain the adoption process and there

may always be a prevalent theory-in-use, which may override conventional adoption theories. Researchers interested in small businesses should try to observe a theory-in-use system that controls all the activities of the owner.

Microbusinesses should not rush into adopting social media technologies on the premise that this has been proven useful for larger businesses. They should examine whether they require this additional media for communication with their customers. The accessibility criteria, especially technique of use (command language) with respect to quality attributes, should be used by microbusinesses to assist in decision making for adopting a social media tool. Finally, the owner should understand that social media like the Facebook business page is more of a customer engagement tool, which may lead to acquiring new customers, but this is not always necessary and should not be a prerequisite condition for adoption. They should bear in mind that to activate the Facebook business page, the participation of existing customers is necessary.

### ***Limitations of the research***

First, the internal validity of this study is based on the successful implementation of the Facebook business page by the microbusinesses. This validity is based on the action research internal validity criteria, which mandates successfully solving the problem of the participant (Baskerville & Wood-Harper, 1998). The participants wanted to use social media marketing for their businesses, but they did not have the technical knowledge. The researcher imparted this technical knowledge and also worked with them to develop content required to populate the social media site. Second, the external validity is achieved by expanding the MRT and illuminating the theoretical framework by proposing the use of the theory-in-use of access quality (Baskerville & Wood-Harper, 1998). The reliability of this study is based on the validity of the investigation in solving the immediate problems of the participants, leading to

development of theory (Baskerville & Wood-Harper, 1996). Following this limitation, the conclusion of the study is based on restrained generalisation due to limited observation in the microbusinesses.

## **Conclusion**

Information acquisition attributes of access/quality theory rather than information richness can provide an explanation for microbusiness owner behaviour during the adoption of information system technologies. This may be due to the nature of the customer relationship, entrepreneurial variations, and, most importantly, affordability criteria. The study finds that command language, along with experience of use in new media, from the access/quality theory, play the predominant role during the adoption process. Motivated microbusiness owners who are entrepreneurs can effectively implement and use the new technology, rather than satisfied owners. In general, the owners wanted to use the Facebook business page as a richer media (espoused theory) but in reality, they were maximising cost versus benefit using the access/quality theory (theory-in-use). Overall, the study finds support for the idea that richness of a medium is a function of the interaction between the communicating partners. Research in microbusinesses requires the researcher to use a broader theoretical framework, since established theories, which may have been useful to explain the adoption process in larger businesses, may not have the explaining power in small businesses.

## **References**

Aasheim, H., & Stensønes, I. (2011). *Financial institutions in social media; Deliver traditional services in new channels*. (Master's thesis) Copenhagen Business School. CBS. Retrieved from <http://hdl.handle.net/10417/2961>

- Ahmed, A. (2012). Hypothesizing the aptness of social media and the information richness requirements of disaster management. In *ECIS 2012 Proceedings. Paper 157*. Retrieved from <http://aisel.aisnet.org/ecis2012/157>
- Baskerville, R. (1999). Grounded action research: a method for understanding IT in practice. *Accounting, Management and Information Technologies*, 9(1), 1–23. doi:10.1016/S0959-8022(98)00017-4
- Baskerville, R., & Wood-Harper, A. T. (1996). A critical perspective on action research as a method for information systems research. *Journal of Information Technology*, 11(3), 235–246. doi:10.1080/026839696345289
- Baskerville, R., & Wood-Harper, A. T. (1998). Diversity in information systems action research methods. *European Journal of Information Systems*, 7(2), 90–107. doi:10.1038/sj.ejis.3000298
- Bharati, P., & Chaudhury, A. (2006). Studying the current status of technology adoption. *Communications of the ACM*, 49(10), 88–93. doi:10.1145/1164394.1164400
- Carlson, P. J., & Davis, G. B. (1998). An Investigation of Media Selection Among Directors and Managers: From “ Self ” to “ Other .” *MIS Quarterly*, 22(3), 335–362. Retrieved from <http://www.jstor.org/stable/249669>
- Chell, E., & Baines, S. (2000). Networking, entrepreneurship and microbusiness behaviour. *Entrepreneurship & Regional Development*, 12(3), 195–215. doi:10.1080/089856200413464
- Culnan, M. J. (1984). The dimensions of accessibility to online information: implications for implementing office information systems. *ACM Transactions on Information Systems*, 2(2), 141–150. doi:10.1145/521.523
- Daft, R. L., & Lengel, R. H. (1984). Information Richness: A New Approach to Managerial Behavior and Organization Design. In B. Staw & L. L. Cummings (Eds.), *Research in*

- Organizational Behavior*, Vol. 6, pp. 191-233. Greenwich, CT:JAI Press. Retrieved from <http://waikato.lconz.ac.nz/vwebv/holdingsInfo?bibId=85726>
- Davison, R., Martinsons, M. G., & Kock, N. (2004). Principles of canonical action research. *Information Systems Journal*, 14(1), 65–86. doi:10.1111/j.1365-2575.2004.00162.x
- Dennis, A. R., & Kinney, S. T. (1998). Testing Media Richness Theory in the New Media: The Effects of Cues, Feedback, and Task Equivocality. *Information Systems Research*, 9(3), 256–274. doi:10.1287/isre.9.3.256
- Devins, D., Gold, J., Johnson, S., & Holden, R. (2005). A conceptual model of management learning in micro businesses: Implications for research and policy. *Education + Training*, 47(8/9), 540–551. doi:10.1108/00400910510633099
- El-Shinnawy, M., & Markus, M. L. (1997). The poverty of media richness theory: explaining people's choice of electronic mail vs. voice mail. *International Journal of Human-Computer Studies*, 46(4), 443–467. doi:10.1006/ijhc.1996.0099
- European Union. (2003). Commission recommendation of 6 May 2003 concerning the definition of micro, small and medium-sized enterprises. *Official Journal of the European Union*, C(2003) 14, 36–41. Retrieved from <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2003:124:0036:0041:EN:PDF>
- Hopkins, J. L. (2012). Can Facebook be an effective mechanism for generating growth and value in small businesses? *Journal of Systems and Information Technology*, 14(2), 131–141. doi:10.1108/13287261211232153
- Kaplan, A. M., & Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of Social Media. *Business Horizons*, 53(1), 59–68. doi:10.1016/j.bushor.2009.09.003

- Lee, A. S. (1994). Electronic mail as a medium for rich communication: An empirical investigation using hermeneutic interpretation. *MIS quarterly*, 18(2), 143–157. Retrieved from <http://www.jstor.org/stable/10.2307/249762>
- Markus, M. L. (1994). Electronic Mail As the Medium of Managerial Choice. *Organization Science*, 5(4), 502–527. Retrieved from <http://www.jstor.org/stable/2635179>
- Qiang, C. Z.-W., Clarke, G. R., & Halewood, N. (2006). The Role of ICT in doing Business. In *Information and Communications for Development Global Trends and Policies* (pp. 57–85). World Bank Publications. doi:10.1596/978-0-8213-6346-1
- Qureshil, S., Kamal, M., & Wolcott, P. (2009). Information Technology Interventions for Growth and Competitiveness in Micro-Enterprises. *International Journal of E-Business Research*, 5(1), 117–140. doi:10.4018/jebr.2009010106
- Rice, R. E., Kraut, R., Cool, C., & Fish, R. (1994). Individual, structural and social influences on use of a new communication medium. In D. Moore (Ed.), *Academy of management best papers proceedings* (pp. 285–289). Madison, WI: Omni Press. Retrieved from <http://www.comm.ucsb.edu/faculty/rrice/A48RiceKrautCoolFish1994.pdf>
- Shahkat, M. S. A. (2011). The Use of Facebook to Increase Climate Change Awareness among Employees. In *International Conference on Social Science and Humanity* (Vol. 5, pp. 266–270). Retrieved from <http://www.ipedr.com/vol5/no2/59-H10164.pdf>
- Short, J., Williams, E., & Christie, B. (1976). *The Social Psychology of Telecommunication*. Chichester, England: John Wiley and Sons Ltd.
- Wolcott, P., Kamal, M., & Qureshil, S. (2008). Meeting the challenges of ICT adoption by micro-enterprises. *Journal of Enterprise Information Management*, 21(6), 616–632. doi:10.1108/17410390810911212

Zmud, R. W., Lind, M. R., & Young, F. W. (1990). An Attribute Space for Organizational Communication Channels. *Information Systems Research*, 1(4), 440–457.  
doi:10.1287/isre.1.4.440