

## DETERMINING FACTORS IN ADOPTING THE SOCIAL MEDIA APPLICATIONS FOR THE DEVELOPMENT OF SME IN JAFFNA DISTRICT

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### ABSTRACT

*The purpose of this study is to identify the seminal factors in adopting the social media applications for the SMEs development in Jaffna District. The adoption of social media applications to promote and carryout business activities in SMEs is somewhat new. The quantitative approach was deemed appropriate for this study. Convenient sampling technique has been pursued to collect the primary data. Questionnaires were issued and gathered data from conveniently selected two hundred (200) SMEs. Exploratory Factor Analysis (EFA) was used to find out the determinant factors of SMEs in order to adopt social media applications. To further prove the reliability of the data, Kaiser-Meyer\_Olkin (KMO) and Bartlett Test of Sphericity were applied in this research. This study reveals five factors namely organizational factors, management factors, external environmental factors, technological innovativeness and customer factors influence the adoption of social media applications by SMEs. This paper offers valuable ideas to help SMEs to adopt social media as well as understand its value. There are many researches on social media related to large organizations rather than SMEs. This research reveals that considerable implications for decision makers in SMEs will become more in sync to how social media technology can meaningfully add value to them and for customers who would be able to get the information on the desk itself via social media instead of going out to field and collect information. Social Media Marketing would be a concrete foundation and supports to the SMEs to start their online marketing and E-marketing.*

**Key Words:** Social Media, SMEs, Management, Firm Innovativeness, Business Environment.

### 1. INTRODUCTION

By the beginning of 21st century, the usage of internet and social media are becoming as a lateral part of business strategies. Social media can be defined as “a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of user-generated content” (Kaplan & Haenlein, 2010, p.61). Organizations create their fan page, manage promotions, build public relations, conduct market research, provide customer support and cheer customer reviews and dialogue on social media platforms. Social media is not only appropriate for large companies, but for small and medium enterprises. Although SMEs suffer from lack of skill, limited financial resources and intense competition with large size companies, Social media facilitate SMEs to carry out marketing activities in a cost effective and efficient way and they break all the barriers between the countries to spread and share information at a same time. Due to the

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ignorance of social media promotional ways which are very online friendly, SMEs lose a lot of business advantages (Rasiah, 2006).

By using social media applications, small and medium sized enterprises can go for cost effective promotional ways to achieve their goals. Because of its simplicity and ease of access, social media help organizations to get to know how the company and its products or services are viewed by customers, what people say about them and what are other rival's activities in an effective manner. Ashworth (2011) had done a research on the topic of "social media use by small retailers", one of the main purposes of using social media is to collect customers' information and build long term relationship. Mangold and Faulds (2010) stated that due to the usage of social media, SMEs are taking a chance to interact with their customers in a fruitful way and finding new ways to add values to their products.

Sri Lanka has been delighted from the development in 2009, due to the end of civil war. Particularly in the Northern part of Sri Lanka, the citizens of the place now glad of the great outcomes from the investments, which are made by various private and government organizations and there is a significant contribution of SMEs in the market due to the 30 years of civil war had come to end in 2009. These give remarkable usefulness to the society. In the case of Northern Province of Sri Lanka, Small and medium enterprises (SMEs) are becoming as the backbone of the country's economy.

As a brief of this regard, there are few researches have been done on the factors of SMEs influence on the usage of social media marketing towards growth of small and medium enterprises. There are limited academic researches available to refer on this area of present study. Most of the studies are paying attention on users' behavior and not on companies' perspective, furthermore particularly in case of small and medium enterprises' ability to use social media applications is still a little well-known area. In order to fill this gap, by establishing the influencing factors of SMEs regarding the adoption of social media, this present study was conducted. More purposely, this research examines the following research question:

What are the determining factors in adopting the social media applications for the development of SMEs in Jaffna District?

## **2. REVIEW OF THE RELEVANT LITERATURE**

In the fast moving environment there is an increasing proof that small and medium businesses can be benefited by obtaining business value due to the adoption of social media for their purposes (Geho, Smith & Lewis, 2010). Generally small and medium sized enterprises have lack of technical skills to use information technology effectively, but if they intended to use it well they can get more benefit from the technology (Wielicki & Arendt, 2010). DelAguila-Obra and Padilla-Meléndez (2006); Buehrer et al. (2005) stated that lack of training and management/technical support are the important hurdles to using technology and their results also highlight internal barriers such as lack of staff familiarity and technical skills are preventing SMEs from using social networking sites to support their brands.



Bruque and Moyano (2007) believe that management will assist and justify the transformation of information in the new structure. SMEs are characterized by limited financial and human resources (Angela, 2005) and a limited access to IT knowledge, and that they will consequently face incredible challenges when assessing and implementing new technologies. Bruque and Moyano (2007) stated that training system in SMEs will let to transfer the knowledge in order to use new tools and to time change the workers' attitude towards technological change. To identify sales derived from the technology is difficult when it comes to return of investment and involved (Gilmore et al., 2007).

Lea et al. (2006) revealed that the benefits associated with social networks are enhanced in an online environment, where the problems of time and geographical location become less significant.

Small businesses that adopt IT more likely to have CEOs who possess positive attitude, innovative and knowledgeable towards adoption of technology (Thong & Yap, 1995). The basic infrastructure such as high speed internet connection is important to encourage the usage of technology (El-Gohary, 2012). Hadaya and Pellerin (2007) pointed out some determinants related to the firm's organizational characteristics (firm innovativeness, firm size), manager characteristics (age, gender, education) and environmental characteristics (firm geographic location). Firm innovativeness means "capability of a firm to be opened to new ideas and work on new solutions" (Kunz, Schmitt, & Meyer, 2011, p.817) and firm size or the organizational slack resources, organizational structure and decision-making flexibility (Zhu, 2006) are undeniably the most discussed by scholars.

Etemad, Wilkinson and Dana (2010) have been identified that continuous use of legacy systems and cost of transformation to new systems are major constraints for small firms. Eventually there are still some barriers to SME when it comes to language and common technology problem such as spamming (Kendall et al., 2001). Small businesses that adopt IT are larger in size however competitiveness of environment and information intensity are not significant influencer between adopters and non-adopters of technology (Thong and Yap, 1995). Prior studies on IT adoption have identified a set of environmental characteristics such as the applicable standards and regulations, the intensity of competitive pressure within the sector, nature of business relationship (Fichman, 2000; Zhu et al., 2006) as well as the firm geographic location (metropolitan area vs. non-metropolitan area).

Lacho and Marinello (2010) denoted that SMEs need to know the nature of a SME's target customers and who they want to attract to their business. This is problematic for SMEs that are 'failing to gain a deeper insight into the "true" nature of their customers' (Parrott et al., 2010, p.198). Another key concern for organisations is the ability of customers to freely exchange information about products and service, whereas in traditional marketing communications the information exchange is carefully controlled by the organisation (Mangold & Faulds, 2009).

In particular, while traditional social networks have involved personal interactions of humans over time (Kimball & Rheingold, 2000), interactions are now mediated by computers, which suggests a more impersonal form of communication. These computer-mediated networks or online social networks are more complex, and involve a greater degree of heterogeneity. When the competitors start



to use technology to stay ahead, SMEs tend to jump into the wagon and start to embrace the new technology (Ifinedo, 2011; Grandon & Pearson, 2004). Pookulangara and Koesler (2011) also tested culture as a mediating factors to adoption in social media marketing which allow users to network and share information with each other. These sites have become widely popular with users of all ages and social, cultural, educational, and economic backgrounds.

### 3. METHODOLOGY

As the study was based on primary sources to collect original data, the questionnaire was appropriate as a data collection instrument because it was speedy to conduct and the researcher was able to gather data from a vast number of respondents at the same time. In order to increase the reliability of questionnaire, respondents (SMEs) were asked to fill the questionnaires to get to know what the factors from the organizational perspective influence are while firm was engaging with the social media tool using a five-point Likert scale (1 for strongly disagree and 5 for strongly agree).

The target population of this study was SMEs in Jaffna District. The overall SMEs population in Jaffna District is 2240. Researcher categorized the SMEs population into Divisional Secretariat areas. There are thirteen divisional secretariats are existing in Jaffna District. Twenty percentage of SMEs (448 SMEs) from each Secretariat Division were selected and investigated to diagnose whether they have been using social media for their business purposes or not. Convenient sampling technique was used in selecting the small and medium enterprises. Questionnaires were issued to the SMEs who are using any social media applications only. In this way, responses were collected from 246 SMEs, but 200 responses were considered for the research purpose and others were rejected due to some invalid answers. So, the response rate was 81 %.

Overall, the researcher scrutinized the responses of 200 SMEs, of which 193 were micro level enterprises, 6 were small level enterprises and 1 was medium level enterprise. The diversity of small and medium industries in which 174 sample SMEs are engaging in manufacturing and 26 are providing services as their business activity. More than half of the SMEs (51%) have been founded during the period between two years to ten years. There have been fifty six (56) SMEs established recently (below two years). There were twenty SMEs established between the period eleven years to twenty years. In between twenty one years to thirty years, there were twelve (12) SMEs founded. Finally only ten (10) SMEs were established more than thirty one years ago.

To draw the valid conclusion and test them empirically, an exhaustive use of statistical technique of factor analysis was made. Factor analysis attempts to identify underlying variables or factors that explain the pattern of correlations within a set of observed variables. And it is often used in data reduction to identify a small number of factors that explain most of the variance observed in a much larger number of manifest variables. To further determine the reliability of the data, Kaiser-Meyer-Olkin (KMO), correlation and Bartlett Test of sphericity were determined.



## 4. RESULTS AND DISCUSSION

Table 1: Adopted types of social media

Type of S M	SMEs (n=200)
Facebook	200
Twitter	40
You tube	23
Blogs	5

Source: Survey data

In 200 SMEs, there are some social media platforms are probably adapted by SMEs. In this manner, according to the table Facebook was used by all the respondents. Twitter is adapted by 40 SMEs. There are 23 SMEs using YouTube for their promotional activities and 5 SMEs are using blogs.

The Kaiser-Meyer-Olkin measure of sampling adequacy test was constructed for checking out the sample adequacy of the data. The KMO statistic varies between 0 and 1. A value close to 1 indicates that patterns of correlation are relatively compact and so factor analysis should yield distinct and reliable factors. Kaiser (1974) recommends the accepting values of greater than 0.5.

Table 2: KMO and Bartlett's test

Kaiser -Meyer -Olkin Measure of Sampling Adequacy.		.749
	Approx. Chi -Square	1930.248
Bartlett's Test of Sphericity	df	171
	Sig.	.000

The value of KMO came out to be 0.749 (Table 2). It indicates that the factor analysis test can be proceeded correctly and the sample used is adequate the minimum acceptable value of KMO as supported by Othman and Owen (0.5). In order to test the multidimensionality of the variables, Bartlett Test of Sphericity was conducted. It turned out to be highly significant of 0.000 (Table 2) which indicate that the factor analysis processes were correct and suitable for testing multidimensionality. After examining the reliability and validity of the scale and testing appropriateness of data as above, suitability of variables is identified using a concept called "communality". Communalities indicate the amount of variance in each variable that is accounted for.

### Evaluating Communalities

Researcher was used the Principle Component Analysis as extraction method. The factor solution should explain at least half of each original variable's variance, so the communality values should be 0.50 or higher (field, 2005).



In the first rotation the variables named income and language problem took value below 0.5, in the second rotation the variable denoted as new technologies took the value below 0.5 and the variable name indicated updating which took the value below 0.5 and finally in the fourth rotation, revised communalities satisfy for all variables (Table 3)

**Table 3: Principal Component Analysis Communalities**

	Initial	Extraction
Geographical location	1.000	.724
Finance Source	1.000	.743
Size of SME	1.000	.682
Risk Taking	1.000	.578
Customer educational level	1.000	.570
Transformation cost	1.000	.696
Customer culture	1.000	.660
Competitors use	1.000	.688
Training	1.000	.762
Flexible Decision Making	1.000	.606
Outsourcing	1.000	.790
Adapt Technology	1.000	.700
Technological Experiment	1.000	.691
Enough Computers	1.000	.733
Wi -Fi Router and others	1.000	.703
Risk of Spams	1.000	.556
Positive attitude	1.000	.789
Internet connection	1.000	.744
Technical skills	1.000	.707

Extraction Method: Principal Component Analysis.

After deletion of four variables in the process analysis, remaining 19 items were factor analyzed as shown in table 3. Accordingly, all items are fit to the factor solution. Because, extraction value is more than 0.5 for each items. Table 3 shows that initial communalities and extraction communalities. Initial communalities are estimates of the variance in each variable accounted for by all components or factors. Initial communalities are set as 1.0 for all variables in Principal Component Method of Extraction of Factors. Extraction communalities are estimates of variance in each variable accounted for by the factors in the solution.



**Table 4 Total Variance Explained**

Component	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
1	5.542	29.168	29.168
2	2.994	15.756	44.924
3	1.760	9.263	54.187
4	1.607	8.456	62.642
5	1.218	6.408	69.051

In this study, Principal Component analysis (PCA) was employed by the Varimax rotation, (generally, researchers' recommend as varimax). When the original nineteen variables were analyzed by the PCA, five variables extracted from the analysis with an Eigen value of greater than 1, which explained 69.051 percent of the total variance. One method to reduce the number of factors to something below that found by using the "Eigen value greater than unity" rule is to apply the scree test (Cattell, 1966). In this test, according to the Table 4 labeled as Total Variance Explained, Eigen values are plotted against the factors arranged in descending order along the X- axis. The number of factors that correspond to the point at which the function, so produced, appears to change slope, is deemed to be number of useful factors extracted. This is a somewhat arbitrary procedure. Its application to this data set led to the conclusion that the first five factors should be accepted.

**Table 5 Rotated Component Matrix**

	Component				
	1	2	3	4	5
Finance Source	.832				
Size of SME	.675				
Transformation cost	.754				
Training	.811				
Risk Taking		.711			
Flexible Decision Making		.542			
Internet Connection		.792			
Technical Skill staff		.776			
Geographical Location			.664		
Competitors use			.659		
Outsourcing			.850		
Risk of Spams			.488		
Adapt Technology				.581	
Technological Experiment				.679	
Enough Computers				.808	
Wi -Fi Router and others				.763	
Customers Education Level					.608
Culture of Customers					.607
Positive Attitude					.828
<b>Eigen Value</b>	<b>5.542</b>	<b>2.994</b>	<b>1.760</b>	<b>1.607</b>	<b>1.218</b>
<b>Proportion of Variance</b>	<b>29.168</b>	<b>15.756</b>	<b>9.263</b>	<b>8.456</b>	<b>6.408</b>
<b>Cumulative Variance Explained</b>	<b>29.168</b>	<b>44.924</b>	<b>54.187</b>	<b>62.642</b>	<b>69.051</b>



The Table 5 shows that factors were divided into five groups. The rotated (Varimax) component loadings for five components (factors) are presented in this table. It is worth declaring out here that factor loading greater than 0.30 are considered significant. 0.40 are considered more important and 0.50 or greater are considered very significant. For parsimony, only those factors with loadings above 0.50 were considered significant (Hair et al., 2003). Actually in this study, minimum factor component loadings of 0.488 or higher are considered significant for Exploratory Factor Analysis (EFA) purposes.

**Five factors have been defined hereunder:**

Group –I: The first factor as organizational factors with an Eigen value of 5.542 was explained 29.168% of the variance. This four statements namely finance source, size of SME, transformation cost and training with loading ranging from .832 to .811.

Group- II: Another factor is named as management factors which consists of four factors risk taking, flexible decision making, internet connection and technical skills with loadings ranging from .711 to .776. The second factor of SME explained with the Eigen value of 2.994 and 15.756% of variance.

Group- III: The third factor as external environmental factors with an Eigen value of 1.760 was explained 9.263% of the variance. This four statements namely geographic location, competitive use, outsourcing and risk of spam were loaded significantly on this factor with the loading ranging from .664 to .488.

Group – IV: The next factor named technological innovativeness which is accounted by the 8.456% of total variance with Eigen value of 1.607. This factor includes four statements namely adapt technology, technological experiment, enough computers and Wi-Fi router and others with the loading ranging from .581 to .763.

Group – V: The fifth factor is named as customer factor which is accounted by the 6.408% of total variance with Eigen value of 1.218. This factor consists three factors namely customer education level, culture of customer and positive attitude with the loading ranging from .608 to .828.

**Table 6**Ranking of Factors

Factors	Key Variable	Component * Component Score Coefficient	Individual Score	Fac tor Score	Rank
Factor 4	Adapt Technology	0.581* 0.242	0.141	0.945	1
	Technological Experiment	0.679* 0.302	0.205		
	Enough Computers	0.808* 0.374	0.302		
	Wi -Fi Router and others	0.763* 0.389	0.297		



Factor 1	Finance Source	0.832* 0.302	0.251	0.825	2
	Size of SME	0.675* 0.191	0.129		
	Transformation cost	0.754* 0.237	0.179		
	Training	0.811* 0.328	0.266		
Factor 3	Geographical Location	0.664* 0.244	0.162	0.811	3
	Competitors use	0.659* 0.257	0.169		
	Outsourcing	0.85 0*0.483	0.411		
	Risk of s pam	0.488* 0.142	0.069		
Factor 5	Customer E ducational Level	0.608* 0.346	0.210	0.808	4
	Culture of Customer	0.607* 0.304	0.185		
	Positive Attitude	0.828* 0.499	0.413		
Factor 2	Risk taking	0.711*.307	0.218	0.788	5
	Flexible Decision Making	0.54 2*.163	0.088		
	Internet Connection	0.792*.287	0.227		
	Technical skills	0.776*.329	0.255		

According to the ranking of factor analysis, factor 4 takes the highest score (0.945) among other factors. It indicates that enough computers which is the first rank (0.302) of factor 4. Factor 1 has second highest score (0.825) which indicates that training has the highest score (0.266) of it.

Next high scored factor is factor 3. Total score of factor 3 is 0.811. Among factor 3, outsourcing scored the highest value (0.411). Factor 5 is identified as the fourth important factor which takes the score 0.808. Positive attitude as a variable of factor 5, it takes the highest value 0.413. Finally, the total score of factor 2 as a less important factor which has the score 0.789. In the factor 2, technical skill of manager and employees takes the highest score (0.255).

## 5. CONCLUSION AND DISCUSSION

After 30 years of civil war has come to the end in 2009, there is an increased investment inflow into Sri Lanka occurs, particularly in Northern Province. Thus there are better opportunities for SMEs to foot their print in the market locally and internationally. It is possible for SMEs if they are enter into social media usage to attract local and international customers at the mean time.

This paper sheds light on the adoption of social media applications in SMEs, which has so far received little research attention in Sri Lanka and all over the world. In summary, our findings suggest that adoption of social media is associated with five factors of small and medium enterprises. These factors are organizational factors, management factors, external environmental factors, technological innovativeness and customer factors.

Our findings highlight the factor technological innovativeness which includes technology adaption, technology experiment, enough computers and Wi-Fi connector (router) and other related physical equipment as the more influencing factor of SMEs on the adoption of social media. Then the organizational factors have been identified and it indicates the inner strengths and weaknesses that an



organization exhibits internally. Then the manager's risk taking ability, flexibility in decision making, availability of internet connection and staff with technical skills are mentioned under the management factor. Geographical location, competitors' usage of social media, outsourcing if not the SME has adequate staff with technical skills and risk of spams have been identified as the external environmental factors of SMEs in the adoption of social media. Finally the customer factors which has been derived from the dynamics such as the educational level, culture and positive attitude towards social media usage of customers.

MohdIrwan Dahnil, et al. 2014 identified internal and external factors (end users, organizational, technological and business environmental factors) of SMEs in the adoption of social media. The present study further identified management factors. Fosso Wamba and Carter (2013) investigated the organizational, manager and environmental characteristics of SMEs in the adoption of the social media tools. In addition to this study, the present study identified two factors such as technological innovativeness and customer factors.

## 6. IMPLICATIONS

Our study contributes to the lack of research on the area of the adoption of social media applications by SMEs. This study is an evident respects to the SMEs whose presence in social media is effectively working on their performance. SMEs using social media have recognized the importance of this promotional tool to support marketing consequences.

The present study has examined the significant factors that influence social media usage among SMEs in marketing activities. Thus, there are several implications for SMEs can be highlighted. For many new and existing small and medium enterprises, this study will be a helpful material which will tell that how the factors of SMEs have influenced on the social media adoption and how the outcome is enhanced by staying at social media promotional activities. By using social media, SMEs which are run in Jaffna District will be more competitive in the global economy and are able to access larger markets.

At the level of practice there are significant implications for decision makers in small firms to become more attuned to how technology can meaningfully add value to the customer experience and it is important for organizations to understand that multiple internal and external factors impact on the adoption of social media. This study contributes to the business world by providing new and up-to-date insights into the adoption of social media applications in SMEs. It highlights the need for planning while remaining flexible to accommodate the requirements and demands of the interactivity that arises from social media use. The document review shown in this study reach over many fields and is not limited to SMEs only but for large organizations.

Based on these findings other researchers will be able to conduct further investigations on certain aspects we highlighted. Moreover, our work has provided the implications to managers of SMEs by assisting them to benchmark their own business and to learn from our results. As the respondents we



had focused the SMEs who are using social media, we had faced the difficulty in identifying and selecting the SMEs who are adapting social media among vast amount of SMEs.

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