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USE OF SOCIAL MEDIA IN CONSTRUCTION INDUSTRY: A CASE STUDY

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Abstract:

Social media evolved in the early 2000's with the birth of Facebook and Flickr in 2004. It is hard to ignore the current influence of social media upon modern lifestyle with the continuous development of many social media platforms over the past decade. On the other hand, the construction industry is often criticised for lack of communication and poor uptake of technology and innovation. Hence, this study reviewed and analysed the usage of social media in the UK construction industry focusing on quantity surveying practices. Three Quantity Surveying practices were selected for the study. Of the three cases, one organisation was selected as the principal case study within which a comprehensive questionnaire survey was conducted to investigate the level of understanding and knowledge of employees about social media within the organisation. The other two organisations were used for verification of findings from the main case study. The case study findings revealed a very low usage of social media within the organisations. Even though there was a mixture of positive and negative views on the commercial potential of social media for construction business, the questionnaire findings suggested that the social media platforms were poorly understood by the employees and its potential is underestimated.

KEYWORDS: CASE STUDY, CONSTRUCTION INDUSTRY, QUANTITY SURVEYING, SOCIAL MEDIA

1. INTRODUCTION

Social media can be defined briefly as a web-based platform where conversations can take place between two or more people in light of information exchange (Andrews, 2012). However, there are multiple views on what social media is and how it should be defined. Social media is defined using either an information model or a communication model. Information model suggest that all media are social while communication models claims that media becomes social when communication takes place (Fuch, 2014). Social media can take different forms and leaves the users with a personal experience. Ahlqvist et al. (2008) define three key elements of social media namely: content, community and Web 2.0. Web 2.0 technology serves as the foundation of the whole social media platform development (see, O'Reilly, 2005), where content is shared within the community. Therefore, one without the other two will not form a social media platform.

Social media platforms are classified in different ways. Golden (2010) classifies social media platforms into two types based on ownership such as: firm sponsored or individual publications (e.g. blogs) and third-party forums (e.g. Facebook, Twitter and LinkedIn).

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On the other hand, few others (Grahl, 2015, Scott, 2014, SEOPressor, 2015) classify social media into six types based on the main activity of the platform, such as:

6. Social networks: Facebook, LinkedIn, Google+
7. Media sharing: YouTube, Instagram, Pinterest, Flickr
8. Microblogging: Twitter, Tumblr
9. Blog Comments and Forums: Blogger
10. Social news: Reddit
11. Bookmarking site: Delicious, StumbleUpon

Each type is intended for a specific purpose. Social networking platforms allow users to connect to people all over the world and share messages and media files with personalised settings. Media sharing platforms enable distribution of various media types including videos, audios and images. Microblogging platforms designed for concise posts where the user can update short messages and link to other sites. Blog Comments and Forum platforms engage users in a public conversation. Social news sites allow registered members to submit content from external sources. Finally, bookmarking sites enable users to save links, add bookmarks or tag webpages.

Use of social media has extended beyond personal use in present era and it is not uncommon to see active business participation in social media. However, social media implementation in a business setting is distinctly different from personal usage. More than a leisure medium social media can bring commercial benefits in a business setting when it is implemented effectively which can highly influence the sustainability of the business, especially, economic and social sustainability. Therefore, this paper presents a literature review of the role of social media in a business environment and its potential benefits, and then, exploring it further through case study approach focusing on construction organisations.

2. LITERATURE REVIEW

Social media in businesses

Social media can provide wide range of benefits to businesses including: fast specialist feedback/better communication; capable of reaching global audience; improve networks; improve awareness of a brand; enhance knowledge on current issues and initiatives/innovations; facilitate knowledge management; drive traffic to website; raise company profile; increase online visibility of the organisation, the products and the services; allows consumers to engage with company; improve work efficiency; increase PR opportunities with industry publications; help monitor competitors and act on negative comments (Brown, 2012, Salcido, 2011, Pauley, 2014, Bradwell and Reeves, 2008, Patten, 2007).

On the other hand, not all business functions are equally benefitted, and in fact, it can be expected that some business functions are hugely benefitted or impacted by social media usage while other functions have less or no impact. According to Smith et al. (2011)

information technology, sales, marketing, services and human resources are highly affected by social media while research and development and supply chain are moderately affected and legal and finance are less affected. Apparently, this claim is supported by the benefits listed above that most impacts are attributed to the information technology, sales, marketing and human resources functions.

Specialist on social media suggests that social media must be encouraged in working environment for better results (Broughton et al., 2010). However, this has to be implemented in a systematic way by. In addition to that it is also believed that a successful social business strategy will integrate social media in to business goals and objectives (Altimeter, 2015, Li and Solis, 2015, Myers, 2012). This calls for a sound usage guideline or protocol and awareness among the employees.

Social media in different industries - case studies

Health and beauty industry - L'Oreal

Famous beauty company L'Oreal uses various forms of social media to attract job seekers. Company vacancies webpage is linked directly to company profile in Facebook, LinkedIn and twitter. In addition to that L'Oreal provides a link in Facebook profile on an internship programme which is linked to an application called 'Work for Us'. This targets candidates and allows collation of important information. Through this method L'Oreal was able to reach inactive candidates as well as improve the brand image. It was also reported that L'Oreal Australia saved nearly 20,000 Australian dollars in recruitment process (LinkedIn, 2012, Hebbard, 2015).

Case study of L'Oreal showcases effective recruitment process through social media platforms which helps to identify potential candidates at a lower cost and time than the conventional method of recruitment.

Food and drink industry - Coca-cola

Coca-cola is a world famous drink company and well-known for its brand. Moth (2013) reported that coca-cola to have over 63 million fans to its main Facebook page, over 700,000 followers in Twitter and also seemed to be active in Pinterest and Google+. Case study also reveals that coca cola is able to attract more fans and followers and improve the brand image by active participation in social media.

This case study conveys the message that social media serves as a good marketing tool and helps improve brand image of businesses.

However, Myers (2012) alarms small businesses to not to be deceived by all social media platforms, since there is a tendency of being active in all platforms while not reaping huge benefits (Myers, 2012).

Social media in construction industry

Construction industry is a distinctly different industry compared to manufacturing industry. Generally, construction clients get the project done from the industry according

to their needs. Hence, the products are tailor made with different prices and the business is highly competitive. So the industry produces low volumes of output with high margin in contrast to manufacturing industry. Therefore, usage of social media in construction industry can be expected to be different than the previously reported case studies and there is a lack of reported case studies within construction organisations.

Construction industry is often criticised for its slow adoption of ICT and innovation. The Office for National Statistics (2013) report findings affirms the above claim in terms of social media adoption. Findings show that up to 77% of companies in information and communication sector are leaders in social media adoption in 2012 whereas only 20% of construction companies reported to have implemented social media within business. A different survey of top 15 construction companies in the UK reported that over 90% of the construction companies holding a Twitter account and LinkedIn account and 65% having a Facebook account for the company. Further, more than half of the companies have linked the website with social media accounts while all having the capability to analyse internet traffic (Pauley, 2014). In addition to that another study reported that the most popular social media platform used by construction professionals is LinkedIn followed by Twitter, Facebook, YouTube, Blogs, Google+ and Pinterest (Whiston Solutions, 2015).

Literature findings demonstrate that smaller number of construction companies is using social media and that percentage consists of primarily large construction companies. However, majority of the construction industry is composed of Small and Medium Enterprises (SME). Michaelidou, Siamagka, and Christodoulides (2011) reported about the usage of social media in SMEs in the UK. Findings identified Facebook as the popular social media with 77% users followed by Twitter (55%), and LinkedIn (46%). Therefore, social media usage is evident in both large and SME construction organisations.

Furthermore, CIC Group construction industry survey 2014 outlines the expectable key benefits for the construction industry by social media usage such as: collaboration, innovation and promotion and improved image (Construction Industry Council, 2014). Another potential benefit of social media to construction industry is knowledge management. Knowledge management becomes important to construction industry due to the fragmented nature of the industry (Dave & Koskela, 2009). However, social media has the potential to bridge the fragmentation between stakeholders of the project which is demonstrated by the case study presented by Porkka, Jung, Päivänen, Jäväjä, and Suwal (2012).

Despite the benefits, reluctance of top management, lack of understanding and encouragement from top management (Brown, 2012), unfamiliarity of staff/lack of technical skills in handling social media platforms, perceived unimportance, lack of use by the competitors (Michaelidou et al., 2011) are reported to be the barriers of social media implementation in construction organisations. While some feel that social media should not be encouraged in a working environment as it is highly unregulated, unmanageable and perceived to be of high risk to reputation, others think that it is a good

medium of marketing, attracting younger generation and disseminating knowledge through interactive forums, video blogs and the like (Construction Industry Council, 2014).

In summary, the reported studies on social media usage suggest that the social media usage within the construction industry is very low. The role of social media is overlooked and sometime social media is considered as a risk to the business operations. Further, the expected benefits of social media usage are not fully entertained by the industry and there is a huge scope for potential development.

3. METHODOLOGY

Case study method was adopted to explore the use of social media in construction organisation as case study is considered suitable when an in-depth (Fellows and Lieu, 2003) and holistic inquiry to be done to investigate a contemporary phenomenon within its natural setting (Harling, 2002).

The case study was designed to combine both qualitative and quantitative methods. Three Quantity Surveying organisations were selected as the cases. Of the three cases, one organisation was selected as the principal case study within which a survey (quantitative analysis) was conducted. The other two cases served as a verification and in-depth review of findings emanating from the main study. While qualitative approach helps to gain deeper understanding of the situation from managerial level people of the selected cases, quantitative approach investigates the level of understanding and knowledge of employees about social media within the principal case study organisation.

Semi-structured interviews were employed to capture qualitative data while questionnaire survey was employed to capture quantitative data. Semi-structured interviews were conducted with three managerial level personnel from each case (total of 9 interviews). Questionnaire survey was conducted within the principal case study organisation with a sample size of 91 employees (out of approximately 800 employees) which fulfils the requirement of a minimum sample size at $\alpha 0.10$ (Kotrlík and Higgins, 2001). Then, key themes and patterns from interviews were identified using content analysis and survey results were analysed using descriptive statistics. Finally, conclusions were derived based on both the findings and comparisons made with the literature findings.

4. FINDINGS

Case A

Case A is a large professional Quantity Surveying (QS) organisation registered under the RICS with over 800 employees and has several branches over the UK. The organisation maintains accounts in various social media platform such as: Blog, LinkedIn, Twitter, YouTube and Facebook. Frequent emails are circulated among employees about the news

feeds in social platforms as a result of active participation of the organisation in social platforms. However, employees demonstrated very low level of awareness about internet/social media usage protocol.

Social media implementation within the organisations is viewed positively as it is believed that social media helps to connect targeted audiences like clients, contractors as well as prospective employees; encourage co-operation within groups; enable fast specialist feedback; has potential to reach global audience; improves networks; improves brand image; and could facilitates knowledge management. However, it was also highlighted that the construction business is not greatly influenced by promotions and marketing like other businesses.

Nevertheless, social media is perceived to be surrounded by negative stigmas making it difficult to be encouraged within the organisation. Especially, it is considered to be difficult to convince top management regarding its usage and implementation within the organisation. Some of the barriers in social media implementation within the organisation includes: age of employees, more of personal usage, lack of control, conflict of interest, and lack of encouragement to use.

Survey findings

Figure 1 illustrates the age profile of the survey respondents. Accordingly, majority of the respondents are between 20 to 29 age group (38%), representing younger generation in the sample. Also it is clear that sample represents fair proportion of employees in all age groups which gives a clear account from all age groups.

Figure 15: Age profile of the respondents

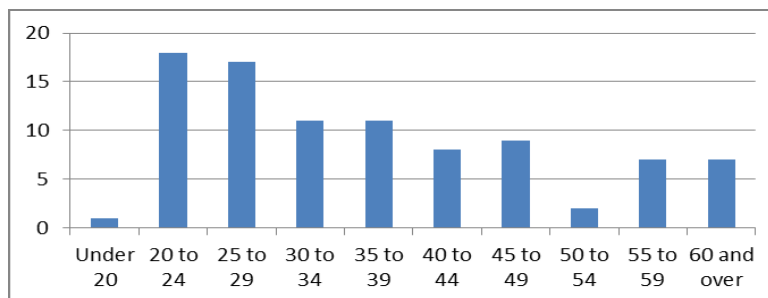
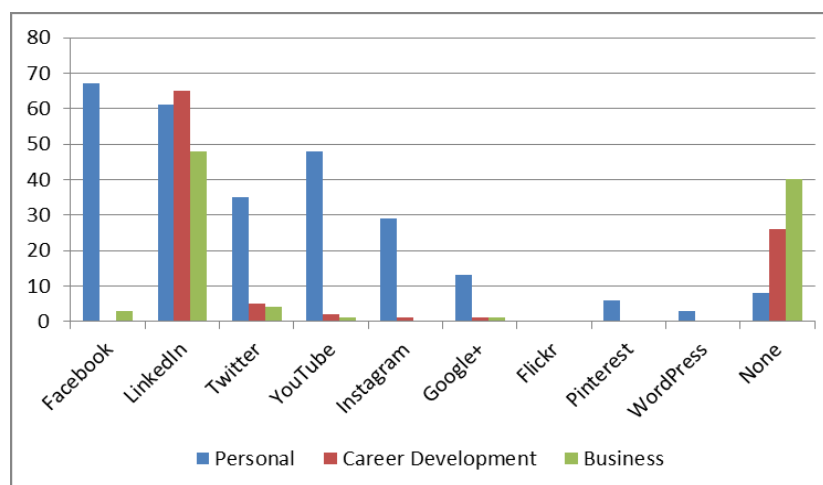


Figure 16: Users of social media platforms for different purposes



Findings suggest that 91% of the respondents use social media platforms for personal purposes. Facebook is identified as the most popular platform used by the respondents for personal purposes followed by LinkedIn and YouTube. Further, Flickr found to be unpopular among the respondents. Only 56% of the respondents claimed to be using social media for business purposes indicating limited application of social media in business functions. Mainly, LinkedIn is used for business purposes while Twitter, Facebook, YouTube and google+ are also used at a very lower rate. On the other hand, 67% respondents reported to be using social media for career development purposes in which LinkedIn is used by 71% while few others use Twitter, YouTube, Instagram and Google+ (see, Figure 2).

Majority of the respondents (71%) confirmed that social media usage is not encouraged within the organisation. Further, half of the respondents confirmed that they are unaware of the internet usage policy of the organisation. Also employees demonstrated lack of clear understanding about level of integration of social media with business goals and objectives.

Out of five identified potential areas of benefits of social media implementation (business development, knowledge management, marketing/advertising, competitive advantage and brand and industry awareness) respondents consider that social media is most beneficial in terms of gaining competitive advantage and for knowledge management, followed by business development, brand or industry awareness and marketing.

Case B

Case B is a North East England based professional QS practice that operates locally employing approximately 15 Qs. The organisation maintains only a Twitter account which is occasionally updated. Further, lack of awareness about internet/social media usage protocol was evident.

Social media is considered as a potential recruitment tool which acquires less cost and time while reaching more targeted audiences. Also it is believed that social media platforms are a medium of meeting prospective clients and attracting new projects. However, there is a general opinion that social media work well for large organisation than small organisations. In fact, the commercial potential of social media implementation is considered to be low for construction organisations. Furthermore, age of employees and reduced employee productivity are identified as potential barriers of social media implementation.

Case C

Case C is a professional QS practice with over 1000 employees operating across the UK. The organisation maintains accounts in LinkedIn, Twitter, YouTube, Facebook and Yammer. Further, knowledge of internet/social media usage protocol seems to be moderate in the organisation.

Social media is said to be providing competitive advantage over inactive competitors; raise awareness of the brand; facilitates promotions; circulates job opportunities; and help to reach large audience. Organisation believes that the social media implementation has commercial potential and thus, a specialist is appointed in the marketing department to manage social platforms for the organisation.

On the other hand, organisation experiences other obstacles in social media implementation such as: age of the employees, reduced employee productivity, restricted internet use, and cost of additional resources like employment of a specialist to maintain platforms.

5. DISCUSSION

Popular social media platforms among construction organisations

Table 1 compares the findings of the study with other studies. Findings of the study exclude social media usage for personal purposes while other studies do not clearly state the scope of the analysis. LinkedIn, Twitter and Facebook are identified as popular platforms used by construction professionals by all presented studies while the case study identified LinkedIn to be the most popular platform used for business and career development purposes in the case study organisation. Reason for this could be Twitter and Facebook are more inclined towards personal usage rather than for business and career development purposes. Apparently, LinkedIn has become a very popular platform for job hunting where well-presented profiles attract competitive opportunities, leading to career development. Nevertheless, Twitter, Facebook, YouTube, Blogs, Google+ and Pinterest are also used at a smaller percentage.

Table 1: Comparison of study findings with literature findings

	The study	Pauley (2014)	Whinston Solutions (2015)	Michaelidou et al. (2011)
Study Sample	Construction professional of the case study organisation	Top 15 construction companies	Construction professionals	SME's in the UK
LinkedIn	71%	90%	91%	46%
Twitter	5%	95%	84%	55%
Facebook	3%	65%	83%	77%
YouTube	2%		68%	
Blogs			47%	
Google+	1%		40%	
Pinterest	0%		26%	

Internet and social media usage policy

Findings reveal that half of the employees in the sample are unaware of the internet usage policy. According to the literature this can be a threat as the literature suggests that there should be protocols in place to govern social media usage in a business environment. This is a key problem in many organisations which needs to be given serious attention where social media usage is allowed and encouraged. Knowledge of protocol and boundaries of usage is very important to prevent any damage to the brand image and maintain the reputation of the organisation.

Potential benefits of social media for construction organisations

Identification of knowledge management as a major potential benefit of social media, over business development, marketing/advertising, and brand and industry awareness, demonstrate evolving role of social media from primarily being a marketing tool to other areas. The identified benefits showcase the ability of social media in achieving economic and social sustainability in business environments. It is interesting to note that employees scored high for knowledge management. However, potential for knowledge management is not explored much and the role of social media in organisational knowledge management could be an interesting area to explore further.

Issues in social media implementation

Key barriers identified includes: age of the employees, more of personal usage/reduced productivity, lack of control, conflict of interest, lack of encouragement, restricted internet usage, and additional cost of resources. Therefore, findings suggests that construction organisations are still reluctant to implement social media in a business environment as it is perceived as a risk to business and potential benefits are overlooked. Even if it is implemented, lack of effective communication of protocols to employees can be a potential threat to the business. Furthermore, integrating social media in to business goals and objectives is crucial for a successful social business strategy.

6. CONCLUSIONS

Social media is now proving to be having commercial potential for businesses use more than being as a personal entertainment medium. However, social media implementation within construction business is not explored in-depth. Therefore, the study aimed at exploring the use of social media in the case study organisations, employees understanding of social media, potential benefits, and barriers of implementation through semi-structured interviews as well as a questionnaire survey. Findings suggested that LinkedIn is the most popular platform used for business s and career development purposes while Twitter, Facebook, YouTube, Blogs, Google+ and Pinterest are also used at a smaller percentage. While there is some form of social media usage for business purposes, employees demonstrated lack of awareness of usage protocol which according tot the literature is a potential threat and can even damage brand image. Therefore, it is important that businesses that use social media for business functions take necessary precautions to eliminate such threats due to ineffective communication of usage protocol to employees.

Social media usage in construction organisation claims to yield many benefits including: business development, knowledge management, marketing/advertising, competitive advantage and brand and industry awareness. Out of which respondents presume social media use will highly benefit knowledge management functions. Nevertheless, as with any choice, social media implementation in construction organisations also has pros and cons. Age of the employees, more of personal usage/reduced productivity, lack of control, conflict of interest, lack of encouragement, restricted internet usage, and additional cost of resources are the identified barriers for social media implementation in case study organisations and which are in fact the key concerns for most of the organisations. Also some people consider that social media implementation benefits large organisations than small. Effective implementation of social media can disprove all the criticisms about social media implementation in a business environment and also integrating social media in to business goals and objectives is crucial for a successful social business strategy. Further, potential benefits of social media implementation pave the way for economic and social sustainability in a business environment. However, construction industry is slow in social media adoption and further researches and case studies are needed to give assurance of successful social media usage in construction organisations.

7. REFERENCES

- AHLQVIST, T., BÄCK, A., HALONEN, M. & HEINONEN, S. 2008. Social Media Roadmaps: exploring the futures triggered by social media. Espoo, Finland.
- ALTIMETER. 2015. Social Business Strategy [Online]. Available: <http://www.altimetergroup.com/work-with-us/challenges-we-solve/social-business-strategy/>.
- ANDREWS, C. 2012. Social media recruitment. Applied Clinical Trials, 21, 32-42.
- BRADWELL, P. & REEVES, R. 2008. Network citizens power and responsibility at work, UK, Demos.

- BROUGHTON, A., HIGGINS, T., HICKS, B. & COX, A. 2010. Workplaces and Social Networking: The Implications for Employment Relations. The Institute for Employment Studies.
- BROWN, M. 2012. Why the construction sector should engage with social media [Online]. Available: <http://www.theguardian.com/sustainable-business/construction-sector-social-media> [Accessed 17 May 2015].
- COLEMAN, V. 2013. Social media as a primary source: A coming of age. *EDUCAUSE Review*, 48, 60-61.
- CONSTRUCTION INDUSTRY COUNCIL 2014. CIC 2050 Group Construction Industry Survey 2014. UK: CIC 2050 Group.
- DAVE, B. & KOSKELA, L. 2009. Collaborative knowledge management—A construction case study. *Automation in Construction*, 18, 894-902.
- FELLOWS, R. & LIEU, A. 2003. *Research methods for construction, USA*, Blackwell publishing.
- GOLDEN, M. 2010. *Social media strategies for professionals and their firms: the guide to establishing credibility and accelerating relationships*, Hoboken, N.J, Wiley.
- GRAHL, T. 2015. The 6 types of social media [Online]. Available: <http://timgrahl.com/the-6-types-of-social-media/> [Accessed 17 May 2015].
- HARLING, K. 2002. Annual meeting of the american agricultural economics association, case studies: Their future role in agricultural and resource economics. California.
- HEBBERD, L. 2015. How L’Oreal use social media for recruitment [case study] [Online]. Available: <http://linkhumans.com/case-study/how-loreal-use-social-media-for-recruitment> [Accessed 20 May 2015].
- KOTRLIK, J. & HIGGINS, C. 2001. Organizational research: Determining appropriate sample size in survey research appropriate sample size in survey research. *Information technology, learning, and performance journal*, 19, 43.
- LI, C. & SOLIS, B. 2015. The 7 success factors of social business strategy [Online]. Available: <http://www.briansolis.com/2015/04/7-success-factors-social-business-strategy-infographic/> [Accessed 17 May 2015].
- LINKEDIN. 2012. Case study L’Oreal [Online]. Available: <http://www.slideshare.net/linkedineurope/loreal-case-studyv5> [Accessed 17 May 2015].
- MICHAELIDOU, N., SIAMAGKA, N. T. & CHRISTODOULIDES, G. 2011. Usage, barriers and measurement of social media marketing: An exploratory investigation of small and medium B2B brands. *Industrial Marketing Management*, 40, 1153-1159.
- MOTH, D. 2013. How Coca-Cola uses Facebook, Twitter, Pinterest and Google+ [Online]. Available: <https://econsultancy.com/blog/62548-how-coca-cola-uses-facebook-twitter-pinterest-and-google/> [Accessed 20 May 2015].
- MYERS, A. 2012. 13 types of social media platforms and counting [Online]. Available: <http://decidedlysocial.com/13-types-of-social-media-platforms-and-counting/> [Accessed 17 May 2015].
- O'REILLY, T. 2005. What Is Web 2.0 [Online]. Available: <http://www.oreilly.com/pub/a/web2/archive/what-is-web-20.html>.
- OFFICE FOR NATIONAL STATISTICS. 2013. Business use of social media [Online]. Available: <http://www.ons.gov.uk/ons/rel/rdit2/ict-activity-of-uk-businesses/2012/sty-ecom-2012.html> [Accessed 20 May 2015].
- PATTEN, J. 2007. Blogging in the workplace: Building a safe culture [Online]. Available: <http://www.personneltoday.com/hr/bloggng-in-the-workplace-building-a-safe-culture/> [Accessed 17 May 2015].
- PAULEY, N. 2014. How the top UK construction companies are using social media marketing in 2014 [Online]. Available: <http://www.pauleycreative.co.uk/2014/01/how-the-top-construction-companies-are-using-social-media-in-2014/> [Accessed 17 May 2015].
- PORKKA, J., JUNG, N., PÄIVÄNEN, J., JÄVÄJÄ, P. & SUWAL, S. Role of social media in the development of land use and building projects. *Proceedings of ECPPM*, 2012.

- SALCIDO, M. 2011. Benefits and advantages of using social media | advantages of social media [Online]. Available: <http://www.organicseoconsultant.com/advantages-of-using-social-media/> [Accessed 17 May 2015].
- SCOTT, M. 2014. Understanding the basic categories of social media marketing [Online]. Available: <https://blog.ahrefs.com/understanding-basic-categories-social-media-marketing/> [Accessed 17 May 2015].
- SEOPRESSOR. 2015. The 6 Types of Social Media [Online]. Available: <http://seopressor.com/social-media-marketing/types-of-social-media/> [Accessed 17 May 2015].
- WHISTON SOLUTIONS. 2015. Social media benefits for the property and construction industry [Online]. Available: <http://www.whiston-solutions.com/industry-developments/social-media-benefits-property-and-construction-industry> [Accessed 17 May 2015].