

# THE BENEFITS AND CHALLENGES OF SOCIAL MEDIA IN CONSTRUCTION INDUSTRY: A PERSPECTIVE FROM CONSTRUCTION PROFESSIONALS

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## ABSTRACT

*In recent years, internet usage and social media have been widely used in Malaysia, the construction industry is one of the industries that are not excluded from this technological trend. This research intended to identify the benefits and challenges of social media in the construction industry among the construction professionals particularly in the northern region area. To identify the usage, the benefit and challenges of social media were also determined in the construction industry whereby it also reflects how far construction professionals rely on social media in their daily works. This research uses quantitative approach in order to collect data via questionnaires distribution from construction professionals. The results revealed that, most of the construction companies agreed that*



*social media provides more advantages and benefits than challenges in the construction industry. This research provides significant data for construction professionals regarding the effectiveness of social media platform particularly in disseminating information for daily communication in construction projects.*

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## INTRODUCTION

As of at the end of 2018, the value of construction work done in 2018 stood at RM145.5 billion where it indicates a growth of 5.1% compared to RM138.5 billion in 2017. According to the Department of Statistics Malaysia (2019), the estimated GDP from the construction industry in Malaysia stands at RM173.56 billion in 12 months' time based on Malaysia's econometric models. In the long-term, the Malaysian GDP is projected to be around RM187.54 billion in 2020 (Trading Economic, 2019). Chan and Lee as cited in Muhammad and Mohammad (2018) stated that Malaysia aims to be a developed country by the year 2020 where the construction industry has been identified as a major catalyst for the country to attain the status. However, in accomplishing this momentum, with the nature of fragmented and isolation between construction professionals and poor coordination in construction projects, the above mission is difficult to be achieved (Nasrun, Nawi, Baluch and Habauddin as cited in Zainal Abidin et al, 2020).

Hence, effective communication is needed in order to ensure essential element in managing construction projects are delivered to all parties in the team. Therefore, social media seems to be one of the communication tools in achieving effective communication. Social media is a medium that is based on electronic devices such as mobile and web-based technologies to produce an advance and interactive platform which allows people or company to create, spread or even exchange information among the team members. Antheunis, Tates and Nieboer (2013) stated that social media employs mobile and web-based technologies to create highly interactive

platforms via which individuals and communities share, co-create, discuss and modify user-generated content. The World's 21 Most Important Social Media Site include Twitter, Facebook, LinkedIn, Xing, Renren, Goggle+, Disqus, LinkedIn Pulse, Snapchat, Tumblr, Pinterest, Twoo, MyMFB, Youtube, Instagram, Vine, Whatsapp, vk.com, Meetup, Secret, and lastly Medium (Milanovic, 2015).

Social media also allowed us to share our career interests, ideas, pictures, videos or files with the communities and our network without limitation. Social media also helps someone to spread and express some information quickly to others (Maya,2020). Individuals, companies, organisations, government and also parliamentarians can interact with large numbers of people by using social media to exchange photos and videos, share news stories, post their thoughts on blogs and participate in online discussions (Tran and Bar-Tur,2016). Increased access to the Internet and mobile communication combined with strategic uses of social media can bring information to many more people, more quickly and directly than at any time in history (McNab, 2009). This paper aims to identify the impact of social media in the construction industry among the construction professionals in the Northern region of Malaysia. In accomplishing the above aim, several objectives were mapped out in the research which are to identify the usage of social media, to investigate the benefits of social media and to determine the challenges of using social media particularly in construction projects. However, there are some limitations highlighted in this paper where it only portrayed the data collected from construction professionals in Northern region which are Kedah, Perlis and Penang only.

## **LITERATURE REVIEW**

The trend of social media usage has been increasing rapidly and dramatically in every level of society around the world. Social media has been improved with the passing of each year in all aspects including quality, frequency, reach, permanence, usability and immediacy. Access to information and communication technology (ICT) is growing every year in all regions of the world (McNab, 2009). About one in four people globally are using the Internet (Geneva, 2009). Internet and social media are also big influences in the construction field. In developed countries, social media is synonymous

with the construction field. This shows that the social media was effectively used in developed countries and prove that it has a lot of benefits (Edosomwan et al.,2011). The Internet users have increased manifold in the last few years and Internet is being widely use in daily dealings in the construction industry (Azhar et al, 2014). Almost all of the construction team members use social media when delivering information. The research by Mui, et.al., (2002) shows many construction organizations are beginning to take advantage of the social media, but in general, the construction industry lags behind most other industries in terms of social media usage.

## **Social Media**

Social media has introduced substantial and pervasive changes to communication between organizations, communities and individuals. It has amplified the power of consumer-to-customer conversations in the marketplace by enabling one person to communicate with literally hundreds or thousands of other consumers quickly and with relatively little effort (Azhar, 2014). Meanwhile according to Kaplan (2010), social media could be defined as a group of Internet based applications that allow the creation and exchange of user generated content. On the other hand, social media is described as ‘social media employ mobile and web-based technologies to create highly interactive platforms via which individuals and communities share, co- create, discuss and modify user-generated content’ (Kietzmann, 2011).

Social media has been described as ‘web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system’ (Ellison, 2007). Last but not least, social media also refers to the wide range of Internet-based and mobile services that allow users to participate in online exchanges, contribute user-created content or join online communities (Ellison, 2007). Overall, social media is best described as a platform to allow people or company to create, spread or even exchange information among the team members and allowed us to share our career interest, ideas, pictures, videos or files with the communities and our network without limitation. Social media also helps someone to spread and express some information quickly by using little effort based on electronic

devices such as mobile and web-based technologies.

Social media have been widely used in all sectors and industries such as construction industry (Azhar et al, 2014), tourism (Xiang et al, 2010), government (Abdelsalam et al, 2013), (Zheng, 2013) and health professionals (McNab, 2009). Social media websites, representing various forms of consumer-generated content (CGC) such as blogs, virtual communities, wikis, social networks, collaborative tagging, and media files shared on sites like YouTube and Flickr, have gained substantial popularity in online travellers' use of the Internet (Gretzel and Xiang ,2006); (Pan, 2007); (Tuominen, 2011)

Construction industries in Malaysia are not excluded from the social media wave as there are a lot of people in the construction industries that socialize in media social and actively use social media but somehow not all of the construction players have realized the benefit of social media in the construction industries. Research revealed that many construction organizations are beginning to take advantage of social media benefits, but in general, the construction industry lags behind most other industries in terms of social media usage (Mui, et.al.,2002).

As compared to other successful countries, Malaysia is still lagging behind in the usage of social media. In comparison with the construction industry in the US, UK and Sweden, they have achieved above 90% accessibility to the Internet about two years earlier than Malaysia. The comparison made was based on data from the following surveys: 96% in United States (CIDB,2001), 97% in UK (Dixon, 2008) and Sweden 90% (Howard et al., 2008). It is not limited to only having a social chat or social life, but it is beneficial for business, communities and organizations. Social media have many uses for the construction company.

## **Social Media in The Construction Industry**

Construction industry is one of the industries that has used social media but unfortunately the construction members or a professional does not maximize the benefits provided by the social media. The construction industry in Malaysia seems to be using the Internet as much as other

industries (Mui, 2002). However, research by Mui (2002) revealed that many construction organizations have started to take advantage of social media benefits, but in general, the construction industry still lags behind most other industries in terms of social media usage as compared to other countries. In comparison with the construction industry in the US, UK and Sweden, they have achieved above 90% accessibility to the Internet about two years earlier than Malaysia. The comparison made was based on data from the following surveys: 96% in United States (Construction Industry Manufacturers Association, 1999), 97% in UK (Dixon, 1998) and Sweden 90% (Howard et al, 1998).

Accordingly, social media have many uses for the construction company. Construction companies are using social media for the following applications: (1) recruitment; (2) disseminating news of the company and/or projects; (3) client networking; (4) brand awareness; and (5) showcasing innovations (Mui, 2002). Other than that, the usage of social media in construction industry are to announce job opening, disseminating news of project, branding of company, client networking, company communication and training & industry information (Mui, 2002). As the usage of Twitter has given numerous benefits to the industry, construction media also play a part of them. Twitter has been chosen as the most preferred social media tool in the construction industry in Malaysia according to research by Mui (2002) . Moreover, 72% of the business know that having a strategy for social media is important but they are unsure of how to create this strategy to engage the followers (Trenchless International, 2014). Table 1 below shows the review of social media application for the construction industry.

**Table 1. A review of Social Media Application for Construction**

Social Media	Descriptions	Construction Application	Advantages	Limitation
Facebook	Social networking that allows an individual to have a public profile within a bounded system and allowing users to share their connection within their networking list.	Construction company create a company profile which employees and other company can 'like; and allow to post related information regarding to the company. Eg: jon posting, new project and etc.	Faster dissemination of information about knowledge sharing, exchange of knowledge and facilitate communication.	Need consistent post to show company visibility and time consuming.

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Twitter	A platform that allows user to create a maximum of 140-character post in a message stream that others can follow.	Allow construction companies to exchanging information to employee and other organization relative for a recruitment new staff, spreading news, and any events update. Allowed others company or organizations "followed" others without first acquiring permission.	Provide networking facilities, share the knowledge and news, obtain knowledge from expert, fast communication, marketing	Face with the risk of sensitive information, disclosure, effective adoption and use takes time.
LinkedIn	Social network that allows a person to create a professional profile within a bounded system which particularly related to professional post and let users knows with whom they have been connected.	Allow construction companies to make a relation within the team members or with others organization through the creation of company information page. Company news, recruitment new staff, current events and potential work may be shared.	Professional connection and act working, marketing opportunities to gain new employees and new business.	Limited interface with other individuals and organizations, time consuming
You Tube	A platform of shared videos by community where everyone can share, rate and comments on the content.	Published construction organizations the ability to share information in the form of videos relative to the company orientations, employee training, marketing advertisements and job opportunity.	Innovative form of collaboration; effective means of communicating large quantities of information.	Intellectual property rights and copyright issues, technical difficulties (company firewall).

Instagram	A platform of sharing photos and videos where everyone can share, rate and comments.	Allows construction company to manipulate the photograph to chance visual communication with other individuals and organizations. Photos may be utilized to improved marketability and better illustrate company goals.	Innovative forms of communication, visual marketing opportunities to find new staff and new business	Limited in terms of knowledge sharing, potential for information to be conveyed out of intended context.
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(Source: Mui (2002); Azhar (2014); Razmerita et al,(2014); McClard. et al., (2008); Blake et al., (2010); Skeel et al.,(2009); Lange (20070; Solomon (2013)

Therefore, based on the above Table 1, variety of social media helps in breaking down communication silos which construction industry has greatly suffered from the past. Only certain groups are being heard more than others and by having access to social media, the industry can now be more equal with opinions heard by masses. Besides, work progress also can be speed up when all parties involved have the same information precisely via the quickest method of communication.

## METHODOLOGY

The survey has been conducted using a quantitative method where questionnaires were distributed in the form of online survey and postal survey. The questionnaires were divided into 4 sections: Section A consisted of demographic profiles, while in section B, C and D consist of questions regarding the usage of the social media, benefit of social media and the challenges on using social media. Data were collected based on random sampling from construction professionals in construction companies from the three Northern states which are Perlis, Kedah and Penang. Construction professionals that have been selected for this survey were Engineers, Architects, Land Surveyors, Building Surveyors, Quantity Surveyors, Site Engineer, and Contractors. The sample size has been calculated based on Krejcie and Morgan (1970) sample method. Accordingly, 196 respondents needed as referring to Krejcie and Morgan table, and researchers have obtained 50% response rate in the data collection phase. The sampling frame for this research include all the individuals in the target population (construction professionals) for construction company approached in



the stated region. On the other hand, the content of questionnaires was validated by expert panels of academicians and industry professionals. The Statistical Package for the Social Sciences (SPSS) were used to analyse the statistical data obtained from the survey and results were tabulated and will be discussed in the next section.

## **RESULTS AND DISCUSSIONS**

### **Demographic Profiles**

The results in Section A show that most of the respondents are male. Therefore, it shows that mostly males are involved in the construction industry. The male respondents comprise 62.5% compared to female, only 37.5% as shown in Figure 1. It is proven that men are the dominant gender in the construction industry. This data is also in line with research by (William, 2015) which stated that 99% of the site workers are men.



**Figure 1. Respondents' Gender**

(Source: Author, 2021)

### **Social Media Platforms**

Figure 2 represents the highest number of respondents and they are from the age range of 25-35 years old with 38.5%. Meanwhile, most of the academic background show that the respondents possess a degree with 47% and followed by diploma with 28%, so this shows that the respondents in this survey have a good academic background and could understand the purpose of the study conducted. On the other hand, 33% of engineers are the respondents for this research, which is the highest among the professions

so far while the least is from consultant. Contractors and Building Surveyor both show the same percentage, about 4%. Quantity Surveyor and Architect also shared the same number of respondents, about 7.5%. Meanwhile, in relation to social media application, WhatsApp application has been listed as the greatest number of users with 98% in this survey preceding other social networking applications. The second highest number of users is Facebook with 93% followed by Instagram 76%, then followed by other social networking platforms as depicted in Figure 2.

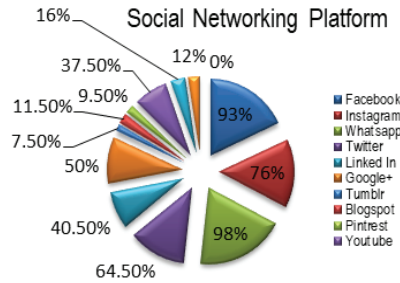


Figure 2. Social Networking Platform

(Source: Author, 2021)

The survey found that 99% of respondents use social networking as shown in Figure 3 and it is quite impressive when 89.5% respondents use social media for business or professional capacity. Therefore, this result showed that social networking is not only used for personal purposes only, but it still helps and it is an important medium in the construction industry.

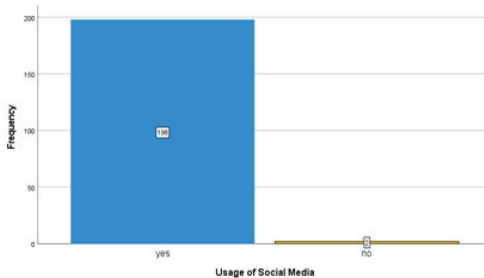
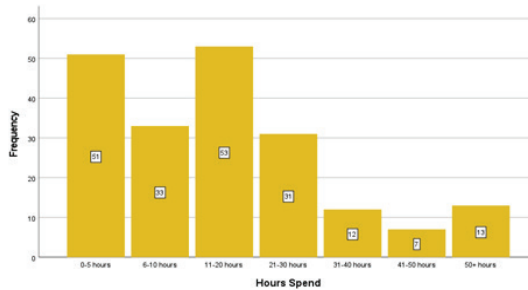


Figure 3. Usage of Social Networking Sites

(Source: Author, 2021)

According to Figure 4, the average hours per week construction professional spend on social networking is 11-20 hours. This means that, most of the respondents started to access social media even before social media has become popular where the respondents are claiming that social media plays a big role in the construction industry. Hence, the importance of social media towards construction industry organizations has been revealed from the survey (Mui, 2002).



**Figure 4. Hours Spend on Social Networking Sites**

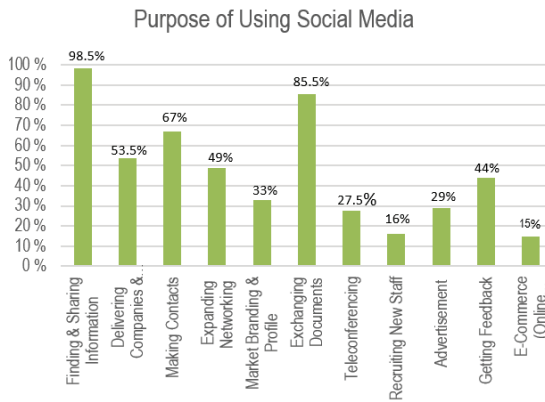
(Source: Author, 2021)

## Purposes of Using Social Media

In addition to that, through the survey, the reason construction players used social media were determined as shown in Figure 5. The graph showed that 98.5% of the respondents select finding and sharing information throughout social media as the main reason they use social media. Other than that, they ranked as sharing e-mail and exchanging documents (text/picture/videos/music) with 85.5%. The data shows an indication that business in the construction industry have now utilised information and communication technology in their business communication (Azhar, 2014). 67% of the respondents agreed that they used social media to make professional and business contact so that they could keep in touch for future projects. Meanwhile, 53.5% respondents agreed that the purpose of having social media is to deliver news about companies and projects by sharing and distributing information about the progress of the project to the public.

Expanding the client networking is the fifth most popular activity using the social media at 49% while 44% of the construction professionals use the social media to get feedback from the clients. Following that, to market

the company branding and profile 33% of the construction professionals are using it. As compared to Canada, only 29% used social media as a tool for advertising products or work. 38% of respondents in Canada used the social media as a means of communication for advertisement (Rivard, 2000) and the research also estimated that the number of persons who used social media for advertisement purposes will be increased and getting popular day by day (Mui, 2002). Then, the teleconferencing and virtual meeting are ranked at the ninth place with 27.5%. Lastly, the recruiting staff and e-commerce (online purchasing service) show 16% and 15% respectively.

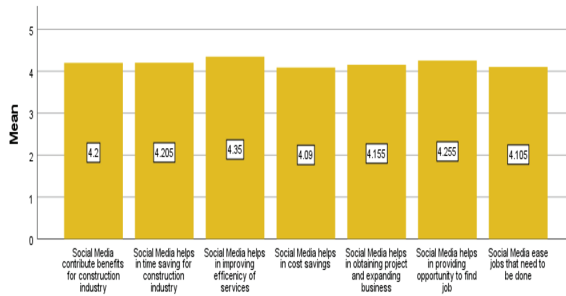


**Figure 5. Purpose of Using Social Media in Construction Field**  
 (Source: Author, 2021)

### Benefits of Using Social Media

The respondents were also asked about the benefits of using social media. The results are depicted in Figure 6. The highest mean of 4.35 agreed that social media improved the efficiency of their service. These findings could be correlated with the findings in the UK where they perceived benefits of IT systems could be summed up as “greater efficiency” (Hamilton et al.,1995) while in Scandinavian countries they experienced increase in productivity (Howard, et al., 1998). In Canada the quality of document and speed of work have increased (Rivard, 2000). In addition to that, value of mean by 4.255 agreed that social media could help them to find a job for example Job street, LinkedIn and online job recruiter via social media apps. Meanwhile, 4.205 of means value agreed that social media does help in terms of saving time. This could be attributed as quick data and information

retrieval from the social media (Mui, 2002).



**Figure 6. Benefits of Using Social Media in Construction Field**

(Source: Author, 2021)

Following that, with the mean of 4.20 showed that respondents positively agree social media contributes many benefits to the construction industry. Together with the that, 4.155 of mean value showed that social media also helps them in obtaining project which this statement shows the biggest response of positively agree and 4.105 agree that social media helps them in term of making work easier.

On top of that, 4.09 mean indicated that respondents had clearly stated that they gained cost savings after using social media in their business dealings. The costs include savings in terms of postal, fax and courier services as documents could be sent through Internet especially for big companies, which required a lot of transaction and dealing every day (Mui, 2002). However, the exact cost savings cannot be determined specifically.

## Challenges of Using Social Media

Based on the tabulation of data for the usage and benefits of the social media, it can be simplified that this was also influenced by the challenges faced while using the social media. Accordingly, the majority of the respondents agreed that they are facing with virus attacks and problems with technological risk which is indicated with the highest mean of 3.82. Followed by the second challenge of security risk such as cyber security issues and breach of data with a mean of 3.80. These problems could be fixed by upgrading the security level of the systems by implementing passwords and tightening the logging to the system. Frequency in line cut-

off, downloading problems, connection error in sending/receiving the e-mail and difficulty in getting connected are the problems they faced with mean of 3.32, 3.19 and 3.14 respectively. The stated problem could be attributing to the inadequate infrastructure of the Internet Service Provider (ISP). The number of Internet subscribers in Malaysia has increased from 13 000 in 1995 to 1.2 million in 2000, contributing to ‘traffic congestion’ in connecting with Internet. Six ISP’s were granted license by year 2000 but only three had started to provide Internet access to their subscribers (EPU, 2001). In particular, some of the respondents with mean of 3.15 have clearly agreed on the tedious matter of having to sieve information as a problem they face while using social media. However, cost (2.795) and skill workers (2.835) are the least problems the respondents face while handling the social media.

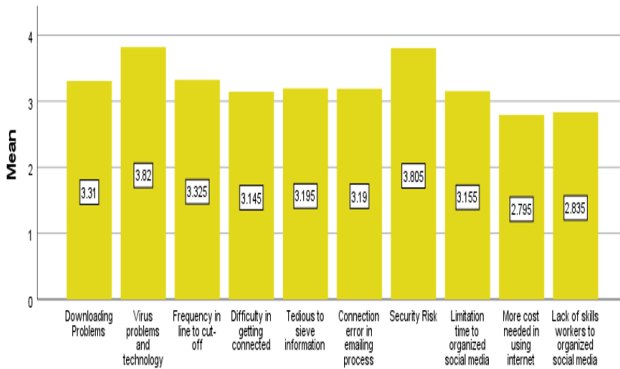


Figure 7. Challenges of Using Social Media in Construction Field

(Source: Author, 2021)

## CONCLUSION

Based on the research conducted, it can be concluded that social media tools such as Whatsapp, Facebook, and Instagram are the medium of communication that are commonly used in construction industry. The main purposes are to find and share information, exchange documents and make contacts. This is also in line with the feedback gained where almost 100% of the respondents have agreed that social media gives more benefits even though they are faced with several challenges and limitations. However, this factor is not considered a big problem for them in using social media

as one of the communication platforms in the industry. Furthermore, social media also had proven that it provides more benefits in terms of saving time, improving efficiency of service, reducing cost, obtaining projects, finding job and to ease all the works that need to be done. The data gathered also revealed factors attributing to the lack of social media utilization in particular security issues, privacy issues and connection issues. Therefore, it is highly recommended that the construction organisations upgrade their technological systems and implement extra security alert to the social media that are being utilised in the organisation. Besides, raising awareness regarding benefits of the social media need to be emphasised to the employees. Hence, this will eventually lead to higher productivity as communication platforms are used to the fullest to represent their organisations. Therefore, it can be concluded that the impact of social media in construction industry particularly for the Northern region seems to have a significantly positive impact even though there are certain limitations in the application of social media.

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