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The Internet Addiction among Youth in Tertiary Education

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Abstract

This paper attempts to bring forward the idea of internet addiction at one of the public universities in Semarang, Indonesia. Social influence and coordination are seen as factors that determine the influence of internet addiction among youth. There are 164 youths involved in this study from one of the universities in Semarang, Indonesia. The results revealed that there has been an influence of social influence, connecting and coordination towards internet addiction among students. The data were collected from 168 youth, but only 164 returned the questionnaire. The research was limited only at one of the universities in Semarang and further data collection could be conducted in other areas due to increase in the generalizability of the result. Apart from this, this study was only conducted by using random sampling technique and, therefore further discussion could be elaborated further by using qualitative research methodology and understanding in-depth the cultural behaviour among youth.

Keywords: Internet Addiction, Internet Gratification, Youth, Education

Introduction

Internet addiction is seen as one of the negative behaviours as a result of compulsive internet use. Individuals that are addicted to the internet have a tendency similar to addiction in gambling, drugs and alcohol (Young, 1996). Widyanto and McMurrin (2004) clarified that the idea of addiction is extremely hard to characterize because it depends upon a substance or activity such as overindulgence, resistance, withdrawal, craving and loss of control. For the past few years, there have been discussions on behavioural addiction that has been identified as a result of over use of machines such as playing video games, using computers and playing amusement machines. Behavioural addictions do not depend intensely on physiological mechanisms yet most importantly, the psychological explanations of addiction fore. According to Chebbi, Koong and Liu (2001), internet addiction has received expanded consideration because of the debate and the possibility that the obsession activities are on the ascent. There have been vast debates on internet addiction as a result of user behaviour, as addictive behaviour towards the use of the internet leads to stress and ego-identity (Kim,

2010), family dissatisfaction, anxiety and depression (Akin, 2011). The study on internet addiction has been debated by several scholars such as Akin (2011) and Kim (2010). However, there is still an argument about internet addiction especially related to internet gratification (Dhir, 2015). Apart from this, there are studies in a wide range of nations such as in the west, Turkey, Taiwan, Hong Kong, Korea, Singapore and so forth. Therefore, the main purpose of this study is to examine the internet gratification factors that contribute to internet addiction.

Literature Review

Internet Gratification

The widespread growing popularity of internet use has motivated media researchers and practitioners to understand potential motivations or gratifications behind internet use. According to the Unified and Games Theory or also known as U & G Theory, users have different uses of the internet and gratifications from media use and due to these differences, users utilize a given media platform for different reasons (Severin & Taknard, 1997). In strengthening the reasons for using the internet, psychological needs of users actually influence their motivation and decisions behind a given media platform (Rubin, 1983); as individuals have their own social and psychological needs for media use such as information seeking, exposure, connecting, and coordination (Lin, 1999).

In a study on internet uses and gratifications in an Indian context, Roy (2009) identified six gratification motives through factor analysis. Wide exposure and career opportunities were categorized as content gratification factors. User-friendliness and self-development were categorized as process gratifications. The factors 'global exchange' and relaxation were categorized as social gratifications. In a rare cross-cultural study, Choi, Dekkers and Park (2004) compared the differences in gratification motives for the internet among three countries namely The Netherlands, South Korea and the United States. Information seeking and self-improvement were the two major factors agreed across all these countries.

Some researchers have tried to assess what implications user internet gratification motives have on the continued use of traditional media by comparing internet gratification motives with various print media. For example, Payne, Dozier, Nomai and Yagade, in 2003 investigated three factors, namely social interaction, surveillance and diversion. The investigation confirmed the hypothesis that internet use was prompted by diversion and that newspaper reading was preferred for surveillance (Payne et al., 2003). However, the hypothesis that the internet is preferred for social interaction could not be confirmed (Payne et al., 2003).

A review of the prior Internet U&G work revealed that the majority of studies have been conducted with college students and adults, whereas the majority of the existing work focuses on a wide age range of participation, for example, 16 to 54 or 16 to 75 years old internet users (Leung, 2009). Only a few prior studies have focused on specific age-groups. Leung (2014) carried out the first study that investigated internet gratifications among adolescent internet users. The researchers found out that there is an influence of internet gratification and internet addiction.

The Uses and Gratifications (U&G) theoretical framework has been extensively used to understand the role of Internet U&Gs in predicting internet addiction in the prior literature

and most of the factors in U & G explained the relationship are connecting, exposure, information seeking and entertainment (Dhir, Chen & Nieminen, 2015).

Internet gratification is defined as an approach of the U&G Theory to understand why and how an individual actively seeks out and uses the internet as a medium of communication and connection to satisfy specific needs (Ku, Chu & Tseng, 2013). In order to understand internet gratification, there are several factors that have been identified by previous researchers that discussed internet gratification. It has been found that information seeking, connection, entertainment, exposure, social influence, coordination are some factors that contribute to internet addiction. Information seeking also refers to the user's internal desire to increase knowledge, skills and awareness not only for themselves, but also to others and the outside world (Shao, 2009). Information seeking was defined as the usage of the internet to get information such as learning new things, learning how to do things, finding out about the most recent news and also providing others with information (Dhir, Chen, & Nieminen, 2017). Connection focuses on the use of the internet to connect through online chatting, online discussion and email with others such as customers, colleagues, friends and family members. The social impact gratification is also connected closely with peer pressure (Dhir, Chen & Nieminen, 2017).

The internet provides users with information, connecting worldwide, promoting research, and working with other people from countries overseas effectively. Entertainment may also refer to using the internet for entertainment purposes such as playing games and getting fun (Dhir, Chen & Nieminen, 2017). Exposure can be defined as a build that portrays the process of using the internet to get information about educational opportunities, getting career and job opportunities and using the Internet to get a wide range of exposure and knowledge (Dhir, Chen & Nieminen, 2017). Social influence is to utilize the internet to look more fashionable, gain prestige or status in peer network and show internet activities to friends, peers or family. The social impact gratification is also connected closely with peer pressure (Dhir, Chen & Nieminen, 2017). Coordination means a user may browse the internet for coordination purposes, for example using the internet to arrange, organize or confirm how and when to communicate with friends and family (Dhir, Chen & Nieminen, 2017).

Internet Addiction

Internet addiction is commonly described as the uncontrollable compulsion for inappropriate use of the internet, time spent without internet access, extreme nervousness and aggression in the event of scarcity and steady decrease in social and family life (Young, 2004). Internet addiction in the office impairs working life as workers who spend the most time browsing or talking instead of working. Output time is thus wasted, which has a negative effect on a company's overall efficiency (Coker, 2011). Qingu et al (2009) describe internet harassment as any deliberate act by employees to use the internet in official hours of work for unrelated purposes. Internet abuse was associated with ruinous practises such as internet hacking, intellectual property theft and the distribution of offensive content. Statistics have proven hysterical violation of internet rights according to Grodzinsky and Gumbus (2006). Research has found that 70% of online traffic is carried out during working hours (between 9 a.m. and 5 p.m.) and is connected to pornographical pages. In comparison, 80 percent of the organisations participating in the study accepted the misuse of the internet by its workers by non-work activity. Company administrators are aware of the deleterious consequences of

Internet use on the workplace and are actively tracking what internet workers are doing (Anandaraja, 2002). This has contributed to the introduction of internet policies in a variety of working environments. However, the author suggests that rules for internet use are inadequate without regular oversight and compliance screening.

According to Ivarson and Larsson (2011), things like pornography searching, on-line gaming, internet chatting and streaming are known as offensive behaviour. Employees with such deviant habits often find obstacles to achieve their maximum efficiency level with those that struggle to respond to customers' demands quickly. Online use in the workplace decreases efficiency and reduces currency returns.

Fludd (2014) affirms that many employees have a tendency to embrace activities that consume a company's productive time such as checking social network accounts, texting and online office gossip among others. These activities are perceived as productivity enemies since they suppress organizational output due to poor employee performance. The researcher also claimed that many employers use job-specific tactics to prevent loss of work productivity due to the use of ICT devices and the internet within the workplace. Some of such tactics include censoring information entering the internet, blocking specific internet sites, monitoring internet usage and forbidding the use of smartphones in the workplace. However, these preventive measures work only if strict monitoring mechanisms are put in place (Fludd, 2014).

According to Ugrin and Pearson (2008), smartphone and internet use have resulted in radical changes in information exchange. Grodzinsky and Gumbus (2006) report that internet browsing within the workplace diminishes productivity since employees utilize company time to their advantage such as misused emailing friends, planning non-work-related vacations, doing online shopping and checking personal emails. In contrast, responses to identical questions regarding monitoring at the workplace are markedly different with respect to perceptions of privacy. Only 32% of respondents feel that workplace monitoring invades their privacy. 24% of students under 21 felt monitoring invades privacy and 15% of those over 21 felt the same. This knowledge affects only 52% of employee's behaviour on the internet. Only 34% feel that monitoring was unethical and a mere 37% think that restricting use in the workplace was unethical as compared to 72% in a university setting. Age differences were not significant as a factor in response to this question. 25% of those under 21 and 27% of those over 21 responded yes to this question. Women and men were similar in their belief that restriction was not unethical (63%). 36% of male respondents and 39% of female respondents felt that restricting was unethical.

In recent years, a variety of studies have been performed on Internet use and internet addiction. Egger and Rautenberg (1996) created a questionnaire to test Internet use, feeling and practise. When this questionnaire was uploaded, 454 answers were collected and 10 percent of them were considered to be addicted. Petrie and Gunn (1998) have carried out another online survey of 27 questions about the Internet use, perceptions, and religions of the participants and given 455 credible answers. The outcome has revealed that 46.1 percent of them are internet addicts.

Impact of Internet Addiction

There have been numerous impacts of internet addiction found from previous research. The negative impacts of internet addiction include the impact on interpersonal relationships where the relationship of an individual seems to depart from the surrounding (Morahan & Martin, 2005). Individuals might face behavioural problems due to over usage of the internet, hence they are reacting differently than the normal behaviour (Kubey, Lavin & Barrows, 2011). Some other physical problems might occur due to long use of the internet. Some physical problems are migraine or headache and sleep pattern disruption (Jeon, 2005; You, 2007; Yang & Tung, 2004).

Some other problems include psychological factors as an individual is unable to control their emotions and way of thinking due to long hours of use of the internet. They tend to increase the net serving time and eliminate the set schedule. Moreover, the impact of internet addiction does not only affect an individual, but may also affect the work performance of an individual (Young, 2008). The condition is worrying when the work problem has brought some impacts on the people who are working together and to the company that the individuals are working with. Besides the negative impacts, internet addiction however brought some positive impacts to the users. The internet provides users with information, to connect worldwide, to promote research, and to work effectively with other people from overseas.

According to Leung (2014), the explored six factors of internet gratification are namely entertainment, status-gaining, experiencing opinions, identity experimentation, information seeking and passing time among 718 youths aged 18 to 25 years old. The research reported that entertainment and instant messaging were significantly used in the internet addiction score, which resulted in the addicts to experience implication such as worsening academic records and deterioration of offline social relationships. It also stated that the addicts were likely to spend more time on Facebook when they feel isolated or depressed.

Dhir, Chen and Nieminen (2016) then continued to study the relationship between internet use and gratification, internet user's background characteristic and heavy internet use among youth aged 12 to 18 years old. The result showed that age, change in school performance, parental attitudes towards internet use, monthly income and internet use experience have very minimal correlation with all six Internet User and Gratifications (information seeking, exposure, connection, coordination, entertainment and social influence). The results also revealed that male youths tend to seek high social influence and social gratification; connecting and coordination, while female youths seek more content gratification such as information seeking and exposure towards internet addiction. Academic performance showed weak correlations with information seeking, exposure and social influence and no relationship with the rest of internet gratifications. Other than that, daily internet use shares weak correlations with connecting and social influence and no significant relationship with the other Internet User and Gratifications. Meanwhile, internet users with personal computers tend to seek higher social and entertainment gratifications than those without one. Meanwhile, internet users with personal home internet connection tend to seek higher content, process and social gratifications than those without home internet. In conclusion, the study revealed that age, male gender, ownership on home internet, internet use experience and connecting gratification were all positive predictors of heavy internet use. In this study, researchers used the same six Internet User and Gratifications factors (information

seeking, exposure, connection, coordination, entertainment and social influence) that have been introduced by Dhir (2016).

Result

Assessment of measurement model

The conceptual model was empirically tested to confirm the validity and reliability. The indicator loading, CR and AVE for the reflective constructs are shown in Table 2. Some items were deleted due to low factor loadings and for the purpose of increasing the AVEs. Based on the results, except for internet addiction, all constructs meet the minimum value of the threshold requirement of composite reliability (CR) > 0.7 and average variance extraction (AVE) are greater than 0.5 (Hair et al., 2014). However, taking into consideration the internal consistency and AVE scores that exceed the minimum value, the construct reliability and validity of internet addiction are considered acceptable.

Table 1: *Internal Consistency and Convergent Validity*

Construct	Mean	Std Dev	Loading	Cronbach alpha	CR	AVE
				0.749	0.856	0.664
cg4	3.663	0.975	0.794			
cg5	3.563	0.920	0.865			
cg6	2.968	1.196	0.784			
CN				0.845	0.906	0.763
cn1	3.721	0.802	0.886			
cn2	3.711	0.785	0.903			
cn3	3.789	0.832	0.83			
ET				0.841	0.904	0.759
et1	4.105	0.888	0.870			
et2	3.926	0.960	0.867			
et3	4.047	0.896	0.876			
EX				0.818	0.891	0.732
ex1	4.174	0.737	0.834			
ex2	4.147	0.703	0.875			
ex3	4.284	0.713	0.858			
IS				0.869	0.905	0.657
is1	4.547	0.653	0.842			
is4	4.600	0.622	0.847			
is5	4.358	0.695	0.843			
is6	4.468	0.678	0.764			
is7	4.395	0.812	0.752			
SI				0.843	0.895	0.683
si1	3.300	1.071	0.751			
si2	2.500	1.160	0.870			
si3	2.753	1.060	0.883			
si4	2.658	1.194	0.793			
IA				0.863	0.886	0.393
ia3	3.416	0.929	0.643			
ia5	2.958	0.983	0.618			

ia6	3.342	1.102	0.701
ia7	2.611	0.971	0.609
ia8	3.005	0.880	0.644
ia9	3.126	1.154	0.616
ia13	3.326	1.095	0.581
ia14	3.200	1.057	0.619
ia15	2.900	1.049	0.643
ia16	2.532	1.150	0.600
ia17	2.389	0.977	0.629
ia18	2.632	1.006	0.615

Next, a discriminant validity procedure was conducted to observe how the constructs are truly distinct from one another. This is achieved by assessing the cross-loading criterion, Fornell and Larcker's (1981) criterion and Heterotrait-Monotrait ratio of correlations (HTMT). Based on the results shown in Table 3, there is clear evidence of the discriminant validity establishment following the suggestions of Kline (2004) and Gold et al., (2001). The square-root of the AVEs of all latent variables which are shown in bold are higher than the correlations on other variables. As there has been criticism on the usage of Fornell-Lacker's (1981) criterion to detect discriminant validity, HTMT Ratio correlations that offer a stringent or better discriminant criterion were used. The results of the HTMT inference using bootstrapping confidence interval technique are less than 1. Therefore, it is confirmed that every construct is truly distinct from one another.

Table 3: HTMT Criterion and Variance Inflation Factor (VIF)

	IS	CG	ET	EX	SI	CN	Int Addict	VIF
IS	0.811							2.281
CG	0.483	0.815						2.021
ET	0.658	0.677	0.871					1.843
EX	0.829	0.745	0.702	0.856				2.588
SI	0.089	0.565	0.247	0.227	0.826			1.445
CN	0.570	0.616	0.579	0.650	0.470	0.874		1.782
Int Addict	0.270	0.504	0.324	0.352	0.408	0.423	0.627	

- IS – Information Seeking
- CG- Connecting
- ET –Entertainment
- EX – Exposure
- SI – Social Influence
- CN- Coordination
- In – Internet Addiction

In addition, prior to the structural model development, a procedure for addressing the collinearity issue was conducted. Pallant (2011) suggested the existence of multicollinearity does not contribute to a good regression model and the value of VIF should be assessed. Hair et al., (2011) suggested that VIF value of 5 or higher indicates a potential collinearity problem while Diamantopoulos and Sigauw (2006) suggested a more stringent criterion of VIF less than 3.3. Following both, the results in Table 4 indicate multicollinearity is not an issue in this study

since the VIF values for all the constructs are less than 3.

The next step is to proceed with the structural model and hypothesis testing. In order to test the hypotheses, the PLS algorithm was used with a bootstrapping resampling technique of 1000 sub-samples for ensuring the accuracy of the PLS estimates as recommended by Hair et al., (2014). The results of one-tailed path coefficients are shown in Table 4. Following Hair et al., (2017) for acceptance of t value > 1.2645 for p value < 0.05, it was found connecting ($\beta = 0.263$, $p < 0.001$), social influence ($\beta = 0.205$, $p < 0.1$) and CN ($\beta = 0.137$, $p < 0.1$) play their roles as internet addiction predictors. Next, the value of coefficient of determination (R^2) of 0.274 suggests the exogenous constructs explain 27.4.0% of variances in internet addiction, which Cohen (1989) considered as substantial.

Table 4: Path Coefficient Assessment and Determination of Coefficient (R^2)

Hypothesis	Path coefficient	Std Error	T value	Decision
Information Seeking Internet Addiction	0.083	0.102	0.812	Not supported
Connecting Internet Addiction	0.263	0.092	2.870** *	Supported
Entertainment Internet Addiction	0.005	0.085	0.063	Not supported
Exposure Internet Addiction	-0.003	0.098	0.034	Not supported
Social Influence Internet Addiction	0.205	0.106	1.922 *	Supported
Coordination Internet Addiction	0.137	0.091	1.508 *	Supported

** $p < 0.0$, $R^2 : 0.274$

Discussion

The study found that most respondents assumed that Internet accessibility, social power and network synchronisation affected internet dependence. The network interaction via social networks such as Facebook and Instagram were the most important factor in internet dependency because of the prevalence of this social media. Many people migrate to social media due to the appeal of social networking between peers. The previous research indicates that the social effect is directly linked to peer pressure (Dhir, Chen, & Nieminen, 2017).

Previous research has found that television is one of the main contributions to internet dependency (Shek & Yu, 2016; Tone, Zhao & Yan, 2014). The results of this analysis, however, were not compatible with the previous results, which found that entertainment was irrelevant for the context. The study also showed that the hunt for information and exposure affected internet dependency. Many respondents were young adults who did not agree that the desire for information and openness to content is the source of internet addiction.

Conclusion

Internet addiction among youth is mostly derived from the online activity obsession. The ability to embrace new trends and technologies faster than the older generation has made it difficult to control their online activities due to the nature of the internet that allows them to

stay connected and informed. The awareness among the public, especially parents and educators, has to be elevated with regards to the risks of internet addiction and strategies to limit internet use. Nevertheless, the strong bonds between parents and their growing children can help to rectify many issues related to children's internet use. Despite that, the government also came up with effective methods in tackling this emerging public health issue.

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