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Smartphone Addiction among Teenagers

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College of Business and Finance

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- Addiction is the term used to refer to loss of control over one's behaviours, usually with negative consequences.
- Information technology addiction is related to the obsessive and compulsive usage of information technologies, such as Smartphone, Internet, games, or any other computing devices.
- Smartphone, Internet and social media have changed communication and interaction to the extent that a person can be addicted to these technologies.
- Literatures reveals that IT addiction by six symptoms: Salience, which indicates that IT dominates a person's behavior; Withdrawal, which indicates release of negative emotions when person ceases using smart phone for a period of time, Conflict, which suggests that because of using IT other tasks or activities are affected negatively.
- Therefore, excessive use of these platforms may result in health problems, social isolation and an overall decrease in productivity.

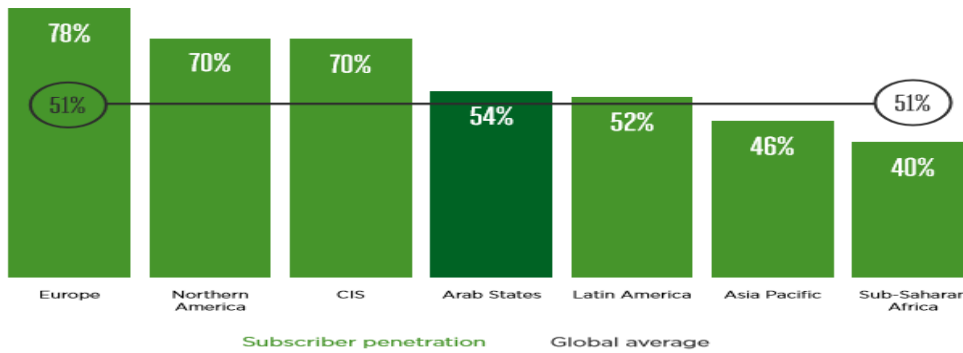
“Bahrain, Kuwait, Saudi Arabia and UAE) that have unique subscriber penetration rates above 75%,..”

According to the “THE MOBILE ECONOMY ARAB STATES 2015 report compiled by the GSMA” The GSMA represents the interests of mobile operators worldwide

Source: GSMA Intelligence

Subscriber penetration by region

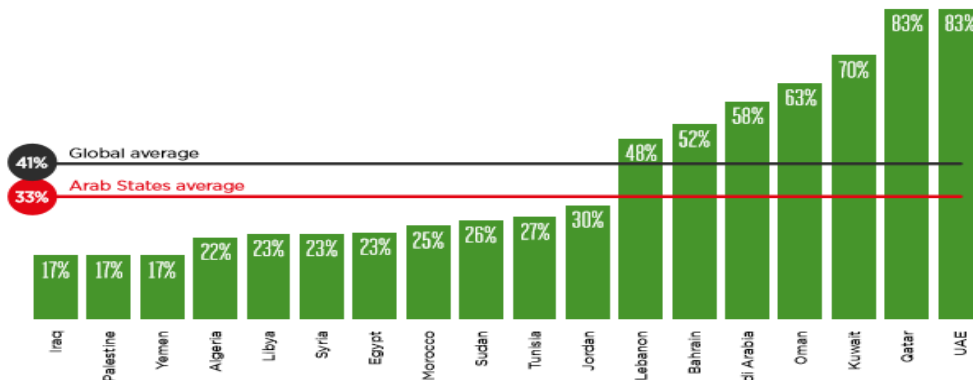
Q2 2015



Source: GSMA Intelligence

Arab States smartphone adoption

(Percentage of connections, Q2 2015)



- According to the “THE MOBILE ECONOMY ARAB STATES 2015 report compiled by the GSMA” The GSMA represents the interests of mobile operators worldwide
- The Arab States region is one of the most diverse in terms of mobile development.
- It is home to four countries (Bahrain, Kuwait, Saudi Arabia and UAE) that have unique subscriber penetration rates above 75%, but is also home to five markets (Algeria, Palestine, Sudan, Syria and Yemen) with subscriber penetration rates below 50%.
- GDP per capita is an important factor in this variation of penetration rates given the impact on the affordability of mobile services.

- **Questions to be answered**
 - Do parents aware of the impact of smart phone addiction on their teenagers? And if they become aware what are the driving forces for this addiction.
- The aim of this study is to explore the smartphone addiction among the teenagers and and determine the driving force behind teenagers' addiction to technology from the parents' point of view
- This research we can protect the social life from being destroyed and strengthen the relationships between family members and society.

Literature review discusses the driving forces and impact of smart phones addiction on teenagers and their families.

- **Driving Forces**

- Leung (2004); Scherer (1997); Young (1998), assumed that behavioral addiction is similar to addiction to gambling, drugs and alcohol (Young, 1996). Past studies recognized the problematic dimensions of excessive use of mobile phones among young people.
- Bian and Leung (2014) check how shyness and loneliness affects smartphone addiction symptoms like preoccupation, loss of control, loss of productivity and feeling lost.
- Results show that persons who are shy and feeling lonely are more susceptible to be smartphone addicted. Shyness is understood as a loss of confidence in meeting people, feeling irritable in the presence of others and anxiety over being assessed by others (Pilkonis, 1977).

Literature Review of this study concluded that the impact can be divided into:

1. Functional impairment

- DeSouza (2006) states that possession of mobile phones by individuals of the family make the relationships between family members weak.
- Vaidyanathan and Latu (2007) add that persons are attached to these devices for physical and emotional reasons resulting in a dilution of the family relationships.
- Anon (2016) reported that Smartphone abuse lead to car accidents and destroy lives of too much peoples. Addiction to technology at an early age also decreases children physical activities, leading to obesity. Experts believe that a kid should not have smartphone before 7 years as it has bad impacts on his mental health and school performance.

Literature Review of this study concluded that the impact can be divided into:

2. Compulsive behavior:

- Shambare described that mobile phone use is addictive and habitual, the biggest non-drug addiction. James & Drennan (2005) find that Australia students have a large use rate of Mobile phone 1.5-5 hours a day.
- This high use rate lead to impulsiveness, mounting anxiety prior to using the device, loss of control, withdrawal symptoms, financial issues, damaged relationships, emotional stress and falling literacy.
- Billieux et al (2008) found that mobile phone addiction lead to urgency and lack of perseverance.

Literature Review of this study concluded that the impact can be divided into:

3. Withdrawal symptoms

In Korea, Lee Kown (2013) formed the first scale of Smartphone addiction that can distinguish Smartphone addicts into three group's high-risk group, low- to medium-risk group and the general group. The main addiction symptoms were as follow withdrawal and tolerance symptoms.

4. Tolerance

- Chóliz (2012) evaluate mobile phone dependence in adolescents. The results showed that girls had a higher degree of dependence on mobile phones than boys. They use mobile phones to improve their mode. They also had more economic and family problems as a result of costs associated with mobile phone use.

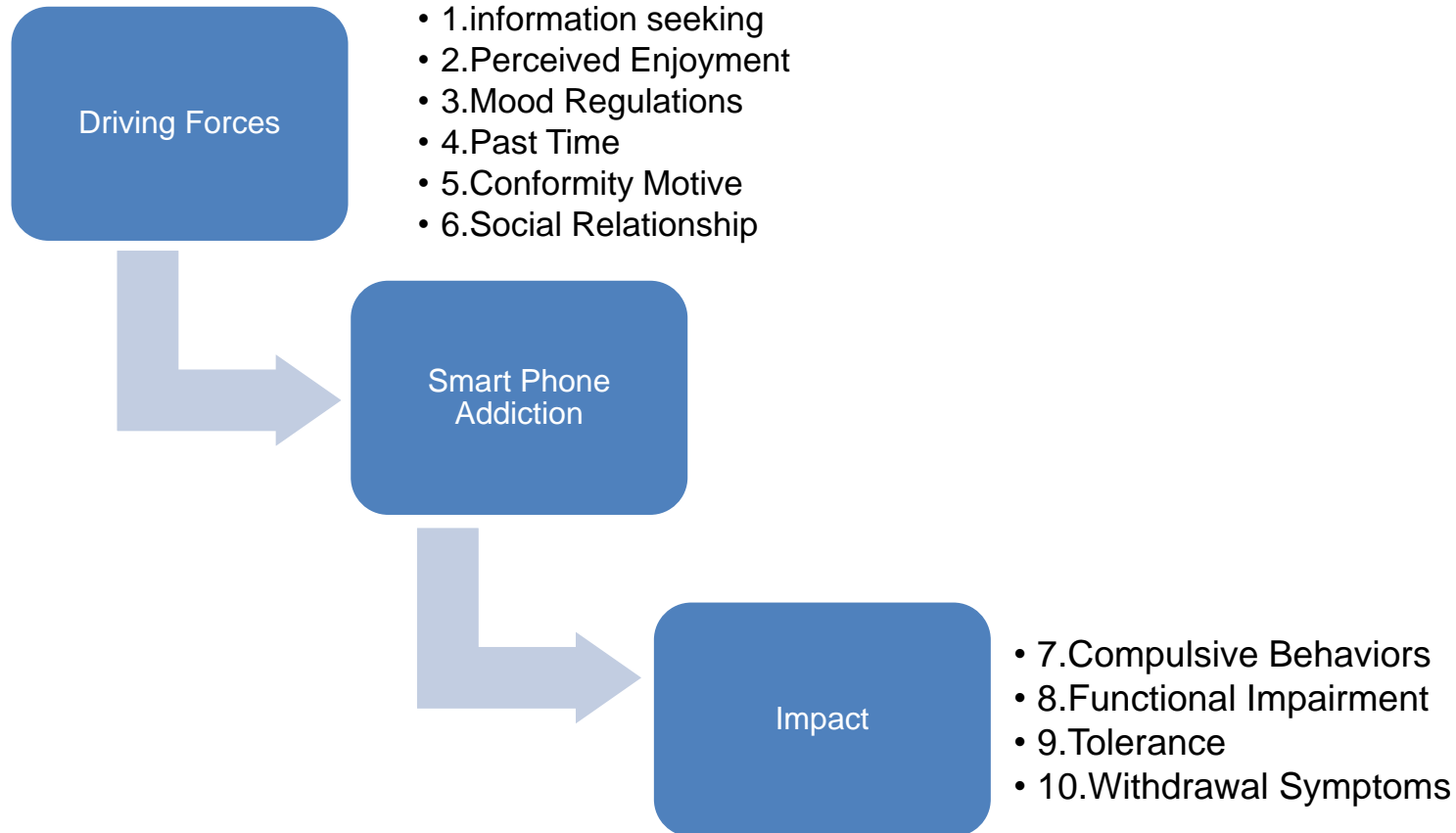
- **Tossel et al. (2015)** examined smartphone user behaviors. 34 participants were given smartphones for one year. Researchers also obtained results showing more anxiety when addicted participants could not turn on their devices or check their favorite app.
- **Abu-Shanab and Haddad (2015)** address side effects of smart phone addiction on human health. 200 responses were collected. The results show health problem, negative behaviors, and addiction. Students emphasized that using mobile will negatively influence their academic performance.
- **Ravichandran (2009)** performed study which is centered on parents/caregivers' parents/caregivers perceptions of their teenagers 'mobile phone usage. Parents/caregivers mentioned that time spent with their teenager is interrupted due to using mobile phone by teenager.

Table 1: Comparison matrix of literature review of impact of smartphone addiction

The marked blocks indicate the name of researcher who covers this symptom in his study. Lin et al is the one who this study chooses to adapt his questionnaire and frame work.

IMPACT OF SMART PHONE ADDICTION	COMPULSIVE BEHAVIOUR	FUNCTIONAL IMPAIRMENT	TOLERANCE	WITHDRAWAL SYMPTOMS
Devís-Devís		*		
Belwal			*	
Shambare	*			
Casey		*		*
Igarashi		*	*	
Billieux		*		
Chóliz			*	
Vaidyanathan and Latu	*	*		
deSouza		*	*	
Hassanzadeh and Rezaei		*		
Walsh et al		*		*
Perry and Lee			*	*
Dixit et al			*	*
Futrell and Anon		*		
Hong et al.	*		*	
Pierce and Vaca			*	
Townsend		*		
James and Drennan		*	*	*
Al-Barashdi				*
Ravichandran		*	*	
Park and Park		*		*
Lin et al	*	*	*	*
Haddad and Haddad		*	*	*
Javid et al				*
Bianchi and Phillips		*	*	
Johal et al	*	*		
Eldridge & Grinte	*	*	*	
Sheereen and Rozumah	*		*	
(Kubey			*	
park H. Y. Kang and C. H. Park		*		
Kang, Jang and Kim		*		

Figure 2 Conceptual Framework of the study



- Smartphone Addiction Inventory (SPAI) questionnaire from Lin Y-H, Chang L-R, Lee Y-H, Tseng H-W, Kuo TBJ, et al. (2014) studies
- The four-category motivation framework questionnaire in previous studies (e.g., Zhang, Kem Z.K.; Chen, Chongyang; and LEE, Matthew K (Aisel.aisnet.org, 2016).

1. Information Seeking:

- Many individuals use the Internet getting new data and information Yoo (2011), Chen (2006), Chen et al. (2001), and Khang et al. (2013). If the need of information seeking is gratified immediately so this will lead to internet addiction.

2. Perceived Enjoyment:

- Turel and Serenko (2012) found that perceived enjoyment by users of social websites can lead to smartphone addiction

3. Mood Regulation

- Mood regulation is changing mood due to the comfortable sensation got by using information technology Turel et al. (2011). The findings explained that usage of smartphone to improve the mood lead to information technology dependence, Khang et al. (2013).

4. Pastime

- Pastime is occupying free time with no productive interest Yoo (2011). Khang et al. (2013) found that users of smartphone for pastime may become addicted to smartphone.

5. Conformity

- It is defined as the motive to be liked by others and avoiding peer disapproval Stewart & Devine (2000). Similarly, Cooper (1994) found that conformity motive leads to alcohol addiction. Persons use smartphone to be liked by other Khang et al. (2013). Therefore, if a person has a high degree of conformity motive, so he will be smartphone dependent.

6. Social Relationship

- Yoo (2011), Xu et al. (2012) described social motive as the need for interpersonal communication and activities.

1. Compulsive behavior

- Include (Lack of Control/Problems, Interference, and Abstinence, Excessive expenses of smart phone bills, Excessive text messaging, disregard of harmful consequences, preoccupation, Inability to control craving, Cognitive salience, Relapse and reinstatement).

2. Functional impairment

- Include (Dilution of Family ties, Driving Risks, Damaged relationships, Bad impact on sleep quality and decrease in the hours of sleeping, Feeling aches and soreness in the back or eye discomforts due to excessive smart phone use, Decrease academic performance and loss of proper language.

3. Tolerance

- Include (substantial increase in the time of using smartphone to get the same euphoric feelings before).

4. Withdrawal symptoms

- Include (Feeling restless and irritable when smartphone is unavailable, productivity loss, feeling anxious and lost, Nomophobia Defined as person is afraid if his smartphone is not available.

A: Demographic characters: 5 items.

1. Gender of teenager ; 2. Age of teenager; 3.Age of parent ; 4.Educational level of parent ; 5. Possessing of Teenager Smart phone

B: Driving forces of smartphone addiction: 6 items.

Construct	
Information Seeking	1. The reason I use smartphone is to get new information.
Perceived Enjoyment	1. Using smartphone is enjoyable.
Social Relationship	1. The reason I use smartphone is to socialize with others.
Mood Regulation	1. I have used the smartphone to make myself feel better when I've felt upset.
Pastime	1. The reason I use smartphone is to kill time.
Conformity Motive	1. To be liked by my friends

C: Smartphone addiction impacts: 8 items

Construct	Variable
Compulsive behavior	1. Your teenager feels distressed or down once he or she ceases using smart phone for a certain period of time
Compulsive behaviour	1. Your teenager use of smartphone is longer and spend money more than he or she intended.
Functional impairment	1. Your teenager feels aches and soreness in the back or eye discomforts due to excessive smart phone use
Functional impairment	1. To use smart phone has exercised certain negative effects on your teenager school work
Functional impairment	1. Your teenager interaction with family members is decreased on the account of smart phone use
Functional impairment	1. Your teenage makes smartphone use a habit and sleep quality and total sleep time decreased
Tolerance	1. Your teenager has increased substantial amount of time using smartphone per week in recent three months
Withdrawal Symptoms	1. Your teenager feels restless and irritable when the smart phone is unavailable

- **Target population**
 - The population which is targeted by developed questionnaire is parents of teenagers irrespective of teenagers' mobile phone possession in Bahrain.
- **Sample Criteria and Sample Size:**
 - The convenient, snowball-sampling and purposive-sampling technique was applied. The sample size was 381 participants required.
- Cronbach's Alpha (0.782)
- Descriptive analysis
- Correlation Analysis
- Anova Analysis

Major Findings



Survey Questionnaire

2016

Is Your Teenager Addicted to Smart Phone?

PART 1: Personal Information

N=175 (respondents)

1. Gender of teenager	<input type="checkbox"/> Male (64%) <input type="checkbox"/> Female (36%)	Nationality: Bahraini (72%) Non-Bahrain (28%)
2. Age of teenager (Years)	<input type="checkbox"/> < 10 (4%) <input type="checkbox"/> 10-13 (45%) <input type="checkbox"/> 14-16 (33%) <input type="checkbox"/> 17-19 (18%)	
3. Age of parent (Years)	<input type="checkbox"/> 20-30 (8%) <input type="checkbox"/> 31-40 (19%) <input type="checkbox"/> More than 41 (73%)	
4. Educational level of parent	<input type="checkbox"/> Secondary School (10%) <input type="checkbox"/> Bachelor (51%) <input type="checkbox"/> Master (28%) <input type="checkbox"/> PHD (11%)	
5. Does your teenager have smartphone	<input type="checkbox"/> Yes (86%) <input type="checkbox"/> No (14%)	

PART 2: Driving forces of Smart Phone Addiction of Your Teenager.

Item	1.Strongly Disagree	2.Disagree	3.Neutral	4.Agree	5.Strongly agree
1. The reason your teenager use smartphone is to get new information.	10%	16%	37%	25%	12%
2. Using smartphone is enjoyable to your teenager.	2%	8%	13%	42%	35%
3. The reason your teenager use smartphone is to socialize with others.	5%	9%	27%	42%	17%
4. Your teenager has used the smartphone to make himself or herself feel better when he or she has felt upset.	7%	21%	23%	31%	18%
5. The reason your teenager use smartphone is to kill time.	11%	14%	20%	32%	23%
6. Your teenager has used the smartphone to make himself or herself be liked by his or her friends.	11%	27%	28%	23%	11%

Major Findings



PART 3: The Impact of Smart Phone Addiction of Your Teenager.

Item	1.Strongly Disagree	2.Disagree	3.Neutral	4.Agree	5.Strongly Agree
1. Your teenager has increased substantial amount of time using smartphone per week in recent three months.	5%	16%	24%	29%	25%
2. Your teenager feels restless and irritable when the smart phone is unavailable.	2%	11%	20%	33%	34%
3. Your teenager feels distressed or down once he ceases using smart phone for a certain period of time.	8%	21%	22%	20%	29%
4. Your teenager use of smartphone is longer and spend money more than he or she intended.	2%	15%	33%	29%	21%
5. Your teenager feels aches and soreness in the back or eye discomforts due to excessive smart phone use.	11%	26%	19%	24%	20%
6. To use smart phone has exercised certain negative effects on your teenager school work.	10%	18%	19%	22%	31%
7. Your teenage makes smartphone use a habit and sleep quality and total sleep time decreased.	8%	18%	14%	34%	26%
8. Your teenager interaction with family members is decreased on the account of smart phone use.	5%	15%	16%	32%	32%

Hypothesis Testing Results

Hypothesis Number	Hypothesis Statement	Status of Acceptance or Rejection
<u>Hypothesis 1:</u>	Information seeking is not significantly associated with smartphone addiction.	Accepted
<u>Hypothesis 2:</u>	Perceived enjoyment is not significantly associated with smartphone addiction.	Rejected
<u>Hypothesis 3:</u>	Social relationship is not significantly associated with smartphone addiction.	Rejected
<u>Hypothesis 4:</u>	Mood regulation is not significantly associated with smartphone addiction.	Rejected
<u>Hypothesis 5:</u>	Pastime is not significantly associated with smartphone addiction.	Rejected
<u>Hypothesis 6:</u>	Conformity is not significantly associated with smartphone addiction.	Rejected

Summary of findings and Conclusions

- The study provided preliminary understanding of the real size of smartphone addiction problem in Bahrain.
- Overall the findings reveal that hypothesis 1 is accepted and 2, 3,4,5,6 can be rejected .
- This means that smart phone addiction in Bahrain is affected by five out of six factors of driving forces described in this research model.
- The factors that do affect smart phone addiction are perceived enjoyment, social relationship, past time, mood regulation and conformity motive.
- There is however not enough evidence in our study to support that information seeking has an effect on the smart phone addiction as driving forces.
- Major benefits of this study pertain to the increased level of parents' awareness of Smartphone addiction and the proposed use of Smartphone applications to control utilization of such technology by teenagers.

Thanks