

Role of SNSs in Digital Transformation

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Abstract— The Internet and its social applications have imposed themselves as essential tools in people's everyday life. Continuous use of IT tools such as SNS has gradual impact on transforming people's life to a digital one. This paper addresses digital transformation in Egyptian society's behavior as result of using SNS through testing Mike Ribble's nine theme of digital citizenship on three focus groups. The findings indicated a shift in people's behaviors toward digitization at various degrees across social, business and government aspects.

Keywords— Social Networks Sites, Digital transformation

I. INTRODUCTION (Heading 1)

Traditionally, the Information Systems field has focused on IT governance and system development in well-bounded organizational contexts, along with studying IT's effects on individuals, groups, organizations, and markets [17]. The recent wave of digitizing, however, is transforming the nature of IT and shifting the focus to service ecologies, new experiences, and new forms of human interaction [18]. Ongoing digitalization challenges the separation of disciplines, for example, across communication and media studies, information systems and telecommunications engineering: three disciplinary fields associated with the interrelated content, code and physical infrastructure layers [9]. The notion of digital society reflects the results of the modern society in adopting and integrating information and communication technologies at home, work, education and recreation [19]. Nowadays, one of the phenomenal information communication technologies tools is SNSs that have sociotechnical implications on individuals, businesses and governments which can be accessed from various devices at any time and from anywhere. This paper focuses on investigating role of SNSs in digital transformation of Egyptian society.

II. LITERATURE REVIEW

Digitization refers to the process of converting different forms of information and this might include sounds, images, texts, etc. into code which can then be stored, delivered, received in digital form [7]. Some people think that ICT diffusion helps create a new type of technology adopter called the "digital citizen" [8]. ICT provides the platform to enable citizens' participation in the transformation and democratization process as well as mobilization of resources, debating issues, influencing decisions and leveraging civic

engagement, all contributing to minimizing the digital divide [1] [6] [14] [20]. In "DigEuLit" project, Martin A. et al have defined digital literacy as "is the awareness, attitude and ability of individuals to appropriately use digital tools and facilities to identify, access, manage, integrate, evaluate, analyze and synthesize digital resources, construct new knowledge, create media expressions, and communicate with others, in the context of specific life situations, in order to enable constructive social action; and to reflect upon this process" [11]. The term digital citizenship was discussed by people in USA during 2004 through Mike Ribble's work with ISTE's National Educational Technology Standards (NETS) based on the latter urges for standards for technology use among education environmental system. It is not narrowly defined as just having technological access to the Internet but also having online educational competencies [12]. So, Mossberger, K. et al defined 'Digital citizenship' as the ability to participate in society online; however, requires regular access to the internet, with devices and speeds that can accommodate such activities [13]. This includes technical competence to use the necessary hardware and software; as well as the information literacy needed to find, comprehend, evaluate and apply the online information [13].

Digital citizenship isn't just about recognizing and dealing with online hazards; it's about building safe spaces and communities, understanding how to manage personal information and about being internet savvy- using your online presence to grow and shape your world in a safe, creative way and inspiring others to do the same [4]. In line with this, Mike Ribble and Bailey have created nine theme of digital citizenship defining it as an "appropriate responsible behavior with regard to technology use" [16]. Those nine themes are categorized into three main groups (REP) as follows: Respect yourself/ respect other, Educate Yourself /Connect to others and Protect yourself/protect others; with three subsections each.

III. METHODOLOGY

A study was conducted on three focus groups of online Egyptian community to assess tendency of digital transformation due to using SNSs. The three groups were each homogenous from within which provided better interaction resulting in richer discussions. In selection of the participants of the focus groups, there was a logic to represent varies age brackets and to keep the number within manageable term as much as possible. The three set of asked questions to each group were drafted with the perception to measure the nine digital citizenship's themes of Mike Ribble and G. Bailey (2007) [16].

A. Procedures

The research has followed the focus group procedures as per literature as follows;

- An invitation was sent to recruit participants with a broad line about the session.
- The details of the research topic and the aim of the focus group's discussion were fully explained at the beginning of the session;
- Ground rules were narrated for all participants; verbally and in text at the beginning of the session;
- All participants completed the anonymous demographic information sheet and countersigned consent form before starting;
- The setting arrangement of sessions was round in design to induce a friendly interactive discussion.
- The sessions were voice recorded in addition to written field notes by the researcher. As the real advantage of both video- and audio-recording is that they act as validity checks, in that raw data are available for scrutiny [15] and allows events to be reviewed as often as is desirable or necessary [2].

B. Analysis process

The goal of the qualitative content analysis is "to provide knowledge and understanding of the phenomenon under study" [5]. To follow are the steps practiced to get meaning out of the collected data.

- Data was aggregated per each question and mapped to the respective participants to avoid confusion.
- Data was transcribed and cleaned up. Arabic responses/comments were translated to English for homogeneity of the final version for analysis.
- Participants were labeled per group by codes then data was categorized for each question. Nonverbal communications mimicking speech acts are common in social media in the form of emoticons and abbreviations [10]; so were considered during analyzing the positive and negative sentiments.
- Then came actual analysis phase; were coding, cataloguing and grouping categories into families serving classification of results.
- Data in Microsoft Excel 2010 was extracted to NVivo 11 for creation of nodes and cases then presentation of themes and trends. The reporting of these themes is called a "thematic analysis" which is a categorizing strategy for qualitative data supports in discovering patterns and trends then deducing themes [3].

C. Findings

To follow analysis of the relationships between SNSs versus gender, age brackets and reasons of usage. Results showed that Facebook is the highly used tool for both genders by 77% and 60% respectively and along all ages brackets. From the reasons for using SNS, "To keep intouch with family and friends" reason was the highest by 31% males to 29% females where age bracket 40-49 represented 12% followed by 30-39 represented 11%.

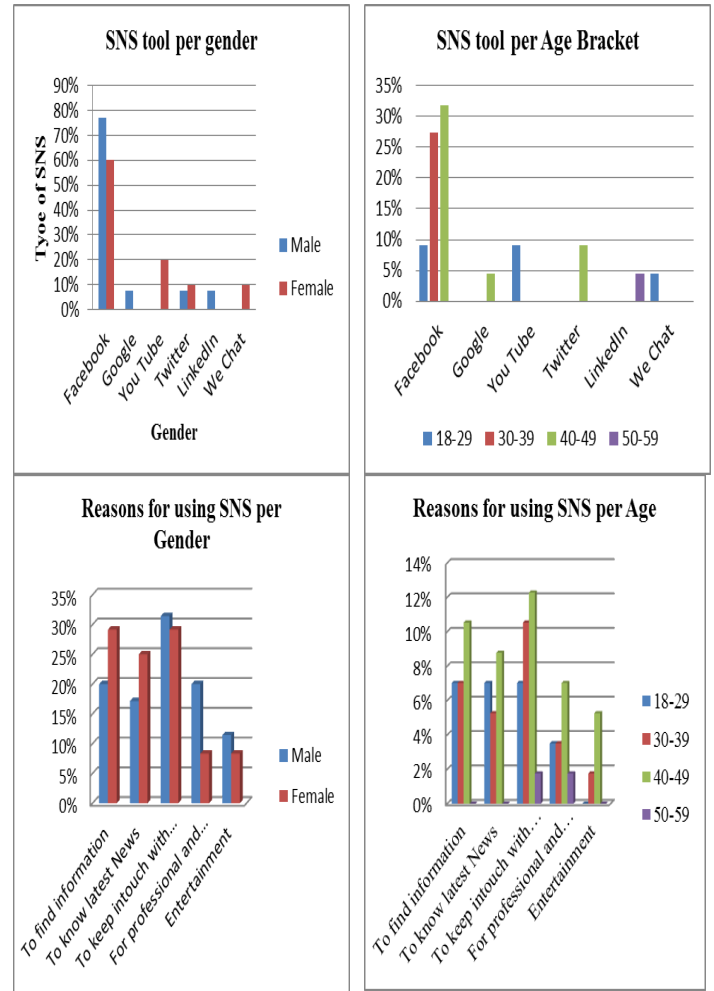


Figure 1: Relationships of SNS versus Gender, Age and Reasons of usage

Further are the results of the application of the Nine Digital Citizenships Measures on the three random samples of Egyptian online community;

TABLE I: ILLUSTRATION OF TESTING 9 DIGITAL THEMES ON EGYPTIAN ONLINE SOCIETY

Measures	Focus Groups Inferences
Respect yourself/ Respect other	
1. Digital Etiquette, electronic standards of conduct	People's online behavior/etiquette is becoming a complete dissatisfaction as per all participants. As online behavior lacked rules of interaction, humanity, sympathizing or respecting others' feelings or opinions, etc. With the following participants' statements: "People think they are on a stage

	<p><i>when they use SNS and start to act freely without governing rules”;</i></p> <p><i>“On Instagram people are too showy, even fake sometimes, and one gets the impression that social climbing is the key driver for what people post, so there is little regard to anything else”;</i></p> <p><i>“On Facebook there is a lot of abusive materials that people blindly share, without fact checking, and most of these are malicious and with no ethical grounding”;</i></p>	goods and services	considered yet by Egyptian users – so far- as an economic transaction platform and its role is restricted to getting products/services reviews before purchase.
		Protect yourself/ Protect others	
2. Digital Access, full e-participation in society	All age's groups were using SNS on various aspects of life thanks to Iphone and Android however more enhancements in speed and quality are required.	7. Digital rights and responsibilities, one's freedom in digital world.	Participants didn't bother a lot about digital rights issue as they have more important stuff to worry about. In online debates, one team fought to the end to prove his/her point of view; second team declined to answer back any attack; and a third team clarified his/her point of view then blocked the debater. Majority of responses were between 2 nd & 3 rd teams. Normally people- that don't want digital attack - interact on their personal pages only with friends and acquaintances with zero chance of spam. <i>“I don't! I am not a public figure and am selective about who I allow on my personal FB page, so I write what I think and don't have any further agendas to protect”;</i>
3. Digital Law, e-responsibility for actions	Participants perceived that online users don't read rules or policies except if it's concerning payment of money (i.e. financial risk). A participant added; <i>“The current state of awareness of Egyptian SNS users about such policies & rules is very low evidently judging by the frequent blocking or removal of accounts by the SNS platforms/community managers because of abusive content”</i> . Other stated; <i>“Maybe people are relaxed a bit as they feel that online is not as embarrassing as face to face interaction”</i> .	8. Digital Health and Wellness, physical and psychological well-being in digital world	Consensus among all participants of the negative impact of SNS on human wellness both psychological e.g. stress, frustration, depression from negative news and physically e.g. back, neck pain, eye problems, lack of exercising; but really people don't concentrate a lot with it nor take any precautions. <i>“I think that the excessive consumption of electronic content is tiring, at least for the eyes”;</i> <i>“Maybe over exposure can cause some stress. Have seen several cases where people tended to deactivate their SNS to regain their wellbeing”;</i>
Educate yourself /connect to others			
4. Digital Literacy, teaching process of technology use	Participants were fully aware of the uses of SNSs. A consensus that users didn't primarily learn how to use it; however followed others steps in maneuvering through sites.	9. Digital Security, e-precautions to guarantee one's safety	Participants are aware of lack of privacy measures and that all data can be easily exploited especially after the latest Facebook scandal during US presidential election; so they don't put sensitive information they worry about. On the other extreme, minority put what they want and don't bother a lot about information security until hacking of accounts occur which create an alarm. Others restrict audience to
5. Digital communication, e-exchange of information	SNS was used mainly for socialization; keep track of news/information and entertainment purposes. Gradually companies addressed it for advertisement and promotional offers; in parallel at a growing scale are entrepreneurship projects for selling specialized products/service at attractive prices for profit. On the other hand, nowadays governmental and political uses were the least practiced.		
6. Digital Commerce, e-buying and selling of	Concerning commerce, there was a consensus that SNS is not		

<p>friends only and some participants do regular house cleaning of their accounts.</p> <p><i>“An issue in Egypt for women of a certain social class/education level or at upper Egypt is they avoid putting their actual personal photo as a profile photo, for fear of abuse (meaning by unethical behavior) so we end up with all those fake names”.</i></p>

IV. CONCLUSION

In this sample of Egyptian online community, the nine digital citizenship themes were realized by respondents but at various percentages respectively. Personal access is at the top of the race since it is people driven. Then business at halfway where online advertisement is the current practice however commercial digitization will catch up. At the back of the race, digitization of governmental services since still more efforts need to be accomplished in regard to IT infrastructure, legislation, processes, etc. Further studies in that direction are needed as people become more dependent on IT applications in their lives.

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