MIAU – HU ISSN 1419-1652 – Special Edition 2020 Spring - Editorials: The papers in MIAU Nr.261 (2020.V) are "QuILT" products of new education frame system (https://miau.myx.hu/mediawiki/index.php/QuILT). The goals of QuILT are supporting/conducting Students on the way of KNUTH, who said (1992): Knowledge is, what can be transformed into source code, each other human activity is a kind of artistic performance. It also means we need to leave the world of the magic of words step by step. A solid evidence that we all are capable of going this way is: creating publications behind which the human expertise and the robotized knowledge (like online engines: https://miau.myx.hu/myxfree/coco/index.html --- offering context free = quasi General-Problem-Solving force fields) can be integrated in case of a rational and relevant decision making scenario. The cyborg effects make possible to face the classic naïve and/or intuitive approaches and parallel the optimized approximations. This way can be realized without deep competences about mathematics, Excel (spreadsheets), statistics, etc. The new (inter/trans/multi-disciplinary) way just expects from us to be able and willing to co-operate with the best moments of the history - it means, with the already prepared robotized elements in order to build something creative one! Parallel, in the second QuILTsemester https://miau.my-x.hu/mediawiki/index.php/QuILT2_parts - there are not only classic publication possibilities like robotizing the investigative journalism - there are further specific tasks too like 2DMgames, gamification in general, thinking experiments, etc.

-Name: Amine Sahraouardi,-Neptun: DL9C7F,

BELIEFS ABOUT THE USE OF INSTAGRAM: AN EXPLORATORY STUDY

<u>Abstract</u>

Given the rapid technological advancement, social media and communication devices continue to grow exponentially. Hence, social networking has become a major communication method in contemporary society. As a mobile application, Instagram has been widely used for personal reasons as well as business activities. Due to the lack of literature in understanding why people use Instagram in emerging markets, the present study serves as groundwork to explore the subject matter in Hungary, Malaysia, etc. The theory of reasoned action (TRA) was adapted so as to provide theoretical base to explain specific beliefs about Instagram. This provides better understanding of attitude and usage behavior towards Instagram. Qualitative method was adopted by means of personal interview in order to elicit belief factors about Instagram. Thirty-four interviews were conducted on the basis of data replicability, and all transcriptions were subsequently analyzed using content analysis. Results indicate that behavioral beliefs about Instagram are composed of five factors, and they are labeled as personal gratification, features usefulness, socializing role, product information and entertainment. Normative beliefs, in turn, are made up by six factors, and they are labeled as siblings, relatives, close friends/peers, friends in general, Facebook friends, and application reviewers. This exploratory study contributes a fundamental knowledge about Instagram and social networking communication with a theoretical stance. From managerial standpoint, it also elucidates the effect of communication manner and people from the same age-group on adopting the product. The paper will help to understand, why even the case of Malaysia should be interpreted in a deeper way?

Keywords: Social networking, Instagram, beliefs, qualitative, Theory of reasoned action (TRA)

Paper type: Research Paper

Preparation phase

To derive a suspicion (now for the case of Malaysia) it is necessary to collect an OAM (object-attribute-matrix, where the objects should be the countries, the attributes should be the variables needed to compare the objects. The OAM could be derived based on different or even all possible sources like:

- Based on Google Trends like <u>https://trends.google.hu/trends/explore?date=all,all,all,all,all,all&geo=MY,US,HU,DE,IN&q=instagram,instagram,instagram,instagram,instagram</u> (where India should be part of each downloaded file in order to ensure comparability)
- https://www.statista.com/statistics/578364/countries-with-most-instagram-users/
 https://www.worldometers.info/world-population/population-by-country/ (in order to build a per capita value)

Unfortunately, Statista does not deliver data about Hungary:

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Korea13Saudi

Data about Instagram by countries incl. Malaysia and Hungary: https://www.wordstream.com/blog/ws/2015/07/06/average-cost-per-click

The Instagram-related data for each country will lead to the Y-values in our OAM.

The Xi values can be attributes from the country profiles like GDP/capita, Internet-penetration, etc.

The OAM-structure:

- Rows = countries (=objects)
- Columns = Xi and Y attributes (see above)
- Cells: statistical values (comparable!!!)

Model-question: Can we derive the Y based on the X-variables? It means: **Due to the lack of literature in understanding why people use Instagram in emerging markets, the present study serves as groundwork to explore the subject matter...**

We will be able within minutes (after we have an appropriate OAM = "big"-data) to derive how the Y values can be calculated based on the values of the X-variables involving Solver-oriented (AI-) techniques.

If we have the CPC as Y-variable for each country, then we will be able to derive, which X-variable (like Internet-penetration, Age-structure, GDP, etc.) is more important in the background – it means, we will be capable of a high-level **understanding!**

To be operative:

- 1. We need a variable about Instagram as Y-variable!
- 2. We need the Y-values about quasi each country!
- 3. We need X-variables for each country!
- 4. We will derive a model Y=f(Xi) based on an online analytical tool.
- 5. We will analyze the results (production function for e.g. CPC).
- 6. We will finetune/complete the publication below...

URL of the OAM: https://miau.my-x.hu/miau/quilt/2020/instagram project/instagram OAM.xlsx

1 Introduction

Social media plays a significant role at both individual and organizational levels in modern society. With the rapid growth of communication technologies (e.g. Internet and Smartphone), it has become a central tool in personal lifestyles and organizational activities (Berstrom & Backman, 2013). Social networking sites, such as Facebook and Twitter, are ubiquitously known, and have been utilized for various purposes. It has been claimed that teenagers as young as twelve have at least one social networking account (Endres, 2013). Given the prevalent use of social networking with no sign of abatement, this subject matter requires continual attention and assessment from research viewpoint. With the ongoing development of communication processes, people have gradually changed the manner they interact with each other and do things (Baisa & Thoyib, 2012). By utilizing social networking services, activities like making contacts and interacting with others have become more convenient (Bergstrom & Backman, 2013). This is because social networking focuses on initiating and building relationships, thus connecting people in an almost effortless yet effective manner (Boyd & Ellison, 2007). In terms of businesses, individuals and companies who sought for market expansions in the past had to target and search for new and different markets beyond their cultural zones and familiar boundaries. While there is no surety of success, such efforts have often proved to be costly and time consuming. Instagram was founded in 2010. It is a mobile application for Smartphone which is freely available in the Application Store (App Store) and Google Play (Bergstrom & Backman, 2013). Being mainly a photo-sharing application, Instagram has excelled as an effective communication and marketing tool to display products with visual descriptions. Hence, it becomes a useful social networking platform instantly to individuals and companies. Moreover, the acquisition of Instagram by Facebook has potentially made the application more attractive and appealing to millions of users. Despite the usefulness of Instagram as another social networking tool, little is known about specific beliefs about the use of this particular mobile application. Whether it is just another social networking channel or a better or more innovative communication tool, especially in the context of emerging markets, remains largely unknown. Hence, the purpose of this study is to explore the belief factors about the use of Instagram at the personal level using qualitative approach. By utilizing the theory of reasoned action (TRA) as the theoretical basis, it attempts to identify behavioral and normative beliefs about Instagram. It is believed that such study will be a significant groundwork and precursor to further determine attitude and behavior of users towards Instagram and other networking-based communication technologies.

2 Concept and Theory

2.2 Instagram

Instagram is generally known as a novel photo-sharing social networking platform (Chante et al., 2014; Salomon, 2013). Essentially, Instagram is a mobile-based application that enables users to take photos or pictures, apply the different manipulation tools to transform the appearance of images, and share them instantly with friends on different social networking sites (Hochman & Schwartz, 2012). Although the application was just launched in 2010, it has grown steadily and strongly. In 2013, it was estimated that Instagram had 100 million users, and approximately four billion photos were uploaded and displayed (Abbott et al., 2013). In a more recent estimation, it is reported that around 75 million people are using Instagram on a daily basis, and approximately 16 billion photos are uploaded and

shared with other users (Smith, 2014). Instagram reaches the younger generation and appeals to diverse societies more prevailingly than other social networking services (Abbott et al., 2013; Salomon, 2013). It has been reported that youngsters today spend more time on Instagram than Facebook (Salomon, 2013). This is likely because young mobile users are extremely driven to take photos or pictures using their mobile phones, and share them with others instantly (Abbott et al., 2013). As such, the sharing of images rather than words alone has made communication with friends and broader groups of users who share similar interests more ideal, convenient and fascinating (Bakhshi et al., 2013). On another note, by connecting physical and digital realms, Instagram enhances online presence and identity, and allows more effective interaction not only for personal reasons, but also for business purposes (Abbott et al., 2013). Since it performs like a social media channel where individuals, companies, vendors and interest groups can easily join in, photos or pictures which are uploaded from any of them can be posted again, thus speeding up dissemination of information (Chante et al., 2014). Consequently, many traditional offline organizations have slowly incorporated social networking services into their businesses in order to reach and communicate with their actual and potential consumers more efficiently. Additionally, Instagram has also been found useful in other fields, such as academia (Salomon, 2013), and medical industry (Chante et al., 2014).

2.2 Theoretical Consideration

Notwithstanding exploratory study, the theory of reasoned action (TRA) is appropriated as the underlying premise to look into beliefs about the use of Instagram (Ajzen & Fishbein, 1980). TRA provides a clear framework constructed by behavioral belief, normative belief, attitude, subjective norm and behavioral intention. Attitude and subjective norm are both the predictors of behavioral intention though most studies have suggested the former provides a better estimation that the latter (Farley et al., 1981; Oliver & Bearden, 1985). Attitude and subjective norm, in turn, are predicted by behavioral beliefs and normative beliefs respectively (Brackett & Carr, 2001; Ducoffe, 1996; Pollay & Mittal, 1993; Wang et al., 2009). Despite being developed in 1970s, TRA is still being widely used in recent studies, including those related to technologies in both western and eastern contexts (Grandon, 2005; Ramayah et al., 2009; Shih & Fang, 2004).

3. Propositions Development

Despite having a good number of studies on social networking, little is known about the specific views of users about Instagram with theoretical support (Abbott et al., 2013; Sema, 2013a; Salomon, 2013). Specifically, there is no empirical research to date that investigates behavioral and normative beliefs about the use of Instagram. Consequently, there is no basis to assume similarities or differences between the use of Instagram and other social networking products. Moreover, as studies on Instagram are predominantly done in western context, how consumers in emerging markets perceive Instagram remains largely unanswered (Sema, 2013a; Salomon, 2013). Given the prevalent use of Instagram in developing countries, it is therefore crucial to revisit TRA so as to explore the phenomenon in Hungary and elicit specific beliefs about the application. This will also provide a platform to future quantitative studies of the subject matter. Hence, two propositions are developed for the present study as follows:

P1: There will be specific descriptions of behavioral beliefs about the use of Instagram by Hungarians P2: There will be specific descriptions of normative beliefs about the use of Instagram by Hungarians

4 Methodology

Being a pioneer in developing countries, Malaysia was selected as the research site for the present study. As the population is made up by the Malays, Chinese and Indians and other racial and cultural groups, it makes Malaysia a well representative of Asia (Department of Statistics, 2010). To realize Vision 2020 and the goal of becoming a developed and industrialized country, Malaysia has emerged as a promising investment hub and a lucrative market for multi-businesses and mega projects (Malaysian Rating Corporation Berhad, 2011). As such, Malaysian consumers are by no means laggards in adopting new technologies. Hence, it is of great interest to look into their beliefs about the use of Instagram. Given the exploratory nature of the study, personal interviews was deemed the most useful qualitative approach in assimilating in-depth information (Perry, 1998). Therefore, the concept of saturation by means of data replication rather than data generalizability, which is commonly used in quantitative studies to extrapolate the findings, was the driving principle in data collection and analysis (Strauss & Corbin, 1998). Nevertheless, a sample of minimum of 30 respondents was predetermined at the outset in order to ascertain whether similar themes had started to replicate with additional interviews (Charmaz, 2006). Respondents were selected by means of purposeful sampling strategy to ensure the sample was representative of the population in Malaysia (Onwuegbuzie & Leech, 2007). Before the actual interview, a pilot study was carried out with two persons in separate occasions to check whether interview questions were clear enough for respondents to give relevant responses (Dicicco-Bloom & Crabtree, 2006). Funnel approach, beginning with broad questions, such as 'What comes to mind when you think about Instagram' and 'Could you tell me the people, whom you regard as important, who would like to see you use Instagram', and ending with specific queries about the reasons behind behavioral and normative beliefs, was adopted in interview (Churchill & Iacobucci, 2005; Hair et al., 2006). The actual interview took place in December of 2013, and 34 interviews were consequently conducted. Most interviews were conducted at respondents' homes to ensure their comfort during interview sessions (Evers & De Boer, 2007; Rubin & Rubin, 2005). All interviews were audio-recorded and subsequently transcribed. Transcripts were later checked to match against audio records (Kurasaki, 2000). Content analysis was used as it not only focuses on frequency counts (Wilkinson, 2000), but also allows for coding of themes in qualitative data (Ryan & Bernard, 2000). Accordingly, themes pertaining to belief in the transcripts were firstly coded by three coders independently and were later put together to gauge inter-coder agreement (Braun & Clarke, 2006).

5 Findings and Discussions

Table 1 shows the demographic profile of 34 respondents. Since Instagram is a relatively new mobile application, all the respondents are either students or young working adults.

Variable		Frequency	Percentage
Gender	Male	15	44.12
	Female	19	55.55
Race	Hungarians	15	44.12
	Romani	12	35.29
	Germans	5	14.71
	Other or Undeclared	2	5.88
Residence	Budapest	15	44.12
	Pécs	2	5.88
	Debrecen	17	50.00
Employment status	Students	21	61.76
	Working adults	13	38.24

Table 2, in turn, presents a list of behavioral and normative beliefs using content analysis. Five factors were elicited and coded as themes for behavioral beliefs, and they are personal gratification, features usefulness, socializing role, product information and entertainment. Six factors were found as themes for normative beliefs, and they are siblings, relatives, close friends/peers, friends in general, Facebook friends and application reviewers.

Table 2: Themes of Behavioral and Normative Beliefs

Behavioral Beliefs	Normative Beliefs	
1. Personal Gratification	1. Siblings	
2. Features Usefulness	2. Relatives	
3. Socializing Role	3. Close friends/peers	
4. Product Information	4. Friends in general	
5. Entertainment	5. Facebook friends	
	6. Application reviewers	

5.1 Behavioral Beliefs

Personal gratification is found to be a prominent behavioral belief about Instagram. It expresses a person's act to satisfy his or her own desire. Despite having multiple functions, the use of Instagram is more for personal indulgence as the purposes of using it revolves around what they just did either for their own keeping or for displaying to others. They are driven to tell their friends or followers about themselves and their activities. With Instagram, I can easily upload photos on what I eat and where I go instantly to show off to my friends and followers (Interviewee 01). I used to share photos of every event happening in my current life as the photos can be viewed in the public by other Instagram users (Interviewee 11). Features usefulness is another noticeable behavioral belief as it explains the attributes or characteristics of Instagram and why it is useful to the users. It has some of the features which other social networking sites have, but it is superior in photo-sharing and editing compartment. Photo taking, editing, filtering and posting seem to be popular to the young generation, and it may well be the cutting edge of Instagram. Instagram is the only social medium which has an advanced photo editor to produce better photo results before uploading to my profile (Interviewee 02). Instagram can be connected with other social media such as Facebook and Twitter and that is

very convenient as I can upload photos to these social media at the same time (Interviewee 14). Hash tag is a very useful feature in Instagram where it helps advertise and publicize my photos to other users. Hence, they can browse my photos on the page where my photos are hash tagged (Interviewee 15). Socializing role is one of the primary reasons most people are using social networking sites, including Instagram. It makes connection with friends and other social groups more convenient, be it making new friends or maintaining friendships. Instagram enables users to interact with others, especially those with similar interests. For my friends who are not active on Facebook, I can stalk their photos on Instagram to know more about their current activities or lifestyles (Interviewee 23). I am able to browse my followers, bloggers and even celebrities' photos and comment on their posts to build and maintain relationships (Interviewee 12). The sharing of product information happens when users post and share information about certain products on Instagram. As a result, the posted information can be viewed by their friends or followers and re-posted or shared to larger circle of friends. Instagram makes full use of its strength in photo-sharing, and thus becomes a preferred platform to share information and interaction with others. Some users prefer Instagram over Facebook because of its edge in sharing information that is of relevance to them. I like to browse photos posted by branded companies on Instagram to know their latest trends and promotions (Interviewee 06). I always search for information about dieting and eating healthily in the page where photos are hash tagged by relevant labels (Interviewee 30). Entertainment is also found to be a behavioral belief about Instagram. Users use Instagram because the application is fun. They find joy and amusement in taking photos and browsing for information. They either spend substantial time on the application or use it whenever they have free time. I entertain myself by browsing my followers' photos on Instagram when I am free (Interviewee 03). I use Instagram for entertainment because its posts have fewer words but more photos which is more preferable to view during my free time (Interviewee 07).

5.2 Normative Beliefs

Even in the presence of Facebook and other popular social networking sites, Instagram took Malaysian population, especially the young generation, by storm. It is found that people were significantly affected by users around them before using Instagram. The findings show that their siblings and relatives are two normative factors explaining why they are motivated to comply with. I started using Instagram when I saw my sister and cousin using their phones to take and upload photos (Interviewee 26). Close friends/peers at schools, universities or workplaces are driving factors why users started using Instagram. Since it is a photo-sharing application, it causes them to continue using it to stay connected with each other even when they are apart. My course mates often took pictures and uploaded them to Instagram when we had lunch together. Eventually, I went to download the apps as well to keep up to date with them (Interviewee 02). My colleagues convinced me to use it because they often posted photos which they would not be sharing on Facebook (Interviewee 18). Users are also affected by their friends in general in the use of Instagram. They can easily see the growing popularity of the application. My university friends influenced me to use Instagram to increase the number of their followers... and I know a lot of these followers (Interviewee 07). Given the widespread use of Facebook and how photos or pictures taken by Instagram can be displayed on Facebook, it explains why Facebook friends are another factor that attracts or compels them to download the application and use it.

I saw many photos posted by my Facebook friends and they were taken through Instagram... so I went to download the apps and that is when I started using it (Interviewee 14). Finally, application reviewers can also affect the use of Instagram. Since it has become convenient to download application from Google Playstore in their phones and many of these applications are free, downloading and using Instagram becomes an apparent choice. It is claimed that Instagram was the most downloaded application with high rating for quite some time. I get to know and use Instagram from Google Playstore in my phone because of its top downloaded rate and good reviews from the users (Interviewee 05).

6. Implications and Conclusion

Social networking has become an important communication method to connect individuals and organizations effectively. Unlike conventional communication media, social networking site utilizes its interactive images to make the content more informative and representational (Gilbert et al., 2014). On a personal level, it is a popular online social platform to interact with friends (Subrahmanyam et al., 2008). Users find social networking particularly useful in sharing information and getting connected with their friends (Sema, 2013b). From the managerial standpoint, such online activities are crucial to companies as substantial amount of users can make decision through social networking communication. Social networking sites, such as Facebook, Twitter, MySpace and also Instagram, are more than often used as a hub to meet and share ideas, thus making purchasing decisions about certain products (Barczyk & Duncan, 2011). Hence, there is a significant increase of companies, including small businesses, utilizing social networking sites to market products and communicate with their consumers (Leskovec et al., 2007). It has become an indispensable platform to get more customers and generate favorable attitude and intention in the marketplace in order to yield desired outcome.

About the Al-based suspicion generation



Figure 1: The results of the similarity analysis (source: own presentation)

The compared countries will lead to a production function based on a similarity analysis (https://miau.my-x.hu/myx-free/coco/ - COCOSTD), where the Y values (ratio of Instagram users) should be estimated based on the available X-variables.

As it can be seen (Figure 1), India and Malaysia are the two not-norm-like countries. Each other object can be interpreted as norm-like – it means: in case of the other countries, we could derive the Y-value based on the X-values.

The two suspicions should also be interpreted:

- In case of India: the Y value is lower than the estimation, what means: India should have a higher ratio of Instagram users than it is according to the statistics
- In case of Malaysia, the situation is mirrored. The ratio of the Instagram users should be lower based on the X-values.

Malaysia has therefore one or more specific attributes (not available in the OAM) being responsible for the better performance!

More details: https://miau.my-x.hu/miau/quilt/2020/instagram_project/