

AMERICAN UNIVERSITY OF BEIRUT

GENERATION TECH: TECHNOLOGICAL DIMENSIONS AS
PREDICTORS OF JOB INSECURITY FOR THE ARAB
WORKFORCE

by
AXELLE MEOUCHY

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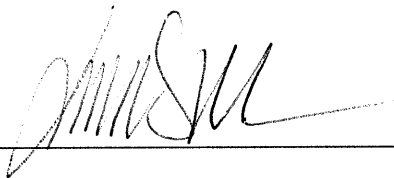
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ABSTRACT

Axelle Meouchy for Master of Human Resource Management

Title: Generation Tech: Technological dimensions as predictors of job insecurity for the Arab workforce

Technology is advancing at an exponential pace. Jobs are becoming redundant, and machines, applications, and systems are replacing workers. At the same time, new jobs are being created, and new knowledge, skills, and abilities are being sought after. This research examined the extent to which workers in the Arab world are fearing job loss due to technology, and investigated the impact of age, technological proficiency, level of tech adoption on the job, perceived ease of use of technology, and two personality traits on job insecurity due to technology. We adopted a cross-sectional study (N= 341) using a questionnaire that was administered on a sample of the Arab workforce comprised of Millennials and Generation Xers currently employed. The findings of this paper indicate that age is not a predictor of job insecurity due to technology. The findings also indicated several significant relationships between the dimensions listed above and reported job insecurity. This study adds value to the field by providing insight to organizations and individuals on the reality of technology readiness and adoption as well as proposing several future directions for studies on the topic of technology and the Arab world.

CONTENTS

ACKNOWLEDGMENT.....	v
ABSTRACT.....	vi
LIST OF TABLES.....	viii
CHAPTER	
I. INTRODUCTION	9
II. LITERATURE REVIEW.....	11
III. CONCEPTS AND HYPOTHESES.....	13
A. Generations	13
B. Technology Use.....	14
C. Social Media.....	15
D. Personality	16
E. Job Insecurity	17
IV. METHODOLOGY	19
A. Data Collection	19
B. Participants	19
C. Measures.....	21
1. Technological Proficiency.....	21
2. Social Media Usage	22
3. On the Job (OTJ) Technology Impact.....	25
4. Arab Personality Inventory (API).....	27
5. Job Insecurity Scale	27
V. RESULTS	29
VI. DISCUSSION	31
A. Job Insecurity.....	31
B. Generational Differences	32
C. Technology.....	32
D. Social Media	33
E. Personality	34
VII. LIMITATIONS AND FUTURE RESEARCH	35
VIII. CONCLUSION	37
APPENDIX	38
REFERENCES	52

TABLES

TABLES

1. Descriptive statistics of the sample.....	20
2. Means and Standard Deviations of Variables.....	29
3. Results of Regression Analysis for all Variables	29
4. Results of Regression Analysis for Social Media	30

CHAPTER I

INTRODUCTION

The world is becoming increasingly dynamic. Boundaries between countries no longer exist, technology and communication are rapidly evolving, and shifts in economic power are currently being witnessed. Long gone are the days where I had to disconnect my Internet modem machine so my mother could use the phone. Some people might say long gone are the days where the Internet didn't even exist at all, whereas others would ask, what's a modem? When you look back to compare to how things were merely a decade ago, there is one thing that is certain: The only constant thing in life is change. Technology has been evolving at a rapid pace, making it nearly impossible for us to predict what might be invented next. Diamandis and Kotler (2012) provide a useful frame of reference, noting: "Right now a Masai warrior with a cell phone has better mobile phone capabilities than the president of the United States did twenty-five years ago. And if he's on a smart phone with access to Google, then he has better access to information than the president did just fifteen years ago". Many jobs and activities that people carry out today have become or are on the way to becoming redundant. At the same time, new jobs are being created, new skills are being sought after, and new lines of work are emerging. For some people in the workforce we refer to as Millennials, this rapid expansion is something they have become accustomed to, having grown up with technology playing a large part of their lives (Becton et al., 2014; Bolton et al., 2013; Kowske et al., 2010; Smola & Sutton, 2002; Wong et al., 2008). Others, such as Generation X, joined the workforce as far as 35 years ago, where technology was nowhere near as advanced as it is now (Olson et al., 2011). Therefore,

there is a possibility that with the arrival of this technological wave, other issues might wash up to the shore such as fear, uncertainty, and rejection.

Technology offers the potential for substantially improving personal and organizational performance, but that improvement is often hindered by user's unwillingness to accept and use available systems (Davis, 1989; Morris & Venkatech, 2000; Parasuraman, 2000; Wang et. al, 2009;). Some individuals might regard the proliferation of new technologies and systems in the workplace as a threat to employees' sense of control (Ashford et al., 1989). Alge and Hansen (2013) point out that the sense of threat comes from individuals' fundamental need for autonomy, and that technological changes in the workplace should be initiated and controlled by the worker as opposed to the organization. There are a lot of new systems, applications, and technologies that have been introduced in the workplace since both generations first joined the workforce. This study contributes to prior work on employee well-being by investigating the relationship between different dimensions, including dimensions of technology, and tech-related job insecurity for both Millennials and Gen Xers, within an Arab context.

CHAPTER II

LITERATURE REVIEW

Greenhalgh and Rosenblatt (1984), define job insecurity as “perceived powerlessness to maintain desired continuity in a threatened job situation”. The literature has defined several predictors or antecedents to job insecurity. Some of which include: gender, age, education, employment relationship, and organization climate (Kinnunen & Natti, 1994), locus of control and organization change (Ito & Brotheridge, 2007), organizational change, role ambiguity, conflict and locus of control (Ashford et al., 1989), and many others (Borg & Elizur, 1992; Johnson et al., 1984; Mohr, 2000; Sverke & Hellgren, 2002). Surprisingly, research on the topic of technology and job insecurity is scarce (Ashford et al., 1989; Gallie et al., 2017; Greenhalgh & Rosenblatt, 1984; Sverke & Hellgran, 2002;). There is growing evidence suggesting the rise of challenges and frustrations associated with technology proliferation (Parasuraman, 2000), however, related research focuses mainly on the technology aspect, such as general measurement of computer and internet literacy and usage (Davis, 1989; Jones et al. 2010; Page & Uncles, 2004; Parasuraman, 2000; Rauniar et al., 2012; Rosen et al., 2013) the use of technology in learning and classrooms (Bullen et al., 2011; Christensen & Knezek, 2017; Hou, 2017; Kozma, 2003; Park, 2009; Sharp, 2008; Venkatesh & Davis, 2000; Wang et al., 2009), marketing goods and services (Ansari & Mela 2003; Berry et al., 2010; Brodie, 2007; Parasuraman, 2000; Sultan et al., 2009) and comparisons of technology adoption and behaviors between different generations (Bolton et al., 2013; Morris & Venkatech, 2000; Olson et al., 2011; Prensky, 2010; Smola & Sutton, 2002;).

There are perhaps a few reasons as to why research so far has been limited. The most obvious being, technology has been changing at such a rapid scale, that the skills associated with it are changing as well. Many of the scales that were used in this study have been updated and extended several times in order to properly reflect the current situation and still, new technologies have emerged, rendering these scales somehow outdated. Moreover, it is difficult to be able to isolate technology as the only variable that affects a person's job insecurity. In the available research, technology is one of the many variables of the determinants of job insecurity, such as technology advancements as a part of organizational practices (Gallie et al., 2017), effects of technological changes on certain jobs (Krugman & Lawrence, 1993), and perceived threats to job features (Ashford et al, 1989). The research narrows further when you look at the Arab world in particular. In fact, research shows that scholars writing about technology in the Arab world have actually focused on technology and ignored the Arab world, their histories, cultures, societies, and human dimensions (Fandy, 2000). Results again, show that studies centered around technology in the Arab world focus on the use of technology for educational and academic purposes, and the Arab Media (Zaini et al., 2017). In fact, when you try searching keywords such as 'technology', 'job insecurity', 'Arab world', the results you will get are articles on the Arab Spring, television media and public trust, and other socio-political topics. Job insecurity due to technological advancement in the Arab world is the central theme in this study, one that no previous study has attempted to look at, and represents an important managerial as well as personal challenge.

CHAPTER III

CONCEPTS AND HYPOTHESES

A. Generations

A generation cohort refers to an “identifiable group that shares birth years, age, location, and significant life events at critical developmental stages” (Kupperschmidt, 2000). The work on generational differences is based on the theory that generation is a meaningful psychological variable. This variable captures an individual’s upbringing during a specific time period with specific life events (Twenge & Campbell, 2008). As each generation grows through these life events, it is thought that they develop characteristics that differentiate them from other generations that matured through different life events (Macky, Gardner, & Forsyth 2008; Schewe & Meredith, 2004). These characteristics will be reflected in personality traits, values, attitudes, and motivations, which will in turn be reflected in the workplace (Kelly et al., 2016; Twenge & Campbell, 2008; Twenge et al., 2010;). It is important to mention that most of the work on generation differences has been done in a purely Western context. Meaning, the life events mentioned, and which eventually led to the shaping of certain generational characteristics, happened in America. So far, no major research has been done on generational differences in Lebanon, or the Middle East for that matter. For that reason, we will only rely on age as the main variable when we talk about generations, and we will not take into consideration predefined traits and characteristics of the

cohorts. The two generations used in this study are Millennials (born 1981-1996) and Gen Xers (born 1965 – 1980). Terms like “digital native” and “net-generation” have been widely used in research (Palfrey and Gasser, 2010; Prensky, 2001; Twenge & Campbell, 2008). However, rarely does a study provide evidence for a relationship between age and technology and Internet ability (Bullen et al., 2011; Jones et al., 2010; Litt, 2013). Studies looking at the relationship between age and internet skills are mixed, with both positive and negative associations identified (Litt, 2013). Based on the literature, we ask the following research question:

RQ1: How does a person’s age influence the relationship between technological advancements and tech-related job insecurity? Based on earlier works related to age and technological ability (Bullen et al., 2011; Jones et al., 2010; Litt, 2013), we hypothesize that:

H1: Generational differences do not have a significant influence on job insecurity due to technological advancements.

B. Technology Use

New technologies are increasing through various facets of everyday life and at a much faster rate than before (Parasuraman, 2000). For example, whereas it took automobiles 55 years to be owned by a quarter of the population, it took the cellphone only 13 years to reach that same level of ownership (Berry, 1999). In this study, we define technology as new systems, applications, and devices (hardware) that people use when conducting everyday activities. And while most scholars agree that technology has had a significant effect in organizations, across businesses and services, and in our personal lives, there does not seem to be an agreement as to how positive or negative these effects have been perceived by the population (Alge & Hansen, 2013; Davis,

1989; Morris & Venkatech 2000; Parasuraman, 2000; Wang et al., 2009). Based on the literature, we ask the following research questions:

RQ2: To what extent has technology impacted the workplace? We make no explicit hypothesis here, but the study will enable us to examine whether technology, in the Arab world, has reached a certain level of impact in the workplace, by the introduction of new systems, applications, software, machinery, etc.

RQ3: How do different dimensions related to technology, influence a person's sense of job security, due to technological advancements? Based on earlier works suggesting technology as one of the many variables of the determinants of job insecurity (Ashford et al., 1989; Gallie et al., 2017; Krugman & Lawrence, 1993), we hypothesize that:

H2: Technology proficiency will influence tech-related job insecurity.

H3: Technology adoption will influence tech-related job insecurity.

H4: Perceived usefulness of technology will influence tech-related job insecurity.

H5: Perceived ease of use of technology will influence tech-related job insecurity.

C. Social Media

Scholars have now broadened the research on technology and are focusing more on Internet access and adoption. Social media has been in existence since 1997, however its popularity increased in the mid 2000s (Boyd & Ellison, 2008). In a survey by Nielsen (2016), social networks and blogs were the top online destinations in each country, accounting for the majority of people's time online. In fact, social media, in all its forms, has become increasingly popular in the Arab world, not only as a 'toolkit for politics', but also as a communication tool for people in their everyday lives (Zaini et al., 2017). The Arab Social Media Report (ASMR), developed by the Dubai School of Government in 2017, reported Facebook to be the most popular social media platform,

with around 156 million users, up 40 million users from the year before, followed by LinkedIn with 16.6 million users, Twitter at 11.1 million users, and Instagram with 7.1 million users. These numbers show that roughly 40% of the Arab population is actively using some form of technology being a computer or mobile device. In this study, we regard social media as a dimension related to technology. And based on the literature on the relationships between technology and job insecurity, we make the following hypothesis:

H6: Social media will influence tech-related job insecurity.

D. Personality

The previous dimensions and their interrelations described have been investigated in numerous studies. However, in some circumstances, there are other dimensions that may play a significant part in technology acceptance and job insecurity. Personality has been shown to be associated with technology in various ways (Hamburger & Ben-Artzi, 2000; Svendsen et al., 2013; Walczuch et al., 2007). In numerous studies, the personality dimension related to extraversion has been linked to many aspects of technology interaction (Svendsen et al., 2013). Hamburger and Ben-Artzi (2000) were able to show that personality traits extraversion and neuroticism were related to the use of different Internet services. McElroy et al. (2007) investigated the effect of personality on Internet use using the Big Five Model and NEO Personality Inventory. Their findings also showed that Big Five Personality dimensions were predictors of Internet use, specifically extraversion, neuroticism, and openness to change. In their investigation on the influence of personality dimensions on technology adoption, Walczuch et al. (2007) found that personality traits related to technology (optimism, innovativeness, and discomfort) all had significant relations to technology

adoption. Despite the fact that plenty of studies such as the ones described above exist, little attention has been given to the potential relation between personality and job insecurity (Naswall et al., 2005). Personality characteristics have an influence on individual's evaluation of situations and their well-being. For example, characteristics that are related to negative perception of the self lead to more experience of negativity than characteristics related to positive perceptions. Furthermore, personality characteristics affect the way individuals evaluate situations, specifically threatening ones (Naswall et al., 2005). In this study, we use the Arab Personality Inventory to identify traits that have a relationship with tech-related job insecurity. Each Arab Personality Inventory personality factor represents a collection of unique characteristics. A total of 7 factors were identified. Based on earlier works and findings on personality traits, technology, and insecurity (Hamburger & Ben-Artzi, 2000; Naswall et al., 2005; Svendsen et al., 2013; Walczuch et al., 2007), we identified 2 traits that might have an impact on our outcome, Emotional Stability and Conscientiousness.

Based on the literature, we ask make the following hypotheses:

H7: The higher the Emotional Stability, the less the tech-related job insecurity.

H8: The higher the Conscientiousness, the less the tech-related job insecurity.

E. Job Insecurity

Job insecurity is the main outcome of this study. The changing landscape of work has caused feelings of insecurity concerning the nature and future existence of people's jobs (Sverke, Hallgren, & Naswall, 2002). As a result, job insecurity has emerged as an important dimension that should be studied. Research has mainly focused on analysis of psychological well-being of employees, in issues like stress, burnout, unemployment and its consequences, and not enough attention has been given

to the subject of job insecurity. It is important to point out that job insecurity refers to a subjective perception concerning the future existence of a person's present job (Greenhalgh & Rosenblatt, 1984; Sverke, Hallgren, & Naswall, 2002). A lot of studies have focused on the consequences of job insecurity. Phenomena such as reduced well-being, negative emotions, stress, and more have been studied. Moreover, studies aim to investigate the relationship between job insecurity and several factors, such as contextual variables, demographics, personal characteristics, etc. In this study, we study the relationship between two main variables, age and technology, and their effect on job insecurity. While there is a considerable amount of research done on job insecurity, there is little on the determinants of predicting job insecurity, specifically as it relates to technological changes.

CHAPTER IV

METHODOLOGY

A. Data Collection

The final questionnaire used in this study consisted of different measures or scale, with a total of 130 items (see Appendix). Two data collection methods were used: online using targeted ads on Facebook, and traditional paper and pencil. The questionnaire was placed online for a total of one month, and took about 10-15 minutes to complete. Approval was obtained at the researcher's institution (AUB). As an incentive, respondents received their personality report at the end of the questionnaire. A limitation to the questionnaire is the fact that the majority of the data collection was conducted using the Internet, so we could reach a wider audience from the Arab world. This is a bit problematic when studying Internet skills, since the respondents are already active to a certain extent on the internet and social media. Measuring the skills of using a medium with the medium itself may prove challenging (Litt, 2013). To balance out the result, around 100 questionnaires were administered by paper and pencil. However, to ensure that this does not skew the results, we operate under the assumption that the subjects we are studying and targeting already have a minimum level of Internet proficiency.

B. Participants

Our sample was made up of people from all over the Arab world. We targeted the following countries: Lebanon, Syria, Palestine, KSA, UAE, Bahrain, Qatar, Jordan, and Egypt. Our sample also included people who were not originally from the Arab world, but have spent the majority of their lives living in it (We asked participants to

differentiate between their country of nationality and the country where they have lived the longest). A total of 788 responses were recorded. We filtered the data according to the following:

- Participants aged between 23 and 53
- Participants that either are from an Arab country or listed an Arab country as the country in which they have lived the longest
- Participants that fully answered the questionnaire

After filtering out the data, we were left with a total of 341 responses. The table below is a summary of descriptive statistics for participants:

Table 1: Descriptive statistics of the sample

Sex	Age		
Male	38.7%	23-41	31.95%
Female	61.3%	42-53	68.05%
Country of Nationality			
Lebanon			41.9%
Egypt			11.4%
Jordan			10%
Palestine			7.6%
Other Arab Countries			3.6%
Other Non-Arab Countries*			25.5%
Country of Residence			
Lebanon			41.6%
KSA			11.7%
Egypt			11.1%
Jordan			10.6%
Kuwait			7%
Palestine			5.9%
Other Arab Countries			7%
Other Non-Arab Countries**			5.1%

*Participants were included in the sample since they listed an Arab country as the place where they've lived the longest

**Participants were included in the sample since they are originally from an Arab country

C. Measures

This study relies on six sets of measures drawn from several studies. A description of each measure is found below:

1. Technological Proficiency

In order to investigate whether a person's "tech-savviness" can be a predictor of their job insecurity due to technological advancements, a measure of technological proficiency was included. Tech proficiency was assessed using the TPSA C-21 questionnaire adapted from Christensen and Knezek (2017), which originally aimed to assess teacher self-efficacy and technology use in the classroom. The questionnaire required respondents to rate their confidence in four types of technology proficiencies: email usage, Internet usage, computer application usage, and online tools usage. Each area was represented by several items, rated on a 5-point Likert scale of 1=strongly disagree to 5 = strongly agree. The TPSA questionnaire has been used for 15 years in studies regarding technology integration in the classroom (Christensen & Knezek 2001; Christensen & Knezek 2017). It was first developed in 1999, and has since then been updated to reflect current technology standards based on published literature and content such as social media, cloud-based environment, and mobile learning. These items have recently been added into what we now refer to as the TPSA for 21st Century Learning.

Reliability

Cronbach's Alpha internal consistency reliabilities for the original four scales were found to be: Email $\alpha = .76$; Internet $\alpha = .75$; Integrated Apps $\alpha = .84$; Teaching with Technology $\alpha = .89$. Since the TPSA was adapted for the current study, some items were removed (specifically ones related to teaching) and others were reworded (from use in

teaching to general use), we re-ran reliability analysis and came up with similar values. Cronbach's Alpha internal consistency reliabilities for the adapted four scales were found to be: Email $\alpha = .88$; Internet $\alpha = .81$; Computer Apps (originally Integrated Apps) $\alpha = .83$; Online Tools (originally Teaching with Technology) $\alpha = .90$.

2. Social Media Usage

We defined social media (SM) as websites and applications that enable you to share and create content and interact with others. Examples of SM include but are not limited to: Facebook, Instagram, Google+, LinkedIn, Snapchat, Tumblr, Twitter, etc. In order to investigate whether a person's social media activity can be a predictor of their attitudes towards technology and their readiness to adopt technologies, a total of 10 social media indices are included in the study. The measurement items were adapted from the SMACTIVE and SMENGAGE questionnaire developed by Hou (2017), as well as the Technology Acceptance Model (TAM) adapted by Rauniar et. al (2014).

a. SMACTIVE and SMENGAGE

This tool builds on previous studies by examining utilization patterns of social media users by major social media platforms and assessing specific engagement activities (Hou, 2017). A total of 6 social media indices were developed and pilot tested in the current study. For the purpose of this study, the first 5 indices were adapted (The 6th index comprises 4 items that measure SM engagement activities for professionals, and was considered unrelated to this study). The 5 indices are:

SMactive index: Participants are asked to tick the social media accounts they have. The scores of these yes-no items were added to create the SMactive index, with a possible range of 0 to 8.

SMfreq index: Participants were asked to rate how often they generally use social media on a scale of 0= Never to 4= Very often.

SMyr index: Participants were asked to rate how long they have been using social media on a scale of 0= Never to 4=More than 5 years.

SMadopt index: Participants were asked to rate how likely they are to adopt social media if they do not currently use social media (0= Not likely to 3=Already active)

SMengage index: Participants were asked to rate how often they engage in certain activities on social media (e.g.: read others' posts, comment on others' posts, share own post/photos, etc.) on a scale of 0= Never to 4= Very often. The scores of the 9 items were then added to get a summative index with a possible range of 0 to 36.

Reliability

In the original study, correlation coefficients for all of the six indices ranged from .383 to .742 (all $p < .01$). The internal consistencies of the six indices using Cronbach alpha also showed satisfactory reliabilities (Alpha = .877; CITC ranged .490 - .804). We tested the correlation between the five indices used in the current study and correlation coefficients ranged from .178 to .725 (all $p < 0.01$). The new reliabilities were close to original scores (Alpha = .877; CITC ranged .270 - .650).

b. Technology Acceptance Model

The second measure of social media usage was based on the Technology Acceptance Model (TAM) developed by Davis (1986) to theorize the usage behavior of computer technology. Since its inception, TAM has emerged as one of the most influential models in the research on acceptance and usage of computer technologies (Venkatesh & Davis, 2000). Initially, Davis (1986) identified two dimensions: perceived ease of use (EU) and perceived usefulness (PU) as critical when trying to explain intention of use.

Rauniar et al. (2014) adapted TAM to further examine individual social media usage behavior, the model which was used in this research, and added five more dimensions. As a result, a total of 7 indices were developed: EU, PU, Critical Mass (CM), Capability (CP), Playfulness (PP), Trustworthiness (TW), and Intention to Use (IU). For the purpose of this study, CP and PP were found to be unrelated and therefore not included. The 5 indices used in this study are described below:

SMPEoU index: Perceived ease of use has been defined as the degree to which a person believes that using a particular system would be free of effort (Venkatesh & Davis, 2000). Participants were asked to rate how easy they find social media tools to use. Items included statements such as “I find SM easy to use” and “It is easy to become skillful at using these tools”.

SMPU index: Perceived usefulness has been defined as the extent to which the social media user believes that using a particular application helps meet the user’s needs (Rauniar et al., 2014). Participants were asked to rate how useful they find social media using items such as “Using SM makes it easier to stay informed with my colleagues” and “I find SM useful in my personal life”.

SMCM index: Critical Mass (CM) has been defined as an important dimension that could explain social media usage behavior (Lou et al., 2000), and was measured by asking respondents about the popularity of SM among their friends, colleagues, etc.

SMTW index: Trustworthiness (TW) was identified as another dimension critical to the TAM model for social media, since the extent to which the use finds SM to be trustworthy will influence intention to use.

SMIU index: Intention to use (IU) has been defined as the continued intention to perform social media-related activities using social media sites (Rauniar et al., 2014).

Items included statements like “I intend to use SM to communicate with others” and “I will continue to use SM for social networking purposes”.

It is important to note that the language of the items was modified to reflect the measurement of these dimensions for Social Media users in general (rather than Facebook as it was originally), based on the definition stated previously. Respondents were asked to rate statements on a 5-point Likert scale of 1=strongly disagree to 5 = strongly agree. Each index was calculated via a composite summative score of the items that comprised it.

Reliability

In the original study, initial item purification was done with factor analysis using principal component analysis. All items for each dimension loaded on their respective factor and no cross loading of any item was found. When re-running factorial analysis for this study, similar results were found. Originally, reliability of the instrument was assessed by calculating composite factor reliability (CFR) scores. All CFR scores of the dimensions were found to be above the cutoff value of 0.70. All correlations were significant at $p < 0.01$, and ranged from .21 to .69. We re-ran the analysis to our adapted study and came up with similar results. All CFR scores of the dimensions were found to be above the cutoff value of 0.70. In fact, reliability for the dimensions ranged from 0.786 to 0.877. All correlations were significant at $p < 0.01$ (.125 to .70).

3. On the Job (OTJ) Technology Impact

In order to investigate the extent of the impact of technology on participant’s jobs, two main measures were used: perceived usefulness and perceived ease of use, adapted from a validated scale developed by Davis (1989). The research focuses on

perceived usefulness and perceived ease of use as the two dimensions which act as determinants to actual system use, or in other words, variables which affect whether people will accept or reject technology. A description of the two indices can be found below:

PU index: Davis (1989) stated that people tend to use or not use an application to the extent they believe it will help them perform their job better: perceived usefulness.

Participants were asked to rate statements. Items included statements such as “Using new technologies gives me greater control over my work” and “Using new technologies enhances my effectiveness on the job”.

PEU index: Davis (1989) stated that even if potential users believe that an application is useful, they may believe that it is too hard to use and therefore choose not to accept it: perceived ease of use. Items included statements such as “I often become confused when I use new technologies” and “Interacting with new technologies is often frustrating”.

Respondents were asked to rate statements on a 5-point Likert scale of 1=strongly disagree to 5 = strongly agree. Each index was calculated via a composite summative score of the items that comprised it, and reverse scoring was taken into consideration.

Reliability

Originally, the perceived usefulness scale (PU) attained Cronbach alpha reliability of .97, and the perceived ease of use (PEU) attained a .91. Since some items were removed from the original scale, we re-ran reliability analysis and the results were similar: .948 for PU and .784 for PEU.

4. Arab Personality Inventory (API)

A series of qualitative and quantitative studies in four Arab countries has shown that personality traits in those Arab cultures can be summarized and measured using seven factors, namely Agreeableness/Soft Heartedness, Honesty/Integrity, Unconventionality, Emotional Stability, Conscientiousness, Extraversion /Positive Social Relatedness, and Intellect (Zeinoun, Daouk-Öyry, Choueiri, & F. J. Van de Vijver, 2017). An item pool of 317 items was created to cover the entire breadth of these constructs. For our current study, we used a shorter version of the instrument using 52 items that measure the seven factors mentioned previously. Respondents were asked to rate statements such as “I am humble” and “I am studious” on a 5-point Likert scale (1=Strongly Disagree and 5=Strongly Agree). The factors showed internal consistency of coefficients ranging from .69 to .87. We did not re-run any analysis since the measure was not altered in any way.

5. Job Insecurity Scale

Job insecurity was measured using the Job Insecurity Scale (JIS), a scale of four items originally developed by De Witte (2000). Respondents were asked to rate statements such as “Chances are, I will soon lose my job” and “I feel insecure about the future of my job” on a 5-point Likert scale. The index was calculated using a summative score of the four items (1=Strongly Disagree and 5=Strongly Agree). Reverse scoring was taken into consideration. In order to relate the scale to technology, we included a statement at the beginning that asked respondents to rate the statements based on the impact of technological advancements on their job.

Reliability

The scale has been adapted in different parts of the world and translated in different languages. Internal consistencies in all versions of the scale range from .77 to .86. Reliabilities ranged from .77 to .90. All measures have been used in numerous studies so there is broad support for their construct validity. We did not re-run a reliability and validity analysis for the current study since the scale was not altered in any way.

CHAPTER V

RESULTS

To assess the relationship between the dimensions and the dependent variable, the data was analyzed using regression analysis. Table 2 presents the means and standard deviations of all the study variables.

Table 2: Means and Standard Deviations of Variables

<i>Dimensions</i>	<i>Means</i>	<i>Standard Deviations</i>
Generation		
Millenials	8.383	3.355
Generation X	8.699	3.633
Technology		
Tech Proficiency	77.947	11.551
Tech Adoption	2.0938	.896
Perceived Usefulness	35.507	6.196
Perceived Ease of Use	20.21	3.638
Social Media		
Social Media Use	105.51	14.667
Personality		
Emotional Stability	-.56	1.522
Conscientiousness	-1.76	2.387
Job Insecurity	8.736	3.586

The results of the regression analyses are shown in Table 3.

Table 3: Results of Regression Analysis for all Variables

<i>Dimensions</i>	<i>R²</i>	<i>B</i>
Generation	0.038	.552
Technology		
Tech Proficiency	0.014	-.131*
Tech Adoption	0.021	-.144*
Perceived Usefulness	-0.003	0.007
Perceived Ease of Use	0.016	-.136*
Social Media		
Social Media Use	0.003	0.052
Personality	0.055	
Emotional Stability		-0.431*
Conscientiousness		-1.252*

* $p < 0.05$ ^x $p > 0.05$ (no relationship)

As Table 3 indicates, the difference in generations did not have a significant impact on the dependent variable, therefore confirming our first hypothesis. The results also indicate that technological proficiency, level of tech adoption, perceived ease of use of technology, Emotional Stability, and Conscientiousness are all negatively related to job insecurity. Together, they account for 10.6 percent of the variance in job insecurity. Perceived usefulness of technology has no effect on job insecurity. When analyzed as a group or set, social media use did not predict a significant amount of variance in job insecurity. In order to determine whether there is a relative importance of the different variables within social media in predicting tech-related job insecurity, additional analyses was conducted with each of the variables. The results are shown in Table 4.

Table 4: Results of Regression Analysis for Social Media

<i>Dimensions</i>	<i>R²</i>	<i>B</i>
Social Media Use	0.047	
Activity		0.033
Frequency		0.005
Years		0.006
Adoption		-0.045
Engagement		0.187*
Perceived Usefulness		-0.051
Perceived Ease of Use		-0.091
Critical Mass		-0.071
Trustworthiness		-0.038
Intention to Use		1.07

* p<0.05

CHAPTER VI

DISCUSSION

A. Job Insecurity

Regardless of the theoretical explanation for the underlying reason for our hypotheses and the observed relationships, the study's results mainly carry a descriptive image of the Arab workforce. To begin with, job insecurity due to technological advancements was reported very low (average scores of 8 where results could range between 4 and 20, as shown in Table 2); the Arab workforce does not fear job loss due to technological advancements. This can be due to a number of reasons. First of all, technological advancements differ from country to country. Developed countries are more likely to be affected than underdeveloped countries and areas such as the Arab world. Therefore, the idea of technology and automation entirely taking over a person's job, in this area, ravaged by sociological, political, and economic uncertainty, is something that the Arab workforce may regard as farfetched, or at least something that doesn't need to be worried about for now. In fact, many researchers are now moving to calculate the pace of automation rather than trying to make precise predictions. We know that technology will "eventually" take over our jobs, but when exactly is this eventually? An explanation as to why job insecurity levels were low in our study, is that the respondents don't see any direct impact of technology on the jobs they were performing now, and therefore reported low chances of losing their jobs if they do not adapt to new technology. This opens up an opportunity for a future longitudinal study, which revisits the Millennials and re-assesses their perceived job insecurity after a decade or so has passed. A second reason is that the economic cost of sophisticated technologies such as automation of existing jobs is actually a big barrier of entry.

We've all heard about self-driving trucks, and we quickly jump to conclusions that millions of truck drivers will be rendered jobless. While a regular truck costs round \$100-150,000, self-driving cars will cost double. Taking America's truck fleet as a measure, this will require an investment of a trillion dollars. Nonetheless, our findings shed light on important aspects pertaining to technology and workers' perception on job insecurity.

B. Generational Differences

As hypothesized, generational differences had no effect on tech-related job insecurity due to technology. The literature is filled with studies on generational differences in values, attitudes, and behaviors, yet the general attitude is as follows: generation differences are not as prevalent as we think.

C. Technology

This study identified tech proficiency, the level of technology adoption, and the perceived ease of use of technology have a significant impact on job insecurity. Participants in this study lie on a continuum in how to use technology. And the higher on the continuum that person is, meaning the greater a person's reported technology proficiency, the less the person's reported tech-related job insecurity. Reported technological proficiency is a measure of a person's ability in using specific tools. Logically speaking, if you perceive yourself as proficient, and have good faith in your ability, then you would not perceive technology as being a threat. Also logically speaking, if you have already adopted technology on the job, and you use it on a daily basis, and are therefore comfortable using it, then you would not perceive it as a threat. Both trainings on using new technology as well incorporating it into the worker's everyday life are important considerations for organizations that are planning on

introducing new technologies in the future. Our results did not confirm our hypothesis related to perceived usefulness of technology and tech-related job insecurity. It might be argued that perceived ease of use, which refers to perception regarding the *process* leading to the final outcome (Cho & Sagynov, 2015), is more important to users than perceived usefulness, which is the perception of the outcome. This might be due to the fact that users have more of a role in the process, rather than the outcome, and therefore the process is actually more important and meaningful to them. Trainings and familiarization of workers with new technologies will go a long way in making sure employees do not view technology as a threat to their jobs, rather as a beneficial tool.

D. Social Media

The difference in results when running different analyses indicate the importance of not looking at social media, or any other measure for that matter, as one-dimensional. The multi-dimensionality aspect of social media use in our study proved to be critical. Even though our participants might have reported to have accounts on several social media sites, it does not mean that they are active on them. The multi-dimensionality of our social media measure allows us to differentiate between the number of accounts a person has, the frequency in which they use these accounts, and how. In this study, the “how” proved to be the most important dimension that positively impacted tech-related job insecurity. Our results showed that the more engaged a person was on social media, the more likely he was to fear technology. At a first glance, this idea must be surprising. But if we think about it, it makes perfect sense. The more a person engages on social media, the more they know what’s out there. The information is readily and widely available. Just one quick search on technology’s impact on jobs on social media might make it seem like the end of the world. In fact,

studies have been increasingly linking the use of social media to depression, anxiety, and lower self-esteem (Woods & Scott, 2016). Individuals should be proactive instead of reactive to what's out there. So, the next time you are reading an article on how technology is going to wipe out hundreds of jobs, make sure you are also reading the articles which say how technology is actually going to create a hundred other new jobs

E. Personality

Our study was able to show that there are different relationships of different significances between our personality dimensions and job insecurity. Our significant findings relate to the Conscientiousness and Emotional Stability dimensions. The traits were found to be a negative predictor of job insecurity. Meaning, individuals who are perceived by others as being skillful, competent, and continuously work towards self-improvement will less likely fear job loss due to technological advancements. Highly conscientious people also tend to persevere in the face of adversity, and so it would make sense that they would not experience job insecurity as much as people who do not exhibit these traits. Moreover, individuals who are generally calm in nature and have a strong control over their actions will also less likely fear job loss due to technological advancements. Generally, individuals with low emotional stability tend to have a sense of apprehension about future events, in the case of this study, the future of their jobs, and will therefore experience increased levels of job insecurity. The results of the analysis carry practical implications for organizations. It is important to make sure that within your selection process, you screen for the right personality traits. We come back to the topic on trainings, where trainings should not only involve training on using new technologies, but also focus on soft skills such as stress and time management, and other skills like planning.

CHAPTER VII

LIMITATIONS AND FUTURE RESEARCH

The present research has several limitations that should be noted and that can be addressed in future studies. First, the findings were based on a study that targeted the Arab world, however the split between countries was not equal. The sample has potential bias, and may not be generalizable. Therefore, future research should randomize their sample to include equal representation of Arabs.

Second, the study relied on self-assessment tools, such as the TPSA and the API. Social desirability bias is the tendency of individuals to present themselves in the most favorable manner (King & Bruner, 2000). Therefore, it is possible for respondents to have over-rated their proficiency in technology, as well as rated themselves in a more positive light, thereby presenting results that are much more optimistic than reality. Future research should employ further objective measures.

Third, the study is cross-sectional. It measures perceptions at a single point in time, right now. As stated previously, an explanation as to why job insecurity levels were low in our study, is that the respondents don't see any direct impact of technology on the jobs they were performing right now. This opens up an opportunity for a future longitudinal study, which revisits the Millennials and re-assesses their perceived fear of job loss after a decade or so has passed, where technology might have had a bigger impact than it does now.

Another way to examine job insecurity loss is to differentiate between industries, and to go into more details like job level and job type. As technology

becomes more powerful, organizations will rely less on some kinds of workers, such as blue-collar workers, and workers that perform routine and mundane tasks, which can easily (and already have started to) be automated. However, in most of the industries that we examined, advancements in technologies and the arrival of new systems and applications do not mean the end of people's jobs. An interesting future study would be a comparative one measuring job insecurity loss of workers from different industries, as well as workers at different hierarchical levels of the organization.

CHAPTER VIII

CONCLUSION

What this study shows, more than anything, is the uniqueness of the Arab world. Even though we read and hear so much about the wave of technology and the negative feelings and attitudes associated with it, this view is not a universal one. In a nutshell, change is coming. But that change is relative. Furthermore, change will not come in the form of a battle between humans and technology. Rather, these two elements are, and will always be interdependent.

From an organization standpoint, companies must do their best to be able to manage the transition that the future holds. After all, it is not only employees that will become redundant if they do not adapt to technology, but companies as a whole as well. Any new IT that will be introduced to the company has to be accompanied by trainings, formal and informal. Employees need to see the value of technology and how positively this will impact their work, rather than see it as a threat to their stability and security. From an individual standpoint, your ability keep up with the latest technology will put you ahead of the game. Individuals can stay up to date by educating themselves about new technology, finding the tools that are most relevant to them, familiarizing themselves with the available products, existing jargon, and most recent developments in their field.

APPENDIX

Age *

- 18 - 22
- 23 - 41
- 42 - 53
- 54 - 70
- More than 70

Gender *

- Male
- Female

Please choose the appropriate response for each item:

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I am humble					
I am studious					
I am entertaining to those around me					
I have depth, as a person					
When life is good, it is because God meant it as such					
I am fair to/with others					
I am skillful					
I am fun-loving					
I am wise					
I encourage others for the better					

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I am successful at my work/study					
I laugh a lot					
I abide by my religious duties					
I like to teach others					
I am committed to my work/study					
I am a sociable person					
I am inquisitive					
I come from a family of good social standing					
I am practical					
I make others laugh					
I am intelligent					
I love my nation					
I am respectful					
I am sophisticated					
Preserving my honor is very important to me					
I am altruistic					
I am rational in what I do					
	Strongly	Disagree	Neutral	Agree	Strongly

	Disagree				Agree
I am a conservative person					
I feel with others					
I am energetic					
I am a modern person					
I think realistically about situations					
I strike a balance between openness and conservativeness					
I am tolerant of others' opinions					
I have a charismatic presence					
I always have creative ideas					
I am pleasant to be around					
My comments are well thought of					
I sometimes like it when others feel sorry for me					
I am tyrannical					
I tend to make others feel guilty for not meeting expectations					
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

I am a greedy person
I am exploitative
I am annoying
I am secular
I am an anxious person
I am depressed
I am impulsive in my behaviors
I feel internal conflicts between myself and society
I am a moody person
I get angry easily
I get bored easily
I am a stubborn person

Please choose the appropriate response for each item:

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I feel confident that I can send an email to a friend					
I feel confident that I could create a distribution list to send an email to several people at once					
I feel confident that I can send a document as an attachment to an e-mail message					

I feel confident that I can keep copies of outgoing messages that I send to others					
I feel confident that I can use an Internet search engine (eg: Google) to find web pages related to my subject matter interests					
I feel confident that I can keep track of Web sites I have visited so that I can return to them later. (An example is using bookmarks.)					
I feel confident that I can find primary sources of information on the Internet that I can use in my work					
I feel confident that I can use the computer to create a slideshow					
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I feel confident that I can use technology to collaborate with my colleagues					
I feel confident that I can describe 3 software programs that I would use in my line of work					
I feel confident that I could use online tools to collaborate with my colleagues from a distance					
I feel confident that I could use mobile devices to					

connect to others for my professional development					
I feel confident that I could use mobile devices to access learning activities					
I feel confident that I could download and listen to podcasts/audio books					
I feel confident that I could download and read e-books					
I feel confident that I could download and view streaming movies/video clips					
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I feel confident that I could send and receive text messages					
I feel confident that I could transfer photos or other data via smartphone					
I feel confident that I could save and retrieve files in a cloud-based environment					

For what length of time per day do you use a computer for work? *

- I don't use a computer
- Between 0 to 3 hours
- Between 3 to 6 hours
- All day

In your line of work, are there specific related technologies (such as systems, programs, and applications) that have appeared in the past few years? *

- Yes
- No
- I don't know

If you answered yes to the previous question, can you please specify which new technologies (such as systems, programs, and applications) have recently appeared?

Please write your answer here:

To what extent have you adopted the new technologies in your current job? *

- To a great extent
- Somewhat
- Very Little
- Not at all

To what extent do you feel comfortable using the new technologies? *

- To a great extent
- Somewhat
- Very Little
- Not at all

Did your organization provide training for using new technologies? *

- Yes
- No

To what extent have you adopted new technologies for personal use outside of work? *

- A very large extent
- To a moderate extent
- To a small extent
- Not at all

Why have you adopted these technologies for personal use? *

- I like to stay up to date with what's happening
- I am curious
- As a hobby
- I intend to switch careers and this is required of me
- To be able to get extra work/freelance aside from my current job
- I have not adopted new technologies
- Other:

We refer to social media (SM) as websites and applications that enable you to share and create content and interact with others. Examples of SM include but are not limited to: Facebook, Instagram, Google+, LinkedIn, Snapchat, Tumblr, Twitter, etc.

Do you have an account with the following social media platforms?

Please choose all that apply:

- Facebook
- Instagram
- LinkedIn
- Twitter
- Google+
- Pinterest
- Youtube
- Other:

How often do you use these tools? *

- Daily
- Few times a week
- Few times a month
- Rarely
- Never

How long have you been using these tools? *

- More than 5 years
- 3 to 5 years
- Less than 3 years
- Less than a year
- Never

If you are currently NOT active on these tools, how likely are you to start being more active within the next 2 years? *

- Not likely
- 50/50 chance
- Very likely
- I'm already active

Please rate each statement and indicate the frequency of your engagement on social media. *

Never Rarely Occas- Often Very

	Never	Rarely	Occasionally	Often	Very Often
How often do you read other's posts or tweets or updates					
How often do you post own messages or tweets or updates					
How often do you "Like" other's posts or links					
How often do you "Follow" or "Friend" someone					
How often do you comment on other's posts or tweets or links					
How often do you respond to your own posts or tweets or links					
How often do you share other's posts or links					
How often do you share other's photos or (video) links					
How often do you share own photos or videos / links					

Please rate each statement and indicate to which extent you agree with it. We refer to social media tools defined previously as SM*

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I find SM easy to use					
I find it easy to get these tools					

to do what I want to do					
It is easy to become skillful at using these tools					
Interaction with these tools are clear and understandable					
Using SM enables me to re-connect with people that matter to me					
I find SM useful in my personal life					
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I find SM useful in my professional life					
Using SM makes it easier to stay in touch					
Using SM makes it easier to stay informed with my friends and family					
Using SM makes it easier to stay informed with my colleagues					
SM tools is popular among people in my age and area					
A good number of my friends have SM accounts					
People from my work are on SM					
I trust SM for my information of my profiles					
I feel safe posting on SM					

I intend to use SM to communicate with others
I intend to use SM to get reconnected with people that matter to me
I will continue to use SM for social networking

Please choose the appropriate response for each item:

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
My job would be difficult to perform without these new technologies					
Using new technologies gives me greater control over my work					
Using new technologies improves my job performance					
New technologies allow me to accomplish my tasks more quickly					
Using new technologies allows me to accomplish more work than would otherwise not be possible					
Using new technologies enhances my effectiveness on the job					
Using new technologies increases my productivity					
Using new technologies makes it easier to do my job					
Overall, I find new					

technologies to be useful in my job
I often become confused when I use new technologies
Strongly Disagree Disagree Neutral Agree Strongly Agree
I make errors frequently when I use new technologies
Interacting with new technologies is often frustrating
I need to read a manual or consult with someone when using a new technology
I find new technologies flexible and easy to interact with
Overall, I find new technologies easy to use
I feel very committed to my line of work after adopting new technologies
Technological changes have led to greater opportunities of work for me
The scope of my job has increased
Technological changes have made it easier for me to switch jobs

Technological changes have made it easier for me to switch careers					
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I feel confident that my skills and competencies have improved after adopting new technologies					
I will become redundant if I don't adopt new technologies					
It will be difficult for me to find a new job if I do not adopt new technologies					
I will lose my job if I do not adopt new technologies					
Technology is limiting my advancement of work					
I do not enjoy learning new programs					
I do not enjoy hearing about new technologies					
I find technology difficult to learn					

Please rate the following statements based on the impact of technological advancements on your job. *

Please choose the appropriate response for each item:

Strongly	Somewhat	Partly	Somewhat	Strongly
----------	----------	--------	----------	----------

	Disagree	Disagree	Agree & Partly Disagree	Agree	Agree
Chances are, I will lose my job soon					
I am sure I can keep my job					
I feel insecure about the future of my job					
I think I might lose my job in the near future					

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