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Job Security, Digital Skills and Competencies in Banking Sector; Are They Related?

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Abstract

Background & Purpose: The job security has a direct impact on the employee's motivation and effectiveness. Therefore, the main purpose of this study is investigating the effect of digital skills and competencies on job security in the banking sector.

Methodology: This survey is based on data from Maskan Bank in Iran, designing on a representative sample of 361 employees. The structural equation model using PLS software used to analyze research hypotheses designed from literature review.

Findings: Our findings show that digital skills and competencies positively correlated with job security. However, the digital skills have a stronger effect than digital competencies. Among all skills, computer skills and communication competencies had the strongest relation with job security. However, our findings also show that there is not significant correlation between content creation and data security competencies with job security, which needs further investigation.

Conclusion: Even though the impact of digital skills and competencies on employability has been studied previously, the relationship between these factors and job security not been considered. Thus, this research could be useful to develop body of knowledge in human computer interaction issues and mangers better understanding of information technology effects on employee's perceived job security in workplace.

Keywords: Digital Skills, Digital Competencies, Job security, Banking Sector

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Introduction

ICTs and Internet have influenced everything including business and working conditions (Chiang and Suen, 2015). Therefore, organizations and firms have to go beyond automation of existing processes and changing the whole business processes and products and services to meet the expectations of both internal and external customers. In this situation, organizations that are negligent of digitalization will eventually fail. In addition, banks as the more tech-savvy businesses are considering digitalization to gain more competitive advantages, delivering values, attracting customers, and decreasing services delivering expenses. In fact, digitalization of banking services has caused banks to experience excess human resources and try to lay them off to reduce their costs. Also by advancing digital banking, most of the traditional services that were done by traditional staff have changed and new employees require to have necessary digital skills and competencies. In the absence of these skills, most employees feel that their job security is at stake (Walter, 2015). To deal with these conditions, workers have to enhance their digital skills and competencies as a result their job positions are more secured. Given the long-run consequences of job insecurity, managers have to identify its causes in order to reduce the employee's fear of losing their position. In this regard, Kennedy (2007) has acknowledged having some initial skills, can directly affect people's capability to get hired, and at the recession and economic fluctuations periods, it leads to higher level of perceived job security.

Lissitsa and Chachashvili (2016) quoted from previous studies: "there is close relationship between job insecurity and important socio-economic, labor market, psychological, organizational factors (De Bustillo & De Pedraza, 2010; Keim, Landis, Pierce, & Earnest, 2014; Krause, Obschonka, & Silbereisen, 2015; Naswall & De Witte, 2003)". Also many studies have examined the relationship between the other elements of organizational behavior including organizational culture, structure, environment, atmosphere and leadership style with job insecurity (De Witte, 1999; Greenhalgh & Rosenblatt, 2010; Cheng & Chan, 2008; Sverke, Hellgren, & Naswall, 2002). For example, in this regard, specifically, we can refer to the studies of Sverke et al. (2002) and Cheng & Chan (2008) resulted that "generally, the job insecurity was negatively correlated with wellbeing, and the other factors such as employee psychological health and physical health, trust, job performance, job satisfaction, job involvement, and organizational commitment, in particular" (Lissitsa and Chachashvili, 2016).

However, the effect of information technology skills and digital competencies on job security has not yet studied adequately and there is deep research gap in this area. Two research carried out in this field; the first is the study of Lissitsa and Chachashvili (2016), where using human capital theory and uncertainty reduction theory, the impact of internet use, information literacy, as well as information seeking behavior on job insecurity is studied among Israeli residents. The second is the Nam (2019) analyses the correlation between perceived job insecurity, technology usage, and long-term projection on the transition toward the Fourth Industrial Revolution. This research results indicate that employees' perceived job insecurity is highly related with technology usage and long-term perceptions of job and work. The current study will investigate the relationship between the digital skills and competencies and perceived job security in the unique Iranian banking context.

Maskan Bank started its activity on January 15, 1939 with the establishment of "Mortgage Bank of Iran" as a specialized bank in housing and construction. Considering the electronic and internet services provided by Maskan Bank, it seems, staff with information and digital skills is needed more. In fact, by looking its employee's database, it seems the staff with high

information and digital skills and competencies are more valuable to the bank and these employees are less likely to be fired and thus they perceive higher job security.

The paper starts with an explanation of the digital skills and competencies. Then the literature regarding job security will be reviewed. Afterwards, the theoretical background related to the digital skills, digital competencies and job security will be presented and research hypotheses has been designed. Finally, the conceptual model, research methodology and data analysis will be followed by the findings and conclusions, as well as study limitations and future research topics.

Literature review

Digital Skill

'Skills' refers the skills to use knowledge and apply know-how to doing tasks and solving problems. The definition of digital skills has extended incrementally. The first definitions of ICT or computer literacy focused on technical, operational and procedural knowledge about computer usage, while later definitions considered cognitive, attitudinal, social and emotional skills. Over time, a range of overlapping terms such as digital literacy, computer literacy, internet literacy and media literacy has emerged (Ala-Mutka, 2011).

Ferrari (2013) defines digital skills as "the key capability to analyze and evaluate digital information, problem solving through applying digital tools, content creation and entertainment, and et cetra." From Nordhoug's (1993) perspective, digital skills can be seen as a combination of abilities, knowledge (work-related) and individual skills (Holtkamp, 2015). Ilomäki and et al. (2011) describes digital skills as the ability of resuming, evaluating, storing, producing, presenting and exchanging information, communicating and collaborating on online collaboration networks. Hargittai (2002) defines digital competency as the ability to use computer and internet efficiently and effectively (Kazemi, 2016). Deursen van Dijk (2010) classified digital tacits to operational (hardware and software abilities), information (skills required for searching, selecting, and processing information on computers and network resources), and strategic skills (the ability to use computers and network resources as a tool for specific purposes in the community). Harijita (2003) describes digital skills as the ability to use computers and the internet efficiently and effectively. Barrera and Lamprecht (2012) divided employees' digital skills into Information Literacy Skills, General Computer/File management Skills, and Internet/Online Communication Skills, which is used in this research to measure the digital skills of employees because of its simplicity and comprehensibility.

Digital Competence

The competency is defined as "a combination of knowledge, skills and attitudes" (Biggins, et al. 2016). Digital Competency is identified as one of the eight critical competencies for lifelong learning by the European Union, briefed as "involving the confident and critical use of Information Society Technology (IST) for work, leisure and communication" (Ala Mutka, 2011). Gallardo and et al (2015) by reviewing of 73 articles published between 1990 and 2014 show that "digital competence is a multi-faceted concept that has emerged from several backgrounds. Not yet a stable concept, there are still no clear guidelines for evaluating it. While some perceive digital competence as the technical use of ICT, others define it more broadly as knowledge application or 21st century skills".

From the Ilomäki and colleagues view, "the digital competence is the most recent concept describing technology-related skills. The digital competence is an emerging concept and related to the development of technology as well as the political aims and expectations for citizenship in a knowledge society. It consists of a variety of skills and competences, and its scope is on several areas: media and communication, technology and computing, literacy, and information science. Digital competence consists of 1) technical skills to use digital technologies, 2) abilities to use digital technologies in a meaningful way for working, studying and for everyday life in general in various activities, and 3) abilities to critically evaluate the digital technologies, and 4) motivation to participate in the digital culture" (Ilomäki, et al. 2011). Ferrari (2012) acknowledges "the digital competency is a set of knowledge, skills, and attitudes required when using information and communication technology and digital media to perform tasks". Ala Mutka (2011) defined digital competency "as knowledge and skills for using digital tools and media; advanced skills and knowledge for communication and collaboration, information management, problem-solving, learning and meaningful participation, attitude to use strategic skills in a cross-cultural, critical, creative, responsible and independent manner". Redcker (2012) considers digital competency "as a new literacy that goes beyond the sum of different literacies (internet literacy, information literacy and media literacy)". Deloitte Institute (2017) has classified digital competencies into three groups including "knowledge, skills and abilities". In this research we used A Framework for Developing and Understanding Digital Competence in Europe (Ferrari, 2013) which divides digital competencies into five categories including: "Information Processing (identify, locate, retrieve, store, organize and analyze digital information, judging its relevance and purpose), Communication (communicate in digital environments, share resources through online tools, link with others and collaborate through digital tools, interact with and participate in communities and networks, cross-cultural awareness), Content Creation (Create and edit new content (from word processing to images and video); integrate and re-elaborate previous knowledge and content; produce creative expressions, media outputs and programming; deal with and apply intellectual property rights and licenses), Safety (personal protection, data protection, digital identity protection, security measures, safe and sustainable use) and Problem Solving (identify digital needs and resources, make informed decisions on most appropriate digital tools according to the purpose or need, solve conceptual problems through digital means, creatively use technologies, solve technical problems, update own and other's competence)".

Job Security

Today, perceived job security and insecurity have become a topic of interest to researchers. Blackmore (2011) in her research, quotes from previous studies that "changes in the economic, labour market, technology and politics since the 1980s have resulted in an increase in perceptions of job insecurity (Clarke, 2007; De Cuyper, Bernhard-Oettel, Bernston, De Witte & Alarco, 2008; Silla, De Cuyper, Gracia, Peiro & De Witte, 2009). Job insecurity is one of the most significant stressors in modern working life (De Cuyper et al. 2008)". Also, Job security is one of the key fears of the workers, which could take a lot of their energy, so it is sometimes problematic for the organizations.

Borg and Eliseur (1992) define job security as "the importance of subjective fears of job loss and the difference between cognitive job insecurity (estimated job loss probability) and emotional job insecurity (fears of losing one's job)". Herzberg (1968), refers job security as the

condition in which the firm prepares employees with solid jobs. Job security is about being aware of a suitable job and ensuring its continuity in the future, and the lack of threatening factors in the right job and refers to one's expectations of a desirable future job such as long-term career opportunities. Richter (2018) defines job security as the continuous assurance of the job and earnings of an employee. Shoss, (2017) reviewed the previous definitions of job security and defined it "a threat to the continuity and stability of employment as it is currently experienced".

There are many Job (In)Security Measurement Scales in the literature (Caplan, Cobb, French, Van Harrison, & Pinneau, 1975; Johnson, Messe, & Crano, 1984; Ashford, Lee & Bobko, 1989; Hellgren, Sverke & Isaksson, 1999; De Witte, 2000; Pienaar et al. 2013; Barnard, 2014). In this research we used the Job Security Scale with the cognitive and affective dimensions including positive and negative items to each dimension which developed and validated by Barnard (2014).

Theoretical background and hypotheses

Digital Skills and Job Security

We can interpret digital skills and job security relationship with *technological change and automation.* The studies mention that one of main reasons for job displacement is technological change. Job security tends to reduce in response to technological change that lead to economic and employment decline, reducing demand, and the outsourcing of workforce (Roskies & Louis-Guerin, 1990; Jiang, Probst, & Sinclair, 2013; Lübke & Erlinghagen, 2014; Bhargava, Bester & Bolton, 2021). Organizations with instant changes in strategies and procedures have to retrain their employees continusely. Training is costly, rather more so for workers who are effortful to retrain. Therefore, businesses in which the establishment of technology is respectively ongoing or which are dealing with fast technological ameliorations are probably to change their employees from those with the expensive training to those with an inexpensive training (Bartel and Sicherman, 1998). In constant with business and technological trends that menace manual job, blue-collar employees report higher levels of job insecurity (Kalleberg, 2011; Keim et al., 2014). Also, studies (Naswall and De Witte,2003; Dandalt, 2021). show that manual workers and less professional employees, more often perceive themselves as job-insecure. Digitization, ever-intelligent computers and equipment are doing ever-more human jobs– catching, substituting or removing the need for more categories of recruitment. The technologies that digitized thousands of rubric blue-collar jobs (such as clerical work) and manufacturing jobs (such as assembly-line work) are now instantly exceeding on more intricate routine and non-routine works (Foundation for Young Australians, 2017).

Arkani (2009), in his research, introduced the understanding and application of information technology as one of the foremost aspects of employees perceived job security. Also, in another study, employees in Malaysia expressed their highest concern for job security and acknowledged their need for digital skills to have a more secure job. Employees with the requisite skills in the field of information technology and digital in general appear to be experiencing greater job security. In this regard, digital skills play a critical role in the organizational world, and the results of some research, such as Lee's (2004), have shown that employees who use these skills provide the basis for job enrichment growth and performance improvement (Pirzad, 2013).

Lee, et al. (2018) reviewed the antecedents of job security over the past two decades showed that "the organizational context and its employee-centered practices, individual circumstances, and individual differences all contribute to job insecurity perceptions. They emphasized that, automation and new technological changes continue to change the nature of work, contributing to the insecurity of not just jobs that require less skill but also those that involve more complicated, professional skills. Therefore, continued research needs to investigate the extent to which new contextual changes contribute to job insecurity and to propose ways to counteract or help people cope with their perceptions of uncertainty and insecurity". Therefore, the question of whether digital skills can be a factor in job security has not been studied and there is a general research gap in this area.

As mentioned before, in this research we used Barrera and Lamprecht (2012) classification from digital skills including Information Literacy Skills, Computer Skills, File management Skills, and Internet/Online Communication Skills. Therefore, the main first research hypothesis is:

Hypothesis 1. There is a close relationship between the digital skills and employees perceived job security.

- There is a close relationship between informational skills and employees perceived job security.
- There is a close relationship between computer skills and employees perceived job security.
- There is a close relationship between internet skills and employees perceived job security.
- There is a close relationship between file Management skills and employees perceived job security.

Digital Competencies and Job Security

We can analyze digital competence and job security relationship with *competency based management* and *individual's sense of mastery*. Competency-based management emphasizes that employability, career progression, high performance, and job retention are significantly influenced by technical and behavioral competencies of employees (Tripathi and Agrawal, 2014). Therefore, it seems that the desirable status of employees' digital competence can be effective in their performance (Toosi, Bakhtiary and Salehi, 2020). The high performance of workers can also be one of the reasons for sustainability and no fear of getting laid off. Individual's sense of mastery theory suggests that employees have better control over themselves and their jobs when they have the skills and competencies needed to deal with organizational and occupational changes, especially technological advancements and as a result, they perceive higher job security (Ashford, Lee and Bobko, 1989; Mereish and Goldstein, 2020).

Accordingly, the British Accounting and Finance Association (BAFA) acknowledged that all workers need some degree of digital competence to have good performance. When employees have the required minimum digital competencies, they can work with security awareness, use digital tools in the workplace more securely, can demonstrate better performance, and earn customer satisfaction (Nyikes and Baimakova, 2016). However, in recent years, the question of whether digital competence can be a factor in job security has not been studied and there is a general research gap in this area.

As mentioned before, in this research we used the Framework for Developing and Understanding Digital Competence in Europe (Ferrari, 2013) which divides digital competencies into five categories including: "Information Processing, Communication, Content Creation, Safety and Problem Solving". Therefore, the main second research hypothesis is:

Hypothesis 2. There is a close relationship between digital competencies and employees perceived job security.

- There is a close relationship between information processing competencies and employees perceived job security.
- There is a close relationship between communication competencies and employees perceived job security.
- There is a close relationship between content creation competencies and employees perceived job security.
- There is a close relationship between information security competencies and employees perceived job security.
- There is a close relationship between problem solving competencies and employees perceived job security.

It should be noted that decision rules from Jarvis, MacKenzie and Podsakoff (2003) used for determining whether a constructs are reflective in order to determine what the appropriate relationship is between their measures and their constructs in this research.

Conceptual Model

Using the definitions provided for digital skills and digital competencies and hypotheses designed based on theoretical background and research literature, we designed the initial research model that is seen in Fig. 1 to explain how the digital skills and competencies affect employees perceived job security.

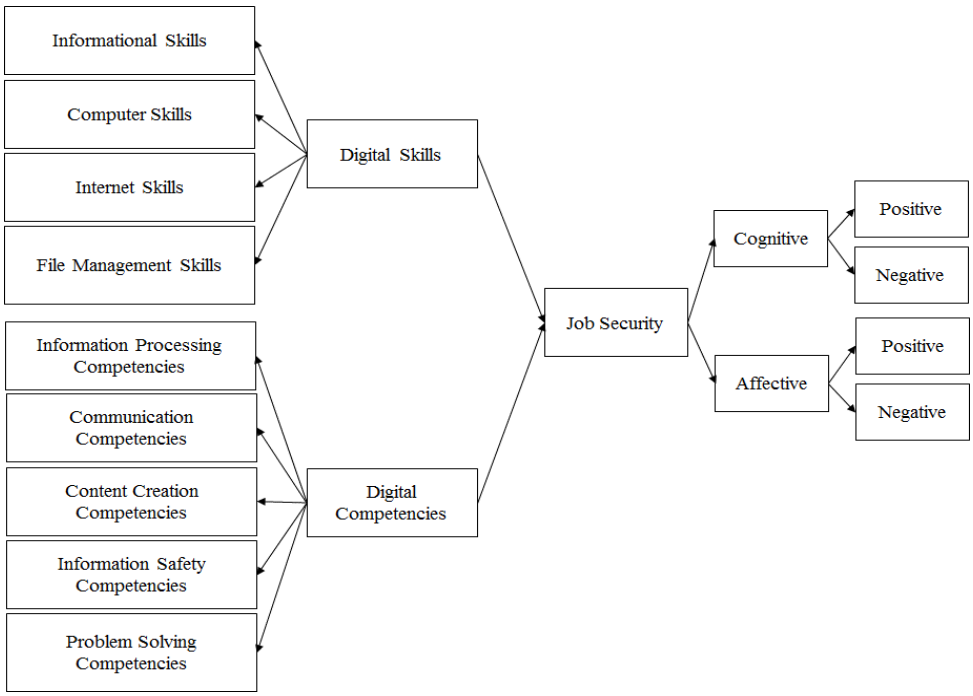


Figure 1. Conceptual Research Model

Methods

Methodological approach

The quantitative survey approach is employed, to help build insight and understanding of the digital skills and competencies affecting employee's perceived job security in banking context – as showed in our conceptual research framework (see Fig. 1). Therefore, digital skills and digital competencies are the independent variables in this research and job security is the dependent variable.

Population and sampling method

The data used in this study were collected since March to July 2019 from the Maskan Bank of Iran with 5051 employees in the west, east, center and head offices in Tehran based on the statistics of Bank's human resources department. The social survey samples are based on random selection and the sampling method enables generalization of the results to the entire population. From total employees, 361 respondents were filtered through sample size determination using Krejcie and Morgan (1970) table and questionnaires were distributed among the employees through stratified random sampling.

Measurements

The measures were adapted primarily from previously validated questionnaires. To measure digital skills, the 34 item questionnaire adopted from Barrera's (2012) research, to measure digital competencies the 25 item questionnaire, adapted from Abdulteeef's research (2017) and to measure job security, the Job Insecurity Scale including 17 item with sub dimensions of affective and cognitive job security developed by Barnard (2014) have been used. Questionnaire were distributed to the respondents by the researchers. The face to face sessions was conducted with the respondents to gauge their understanding of the instrument and minor modifications were made, i.e. some questions were eliminated and questions that seem similar together as the research team and respondents point of view, were merged in appropriate with the intent of this research. The items had been based on a 5-point Likert-type scale, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The introductory questionnaire was pilot tested distributing a convenience sample of 30 participants from bank. The results of the pilot test were evaluated using Cronbach's reliability analysis. Cronbach's alpha indicator was used to assess the initial reliability of the scales. The standard lower bound for Cronbach's alpha is 0.6 (Hair, Anderson, Tatham, & Black, 2006). As seen in Table 1. the Cronbach's alpha values adjusted from 0.75 to 0.93, which demonstrated an acceptable rate of reliability.

Table 1. Cronbach's Alpha Coefficient (Tool Reliability)

Measures	Cronbach's Alpha
Informational Skills	0.93
Computer Skills	0.93
Internet Skills	0.86
File Management skills	0.88
Information Processing Competence	0.88
Communication Competence	0.93
Content Creation Competence	0.75
Information Security Competence	0.90
Problem Solving Competence	0.90
Job Security	0.88

Data analysis

Descriptive statistics including mean standard deviation, measurement error, and etc., were used to describe the collected data. To test the hypotheses, a structural equation modeling using partial least squares (PLS) method was conducted. Three criteria including standardized factor loadings (were greater than 0.7.), the average variance extracted (was greater than the 0.5 threshold) and the composite reliability (was greater than the cutoff value of 0.7.) were used to evaluate convergent validity (Fornell & Larcker, 1981). Each research construct of the 35 structural models conforms to the above three criteria, indicating adequate convergent validity for this exploratory study. To assess discriminant validity, the root square of AVE and all reflective inter-construct correlations were compared (Sanchez-Franco & Roldan, 2005). Because the square root of the AVE was greater than all the interconstruct correlations, this result provides evidence of sufficient discriminant validity.

Results

Descriptive statistics

A total of 361 valid responses were collected. The majority (62%) of the respondents were aged above 25, with at least a Bachelor's degree and 10 years of work experience. The sample consisted of 63% (226) men and 37% (135) women. Table 2. presents the details of the descriptive statistics of the research constructs.

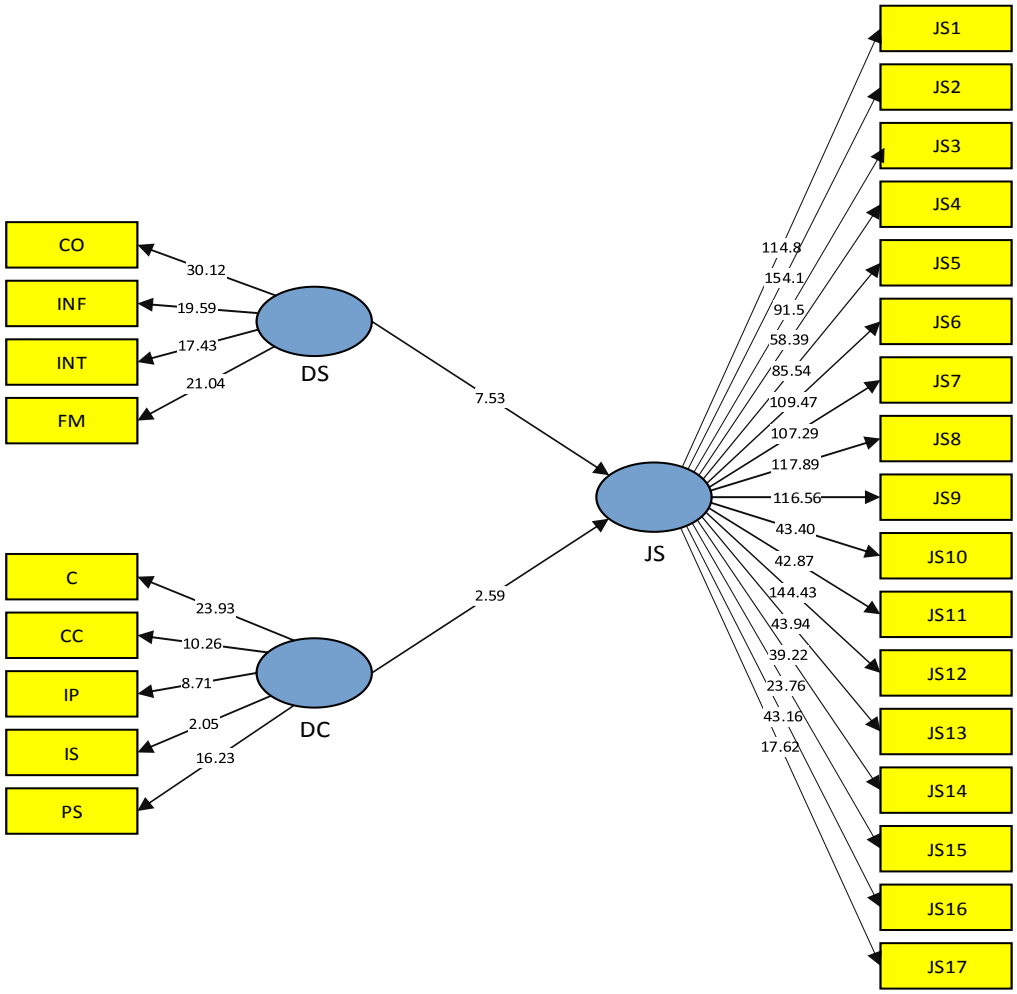
Table 2. Research constructs descriptive statistics

SD	Mean	Sample	Measures
Informational Skills	361	2.7014	0.95279
Computer Skills	361	3.1097	0.91563
Internet Skills	361	2.6648	0.97451
File Management skills	361	3.3323	0.88985
Information Processing Competence	361	3.8864	0.84917
Communication Competence	361	2.9301	0.97010
Content Creation Competence	361	2.8504	0.88599
Information Security Competence	361	3.9548	0.83117
Problem Solving Competence	361	2.6657	0.76984
Job Security	361	3.0922	0.93861

Hypotheses Test

Main hypotheses test

The results of the PLS analysis of the structural model for the main research hypothesis showed in Figure 2. and Table 3. As expected, generally digital skills ($\beta = 0.409$, $t = 7.531$, $p < 0.05$) and digital competencies ($\beta = 0.144$, $t = 2.589$, $p < 0.05$) have significant positive effects on employees perceived job security, supporting the hypotheses 1 and 2.



JS= Job Security, DS= Digital Skills, DC= Digital Competencies, IS= Informational Safety Competence, FMS= File Management Skills, INF= Informational skills, CO= Computer Skills, INT= Intemet Skills, IP= Information Processing Competence, C= Communication Competence, PS= Problem Solving competence, CC= Content Creation competence

Figure 2. Results of structural model with significant coefficients for main hypotheses

Table 3. Main hypothesized path coefficients

Hypothesis	Causal relationships between research variables	Symbol	Path coefficient (β)	Meaningfulness (T-Value)	Test Result
First	Digital Skills and Job Security	DS ---JS	0.409	7.531	Significant
Second	Digital Competence and Job Security	DC ---JS	0.144	2.589	Significant

Sub-Hypotheses Test

The results of the PLS analysis of the structural model for the main research hypothesis showed in Figure 3. and Table 4. There is a significant relationship between informational skills ($\beta = 0.175$, $t = 3.665$, $p < 0.05$), computer skills ($\beta = 0.224$, $t = 4.550$, $p < 0.05$), internet skills ($\beta = 0.107$, $t = 2.483$, $p < 0.05$) and file management skills ($\beta = 0.175$, $t = 3.665$, $p < 0.05$), with employees perceived job security, supporting the sub-hypotheses 1, 2, 3 and 4 as components of digital skills.

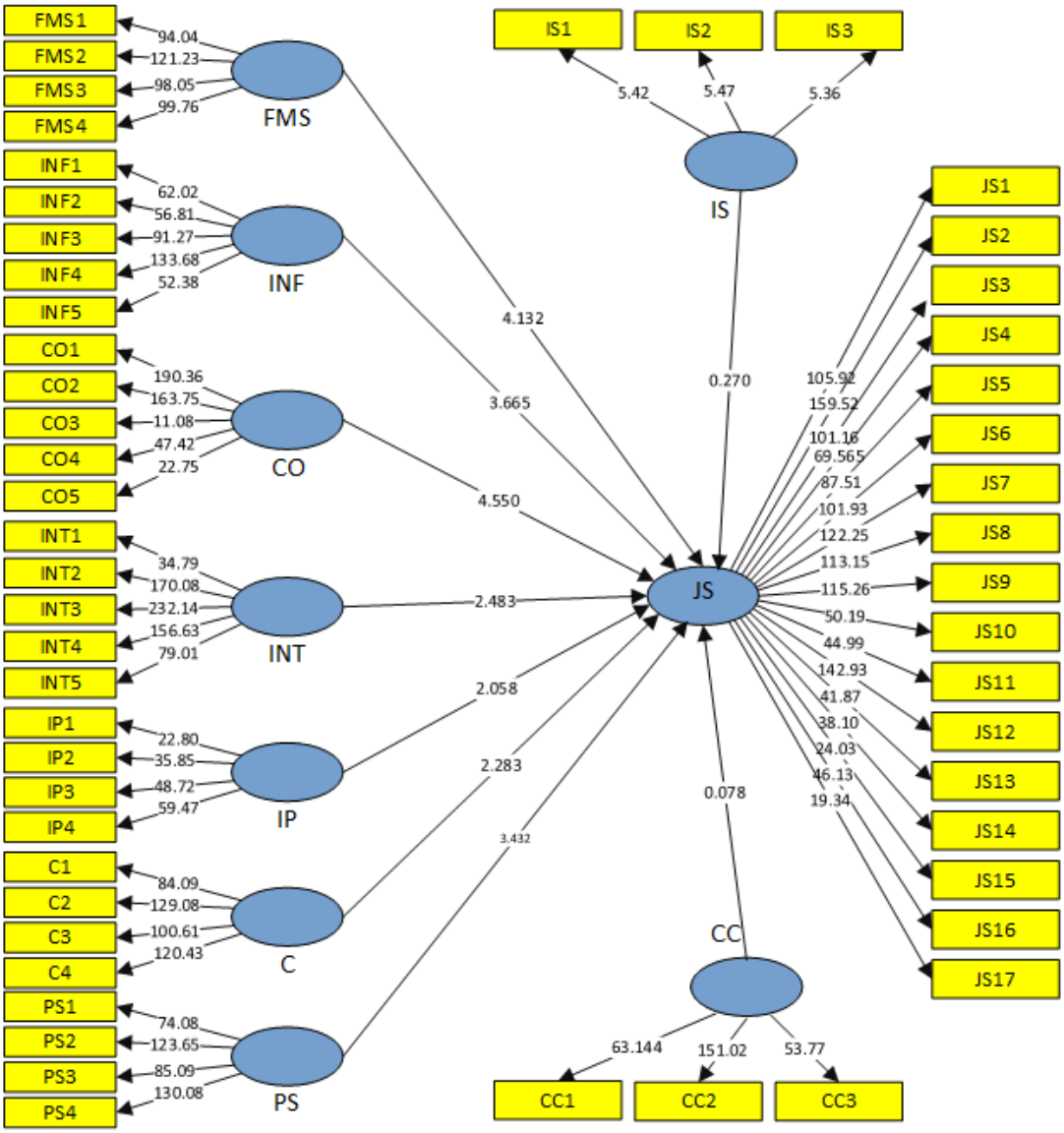


Figure 3. Results of structural model with significant coefficients for sub-hypotheses

Also structural model shows that, there is a significant relationship between information processing competence ($\beta = 0.083$, $t = 2.058$, $p < 0.05$), communication competency ($\beta = 0.113$, $t = 2.203$, $p < 0.05$) and problem solving competence ($\beta = 0.107$, $t = 2.483$, $p < 0.05$) with employees perceived job security, supporting the sub-hypotheses 5, 6, and 9 as components of digital competencies.

Contrary to our expectation, PLS analysis of the structural model shows that, there is no significant relationship between two variables of content creation competence ($\beta = 0.003$, $t = 0.078$, $p < 0.05$) and information safety competence ($\beta = 0.010$, $t = 0.207$, $p < 0.05$) with employees perceived job security in banking context, not supporting the sub-hypotheses 7 and 8 as the other components of digital competencies.

Table 4. Sub-hypothesized path coefficients

Hypothesis	Causal relationships between research variables	Symbol	Path coefficient (β)	Meaningfulness (T-Value)	Test Result
First	Informational Skills and Job Security	INF ---JS	0. 175	3. 665	Significant
Second	Computer Skills and Job Security	CO ---JS	0. 242	4. 550	Significant
Third	Internet Skills and Job Security	INT ---JS	0. 107	2. 483	Significant
Forth	File Management Skills and Job Security	FM ---JS	0. 185	4. 132	Significant
Fifth	Information Processing Competence and Job Security	IP ---JS	0. 083	2. 058	Significant
Sixth	Communication Competence and Job Security	C ---JS	0. 113	2. 203	Significant
Seventh	Content Creation Competence and Job Security	CC ---JS	0. 003	0. 078	Not Significant
Eighth	Information Security Competence and Job Security	IS ---JS	0. 010	0. 270	Not Significant
Ninth	Problem Solving Competence and Job Security	PS ---JS	0. 213	3. 432	Significant
First	Informational Skills and Job Security	INF ---JS	0. 175	3. 665	Significant

Conclusions and remarks

With the rapid development of information technology and digital applications in businesses and their deep impacts to all aspects of daily and working life of people, it was necessary to identify and explicate their effects on employee's attitudes and perceptions. Therefore, this study, for the first time, examines the impact of digital skills and competencies on employee's perceived job security. The key findings from the results are discussed as follows.

First, generally there is a significant relationship between digital skills and competencies with employee's perceived job security as expected. As Heinz (2016), and others noted, employees who are skilled in the field of information technology and digital skills, as a whole, seem to experience greater job security. The employment and working conditions in organizations have changed over time and require necessary capabilities to work with digital tools. Thus, having such competencies can help well-performing employees to maintain their job positions in the banking system Also, Ferari (2012) acknowledged that digital competence is a set of knowledge, skills, and attitudes required when using information and communication technology and digital media for doing tasks. The employees must have the necessary digital competencies to be able to focus on the quality and quantity of services provided, and to reach greater customer satisfaction as the technology evolves and changes in service delivery systems. If employees have the necessary competencies, they can gain positive opinions of managers with the efficiency and effectiveness that they show and have an acceptable score in performance evaluations of their managers. If managers are relatively satisfied with employee's performance, they are also more likely to retain and grow employees in the bank system. Therefore, having the necessary digital competencies can make employees play a more important and essential role in the bank and retain their positions.

According our basic research findings, the digital skills have stronger impact on employee's perceived job security than digital competencies. This could be because digital

skills such as the working with computer, internet usage, information searching and etc. in Iranian organizations as a developing society and economy are well understood and applied, but the importance of digital competencies such as communication skills, Problems solving and etc. as part of 21st Century Skills are not well known and learned (See Lissitsa and Chachashvili, 2016).

While, the sub hypothesis 8 testing indicate that, there is no significant relationship between information safety competence and employee's perceived job security in banking context. In other word employee's capability to provide information safety cannot assure his/her perceived job security. It may the main reason for this issue that employee's information safety competence, given the great advancements of banking technologies and importance of security systems in financial sector, is among the most basic competencies required by employees and their managers consider this capability as the employee's initial duty. Therefore, this competence serves as a primary criterion for hiring in the banking system and does not play an important role in evaluating employees' performance, so it does not affect their perceived job security significantly. This research resulted strong relationship between digital skills and competencies and job security, have some implications for the banking system and the other organizations, which are mentioned in the following.

First, based on the theoretical background, we have explained that the technology changes and the developing the business process automation have made improving employees' digital skills imperative. Therefore, the banking managers and other business executives should pay more attention to digital skills in selecting, training and developing of human resources, because employees with greater digital skills perceive more job security. For example, banks and other organizations in addition to mandate job applicants to have an ACDL certificate as the employment requirements, can prioritize the training of general and specialized digital skills such as computing, information management, internet and networking, and file and data management skills in the employee's on the job training courses.

Second, as noted before, the competency-based management views 21st Century skills and competencies for managers and employees as an unavoidable necessity in today's working and business environment. Also, the individual's sense of mastery emphasizes that higher the workers' capability to do tasks, the greater their sense of control over their career, and thus perceive more job security. This implies that, banking managers and other organizations should pay more attention to the development of their digital competencies and their employees as part of implementing a competency-based management system and resource to enhance employees' sense of mastery over their jobs. In this area, it can be very effective applying massive open online courses (MOOCs) for training the 21st Century skills and using simulating technologies such as virtual reality (VR) and augmented reality (AR) for practicing the required technological competencies at the business processes in the organizations .

Limitations and future research

Generally, this study contributes to the development of literature in the increasingly interconnecting world of computer and organizational behavior field. particularly in this paper, for the first time, digital skills and competencies were added to other factors including organizational change, organizational justice, organizational communication, employee involvement, demographics, employment type, individual traits, employability/career, adaptability, tactics/behaviors, microeconomic conditions, unemployment rate, social safety net,

cultural values, individual demographics, employment type, dispositional traits, psychological resources, employability, organizational justice, organizational support, employee-employer relationships and interpersonal relationships (Lee, Huang and Ashford, 2018), as new antecedents of employees' perceived job security. however, this paper has limitations that could be addressed in future researches.

The first implies on the context and sample of study that focus just to the Iranian banking system, which limits its generalizability. Therefore, replicating this research in other contexts and organizations could be an interest for the future researchers.

The second limitation relates to the questionnaire as the measurement tool of research variables, especially digital skills and competencies. We can measure Job security as a subjective and perceptional variable through a survey questionnaire, but measuring objective indicators such as digital skills and competencies that include tangible and visible criteria in the workplace require experimental assessment of employees' skills and capabilities in the real or laboratory working environment. Thus, future researchers can, through a semi-experimental longitudinal study, first evaluate the digital skills and competencies objectively and then, after a certain time frame, evaluate its impact on employee's perceived job security.

The third limitation of this paper is not considering the mediating variables such as employability. Digital skills and competencies can help employees more sense of mastery through enhancing their employability and ultimately increase employees' perceived job security. Therefore, the study of the mediating role of employability between the digital skills and competencies and perceived job security could be considered in the future researches.

Fourth, there was no relationship between the content creation competency and job security, and we could not find any justification for this issue, so it seems to be necessary a re-examination of this relationship. Also as mentioned before, the relationship between information safety competency and job security was weak and we explained some reasons, but to more clarification, further investigation could be done by the future researchers.

Finally, today, new technologies, such as social media and social networks, the Web 2.0 and the Internet of Things, are rapidly growing and affecting all aspects of employees living and working environments and this study does not examine whether this factors effect employee’s perceived job security. Therefore, examining the impact of the knowledge and skills of applying these technologies on perceived job security is an interesting issue that can be considered in future researches.

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