

Investigating the Effects of Personal Skills and Information Literacy on Employability in the Digital Age.

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Abstract: *The main objective of this study is to investigate the effects of the relevant business and digital skills needed from fresh graduates entering the labor market on employability in the digital age. The research process was carried out using quantitative research approach, with a positivist perspective (formal and structured procedures). The skills measured in this study were identified using in depth interviews in a previous study by researcher. During March and April 2019, questionnaires were distributed to HR professionals, managers, or other positions that have a role in selecting and hiring potential candidates. The researcher used internet-based Intercept surveys on the web. According to the quantitative outcomes, the skills: Self Efficacy (Technical Skills), Tolerance of Ambiguity, Internet Usage in Business Practice, Content Creation, and ICT were significant in the development of the digital age employee.*

Key Words: *Digital Age, Employability, Hard Skills, Media Literacy, Soft Skills, Workforce.*

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I. Introduction

The 21st century economy has changed drastically over the past years (Fox, 2018). Nowadays, the market has been dominated by digitalization. Appearance of high-quality and powerful technologies brought massive changes and developments in the economy, business environment, and labor market (Acemoglu and Restrepo, 2017). Scholars and practitioners have claimed that innovation has compelled the economy primarily because of the advancement in technologies and the concept of Big Data (Fox, 2018). Research have claimed that in order for companies to compete in the market, they need to adjust and adapt technology in their practices and get acquainted with these new unfamiliar circumstances (Almeida *et al.*, 2017). By doing so, “*businesses become digitalized and the traditional approach towards doing business is no longer effective and does not bring expected results*” (Bughinet *et al.*, 2018). “*Technology advancement continues to drive economic growth. Economically disruptive technologies transform the way people live and work, enable new business models, and provide an opening for new players to upset the established order*” (Manyika *et al.*, 2013, p.5).

Hjort and Poulsen (2017) provided evidence that technology has changed the requirements of employment. Digital technology stimulated an effect on employment in a wide range of industries. For this reason, assessing the impacts of digital technology adoption on the relative use of skill needed at work in a developing country is one of the essential contributions of this paper. Thus, this study answers the following research question: ***what are the significant Business and Digital Know-hows needed among the potential employees in the market?***

II. Literature Review

The importance of employability skills is increasingly emphasized in recent times (Suartha *et al.*, 2017). Employability skills refer to a collection of necessary skills, capabilities, powers, and knowledge that is required for success in the modern workplace (Rahmil, 2014; Walwei, 2016). Suartha *et al.* (2017) stated that there are employability skills that are considered essential credentials for many job positions. The American Management Association (2010) stated that critical thinking and problem-solving, creativity and innovation, collaboration, and communication skills are becoming increasingly important in today’s global economy. Furthermore, in the digital age, many research proved that digital media literacy is vital for employment (Grundke *et al.*, 2018).

It is known that technology: “*make certain forms of human labor unnecessary of economically uncompetitive and create demand for new skills*” (Manyika *et al.*, 2013, p.15). Digitalization influenced employees’ hard and soft skills that are in-demand and relevant for the current labor market (Hagel *et al.*, 2017). Today, most companies do not need some skills that were required in the past to get a respectable job (Kucera, 2017). In this new era, many research show that the digital age has formed newly emerged occupations that require a different set of skills. There are certain combinations of hard and soft skills needed to successfully perform tasks (Fox, 2018; Patacsilet *et al.*, 2017).

The Organization for Economic Co-operation and Development (2015) claimed that the development of information and communications technology (ICT) industry leads to the increased demand of some divisions of ICT skills, such as: “*CT generic skills (ability to use information and communication technologies on the daily basis such as using software and applications, sending emails etc.), ICT specialist skills (such as ability to program software, develop and design applications, ability to manage networks etc.) and ICT complementary skills (social media marketing, communications on social networks, present brand products on online platforms etc.)*.” These skills are a necessity in the work field in many businesses. Reports indicate that businesses in the digitalization era embrace technologies to catch up with the market and benefit from its productivity and innovations (Grundkeet al., 2018). Thus, companies need “*digitally skilled employee for increasing productivity, sales, offering better services for the clients and generating revenue*” (Information and Communications Technology Council, 2016, p.7).

Brooks (2016) claimed that the needed hard skills these days needed by future employees include: “programming and application development, business intelligence and analytics, web development, database administration, middleware and integration software, social media management, cloud and distributing computing”. Walwei (2016) explained that these mentioned hard skills are in demand. Brooks (2016) argued that not having any of these mentioned skills reduces the chances of finding a job almost to zero.

Kotler and Armstrong (2017) mentioned that social media has dominated the business and consumer market. It is changing the way companies do business (Fox, 2018). Thus, social media literacy is significant to grasp in the current era. It is important to understand how these tools work, using them effectively for business purposes (McDougall et al., 2018). Social media literacy is one of the top five skills that companies look for when hiring (World Economic Forum, 2016). Research showed that employees with social media knowledge and the comprehension of digital devices have a clear advantage over candidates that have limited experience (Kishokumar, 2016). In the digitalization age, employees can obtain better jobs and advanced their careers by demonstrating competency with social media (Durga, 2015; Jagero, 2014).

When it comes to soft skills, according to World Economic Forum (2016), there are ten vital skills that companies are looking for in potential employees. Based on this report, the potential employee is expected to be able to solve complex problems; to conduct critical thinking; to be able to have wholesome Judgment and fast decision making capabilities (cognitive flexibility); to have negotiation skills; to be good communicator in order to coordinate well with others; people management skills are required (emotional intelligence); to remain an active listener; to be creative irrational and behaviors; to pursue for quality in productivity; and service orientation skills are one of the key skills needed. The World Economic Forum (2016) indicated these skills will be in the highest demand in 2020 labor market.

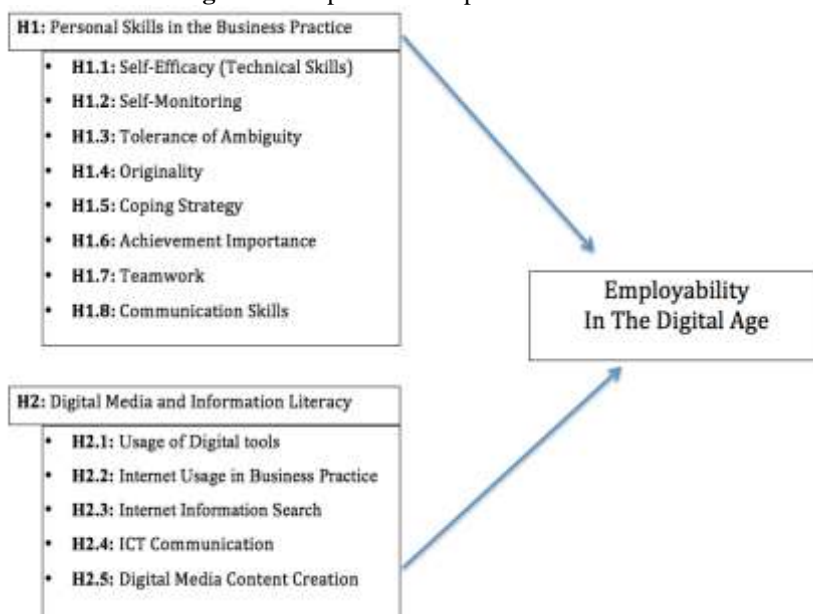
Berger (2016) explained that soft skills are not so relevant and important for information technology industry (industries concentrated on the technologies and their development of mobile applications, data mining and analysis, cloud computing, web development, etc.). These skills are given high values regarding industries related to consumer services or retail the focus on personal relationship management, such as: restaurants, consumer services and professional training and coach (Kotler and Armstrong, 2017). These industries require lots of communication, interaction and negotiation with customers, so the soft skills are a must in these industries (Soloman, 2017).

Business skills are a necessity in order to have sustainable operations in the market (Jibutiet al., 2017). Human resources and strategic officers will seek employees holding certain skills necessary to run day-to-day business operations (World Economic Forum, 2016). As more companies adopt flat organization structures, there is demand for people who understand basic business principles (Mazzarol and Reboud, 2006). Reports show that it is beneficial to hire individuals that understand how businesses operate (Jibutiet al., 2017). Prior empirical evidences show that when potential job candidates show hiring managers that they are acquainted with the basic functions of different departments (marketing, sales, finance, etc.) within the company, they become a significantly more attractive job candidate (Feng, 2018). Another study indicated that employees capable of strategic planning are valued in the workforce (Alencaret al., 2017). Strategic planning is an important business activity because it allows the recognition of proper development of company's future performance, strategy or direction regarding various industry decisions on allocations of resources of capital and people (Gluck et al., 1980).

Based on this literature review, the researchers concluded that the digital age changed the needed skills individuals should hold to become attractive job candidates. What skills should an individual look to focus on and develop to succeed in the digital age can be categorized into two groupings: Business Know-how (knowledge of business processes and operations in an industry) and Digital Know-how (knowledge on the usage of technology and communication platforms and devices). Thus, this research hypothesized that: (H1) *there is a relationship between Business Know-how and the development of the digital age employees;* (H2) *there is a relationship between Digital Know-how and the development of the digital age employees.*

According to the literature, the *Business Know-how* and *Digital Know-how* consist of several sub-variables. *The figure below illustrates the following proposed model that was developed by prior studies and literature.*

Figure 1: Proposed Conceptual Framework



III. Methodology

This research uses *quantitative research approach*, with a positivist perspective (formal and structured procedures). The studied population in this research is *employers of local, multinational, and/or nonprofit companies*, operating in various business fields in both Cairo and Alexandria. The organizations were chosen based on a *purposive sample* and only organizations with a human resource department were invited to take part. A *questionnaire* was used as a data collection method. The scales in the questionnaires used were adapted from prior studies. Table 1 illustrates the sources of each scale. The data collection was *cross-sectional*, during March and April 2019. The researcher used *internet-based Intercept surveys on the web*.

Table 1: Identified Skills Relevant in the Egyptian Market

Variables	Sub-variables	Operational Definition	Conceptual Definition
Personal Skills in Business Practices	Self-Efficacy (Technical Skills)	Meuter et al. (2005) - an alpha of 0.96 for the 5 point Likert Scale	Employees should have the ability to successfully complete a specified task.
	Self-Monitoring	Ratner & Kahn (2002) - an alpha of 0.71 for the 5 point Likert Scale	Employees should observe and control his/her expressive behavior for the purpose of managing a desired appearance.
	Tolerance of Ambiguity	Phillips (2002) - an alpha of 0.67 for the 5 point Likert Scale	Employees should be able to adapt to the dynamic work environment, having the openness toward stimuli that are less than clear, puzzling, or indefinite.
	Originality	Im (2005) - an alpha of 0.87 for the 5 point Likert Scale	Employees should be characterized by behaviors that exhibit creativity, individuality, and spontaneity
	Coping Strategy	Duhachek (2005) - an alpha of 0.87 for the 5 point Likert Scale	Employees are able to deal with stressful situation by taking direct action to solve the problem in an objective manner.
	Achievement Importance	Burroughs & Rindfleisch (2002) - an alpha of 0.7 for the 5 point Likert Scale	Employees need to attain competence in accordance with social standards.
	Team Work	Verhoef (2003) - an alpha of 0.78 for the 5 point Likert Scale	Employees hold positive affect toward working in teams
	Communication	Su, Fern & Ye (2003) - an alpha of 0.75 for the 5 point Likert Scale	Employees communicate with the use of reason and logic thinking to be persuasive.
Digital Media and Information literacy	Digital Tools Usage	Ko, Cho, & Roberts (2005) – an alpha of 0.65 for the 5 point Likert Scale	Employees are able to use various media and ICT Devices
	Internet Usage in Business Practice	Mathwick & Rigdon (2004) - alpha of 0.73 for the 5 point Likert	Employees are able to use the Internet with an emphasis on its usefulness in learning information

		Scale	related to the business practices.
	Internet Information Search	Mathwick&Rigdon (2004) - an alpha of 0.73 for the 5 point Likert Scale	Employees' have the knowledge and ability to find information on the web (Ability to Locate/Access Information).
	ICT Communication	Ko, Cho, & Roberts (2005) – an alpha of 0.76 for the 5 point Likert Scale	Employees are able to use digital media for communication interactivity with the emphasis of two-way flow of information
	Content Creation	Srinivasan, Anderson, &Ponnavolu (2002) – an alpha of 0.63 for the 5 point Likert Scale	employees are able to create Media Content – blogs, emails, posts, etc.

IV. Results

Out of the 700 self-administrated questionnaires, the researcher received 400 that were complete and accurate, for a response rate of 57%. According to prior studies, if the population in an area is greater than 5,000, a sample size of 400 or more would be considered adequate. Therefore, the number of respondents in this study was sufficient. The data were analyzed using the SPSS (Statistical Package for the Social Sciences) in order to answer the research questions and to support or invalidate the corresponding research hypotheses. The statistical tests included reliability analysis, validity analysis, frequency analysis, correlation coefficient analysis, and multiple regressions.

4.1 Reliability analysis

The reliability analysis was carried out first for all variables. This type of analysis indicates the stability, consistency, and “goodness” of each instrument that measures the variables. It uses Cronbach’s alpha as a coefficient to indicate how well the items in a set were positively correlated to one another. The closer the value of Cronbach’s alpha is to one, the higher the internal consistency reliability. Cronbach’s alpha for all variables were above 0.65, indicating that their scales were stable, consistent, and free from error across time and across items. The overall questionnaire, which used an interval scale of seventy-six items, had a Cronbach’s alpha of 0.948. This number indicated high internal consistency, signifying that the items in the set were positively correlated to one another.

4.2 Validity analysis

Validity analysis was conducted to determine whether the scale measured what it was supposed to measure. This study used the intrinsic validity, content validity, and face validity tests. The intrinsic validity results (intrinsic validity being the square root of reliability) confirmed that the items in the scale actually measured the overall variables being studied. The items in all the scales of the variables were suitable and valid because the intrinsic validity of each one was greater than 0.70. The content and face validity test were performed to confirm the results of the intrinsic validity. The purpose of content validity is to show how well the dimensions and elements of a concept have been defined. The face validity test consisted of a group of expert judges (qualified academics, practitioners, and researchers) who evaluated and confirmed the content validity of the instrument. They signified that the items used to measure the variables appeared to address the target concepts adequately.

4.3 Descriptive analysis

The studied population in this research is employers of local, multinational, and/or nonprofit companies, operating in various business fields in Cairo and Alexandria. The following table illustrates the characteristics that describe the employers that participated in this study.

Table 2: Frequency analysis of respondents’ demographic characteristics

Demographic characteristic	N	%	Demographic characteristic	N	%
Company Location:			Employer Years of Experience in recruitment:		
Cairo	238	59.5	Under 2 years	20	5
Alexandria	162	40.5	2 years – 4 years	256	64
			More than 4 years	124	31
Gender:			Level of Education:		
Female	124	31	College	235	58.75
Male	276	69	Postgraduate	69	17.25
			Other	96	24

4.4 Correlation coefficient analysis

Correlation analysis was conducted to indicate the direction, strength, and significance of the relationships among the variables in the hypotheses in an isolated manner. The results showed that, regardless the category of skills (personal skills in business practices & digital media and information literacy), all the skills had a significant affiliation with the digital age employees. All the skills had a positive relationship except

for communication skills and technical skills (self-efficacy). This means that the more the employee has communication skills, the less he/she is considered as a digital age employee; the more the employee has technical skills (self-efficacy), the less he/she is considered as a digital age employee. Table 3 illustrates the Pearson Correlation analysis of this study.

Table 3: Correlation Analysis

<i>Personal Skills in Business Practices Sub-variables</i>	Dependent Variable	Cronbach's alpha	<i>Digital Media and Information literacy Sub-variables</i>	Dependent Variable	Cronbach's alpha
Self-Efficacy (Technical Skills)	Employability in digital Age	- 0.196**	Digital Tools Usage	Employability in digital Age	0.233**
Self-Monitoring		0.482**	Internet Usage in Business Practice		0.136**
Tolerance of Ambiguity		0.262**	Internet Information Search		-0.293**
Originality		0.878**	Content Creation		0.255**
Coping Strategy		0.177**	ICT Communication		0.510**
Achievement Importance		0.644**			
Team Work		0.608**			
Communication		- 0.461**			

4.5 Multiple regression analysis

The final analysis was multiple regressions. The researcher examined the sig value to test the hypotheses. The analysis showed that not all the hypotheses in the conceptual framework were supported; some hypotheses were rejected. Accordingly, the skills: Self Efficacy (Technical Skills), Tolerance of Ambiguity, Internet Usage in Business Practice, Content Creation, and ICT were significant in the development of the digital age employee. These variables had a sig value of 0.000, indicating that these hypotheses are supported. The researcher examined the beta coefficient to identify the skills that had the strongest contribution to employability in the digital Age, which were respectively: content creation, ICT, Self-Efficacy (Technical Skills), Internet Usage in Business, and Tolerance of Ambiguity. Table 4 illustrates the sig value and the Beta coefficient.

Table 4: Sig Value and Beta Coefficient

Model	Unstandardized Coefficients		Standardized Coefficients	Sig.
	B	Std. Error	Beta	
(Constant)	7.539	.000		.000
Self Efficacy (Technical Skills)	-.591	.000	-.422	.000
Tolerance of Ambiguity	.162	.000	.192	.000
Internet Usage in Business Practice	-.509	.000	-.357	.000
Content Creation	-1.437	.000	-1.092	.000
ICT	1.491	.000	1.058	.000

Dependent Variable: Digital Employee

V. Research Conclusions and Discussion

In contemporary markets worldwide, advancement in technology has progressed and dominated human life (Younes and Zoubi, 2015). Innovations in computing and telecommunication technologies are significantly affecting most of the areas of the economy, leading to the transformation acceleration in business (Fox, 2018). Accordingly, technological advancements have entirely reshaped the organizations by making their business processes highly integrated, restructured, and well run. Work (its content, its organization and design, its regulation and protection) is all undergoing great change in this digital age (Frey and Osborne, 2017). The impact of digitalization has changed the labor market requests and skills as well (Acemoglu and Restrepo, 2017).

The research process was carried out using *quantitative research approach*, with a positivist perspective (formal and structured procedures). It sought to identify the: (1) personal skills in business practices (2) digital media and information literacy. Each competency consists of a number of skill attributes. According to the outcomes, the significant personal skills in business practices needed in the digitalization on the Labor Market (relevant skills needed for the digital age employees in the business field) are: Self Efficacy (Technical Skills) and Tolerance of Ambiguity. The digital media and information literacy and skills that were significant are: Internet Usage in Business Practice, Content Creation, and ICT. This discovery answered the research question, what are the significant Business and Digital Know-hows needed among the potential employees in the market?

This study holds various **implications**. The outcomes imply that nowadays, out of all the personal and business skills out there, it is vital that employees who enter a company have a good base in the technical field. Thus, they need a good college education or adequate work experience that built their work capabilities. Furthermore, it is vital that potential employees are able to adapt to the dynamic work environment, having the openness toward stimuli that are less than clear, puzzling, or indefinite. Results of this study explained that self-monitoring, originality, coping strategy, achievement importance, teamwork, and communication skills were insignificant. Thus, this outcome implies that these skills can be learned by experience in working with clients, team members, and in the competitive market. Consequently, it is not a necessity to enter the company knowing these skills, competencies, values and/or attributes.

The results of this study showed that it is important that potential employees hold ICT skills, are able to use the Internet, and can create various content online. This result implies that with digital technologies, employees are able to provide solutions and enhancements towards the responsibility, accountability, efficiency, and delivery time of tasks, which employers demand. Access to the Internet reduces their relative reliance on routine tasks, allowing them to become innovative, constructive, and more productive at work. Technology allows flexibility in communication, making employees connect with each other, with clients, with suppliers, etc. straightforward and effortlessly anywhere at any time. Technology literacy represents effective communication, information analysis and interpretation, task management and priorities, problem solving, and other business related skills needed in the era of digitalization.

This study, like any study, faced several **limitations**. Future research should take these restrictions in consideration. One of the main limitations concerns the unit of study. This study focused on business (commerce) companies, not other fields in the market. It would be advisable to verify the stability of the scale on other fields, such medicine, arts, agriculture, etc. This study focused on the employers' point of view. Future studies can focus on other groups, such as current employees in the field or the university educators. This study examined the vital personal skills in business practices and the digital media and information literacy. Other skills can be further examined. This study focused on companies in Cairo and Alexandria. The present study used convenience sampling, making the end results not truly representative. Thus, future studies should use probability-sampling techniques to further validate this study. For upcoming research, a larger sample is needed and the data should be gathered proportionately from all regions of the country. This study focused on the Egyptian context, neglecting other Middle Eastern countries. Thus, future research can test this research in other Arab countries.

References

- [1]. Acemoglu, D. and Autor, D.H. (2011). *Skills, Tasks and Technologies: Implications for Employment and Earnings*. in O. Ashenfelter and D. Card, *Handbook of Labor Economics*, Volume 4B, Amsterdam: North Holland.
- [2]. Acemoglu, D., and Restrepo, P. (2017). Robots and jobs: Evidence from US labor markets. *NBER Working Paper No. 23285 (Cambridge, MA, National Bureau of Economic Research)*
- [3]. Alencar, Marcelo Hazin, Luiz Priori Jr., and Luciana HazinAlencar. (2017). Structuring objectives based on value-focused thinking methodology: Creating alternatives for sustainability in the built environment. *Journal of Cleaner Production*, vol.156, p.62–73
- [4]. Almeida, R.K. and Poole, J.P. (2017). Trade and labor reallocation with heterogeneous enforcement of labor regulations. *Journal of Development Economics*, vol.126, p.154–66
- [5]. American Management Association (AMA). (2010). *Executives say the 21st century requires more skilled workers*. Retrieved June 17,2018, from: <http://www.p21.org/news-events/press-releases/923-executives-say-the-21st-centuryrequires-more-skilled-workers>
- [6]. Association of Southeast Asian Nations (2016). *Human Capital Outlook*. Regional Community Briefing, pp. 1-7.
- [7]. Berger, G. (2016). *Data Reveals The Most In-demand Soft Skills Among Candidates*. Retrieved from LinkedIn on December 2018: <https://business.linkedin.com/talent-solutions/blog/trends-and-research/2016/most-indemand-soft-skills>
- [8]. Brooks, C. (2016). *What Employers Want: 38 In-Demand Skills*. Retrieved from Business News Daily on January 17, 2019: <http://www.businessnewsdaily.com/5686-the-mostin-demand-career-skills.html>
- [9]. Bughin, J., Hazan, E., Lund, P., and Dahlström, P. (2018). *Skill shift automation and the future of the workforce*. McKinsey Global Institute press
- [10]. Bureau of Labor Statistics. (2015). *Occupations with the most job growth*. Retrieved from Bureau of Labor Statistics on January 2019 from:<https://www.bls.gov/news.release/ecopro.t06.htm>
- [11]. Burke, Z. (2017). *10 Jobs That Didn't Exist 10 Years Ago*. Retrieved from Digital Marketing Institute on December 2018: <https://digitalmarketinginstitute.com/blog/10-jobs-didnt-exist-10-years-ago>
- [12]. Corless, K., De Villers, L., and Garibaldi, C. (2018). *Tech Trends 2018: The symphonic enterprise*. Deloitte University Press
- [13]. Durga, (2015). How social media gives you competitive advantage. *Indian Journal of Science and Technology*, vol.8(4), p.90–95.
- [14]. Fallow, S. and Stevens, C. (2000). *Integrating key skills in higher education: employability, transferability, and learning*. London UK/Sterling VA: Kogan Page/Stylus
- [15]. Fox, S. (2018). Cyborgs, Robots and Society: Implications for the Future of Society from Human Enhancement with In-The-Body Technologies. *Technologies*. Vol.6(50), p. 1-11
- [16]. Frey, C.B. and Osborne, M.A. (2017). Future of employment: How susceptible are jobs to computerization? *Technological Forecasting and Social Change*, vol.114, p.254–280
- [17]. Gluck, Frederick W., Stephen P. Kaufman, and A. Steven Walleck. (1980). Strategic management for competitive advantage. *Harvard Business Review*, vol.108, p.154–61.
- [18]. Hallett, R., and Hutt, R. (2016, June). *10 jobs that didn't exist 10 years ago*. Retrieved from World Economic Forum on December 2018:<https://www.weforum.org/agenda/2016/06/10-jobs-that-didn-t-exist-10-years-ago/>

- [19]. Heerwagen, J.,K., Kampschroer, et al. (2004). Collaborative knowledge work environments. *Building Research and Information*, vol.32(6), p.510-528.
- [20]. Heming Feng. (2018). Case Study Research on Strategic Management of Alpha Company. *Journal of Human Resource and Sustainability Studies*, vol. 6, p.61-80
- [21]. Hjort, J. and Poulson, J. (2017). *The Arrival of Fast Internet and Skilled Job Creation in Africa*. unpublished manuscript, Columbia Business School.
- [22]. Hjort, Jonas and Jonas Poulson (2017). *The Arrival of Fast Internet and Skilled Job Creation in Africa*. unpublished manuscript, Columbia Business School.
- [23]. Information and Communications Technology Council, (2016). Retrieved on December 2018: DIGITAL TALENT https://www.ictc-ctic.ca/wp-content/uploads/2016/03/ICTC_DigitalTalent2020_ENGLISH_FINAL_March2016.pdf
- [24]. Jagero, N. (2014). Impact of access to social media on employee productivity and organisational performance at Econet Wireless Zimbabwe. *International Journal of Knowledge and Research in Management & E-Commerce*. Vol.4(1), p. 20-31.
- [25]. Jibuti, M., Gvelesiani, R., Gelashvili, S. (2017). *Fundamentals of Business Administration*. Publisher house Universal ISBN 978-9941-17-778-1
- [26]. John Hagel, Jeff Schwartz, and Josh Bersin, (2017). *Navigating the future of work*. Deloitte University Press.
- [27]. JuhoHamari, MimmiSjöklint. AnttiUkkonen (2016). The sharing economy: why people participate in collaborative consumption. *Journal of the Association for Information Science and Technology*, vol.67(9), p.2047-2059
- [28]. Kucera, D. (2017). *New automation technologies and job creation and destruction dynamics*. Employment Policy Brief (Geneva, ILO).
- [29]. Lee, J. (2014). *6 Human Jobs That Computers Will Never Replace*. Retrieved from Make on January 17, 2019 Use of: <http://www.makeuseof.com/tag/6-human-jobscomputerswill-never-replace/>
- [30]. Manyika, J., Cabral, A., Moodley, L., Moraje, S., Yeboah-Amankwah, S., Chui, M., and Anthonyrajah, J. (2013). *Lions go digital: The Internet's transformative potential in Africa*. pp. 1-13.
- [31]. Mazzaro, Tim, and Sophie Reboud. (2006). Strategic Management in Small Firms: Developing a Conceptual Framework. *Paper presented at the 20th Annual Australia & New Zealand Academy of Management (ANZAM) Conference, Rockhampton, Australia*.
- [32]. McDougall, J. Readman, and R. Philip Wilkinson (2018). The uses of (digital) literacy. *Journal Learning, Media and Technology*, vol.43(3).
- [33]. Messina, J. Pica, G., and Oviedo, A. (2016). *The polarization hypothesis in Latin America: how demand forces are shaping wage inequality?* Unpublished manuscript. Inter-American Development Bank.
- [34]. Mohammad BaniYounes, and Samer Al-Zoubi (2015). The Impact of Technologies on Society. *Journal of Humanities And Social Science*, Vol. 20(2), p.82-86
- [35]. Noon, M.B.P. (2007). *The realities of work: experiencing work and employment in contemporary society*. New York, Palgrave.
- [36]. Preda, A. (2002). Financial knowledge, documents, and the structures of financial activities. *Journal of Contemporary Ethnography*, vol.31(2), p.207-239
- [37]. Rahmil, D.J. (2014). How is digital technology changing the labor market? Retrieved from Digital Society Forum on January 2019: https://digital-societyforum.orange.com/en/lesforums/274comment_le_numerique_faitil_evolution_le_marche_du_travail
- [38]. Rita K. Almeida Carlos H. L. and Corseuil Jennifer P. Poole (2017). *The Impact of Digital Technologies on Worker Tasks: Do Labor Policies Matter?* IZA Institute of Labor Economics.
- [39]. Robert Grundke, Luca Marcolin, The LinhBao Nguyen, MariagraziaSquicciarini (2018). Which skills for the digital era?: Returns to skills analysis. *OECD Science, Technology and Industry Working Papers*, <http://dx.doi.org/10.1787/9a9479b5-en>
- [40]. Sabbagh, K., Friedrich, R., El-Darwiche, B., Singh, M., and Koster, A. (2013). *Digitization for Economic Growth and Job Creation: Regional and Industry Perspectives*, pp. 35-42.
- [41]. Saunders, V., and Zuzel, K. (2010). Evaluating Employability Skills: Employer and Student Perceptions. *Journal Bioscience*, vol.15(2). Retrieved July 21, 2013, from <http://www.bioscience.heacademy.ac.uk/journal/vol15/beej-15-2.pdf>.
- [42]. State Information Service (2018). *IMF hails strong growth in Egypt's labor market*. Retrieved January 17, 2019 <http://www.sis.gov.eg/Story/132348?lang=en-us>
- [43]. Terzioglu, A., Kamen, M., Boehm, T., and Stephan, A. (2017). *IT unbounded: The business potential of IT transformation*. Deloitte University Press.
- [44]. The Organization for Economic Co-operation and Development (2015). *Employment outlook*. Retrieved on December 2018: <http://ifuturo.org/documentacion/Employment%20outlook%202015.pdf>
- [45]. The Organization of Eastern Caribbean States - OECD. (2016). *Self-employment rate*. Retrieved from OECD on December 2018: <https://data.oecd.org/emp/selfemploymentrate.htm>
- [46]. Walwei, U. (2016). *Digitalization and structural labor market problems: The case of Germany*. ILO Research Paper №. 17, pp. 1-31.
- [47]. World Economic Forum (2016). *Global Information Technology Report 2016*. Retrieved from World Economic Forum: <http://reports.weforum.org/globalinformation-technologyreport-2016/report-highlights/>
- [48]. World Economic Forum. (2017). *Digital Transformation Initiative*. Retrieved from World Economic Forum: <http://reports.weforum.org/globalinformation-technologyreport-2016/report-highlights/>

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