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Measuring Relationship between Digital Skills and Employability

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Abstract

In the growing economies like Pakistan and other countries, digital skils such as computer, communication, internet and advance digital skills are predictable to offer possible employees a major rim in securing their jobs and also protecting relatively high-paying jobs. Digital skills are not dual it has ranges and stages. There are number of International organizations that are making efforts on improving the people's employability. I need more data in order to know the relationship between digital skills and employability in terms of which level of digital skills are enough for civilizing emplyability. In this study I observe the digital skills assosiation with the employabilty using the Paf-Kiet University and National Foods Limited as a comparative study. Findings highlighted that digital skills can be a interpreter of employnment, the level of digital skills necessary to achieve these jobs is very high as one might imagine. In the rising economies perspective, digital skills are linked with high status jobs mainly combine with other reasons such as higher education. Implementation strategy on the basis of the finiding of this study in order to improve employabilty, advising that revise the education policy and training efforts should focus on digital skills.

Key words: Digital Skills, employabilty, Students's, Employers, Relationship,

1. Introduction

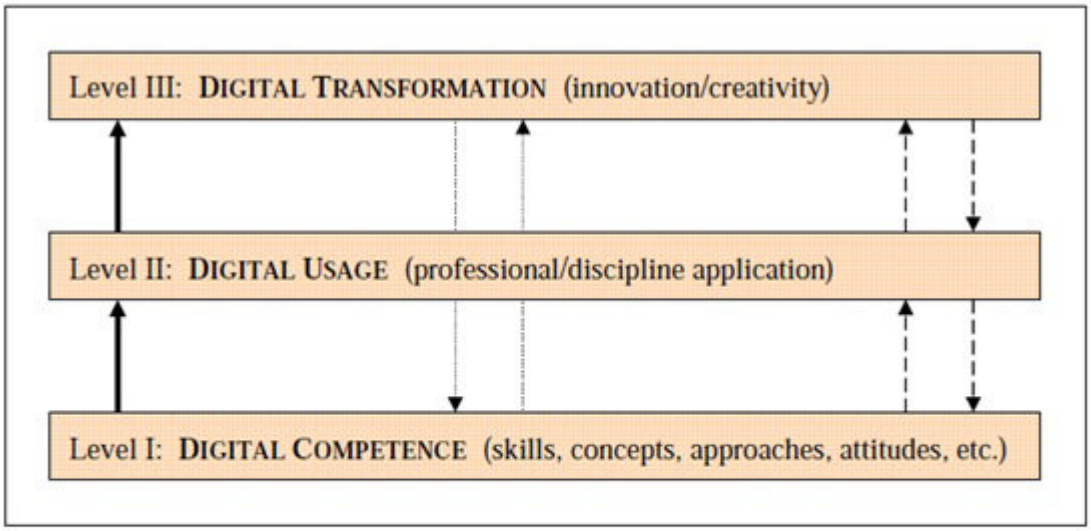
Skills have become a major part of modern societies, economies, education and employment. This era has variously called the digital age where digital society (Ashcroft et al. 2005), knowledge based economy and information revolution are very necessary. In the framework of globalization digital skills are becoming more extensive and are considered a preliminary for securing a professional employment in all over the world. According to (Matton 2008) specifically in developing regions like Pakistan, digital skills estimated to reduce poverty level to some extent and increase an employment rate or at least a basic step towards securing higher-paying jobs. However, but in this research, the primary focus is to look the relationship between the digital skills and employability is essential in order to construct a more affluent image of whether digital abilities are connected with employability, additionally which digital ability and at what height of ability related with increasing employment and reducing poverty rate as well.

Skills and qualification have strong relationship with employment and there are sufficient facts indicated that skills and qualification influence service and salary. This new study focus the position of digital skills mainly, figure out an inverse link between unemployment and earnings, the level of literacy among the whole population also play an important role in identifying the impact of digital skills to the individual in finding job. There are number of program introduce by government in order to reduce literacy rate and increasing the basic skills in order to ensure the skills for life, but these programs normally a short tem period one of the program started in England skills for life a long-term program in 2001. A main concern or idea of the program was to increase the basic skills of the people in order to increase employment rate.(Brown 2000). Digital skills are the strength to succeed with the electronic communication and tools that make the individual equipped for twenty-first century and increase the productivity in the organization and make better citizen. Digitals skills play a main role in academic world of teaching and learning as a number of different trends showed. The most important outcome is the e-world. The usage of electronic devices and facilities now emphasize in their application in many sectors of economy and produce knowledge based individual and economy. Those who are well equipped and understand the uses of e-services are extensively authorize and have advantage in the form of educational progress, job enrichment, status and other feature of long life. (Bennett 2008)

Academic worlds as well as other social sectors are tremendously adopting different electronic means but the development of digital skills or tools for education and job market has run together and creating a teaching and learning environment. In the future approach the new learning models are being developed. (Castells 1996) Electronic models are key factors for bringing a digital environment. Expertise of using the digital tools gave the power to the student to excel in every field of life; teaching and learning environment connect everyone with the rest of the world. The idea is to fulfill the need of student and teacher and between student and student and made them aware of all digital tools that are crucial for learning and growth in the digital age. According to (Grip 2004) Skills and education has along age based on the framework of order, different educationist shares their own experience and ways of effective learning and utilizing the skills into real world. But some basic skills which are very common such as reading, listening, writing and counting are somehow exsist. The idea of interpreting the student focused model that made the students skilled in higher education and in the job market as well. The trend

also has been changed and students and other users also enter in the digital economy where all the things required the digital knowledge for prosper and to produce effective human resource for better world.
Educators and other recruitment agencies identify numerous skills that assist the students and citizens to grow in this digital age. Mainly internet skills has established very well in 1980s and computer skills has also a history and other technology usage is not completely developed a large gap is between students and makers and this gap actually creates the issues for students and other users in order to get the desire job. On the other hand technology is moving very fast as the user's skills and this conflict is the barrier for users. (Denny 2003) Technology skills comprise on other skills such as visual, information, media literacy. Teachers are mostly unaware of these skills and not really reach towards digital skills which are very much crucial in electronic-world and students are not completely digitally equipped. European Union plays a crucial role in revolution of digital skills through the help of different entities and formalized the education policies in the whole Europe. European Union feels that it is not only the responsibility of education sector but other social and political bodies. They think that student, teachers and other citizens not be successful without the digital skills and always lack the idea of electronic learning which is very effective channel of creating the digital literacy in all over the world. Digitally equipped citizens have advantage of high employment and other benefits for life. Specifically digital skills creation is an educational problem but it affects everyone and government and other welfare program are equally responsible to fill this space. (Entwistle 2005). The rapid change in the field of technology affects the millions of people around the world because the pace of increasing the technological advancement all over the world and the digital skills of the citizen is not the same and a huge space is creating in the education sectors, political sectors, society and as well as in the whole economy. New images and devices are very effective and efficient in the real world but the center problem is to create the knowledge and expertise of usage of the technology and establish a knowledge based economy and society not in one country but in the whole world. (Heijde 2005)
According to (Frand 2000) the basic skills as the first stage are digital ability. Basically these skills comprise on the initial level expertise development like visual and conceptual association or awareness of such skills for better understanding. Students, employers and other citizen need to sketch these skills that assist in their real life situations and make them comfortable in all circumstances of life and at work and increase their analytical reasoning as well. PP. 16.

Figure 1 (Level of Digital Skills)



The main idea of digital skills is the implementation of those skills, the usage of such digital skills of students during the studies, teacher while teaching and employer during their work and other citizens in their respective profession in life. Each users use digital skills in for gaining benefits in their life and achieving their targets in less possible time. (Gazier 1999). This is the final stage of digital skills and at this level conversion of this skills and expertise into other is the crucial idea and brings innovation and creativity during teaching and learning environment which produce the digital equipped individuals in the job market and ensures the change comes at individual level as well as organization or global level.
The barrier of getting the employment could be a lack of digital skills of the individuals. It is not the only fundamental that brings this obstacle close but the different studies and practical experience light towards this issue that in the long run digital skills impact tremendously to the employment and earnings and their significance is the main core in the job market now a days. As well as the level of digital skills also increase the growth or certainty of the employment for the citizens or students. (Dizard 1982)Many studies proofed that

basic skills directly impact to the employment or the changing of the health and attitude of the individual also impacting to the job. Number of experiences showed that softer skills impact on employment and increase the job security level during recession and down turn in the economy. Switching the job for growth and betterment also require the extra skills and expertise. (Kennedy 2006) And digitally aware individual level of satisfaction is completely different from the other individual at work, it saves a lot of time and bring efficiency in their work and dominant the individual among al. the outcome of digitally equipped employees are very different form unskilled employees and status and earnings also differ due the variation of digital skills.

The shifting individuality of the new generation joined with closing/reversing of the gender gap in higher education propose the require for investigating the efficiency of digital skills in preparing the original age group of university graduates for employability and achievement in an increasingly complex and interdependent globe. Specifically, the following questions are addressed: To find out the relationship (if any) between Digital skills and employment. What level of digital skill is associated with increased employment? The study is predicting student success in finding employment after completion of educating classes.

2. Skills and Employability

Although review of literature reveals that Beveridge (1909), an economist, introduced this term, it remained hidden from researcher's sight till the 1970's. Tseng (1972) viewed employability as job market linked occupational knowledge and skills. It becomes more relevant with changes in economy when people with these transferable skills move across different work situations. Here, employability skills refer mainly to 'those basic skills necessary for getting, keeping and doing well on a job. According to (ILO 2000) Modern life skills encompass an intricate system of knowledge, skills, abilities, and motivational factors that must be developed according to the needs of their specific domains. The populations where digital literacy is most important are ICT users, e-business professionals, and ICT professionals.

2.1 Computer Skills

Are those that should be learnt by all citizens of the knowledge society in order to:

- Select and apply ICT systems and devices effectively;
- Utilize common generic software tools in their private lives;
- Use specialized tools for work;
- Flexibly adapt to changes in infrastructure and applications.

2.2. Internet skills

Are the competences needed to utilize business opportunities provided by Internet based applications. These skills are used, among others. (Prenksy 2001):

- Apply the internet skills efficiently and separately.
- Establishment and provisions of effectual, proficient function and information supervision and systems protection.
- Contributing to the arrangement, plan and accomplishment of Internet applications.

2.3 Communication skills: require high-level, specialized knowledge used for (Steinmueller 2001)

- Gives you self-esteem
- Helps you to think better
- Makes peaceful communities
- Makes good relationships

2.4 Advance Digital skills:

- Usage of different technology in order to increase productivity.
- Increase the performance of the users
- Enhance the level of understanding of symbols and images

2.5 Digital Skills implementation Strategy

According to (Whiteley 1995) As the past history and experienced identify the effective ways of implementation of digital skills and become the individual skills or life are connected into the four main interconnected areas of authority Education, Job Training, Government, and Public Awareness and Community Programs. Each sphere relates to a different segment of the population and expresses different attitudes and needs; only through an integrated approach operating simultaneously within each implementation sphere will widespread digital literacy become a reality. Pp. 5

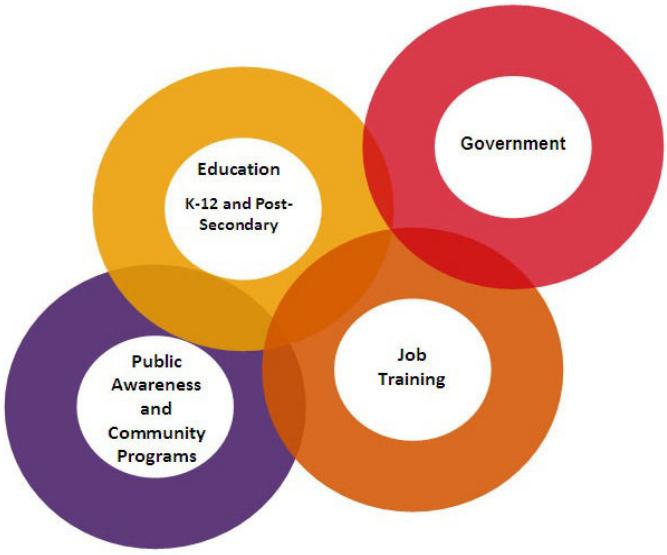


Figure 2. Implementation strategy

2.6. Education

Education at all stages of life is central to any digital literacy strategy. Although there has been considerable dialogue among stakeholders leading up to this consultation on the importance of skills development at the postsecondary level, very little discussion has taken place on the ICT and digital literacy skills that need to be cultivated among students before they enter college or university. In this section, we will highlight the importance of implementing digital literacy into Kindergarten to Grade 12 education as part of national plan. (Rahmani 2002)

2.7. Job Training

The skills needed to effectively participate in a knowledge based digital economy include the capacities to find, organize, understand, evaluate, create, and share information through constantly evolving digital technologies – technologies and innovations that demand continual learning and relearning. After individuals start their careers, it is imperative that they are provided with the resources to continue developing their digital literacy skills. The economic benefits of a digitally literate workforce have been well demonstrated and these skills must be continually augmented and sustained in order to fully realize the benefits of digital media in the workplace. (Porat 1977)

2.8. Government

The federal, provincial, and territorial governments have a number of roles in supporting digital literacy. In addition to being strategic drivers and resource providers for digital media initiatives within their respective jurisdictional spheres, all governments have a accountability to introduce the digital skills awareness program through electronic government programs and other public and community services workshops. (Robinson 2000) As public services continue to migrate to digital platforms and more political dialogue takes place online, citizens lacking in digital literacy skills are at risk of becoming disenfranchised from the democratic process and excluded from public services.

2.9. Public Awareness and Community Programs

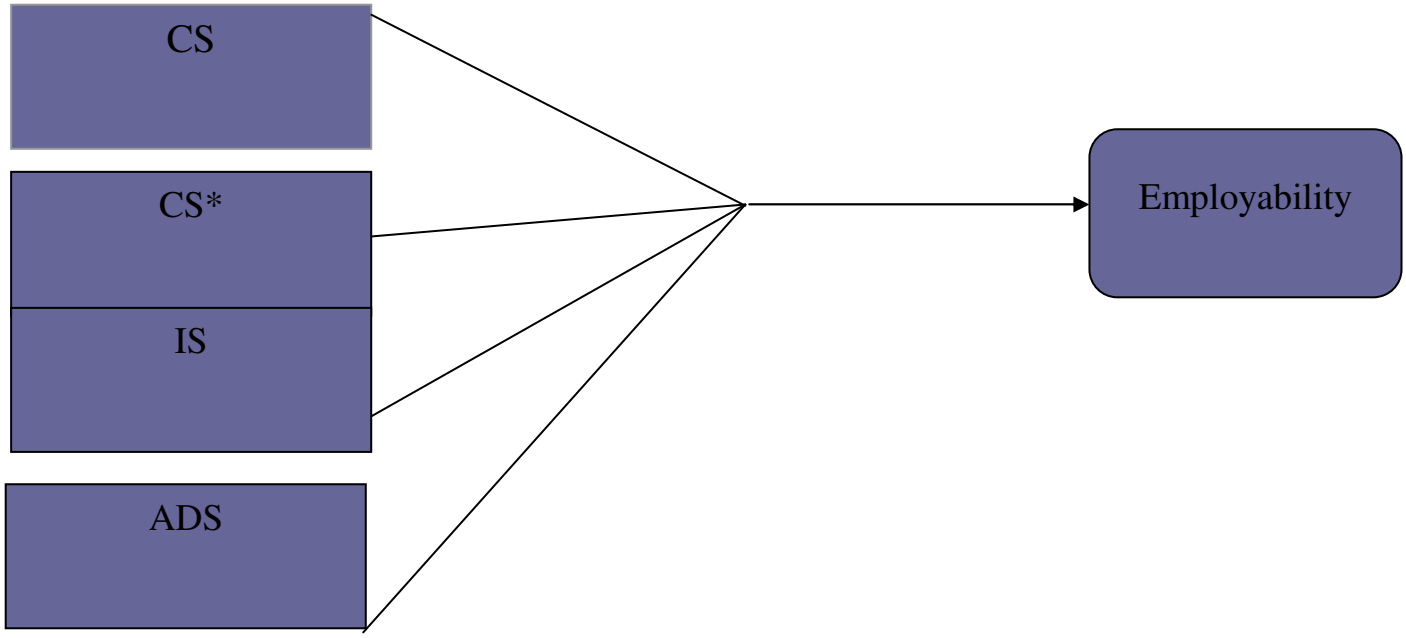
The benefits of any digital literacy initiative will not come to fruition unless the public recognizes and acknowledges the value of digital media resources. Just as infrastructure is not fully utilized without literacy, literacy programs won't be utilized without public awareness of their value and efficacy. To achieve this level of understanding, a public awareness campaign must accompany the roll out of digital literacy programs. (Oliver 2007) Since the biggest challenge of creating a digitally literate society lies in changing the attitudes and behaviors of those not engaged with technology, the most effective strategy would be a cross-media marketing campaign that would use the full spectrum of analog and digital media resources – from print to radio to television to blogs, Canadian news and entertainment websites, social media sites such Twitter, Facebook, and YouTube as well as other forms of social and viral media – in both official languages.(Oliver 2007)

2.10. Theoretical Framework

In this research variables are taken from one research accomplished in Kazakhstan by Rebecca Walton et al

(2009) in Kazakhstan and measure the citizen's internet skills, computer skills, communication skills and advance digital skills for life learning and prosper economy and society aspects. The initial interviews give the strong ideas to the scholar in order to develop the skills and employment matrices. And finally theses studies clear the relationship between the digital skills and employment in the Kazakhstan and the way to improve the employment rate in the country.

The variables are computer skills, communication skills, internet skills and advance digital skills. These variables are measure in order to evaluate the affect of skills on employment. The effect of scale dimensions upon employability has been measured in conceptual framework. The expected relationship between independent and dependent variable is positive as observed in the literature review. This mean that if independent variable increase or decrease the effect will tend to move in the same direction, therefore relationship has been considered positive. The conceptual framework is given below to show the association connecting the variables through diagram. (McIntosh 2001)



The conceptual framework shows the association of Independent variables CS (computer skills), CS*(communication skills), IS (internet skills and ADS (advance digital skills) on employability dependent variable.

3. Methodology

The study is descriptive in the nature as the number or studies had been conducted in different places as one of the main related studies conducted in the Kazakhstan was highlighted and on the basis of this and other research this particular research is carried out and survey is being used for primary data collection purpose. In this study the main respondent are permanent employers of National Foods Limited and regular students of two private sector Universities (Paf-Kiet and Bahria) will be focused. Students enrolled in business department for BBA/MBA /MS program are considered for data collection. The idea of choosing the participants in this research was a chief reflection that they were graduate students and are searching jobs, as such, in a superior situation to express their views regarding the relationship of digital skills and employment. And the employer who already aware of such skills and share their experience for better comparison and understanding. Universities and National Foods limited not show their population framework due to these constraints the research reliance to the convenient sampling technique for completing this study within time. Sample size is taken 250 at 5% level of significance from 200 students and 50 employers in order to know the relationship between the digital skills and employability. The data is gathered through survey placed individually to the Paf-Kiet and Bahria universities and National foods limited. The questionnaire is comprised on 20 items LIKERT scale. The objects are support on 5 points likert scale whereas 1) = strongly agree, 2) Agree, 3) no decision, 4) disagree and 5) strongly disagree.The reliability of the instrument was checked through Cronbach's Alpha. The values are given in the table below.

Table 1 Reliability Test

Variables	Computer Skills	Communication Skills	Internet Skills	Advance Digital Skills
Cronbach's Alpha	0.809	0.810	0.796	0.766

All the values of Cronbach's Alpha is more than 0.6 which shows reliability in the items. The outcome of the study analyze through reliability test, descriptive statistics, correlation analysis and one mean T-test are used in order to know the relationship between the digital skills and employability. The SPSS (version16) statistical software is used in order to apply these test and formulating results.

4. Empirical Analysis

4.1 Demographic Analysis

Table 2: *Gender (Employers & Students)*

Gender	Frequency	Percent
Male	118	59
Female	82	41
Total	200	100

Gender	Frequency	Percent
Male	36	72
Female	14	28
Total	50	100

Discussion

Table 2 shows the proportion of male and female employers and students. 72 % employers are male and 28 % employers are female of National foods limited. And 59% students are male and 41 % students are female of different program of two private sector universities Bahria and Paf-Kiet.

4.2 Frequency Distribution (Employers & Students)

Table 3: *Designation/Program (Employers & Students)*

Discussion

Designation	Frequency	Percent
Top Level	13	26.0
Middle Level	27	54.0
Lower level	10	20.0
Total	50	100.0

Program	Frequency	Percent
BBA	92	46.0
MBA	78	39.0
MS	30	15.0
Total	200	100.0

Table 3 indicate that 26% of respondent are from top management, 54% of respondent are from middle management and 20% of respondent are from lower management, while 46% students are from BBA program, 39% are from MBA program and remaining 15% are from MS program.

4.3 Descriptive statistics

Table 4 Mean & SD. (Employers Perspective)

Variables	N	Minimum	Maximum	Mean	Std. Deviation	Rank
Computer Sills	50	1	5	2.240	.5047	4
Communication skills	50	1	5	2.23	.4153	3
Internet Skills	50	1	5	2.22	.530	2
Advance digital skills	50	1	5	2.19	.482	1

*The data is collected from 50 Employers.

Discussion

Table 4 specifies the responses of 50 employers of national foods limited in order to know the relationship between digital skills and employability. Averages of different skills according to their significance, as per employer perspective they feel that advance digital skills are very necessary in order to get the job as well growth aspect as

rating 1 because of lowest mean, internet skills mean is 2.22 which indicate that advance searching skills is equally important in getting good job as raking also highlighted the employer perception 2, communication skills mean 2.224 which is on agree side and specify that it is essential for keeping on job and for further improvements as indicated in ranking 3, lastly the computer skills mean is 2.24 which is rarely on agree side and ranking at 4. The variation in the data is also very low which the good sign is.

Table 5 Mean & SD (Students Perspective)

Variables	N	Minimum	Maximum	Mean	Std. Deviation	Rank
Computer Sills	200	1	5	2.152	.5154	1
Communication skills	200	1.22	5	2.16	.563	2
Internet Skills	200	1	5	2.243	.5535	4
Advance digital skills	200	1	5	2.21	.5391	3

*The data is collected from 200 Students.

Discussion

Table 5 specifies the responses of 200 students of Bahria and Paf-Kiet University in order to know the relationship between digital skills and employability. The scores variable values range from 1 to 5 based on the likert scale. The variables also ranked on the basis of mean (lowest mean is ranked 1 and highest mean ranked 4). averages of different skills according to their significance, as per students perspective they feel that computer skills are very necessary in order to get the job as well growth aspect as rating 1 because of lowest mean, communication skills mean is 2.16 which indicate that written and verbal skills are equally important in getting good job as raking also highlighted the employer perception 2, Advance digital skills mean 2.21 which is on agree side and specify that it is essential for keeping on job and for further improvements as indicated in ranking 3, lastly the internet skills mean is 2.24 which is rarely on agree side indicating the searching locating different information is also crucial in job market as ranking at 4. The variation in the data is also very low which the good sign is.

4.4 Relationship among Variables

Table 6 Correlation Analysis (Employers Perspective)

Variables	Employability	Computer Skills	Communication Skills	Internet Skills	Advance digital skills
Employability	1	.301**	.143**	.159**	.116**
Computer skills		1	.321**	.269**	.422**
Communication Skills			1	.169**	.042*
Internet Skills				1	.770**
Advance digital skills					1

**. Correlation is significant at the 0.01 level (2-tailed). (The data contain 50 respondents, N=50)

Discussion

Table 6 All the variables are highly correlated in the identifiaction of skills and employabilty relationship at 0.01 level of significance. Mainly the computer and internet skills (.301**, .159**) contribute more in identifying the perception of the employer in the assosiation of skills and job and next variable after that is communiaction skills. .143** and advance digital skills .116**.

Table 7 Correlation Analysis (Students Perspective)

Variables	Employability	Computer Skills	Communication Skills	Internet Skills	Advance digital skills
Employability	1	.441**	.661**	.408**	.229**
Computer skills		1	.321**	.269**	.422**
Communication Skills			1	.386**	.280**
Internet Skills				1	.302**
Advance digital skills					1

**. Correlation is significant at the 0.01 level (2-tailed). (The data contain 200 respondents, N=200)

Discussion

Table 7 All the variables are highly correlated in the identifiaction of skills and employabilty relationship at 0.01 level of significance. Mainly the Communiaction and Commuter skills (.661**, .441**) add additional in recognize the awareness of students in the assosiation of skills and job other variable internet skills. .408** and advance digital skills .229**.

4.5 Impact of Digital skills on Employability

Table 8 Inferential Analysis: (Employers Perspective)

Variables	N	Mean	Std. Deviation	Std. Error Mean
Computer Sills	50	2.240	.5047	.0714
Communication skills	50	2.224	.4153	.0587
Internet Skills	50	2.22	.530	.075
Advance digital skills	50	2.19	.482	.068

Test Value = 2

Variables	t	df	Sig. (2tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Computer Sills	3.363	49	.002	.2400	.097	.383
Communication skills	3.814	49	.000	.2240	.106	.342
Internet Skills	2.884	49	.006	.216	.07	.37
Advance digital skills	2.757	49	.008	.188	.05	.33

Discussion

Table 8 All the variables are statistically significant at 5% level of significance. Hence the research concludes that all variable are extremely correlated with employability and assosiated in increasing employment rate. The research further indicate that the statistical value of all the variables is more that the critical value, therefore all the alternative hypothesis are accepted and explained that computer, communication, internet and advance digital skills are highly preferable for employment and growth.

Table 9 Inferential Analysis: (Employers Perspective)

Variables	N	Mean	Std. Deviation	Std. Error Mean
Computer Sills	200	2.152	.5154	.0421
Communication skills	200	2.16	.563	.0452
Internet Skills	200	2.243	.5535	.0440
Advance digital skills	200	2.21	.5391	.046

Test value = 2

Variables	t	Df.	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Computer Sills	3.612	199	.000	.1520	.069	.235
Communication skills	5.370	199	.000	.2427	.153	.332
Internet Skills	2.893	199	.004	.1273	.040	.214
Advance digital skills	3.569	199	.000	.164	.07	.25

Discussion

Table 9 All the variables are statistically significant at 5% level of significance. Hence the research concludes that all variable are extremely correlated correlated with employability and assosiated in increasing employment rate. The research further indicate that the statistical value of all the variables is more that the critical value, therefore all the alternative hypothesis are accepted and explained that computer, communication, internet and advance digital skills are highly preferable for employment and growth.

5. Conclusion

The main objective of this research was to measure the relationship between digital skills and employability and also compare the skills of employed and unemployed individuals. While digital skills were strongly associated with jobs. Digital skills such as computer, communication, internet and advance digital skills (ability to use other technology) are very crucial for getting desire jobs. There are many other factors like higher education, health attitude which also affect the employability and high-paying jobs.

In this research digital skills mainly refer to those skills which are necessary for getting, keeping and doing well on a job. The data was conducted from Paf-Kiet University and National foods Limited of sample size 200 through questionnaire from students and employers. While our statistical work is descriptive in nature and further analysis correlation, reliability test and one mean T-test using that could help to explain the impact of digital skills on employability. The findings show that all the variables have positive relation with employability affecting more or less in determining the association of skills and job. But communication skills and computer skills are contributing more in increasing employability as indicated in correlation analysis and T-test.Particularly the results of this study validate that all the variables means are statistically significant in measuring the relationship between digital skills and employabilty. Majority of the employer and students indicate that communication skills is highly preferable for employment. Digital skills for life contribution emerge to guide in obligation to education and training. Skills training provide a foundation for advance skills improvement, which in turns in increase employability.

Future Research

Firstly As the past history and experienced and this research identify the effective ways of implementation of digital skills and become the individual skills or life are connected into the four main interconnected areas of authority Education, Job Training, Government, and Public Awareness and Community Programs. Each sphere relates to a different segment of the population and expresses different attitudes and needs; only through an integrated approach operating simultaneously within each implementation sphere will widespread digital literacy become a reality.

Additionally the study should be extended geologically and take all organization of the Karachi city as well as

educational institute in order to better generalize the results of the study. The finding propose the area of further study that, this study is basically a caution and assist us in the linkage between individual obtain digital skills and then acquiring jobs is one of the crucial next step of this research area.

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