

**Burgeoning of Remote Jobs in Developing Countries –Special Reference to Asia Pacific Region****Dr. N. Fathima Thabassum**

Post Doctoral Fellow –UGC

The New College, Chennai, Tamilnadu - India

ABSTRACT

Development in web technologies and its wider acceptance in the online market have opened up opportunities for the educated unemployed youth in the form of remote jobs. Online freelance market places like odesk.com, elance.com and guru.com enable to match the need of job seekers and job providers without any initial investment. This paper tries to analyze the growth of internet penetration rate and its impact of on line freelancing jobs in Asia Pacific Region. The study is conducted with 18 countries of Asia Pacific region and the relationship between three major parameters was arrived. The results of multiple regression analysis reveal that there is a relationship between Internet penetration rate and independent variables such as Internet Cost and English Speaking Population. Spearman's Rank Correlation results reveal that there was a negative correlation between Internet cost and Internet Penetration rate. But a positive relationship was noticed between English speaking population and Internet Penetration rate. The number of countries taken for the study is reduced from 18 countries to 11 countries due to less internet users in the remaining countries. It is understood that India has highest number of online freelancers in Asia Pacific region followed by Philippines, Pakistan and Bangladesh. The Graduate Unemployment rate also had an impact on online freelancer population in the freelancing websites in the Asia Pacific Region.

Keywords: Remote jobs, Online freelancing, E-Freelancers, Internet penetration rate, Graduate Unemployment

Introduction

Globalization and advancement in technology has lead to wider and faster internet connectivity. India is today amongst the top ten countries of the world in terms of the number of Internet users. The internet has a great impact on job search and recruitment which is moving online and providing instant access to information align with 24/7 (Singh & Finn, 2003). Freelance websites differ from other job search websites with their focus on remote professional service and facilitate from the point of bidding to billing and final payment under one roof. These websites enable to match the need of job seekers and job providers without any initial investment. The jobs in these remote sites are well-documented trend towards nonstandard work arrangements that externalize employment relationships, moving various aspects of work outside the organization (Ashford, George, and Blatt 2007). A number of students, unemployed youth, entrepreneurs, homemakers and even physically challenged now have the hope to select professional careers as freelancers sourcing work from online staffing platforms. Even the employed youth in small IT firms have taken up these jobs as a part time to get an additional income. Wuvanna Leiter (2008) reported that command of English in a country exerts a positive influence on internet adoption. Stefan Sui et al, (2013) reveal that the employability of freelancers is shaped by technical, social and networking competences. Thus, criteria for doing these jobs are - Internet Connectivity, minimum level of English knowledge for communication and relevant technical skills.

Review of Literature

Kling (1999) argued that internet use is a question of social as well as technological access to infrastructure and physical availability of computer hardware and software while social access refers to the mix of professional knowledge, economic resources and technological skill required for use of Information and Communication Technology (ICT). Kiiski and Pohjola (2002) point to the importance of Internet access cost as a factor in Internet usage. Choi and Yi (2009) analyzed the cross country panel data and found out that internet plays a positive and significant role in economic growth.

C.Zemich et.al (2009) studied the effect of broadband infrastructure by estimating a panel of Organisation for Economic Co-operation and Development (OECD) countries from 1996 to 2007. They found that the introduction and diffusion of broadband had an impact on growth in Gross Domestic Product.

According to Asia Telecommunication Report, 2012, Asia represents 49% of regions mobile subscribers and broadband markets. The massive presence is due to the fact that the Asia has 56% of world's population as well as 45% of internet users, making Asia clearly top leader in the world telecommunication scenario. Malone and Laubacher (1998) imagined the potential of an "e-lance economy" present in the Internet. According to him "The fundamental unit of such an economy is not the corporation but the individual. Tasks aren't assigned and controlled through an established chain of management but rather are carried out autonomously by independent contractors. These electronically connected freelancers – e-lancers – join together into fluid and temporary networks to produce and sell goods and services electronically. When the job is done – after a day, a month, a year – the network dissolves, and its members become independent agents again, circulating through the economy, seeking the next assignment".

Andrey Shevchuk et al (2012) provide the first quantitative evidence on freelance contracting through Internet. The study also explores the extent to which these virtual business relations are formal or informal, and the role of social capital and networking. Charles.M.Kozierok (2012) in his online freelancing guide has given an extensive analysis and review of online freelancing marketplace websites. The business column of UK edition, Financial times, 2012 revealed that Freelancer population has increased by 12% since 2008, when there was sub- prime crisis. Van den Born Arjan et al (2013) identified three success drivers for freelancers -the market, professional knowledge, skills and abilities, and networking efforts.

Statement of Problem

According to Global Employment trends 2014 report, the number of unemployed worldwide rose by 5 million in 2013 to almost 202 million, with 6 per cent unemployment rate .In the year 2013, around 40% of the world population has an internet connection (<http://www.internetlivestats.com/internet-users/>). Mc Kinsey (2012) developed case studies for nine of the 30 aspiring countries—Argentina, Hungary, Malaysia, Mexico, Morocco, Nigeria, Taiwan, Turkey, and Vietnam. These nine countries represent 20 percent of the GDP of all aspiring countries and they span the regions in which aspiring countries appear and found out that bandwidth speed is the primary concern of many SMEs and internet cost was considered as the most prevalent concern. Online freelancing jobs are taken by people either as a profession or as a stopgap arrangement till they are placed in regular jobs. This study tries to understand the relationship between the major determinants of internet penetration rate and its impact on remote job sites in Asia Pacific region.

Objectives:

This study aims to identify the following objectives:

- To determine the effect of internet cost and English speaking population vis-a-vas Internet penetration rate
- To find out the impact of graduate unemployment rate on remote job websites.

Methodology:

The study is based on secondary data and is limited to Asia Pacific region for one year. The following variables are taken for the study for 18 countries from Asia Pacific Region.

Internet Cost: The median monthly cost in US dollars per Megabit per second is collected from ookla net Index. This index compares and ranks consumer broadband value around the globe for the year 2014.

Internet Penetration Rate: This is a list of countries by number of Internet users in 2012 assessed as on April 2014.

English speaking population: This is a sortable list of countries by English speaking population as on April 2014

The 18 countries of Asia Pacific region are further reduced to top 11 countries based on the internet penetration rates and the relationship between following variable are inferred.

Graduate Unemployment Rate: This is a list of countries by graduate Unemployment rate collected from Mc Kinsey analysis reports of 2011, 2012 and 2013 and various other websites assessed as on April 2014.

e-freelancer population: is collected from three popular remote job websites – odesk.com, elance.com and guru.com as on 6th June 2014. The e-freelancer population is a floating population and change in the number of freelancers is noticed per second.

Statistical tools for analysis:

Multiple Regression analysis is employed to find the impact of Internet Penetration Rate on independent variables such as Internet cost and English speaking population.

Spearman's Rho is used to find out the strength of relationship between Graduate unemployment rate and Percentage of freelancers to total freelancers in Asia Pacific Region.

Hypothesis:

The following hypothesis is formulated for the study:

H0: There is no significant relationship between Internet penetration and independent variables such as Internet cost and English speaking population in Asia Pacific Countries.

H1: There is a significant relationship between Internet penetration and independent variables such as Internet cost and English speaking population in Asia Pacific Countries.

H0: Graduate Unemployment rate has no impact on freelancing remote jobs in Asia Pacific Region.

H1: Graduate Unemployment rate has an impact on freelancing remote jobs in Asia Pacific Region

Analysis and Discussion

The internet managed to eliminate distances and provide people with a unique opportunity to talk, watch and chat with relatives, friends or acquaintances. Chat rooms, messenger services, emails and conferencing programs are the most common uses for communicating over the internet. People can enjoy the benefits of the cheap communication. According to Global Digital statistics 2014, the reported number of 1.26 billion internet users in the Asia Pacific region, represents around 48% of the global internet population i.e., 32% of the Asian Pacific population is connected to the internet. China is the big player in Asia with broadband access followed by India and Japan. Most of the top internet countries within the Asia Pacific region are still in a developing stage with regards to broadband access in comparison to other regions such as Europe, Canada or the US.

The following 18 countries with their Internet Penetration rate, Internet cost and Percentage of English speaking Population is taken for the study and they are furnished below:

TABLE 1

INTERNET PENETRATION RATE, INTERNET COST, AND ENGLISH SPEAKING POPULATION INDICATORS IN ASIA PACIFIC REGION

Asia-Pacific Countries	Internet Penetration rate (%)	Internet Cost (median monthly cost per mbps in \$)	English speaking population (%)
1	China	42.30	0.83
2	India	12.60	12.16
3	Japan	79.10	12.00
4	South Korea	84.10	21.00
5	Indonesia	15.40	15.00
6	Philippines	36.20	78.53
7	Vietnam	39.50	34.00
8	Malaysia	65.80	20.54
9	Pakistan	10.00	49.00
10	Australia	82.30	97.03
11	Thailand	26.50	27.16
12	Taiwan	76.00	99.00
13	Bangladesh	6.30	18.00
14	Hongkong	72.80	35.9
15	Singapore	74.20	80.00
16	Srilanka	18.30	9.90
17	New Zealand	89.50	97.82
18	Fiji	33.70	20.62

Source: Internet

Internet Penetration Rate:

Penetration is the percentage of a country's internet user population. Internet users are persons using the Internet in the last 12 months from any device, including mobile phones. The main explanatory factors for Internet penetration are per capita income, average level of education (i.e., Human Capital), and degree of competition among service providers and density of telecommunication infrastructure (Beilock and Dimitrova, 2003). The high internet penetration rate was seen in New Zealand (89.5%), South Korea (84.1%), Australia (82.3%), Japan (79.1%), Taiwan (76%), Singapore (74%) and Hong-Kong (72%). It can be noticed that there are still big differences in terms of the individual Internet penetration of countries within Asia Pacific. New Zealand has the highest penetration rate with 89%, which means that almost anywhere in the country; consumers are connected to the internet. Similarly, South Korea, Australia and Japan mark penetration rates that are close to or above the 80%. This resulted in consumers being online and connected at all times through their laptops and Smart phones. According to e-marketer report, when looking at the wider Asia-Pacific region, it becomes evident, that there is still a substantial digital divide within the region. The average Internet penetration rate in Asia- Pacific is 35%, and some of the major countries, such as India and Indonesia lie below the average. This shows the massive room for qualitative and quantitative improvement at economical tariff is needed in these regions.

Internet cost:

Broadband technology allows for high-speed transmission of voice, video and data over networks and ICT applications. The introduction of broadband technologies, community antennas, optical fibre, satellite and fixed and mobile wireless has enabled traditional and new forms of telecommunications to become a reality throughout the world. As physical infrastructure and geography differ from country to

country, the technology working well in one geographic area may not work in another. If advancement of telecommunication technologies, broadband access technologies is available in these countries, the performance improves upon wired access solutions. One of the major problems faced in the developing countries is the lack of access to broadband services, internet speed and low tele-density.

According to fourth quarterly report, 2013 Broadband tariff scorecard, many countries in Eastern Europe as well as some in Asia-Pacific rank well in terms of offering the cheapest broadband, but Middle East and Africa and South and East Asia pay most for their broadband services. Customers in some more developed Western European countries as well as countries like Singapore, the United States, Canada, New Zealand and Australia tend to pay more for broadband than those in Eastern European states which now belong to the European Union and often benefit from the EU funding. The highest median monthly cost per mbps was Philippines (\$ 22.43), Indonesia(\$16.01), Malaysia(\$ 10.18), India (\$ 9.08) and Australia (\$ 8.29)

English speaking population:

The Internet was basically an American development, and it naturally spread most rapidly among the other countries of the English-speaking world. The English-speaking world as a whole accounts for over 80 percent of top-level Internet hosts and generates close to 80 percent of Internet traffic (Groffrey nunnberg, 2011). In many of these regions, Internet connections will chiefly benefit government agencies, universities, and major industries .But in other places, there are considerable population in a position to take advantage of the more immediate ties to their larger linguistic community. According to Internet world stats 2010 report, The percentage of Internet Penetration by language are English (43.4%), Chinese (37.2%), Spanish (39%) ,Japanese (78.4%), Portuguese (32.5%), German(79.5%), Arabic (18.8%), French(17.2%), Russian(36.4%) and Korean and rest of the languages (14.6%).

Among the highest number of internet users in Asia Pacific countries, English speaking population is high in Taiwan (99%), New Zealand (97.82%), Australia (97.03%), Singapore (80%) and Philippines (78.53%).

Analysis between Internet Penetration Rate, Internet cost and English speaking population:

In order to ascertain the relationship between influence of independent variables such as Internet cost and English speaking population on the dependent variable Internet Penetration rate, multiple regression analysis is performed. The following is the results deduced from SPSS 21 analysis conducted.

Table 2
Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.713 ^a	.509	.444	22.05699

a. Predictors: (Constant), English speaking population, Internet cost

In the model summary, R value was 0.713 which indicates a good level of prediction. The R square value of 0.509 indicates that independent variables such as English speaking population and Internet cost explain 50.9% of the variability of our dependent variable, Internet Penetration Rate.

Table 3
ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7565.416	2	3782.708	7.775	.005 ^a
	Residual	7297.664	15	486.511		
	Total	14863.080	17			

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b. Dependent Variable: Internet Penetration Rate

The *F*-ratio in the anova table tests whether the overall regression model is a good fit for the data.

Table 4
Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	44.176	9.654		4.576	.000
	Internet cost	-2.577	.931	-.506	-2.767	.014
	English speaking population	.507	.159	.583	3.188	.006

a. Dependent Variable: Internet Penetration Rate

The general form of the equation to predict Internet Penetration rate from Internet cost and English speaking population is:

$$\text{Internet Penetration} = 44.176 (-2.577 \times \text{Internet cost}) (+0.507 \times \text{English speaking population})$$

Thus it can be concluded that independent variables internet cost and English speaking population statistically significantly predicted the Internet Penetration Rate, $F(2, 15) = 7.775, p < .05, R^2 = 0.509$.

Spearman's Rho is performed to find out the strength of relationship between the independent variables such as Internet cost and English speaking population on Internet penetration rate.

TABLE 5
RELATIONSHIP BETWEEN INTERNET COSTS, ENGLISH SPEAKING POPULATION AND INTERNET PENETRATION RATE

Factor combination	Spearman's Rho	Sig (2 tailed)	Remarks
Internet cost and Internet Penetration Rate	-0.490	.039	Moderate negative correlation. Statistically Significant at 5% level
English speaking Population and Internet Penetration Rate	0.443	.066	Moderate positive correlation. Statistically Significant at 10% level

In the above table, there was a moderate negative relationship between Internet cost and Internet Penetration rate which means if the internet cost increase, there will be less internet penetration rate and vice versa. A positive moderate correlation was noticed English speaking population and Internet penetration rate which signifies increase in English speaking population leads to increase internet penetration rate.

Remote Job Websites:

Remote jobs have already started flourishing in Asia Pacific region and developing countries in particular. Freelancing economy is likely to become a much bigger part of the employment landscape in the future. These websites provide ample number of high end jobs like web and software development, networking etc., to low end non-technical jobs such as Data entry and customer service jobs. Wide range of jobs are available in all the streams of study like Computer science, linguistics, management, accounting, medical and legal and Employers like having the flexibility to expand and contract their workforce when they want, and the supply of available workers currently exceeds demand in many fields. The most popular remote job sites are freelancer.com, odesk.com, elance.com, peopleperhour.com and Guru.com that facilitate and streamline the process of hiring virtual. Among these, three popular websites namely odesk.com, elance.com and guru.com are taken for the study.

Table 6
TOTAL ONLINE FREELANCER POPULATION

	Odesk.com	Elance.com	Guru.com
Total Freelancers in respective websites	219731	1284224	3238823
Total freelancers in 18 Asia-Pacific Countries	139607 (63.53%)	496716 (38.68%)	880299 (27.18%)
Total freelancers in 11 Asia-Pacific Countries taken for further analysis	138510 (63.04%)	484832 (37.75%)	862472 (26.63%)

Source: Respective remote job website accessed on 6th June 2014

From the total freelancer population, 63.04% in odesk.com, 37.75% in elance.com and 26.63% of in guru.com belong to Asia Pacific region.

Out of highest internet users of 18 Asia-Pacific Countries (Table 1), 11 countries (Table 7) with highest number of freelancers in the remote jobs websites are taken for the study as the other countries contribute very less number of e-freelancing populations. Percentage of e-freelancers in the website is computed with the following formula:

Percentage of e-freelancers in a country =

$$\frac{\text{Total e-freelancers of the respective country in the website}}{\text{Total e-freelancers in the website}} \times 100$$

TABLE 7
HIGHEST NUMBER OF E-FREELANCERS IN THE REMOTE JOB WEBSITES AND GRADUATE UNEMPLOYMENT RATE IN ASIA PACIFIC REGION

	Countries	Total no of e-freelancers in Odesk.com (% to e-freelancers)	Total no of e-freelancers in Elance.com (% of e-freelancers)	Total no of e-freelancers in Guru.com (% of e-freelancers)	Graduate unemployment rate (%) for 2013
1	India	48908 (22.26%)	246927 (19.23%)	581269 (17.95%)	33.00
2	Philippines	42487 (19.34%)	71262 (5.55%)	56652 (1.75%)	22.40
3	Pakistan	16148	61505	70992	28.00

		(7.35%)	(4.79%)	(2.19%)	
4	Bangladesh	21787 (9.92%)	34828 (2.71%)	39199 (1.21%)	47.00
5	Australia	1599 (0.73%)	17729 (1.38%)	36580 (1.13%)	10.60
6	Indonesia	1642 (0.75%)	10670 (0.83%)	22790 (0.7%)	11.90
7	China	1486 (0.68%)	10222 (0.8%)	15028 (0.46%)	16.40
8	Malaysia	467 (0.21%)	11920 (0.92%)	10675 (0.33%)	29.50
9	Srilanka	2472 (0.13%)	8209 (0.64%)	10390 (0.32%)	7.80
10	Singapore	496 (0.23%)	5703 (0.44%)	12223 (0.38%)	3.60
11	Vietnam	1018 (0.46%)	5857 (0.46%)	6676 (0.21%)	10.00

Source: Respective remote job website accessed on 6th June 2014

Among the Asia Pacific region, in all the three websites the total number of freelancers is high in India followed by Philippines, Pakistan and Bangladesh.

Graduate Unemployment Rate

South Asia is home to a large youth population which accounts for nearly half of the unemployed in the region. One reason for high youth and graduate unemployment rate is due to lack of skill and use of outdated curriculum in the higher education. British Council sponsored report on graduate unemployment in South Asia is published in 2013. As per estimates presented in the report, nearly 5 out of every 10 graduates in Bangladesh are unemployed (against 3 out of 10 in India and Pakistan). Thus, the highest number of graduate unemployment was noticed in Bangladesh, India, Malaysia, Pakistan and Philippines.

Table 8
CORRELATION BETWEEN ONLINE FREELANCERS IN DIFFERENT WEBSITES AND GRADUATE UNEMPLOYMENT RATE

Factor combination	Spearman's rho	Sig (2 tailed)	Remarks
Percentage of freelancers in odesk.com and Graduate unemployment rate	0.645	0.032	Strong positive correlation Significant at 5% level
Percentage of freelancers in elance.com and Graduate unemployment rate	0.800	0.003	Strong positive correlation Significant at 1% level
Percentage of freelancers in odesk.com and Graduate unemployment rate	0.645	0.032	Strong positive correlation Significant at 5% level

There was a strong positive relationship between Graduate Unemployment rate and Percentage of freelancers of eleven respective countries with highest number of freelance population in Asia Pacific region in different freelancing websites like Odesk.com, elance.com and guru.com.

Conclusion:

From the results of the study, it can be inferred that the null hypothesis stating that there is no significant relationship between Internet Penetration Rate and the independent factors such as Internet cost and English Speaking Population in Asia-Pacific countries is rejected at 5% level of significance and it is concluded that there is a negative relationship between Internet cost and Internet Penetration Rate i.e., if internet cost increases, there will be less internet penetration and vice versa. A positive relationship between English speaking population and internet penetration rate was noticed which means increase in English speaking population will increase Internet penetration rate. The study also reveals that in all the three freelancing websites namely odesk.com, elance.com and guru.com, India has the maximum number of freelancers among the Asia Pacific Countries followed by Philippines, Pakistan and Bangladesh. The second hypothesis stating that there is no relationship between online freelancer's population and graduate unemployment rate was rejected and it was concluded that there is a high positive relationship between graduate Unemployment rate and online freelancers. Thus, there is a paradigm shift of talent from brick and mortar software companies to freelancing economy which will exactly replace the fixed cost to variable cost for the companies. With the increase in mobile technology and its applications, the day is not far away that the freelancers will be capable to work and render their services through their internet and mobile phone technology.

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