

Employment Generation in the IT Sector: Status, Determinants and Challenges.

Sruthy K S

Research Scholar *Research Department of Economics* *P.M.Govt.College Chalakudy.*

Abstract

Employment is the powerful instrument of inclusive growth. Creating new job is a crucial task and it plays an important role in the economy. India is one of the fastest growing economies in the world. The magnitude of unemployment is very high in our country. The invention of computer is the most important event in the history of technology. Information technology is the one of the unorganized sector and it creates more employment opportunities. Over the past few years, employment generation in IT sector encompasses high growth. Kerala is a literacy state given more importance to information technology. The magnitude of educated unemployment is very high in Kerala. Kerala is potential to generate more employment opportunities in IT sector. This study was relevant in nowadays due to the employment potential of the IT sector. The present study undertaken with following objectives: a) To assess the status of employment generation in kerala. b) To identify the determinants of employment in information technology) To identify the challenges and problems faced by IT employees. The study was based on both primary and secondary data. Primary data was collected through direct personal interview with IT professionals. Secondary data collected from various decennial census reports, various years of NASSCOM reports, Economic survey, Publication of State Planning Board, IT mission, Employment Exchange Data etc. The sample design was done on the basis of simple random sampling method. This study mainly focusing the employment generation in the IT sector because this sector provides more employment opportunities in the modern world. The study intends to know the current situation of employment generation of information technology and problems and challenges of IT employees. To analyze the data, tools like Linear Probability model, Entropy index and X^2 test were used. Linear probability model was used to find out the determinants of employment in information technology. And entropy index was used to find out employability indices. The X^2 test was applied for find out the association between different attributes. The major finding of the study was that there are many employment determinant factors affecting employment generation in IT sector i.e. education, gender, employability skill, nature of placement etc. And found that the main problems of IT employees are high work pressure, low salary, low promotion, low job security etc. This study clearly specified the importance of information technology and its employment generations.

Keywords: Information Technology, Employment generation, Educated unemployment, Inclusive growth.

Date of Submission: 29-04-2019

Date of acceptance: 13-05-2019

I. INTRODUCTION

India is one of the fastest growing economies of the world. The magnitude of unemployment is very high in our country. Creating new job is a crucial task and plays an important role in the economy. According to NSSO (National Sample Survey Organization) data in all India level, the workforce participation rate is 50.8 per cent. In Kerala, unemployment rate is higher in urban areas compared to rural areas. The supply of work seekers increased and the demand for them did not increase, resulting in high unemployment in Kerala. In the all India level, Kerala has the highest unemployment rate of 12.5 per cent (Annual Employment & Unemployment Survey 2015-2016).

Employment is the powerful instrument of inclusive growth. The employment is generated through three sectors viz primary, secondary and tertiary. All these sectors are contributing the state domestic product. The notable increase in the share of the tertiary sector is a common phenomenon that occurred across the country. The tertiary sector classified into trade, hotels, restaurant, transport, storage, communication, finance, insurance, real estate, business services and community, social personal services etc. In service sector or tertiary sector information technology generate more employment opportunities.

The invention of computer is the most important event in the history of technology. Information technology has tremendous potential in terms of employment and income generations. IT is seen as one of the most significant forces of modernization. IT is both labor-creating and labour-saving technology. The spread of computerization acts as a catalyst for the growth of many types of business. The potential contribution of

information technology to the employment generation is both direct and indirect. Directly, the growth of the computer hardware and software industries is generating new job opportunities in India. Indirectly, the adoption of computer technology by other industries expands the range of services they provide and can stimulate more rapid growth of these sectors. According to NASSCOM report, the contribution of the IT sector to India's GDP stood at 7.7 per cent in 2016. Kerala has all the intrinsic advantages that can foster the growth of IT for social and economic development, including, advanced levels of literacy, education and healthcare, an excellent telecommunications network reaching all towns and villages. TECHNOPARK in Thiruvananthapuram, INFOPARK in Kochi, and CYBER PARK in Kozhikode are the three IT Parks promoted by the Government of Kerala. All these Parks have world-class facilities and excellent growth prospects.

II. SIGNIFICANCE OF THE STUDY

In the world economy, employment in information technology plays a major role. High population leads to many unemployment problems, but the emergence of IT sector creates more employment in India and other countries. In India, post liberalization era paved the way for the development of IT industry. Many youngsters attracted to this sector at the booming period. The IT/ITES industry has contributed to the national GDP which had risen from 1.2 per cent in 1997-98, as it is increased to 7.5 per cent in 2011-12 and also increased to 7.8 in 2016-17 (NASSCOM Report). Kerala, literary state gives importance to IT sector. Educated unemployment is the crucial issue of the Kerala. From the sectoral performance, service sector gives more share to State Domestic Product. IT is one of the service sectors. While analyzing the sectoral distribution of state income, it is seen that primary sector is decreasing and territory sector increasing. But the secondary sector remains stagnant. The Gross State Domestic Product in Kerala increased from 6.6 per cent in 2015-16 to 7.4 per cent in 2016-17 (Economic Review 2016). Kerala is a fertile ground for the growth of the IT sector. The development of the IT leads to increasing the share of industry to GDP. Kerala is potential to generate more employment opportunities in IT sector. Among IT, telecommunication networks, education, software exports are very important in economic growth. This study is relevant in nowadays due to the employment potentials of the IT sector.

III. REVIEW OF LITERATURE

In this section, present the review of the existing studies among IT sector and its employment potentials.

Kelker et al (1991) pointed out that the role of information sector in India and is a preliminary attempt at measuring the size of India's information sector. It shows how investment in IT sector and in IT in particular and product enhancing, resource saving, expands the country's production possibilities, improves trading potentials and contribute to higher growth rate. The size of information sector is measured using the expenditure method.

Ramachandraiah (2003) observed that IT industry in Andhra Pradesh has several advantages with a large pool of scientific manpower and a proactive state government. Software exports have grown impressively. The ITES industry plays a significant role in creating job opportunities. The challenges of social sectors not tackled on apriority basis and the fast growing IT sector will leave majority of population behind leading to a more polarized society.

Ramesh (2004) analyzed the changing sectoral share of employment, the role of service sector in the provision of employment opportunities in the Indian economy. He also pointed out that new technologies need fewer people in manufacturing. So, major jobs will be created in services. He found that IT revolution sweeping across the world provides tremendous opportunities for India.

Singh (2004) stated that the success of India's software industry. He examines whether IT can possible contribute to India's economic development. It also examines the performance of India's IT se (Singh, 2004) (Babu.P.Ramesh, 2004) (C.Ramachandraiah, 2003) (Vijay Kelker, N.Chadurvedi & Dar.k.Madav, 1991) (Malish C.M and Ilavarasan P. Vigneswara, 2009) (Panduranga Reddy .C, Prasad .A & Pavankumar .G, 2010) ctor. The study also turns to a consideration of the resource needs of the IT sector and possible constraints and bottlenecks. He concluded that general micro and macro-economic policy issues along with implications for the IT sector.

Karnik (2005) pointed out that fuelled by the ever increasing demand and sustained supply of cheaper manpower, the Indian ITES-BPO industry is poised for a big leap in the future. The overall dominance of IT services industry –the segment accounted for around 60 per cent of IT industry revenues in 2004-04 it is the fast paced ITES-BPO market which is expected to emerge as the larger growth opportunity for India as the country moves into the future.

Upadhya (2007) made an attempt to explore the Indian IT industry is often represented as providing employment opportunities to a wider cross section of society than has been the case with other professional and white collar job. The social composition of IT workforce is more homogenous than is often supposed, in that the workforce is largely urban, middle class and high class. He randomly selected samples of employees, it reflects

from the demographic of the workforce. He explained that 'merit' in the context of elite opposition to reservation; create relative social homogeneity in IT workforce.

Fuller and Narasimhan (2006) explained that the number of engineering colleges has raised rapidly, particularly the growth of IT industry. But the majority of the graduates cannot get job in top software companies. Communication skill is the form of social and cultural capital mostly possessed by the urban middle class. The key ingredient for success in a competitive economy and society enhancing personal skills and knowledge through 'exposure'. Although abolishing caste based reservation in private engineering colleges would have some effects on social mobility.

Abraham (2007) observed that in the wake of high interfirm rivalry and poaching of workers in the software industry. This study sought to understand the patterns of employee attrition and its determinants. He used the logit approach to analyzing the quitting behavior of workers in the software industry. The empirical results of the study give the idea that the probability of the worker being highly mobile increases if there is an increase of the explanatory variables with appositive coefficient. He concluded that skill up gradation policy may have role to play creating greater employee ability in software firms.

Malish and Illavarasan (2009) examined that whether software work in India is profession or occupation. Their study was based on secondary data and literature on the software work organization in India. The paper shows that software work in India is not controlled by any association or state, workers do not have control over their expertise acquisition process, evaluated by other occupations, lack work commitment and do not have code of ethics. They concluded that software work in india can be discussed only under occupational paradigm, and software employees are software workers.

Reddy et.al (2010) stated that new economic policy of government of India is to integrate the Indian economy in to the world economy. They examined the nature of SEZ (Special Economic Zone), to analyze the current employment generated by SEZ. The data has been drawn from Ministry of commerce and industry. The main focus of the study is on the 118 notified SEZ of southern India.

The studies surveyed above explore a host of issues relating to Information Technology especially that of India and Kerala. Based on these studies the research problem can be stated as follows.

IV. STATEMENT OF THE PROBLEM

Over the one decade, there has been a shift in employment pattern. In the modern period, service sector has been major contributor to the GDP and employment generation. In service sector, IT is dominated to provide employment. For the last ten years there has been a tremendous growth in the IT sector. Information technology provides more employment opportunities. IT sector is an unorganized sector and there has been no trade union. The IT workers have no job security. Information technology spread all over the world due to this reason any changes in global economy will affect the information technology. After 2008 recession, the IT hub is decreasing and the growth of IT sector has been stagnant. More employees faces severe challenges like low wages, workpressure, lack of job security, more terminated from job, more working hours, less promotion etc. This study examines sustainability of employment generation in IT sector in modern period. However, though several studies are available on this area none of this study has highlighted these factors. The present study aims at fill this gap.

V. OBJECTIVES

1. To assess the status of employment generation in IT sector in Kerala.
2. To identify the determinants of employment in information technology.
3. To identify the challenges and problems faced by IT employees.

VI. DATA SOURCE AND METHODOLOGY

The Present study is based on both primary and secondary data. Secondary data are collected from various years of NASSCOM report, economic reviews, economic survey, Census report, Employment exchange data, Publication of state planning board, Survekshna, IT mission etc. Primary data collected through direct personal interview with IT professionals. The data collected from a random sample of 100 employees chosen from SaNDS Lab Korratty and New Age Sys Company in Kochi.

To analyze the data, tools like Linear Probability model, Entropy index and X^2 test were used. Linear probability model was used to find out the determinants of employment in information technology. And entropy index was used to find out employability indices. The X^2 test was applied for find out the association between different attributes.

VII. MAIN RESULTS

This section discusses each objective in one by one. Firstly, we look at the status of employment generation in IT sector in Kerala. In this section we clearly specify the employment position in Kerala –General view and explain the role of IT sector in Kerala and status of IT sector. Second we look at the determinants of employment generation in IT sector and Thirdly, we look at the major problems and challenges of IT employees.

Status of employment generation in IT sector.

From the decade of 1970's onwards, there has been an increase in labour supply particularly due to increase in the number of women are participating employment. Here ,the work participation in Kerala clearly given by various census reports.

Table-7.1 Work participation in Kerala

Census Year	Person	Male	Female
1981	36.5	44.9	16.6
1991	31.4	47.6	15.9
2001	32.3	50.4	15.3
2011	34.7	52.7	18.2

Source: Various census reports

The growth and structural change of employment gives an idea about the overall changes rating place in the employment front. The total work seekers are given below:

Table -7.2Total Work seekers in Kerala (No.of Person)

Year	General Work seekers	Professional Work seekers	Total Work seekers
2001	4254307	177032	4431339
2002	3499774	180118	3679892
2003	3845641	158897	4004538
2004	3579675	176638	3756313
2005	3492776	176922	3669698
2006	3692549	164155	3856704
2007	3839006	149449	3988455
2008	4000813	143431	4144244
2009	4154334	145939	4300273
2010	4159874	150471	4310345
2011	4187659	163899	4342267
2012	3967983	169971	4137954
2013	3810084	167719	3977803
2014	3740690	155091	3895781
2015	3493822	162741	3656563

Source: Various Economic Review Reports

Kerala is the pioneering state in the country to attempt development of an electronics industry at the regional level. Kerala is the most favorable location in India for IT industry to flourish. The exponential growth witnessed during the past ten years in the IT/ITES has influences the growth of service sectors. This industry has helped in creating large scale employment opportunity for technically qualified professionals as well as non-technical personal in low-end activities like call centres,back officeoperation,transcription services etc.Government of Kerala is taken to play a catalytic role for the development of IT industry within the state.Today, Kerala is on the edge of the next phase of IT growth and the government promises all support to all companies who will play a key role in the development of the state as a leading IT hub of the country.

Table-7.3 Important Information on IT industry in Kerala

Institution	Total investment(Rs. crore)	No.of Units	Total Employment(nos.)	Total turnover(Rs. crore)	Total Export(Rs.crore)
Techno park	580	104	12500	650	600
Info park	94	32	3514	67.23	66.67
Cochin SEZ	17	20	1388	219	219
E-pay centers	0.30	100	200	-	-
Training institutes	113.12	4545	22725	-	-

Source: IT Mission

IT sector is creating larger employment than any other sector in the state. With about 40,000 direct employments in TECHNOPARK and INFOPARK, and indirect employment of about 200,000, the number of jobs created due to IT in the last decade is around 2.5 lakhs. This would be higher than any other sector in the state. Moreover, there is potential for still higher number of jobs. It is possible to scale up the IT development to the next level.

Determinants of employment in IT sector

In order to assess the preference of IT employment the determinant factors are listed. The major determinants are employability, education, gender, nature of selection etc. Linear probability model was used to find out the determinant s of IT sector employment.

$$\text{Preferences for IT Employment (PIE)} = \alpha_1 + \beta_1 E_p + \alpha_2 G + \alpha_3 \text{Edu} + \alpha_4 \text{Ns} + U.$$

Where,

PIE=Preference for IT Employment

Ep=Employability

Edu=Education

Ns=Nature of selection

U=Error Term

$$\text{PIE} = -0.1341 + 0.18 + 0.13G + 0.06\text{Edu} + 0.04\text{Ns}.$$

$$R^2 = 0.72$$

These results inferred that there is a positive relation between all identified determinants. Employability increases the probability of getting employment raises by 0.18. Similarly, all other determinants positively influenced. But it is also interesting note that nature of selection /placement is relatively low. It is found that total influence of the listed determinants is only 0.31 probability levels. In other words, more than 70 per cent factors influencing preference for employment are exogenous. Thus it can be clearly specify that preference of employment in IT sector is determined by numerous factors and not by the conventionally believed determinants like sex, campus selection, qualification, marks etc.

Using the probability values in the Linear Probability Model, Employability indices were computed. It is calculated based on entropy index assuming that entropy values ranges from 0 to 1. The estimated value is 0.34 and maximum possible value is 1. Hence it may be inferred that employability index behavior is not very high. This is also confirms to the earlier argument using LPM that conventional factors play only limited role in generating IT employment in recent years.

In order to identify the association between different attributes X^2 values have work down using gender, sex, education, employability. The computed X^2 values are between sex and education 16.18, between education and employability 24.16, between gender and employability 0.64, between gender and placement of employment 0.58, between education and employment 32.17. These X^2 values were tested a 5 point level of significance and found that any X^2 value above 6.84 are significant. Hence, many X^2 value computed to be statistically significant.

Major challenges and problems of IT workers

Estimates showed that IT sector faces severe challenges. The major challenges in IT employees from the sample survey are given below: IT employees have long working hours and they do not get more leisure time. Job security was very low in this type of sector. IT sector is private sector. Most of the private sector job has no job security. Lack of the trade union is the major problem of IT workers. IT sector include IT enabled services and business process outsourcing workers. They get a very low salary for their work. Workers have no so much leaves in the working days. Less promotion chances was another challenge in the field. Many of the

sample workers are not satisfied their promotion chances. More working hours affect the mental and physical conditions of the workers. These are the main challenges faced by the IT workers.

VIII. FINDINGS AND CONCLUSION

This paper relies on importance of information technology in employment generation. The majority of the employees in the sample survey are male persons. Skills are the most important factor in the employability. Majority of the samples explained that educational qualification very much affected to get employment. The major finding of the study was that there are many employment determinant factors affecting employment generation in IT sector i.e. education, age, gender, employability skill, nature of placement etc. And found that the main problems of IT employees are high work pressure, low salary, low promotion, low job security etc. This study clearly specified the importance of information technology and its employment generations.

Employment generation in the IT sector is one of the important elements nowadays. Most of the employees have lack of skills. To achieve these skills more development needs to educational level and working experience. Emergence of information technology creates job opportunities and it is marginally decrease the unemployment problem in Kerala. The problem of unemployment is solved in a greater extent in years to come.

REFERENCES

- [1]. Abraham Vinoj (2007) 'Employee Attrition in Indian IT Industry', Indian Journal of Labour Economics, December.
- [2]. Annual Employment & Unemployment Survey(2015-16), Government of India
- [3]. Babu.P.Ramesh. (2004, January). Cyber Coolies' in BPO: Insecurities and Vulnerabilities of Non-Standard Work. Economic & Political Weekly, 39(5), 492-497.
- [4]. Census of India Various Years, Office of the Registrar Genral, india
- [5]. Economic Review of various years, State Planning Board, TVM.
- [6]. C.J Fuller and Haripriya Narasimhan. (2006, January 21). Engineering Colleges, 'Exposure ' and Information Technology. Economic & Political Weekly, 41(3).
- [7]. C.Ramachandraiah. (2003, March 22). IT& Social Development. Economic & Political Weekly, XXXVIII(317).
- [8]. Kiran, K. (2005, December). Indian ITES-BPO : Vision 2010. Yojana.
- [9]. Malish C.M and Ilavarasan P. Vigneswara. (2009, June). Workers, not Professionals, Situating Indian National Programmers. Labour and Development, 14(2), 1-21.
- [10]. Panduranga Reddy .C, Prasad .A & Pavankumar .G. (2010). Employment Generated by Special Economic Zones in Southern India. Journal Of Economics, 1(11), 1-11.
- [11]. Singh, N. (2004, july). Information Technology and India's Economic Development*. Working Paper series.
- [12]. Upadhya, C. (2007). Employment and Exclusion and merit in the Indian IT industry. Economic & Political Weekly.
- [13]. Vijay Kelker, N.Chadurvedi & Dar.k.Madav. (1991, September 14). India's Information Economy, Roles, Size and Scope. Economic & Political Weekly.

Websites

- [14]. www.itmission.com
- [15]. www.epw.in
- [16]. www.nasscom.in

Sruthy K S" Employment Generation in the It Sector: Status, Determinants and Challenges."IOSR Journal of Humanities and Social Science (IOSR-JHSS). vol. 24 no. 05, 2019, pp. 08-13.