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Information Professionals Prospects of Working in ICT Related Sector: A Survey from Employers' Perspective

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ABSTRACT

There are opportunities for information professional working in the context of information communication and technology (ICT) related sector. In investigating job vacancies in information work as well as identify causal factors, this study adopts chances of getting a job as an information professional and the criteria needed as perceived by employers. The study aims to investigate the types of jobs related to information work, to find out qualifications and information technology (IT) skills required for the job, to find out personal qualities and attitudes that information professionals (IP) must have from the employers' perspective and to identify the factors leading to the opening of many jobs as an information professional in the ICT related field. In using a questionnaire approach, the answers of fifty respondents is of private companies in Selangor were studied over a three months period. It was found that the ICT related sector needs to employ more IP in the future because of globalization, the importance of k-workers, the emergence of k-economy and the booming of high-technology. This study concluded by recommending certain solutions toward the finding i.e. introducing more information programs in a higher learning institution, balancing the hard and soft skills needed, increasing job awareness on IP, cultivating positive attitudes on IP towards their work and employing more IP in the ICT related sector. These would give bright future prospects for IP to work in the ICT relate sector.

KEYWORDS: Information Professional (IP), Employers, Perspective, Information Communication Technology (ICT), Sector, Information Work, Job, Opportunities.

INTRODUCTION

Information communication technology (ICT) is a combination of information infrastructure and information technology (IT) infrastructure [5]. It consists of all facilities that provide a basis for multiple applications of information to facilitate its access and flow. The increasing role of information to support management, especially in the business sector has brought about a new meaning to the information sector. In line with IT development and to replace with the convergence of technology, the term of ICT has been used to refer to the merging of information and IT. ICT related sector then refers to sectors which relying mostly or involving the use of ICT in their business transformation such as the business of software development, network application, patent searching (contain a great deal of information not published in any other medium), computer programming, software design and so on. The activities involve with information production, acquisition, storage, handling, processing, retrieval, analysis, documentation, dissemination, transfer (flow) and exchange for the purpose of communication.

There is a need to identify jobs for Information Professionals (IP) in the ICT related sector as the professional are trained to work in this sector as well. Working prospects in the ICT related sector are growing, however the IP graduates do not know the prospects. Employers in this context often stress that perspective employees must have both the "IT skills" and "qualification" as IP is taunted as being paramount [6]. Although this research tends to measure job prospect in terms of market demand, this perspective is incomplete as there is a need to take into consideration for other factors that contribute to good working prospect such as attitudes and personal qualities. Today, many ICT companies and business are growing apace. In line with that, many IPs are needed to be employed within their company. As the respective employees, they need to know what are the employers expect them to be. Most of the prospective IP does not know or still are unclear with the types of job and the requirement of IP in the ICT related sector. Furthermore, it is hard to find qualified IP which has certain qualifications and IT skills as needed. Thus, certain criteria are outlined, to give a clear definition of the perspective IP. Soft skills, for examples personal qualities and attitudes are also needed to be determined. Most of the IP neglect about these parts. However, employers sometimes give the equivalent chance to them as well as qualification and IT skills. Employers nowadays want to create the new jobs for IP. Instead, they do not know how far IP is important for their company and what the factors that makes them more important are. Thus, employers should have the clear reasons in employing IP in their company.

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IP is a career that specializes in those jobs related to information works like selecting, organizing, storing, preserving and disseminating information certain levels of knowledge, skills and experience are required to enable those handling different types of tasks and responsibilities. These tasks originate from the librarian and then expand towards other jobs as technology is booming. However, in [4] consider IP as knowledge workers who apply theoretical and analytical knowledge, acquired through formal education, to developing new products or services. Simply, IP implies activity requiring, which guided by certain standards, education at or above the baccalaureate (bachelor degree) level and certain kinds of IT skills. Usually, the title of Chief Knowledge Officer (CKO), Chief Information Officer (CIO), Knowledge Manager, Database Manager and many more were used to refer to IP in Malaysia.

LITERATURE REVIEW

IP as a profession probably has its roots in the late 1960's, when a few individuals and library organization realized that the company and the photocopier, harbingers of the significant role to be played by technology in the information revolution would have a major impact on the organization and retrieval of information. The ability to deliver documents, copies of publishing articles and similar materials to the academic, business and professional communities on demand. This scenario then presented an opportunity to those with enough foresight and entrepreneurial spirit to turn the need into a service business.

According to [8], IP is the whole people who performed a variety of services, the common thread was their involvement with information retrieving, organizing and analyzing it or consulting regarding its use and management. From this definition, IP are people who provide information services for organization of all types and sizes. Document retrieval and delivery, literature surveys and data gathering are the mainstay of information work. Besides, IP needs to gather data, analyze it and provide comprehensive with high-quality substantive reports that affect the company's decision-making process [19]. In [4] writes that the term independent researcher, information broker and IP are often used interchangeable and acceptable. He believed that they belong to the same category. In [21] defines IP as the people who involve with competitive intelligence. It is because many IP works with companies to stay competitive and informed. Typical clients deal with IP range from small business owners to big companies, insurance and investment firms, advertising and PR agencies, manufacturing and service industries.

There has been a recent call for IP to possess work skills that span many disciplines. Scholars and academicians mapped out the characteristics of IP and saw technical, business, organizational and personal skills are being important. Organizations are devolving in the span of pertains and downsizing in personnel levels. Technology is under constant change and IPs is being asked to cope with the need to develop differing skill sets. Thus, to be a good IP, the organizational skill sets for the information systems, information services and managerial professional within a range of commercial and academic areas are needed. A study by [9] looked at how information services professionals and computing professionals obtained information. By its nature, this comparative study recognized the tribal groupings of IPs could be compared and studied as to the way they view and use information. These studies confirm the burgeoning nature of information processing in organizations and the necessity for IPs to expand their skill sets. IPs now are required to work in areas other than their own expertise.

IP frequently held a degree in library science. In recent years, however, colleagues with advances degrees in science, law, business, medicine or other disciplines have joined their ranks. These newcomers combined their education and years of experience with IT skills, serve in companies that serve a wide variety of clients. These experts along with those holding library science degrees can handle both general and highly-specialized questions and assignments. In [11] believes that continuing education, maintaining and upgrading their skills are very important to be IP by attending seminars, conferences and short course. Additional programs such as on copyright, liability and other legal issues are able to keep IP abreast of developments in these areas. For ICT sector, the needs of IT talent are crucial. And right now, demand outstrips the supply of good technologists by far which making it tougher than ever to retain staff. Besides, IP must comprehend themselves with various languages like Spanish, French or Japanese at any local colleges. Currently, they do not need to speak those languages at their company but they must look ahead to possibly working or collaborate with any international company. To be a good IP, Meadors, a 17-year TECO veteran says that he wants to strengthen "hard" technology skills like programming techniques. He added that he also wants to develop "soft skills" like management techniques or knowledge of business functions.

"It's more than money that makes a place a good place to work," Meadors says. "(TECO) wants someone with broader business experience, not just someone who can write good COBOL or C++ code. A lot of projects require good code writing, but they also require good cost justification, a well-written proposal and some understanding of the business process." In [2] stated that for IP which covers a wide range of specializations such as researchers in R&D department, design engineers in production department, database managers in IT department, information brokers in sales department, lawyers in servicing department and so on, both the

problems of obtaining the right data and the benefits of computer support are different among them. Nevertheless, they add value to information by applying their professional skills to various tasks of analysis and synthesis. Often, they draw information from a variety of different sources. Computer support can help them with the logistical problem of assembling the information they need without calling on middlemen and also make it easier for them to associate and manipulate information. IP in summary needs both easy access to their major sources of information and also tools that enable them to associate and manipulate information, so that they can apply their knowledge and creativity to the best effect. They use highly specialized computer-based tools and applications like Lotus Note, multimedia applications, websites and any online information. They are actually heavy consumers of information, drawing on a variety of sources both inside and outside their business.

Typically, IPs are organized in teams to bring a range of specialized knowledge to bear on a complex task. Sometimes, it was done in order to economize on scarce skills or expensive equipment. Due to changing roles and functions, IP today certainly need additional or new sets of knowledge and skills in order to remain competitive, to be able to perform new tasks or to assess new position. In [17] argued that to be IP, education is very important, at least possess an undergraduate degree. The ultimate educational characteristics of IP are continuous retraining and reskilling, reading, seminars, short and long-term courses. In addition, IP must be experts in areas of database and application development, networking and client-server technology [10]. They also must have a solid IT management background, a balance technical competency, business savvy, and the visionary capacity. IP is required to have a good deal of more formal education and continuous learning than their predecessors, the blue-collar workers. The industry cannot replace blue-collar workers with knowledge worker and IP overnight as the way displaces farmers were able to move into industrial jobs [15]. This is obviously putting a real strain on the education system and re-engineering of an educational institution is another factor to look at.

The effort was done in Malaysia towards producing more IP, especially in the ICT related sector. They agreed to introduce IT have become a core subject in schools [7]. Furthermore, IT was currently being offered as an elective subject at the SPM level and was popular. It is hoped that many young people, whilst they are at primary school level will decide to become IP and thereafter will take appropriate university degree and post-graduate courses, and also plan their early years of employment to equip them for careers as IP. These traits are crucial to lead the systems organization and to be a positive influence, which contributes to the success of other enterprise areas. Besides, in [18] believed that IP also responsible for formulating plans and directing the use of IT, which is complimentary to in-house system function.

Since interaction with management team is very important, IP must ensure that there is appropriate participation from the business activity in setting up IT based support systems [12]. Thus, IP should be able to provide industry expertise to argument that available from other sources. In the future, knowledge is one resource, which everyone needs [13]. ICT has brought a social transformation that is dramatically changing the socioeconomic makeup of the world [16]. There is a shift to an economic system based on knowledge. In the knowledge age, information and intelligence become the raw materials that conceptually belong to or can be acquired by the IP especially knowledge worker the major percentage of the workforce in the developed countries is not represented by the agricultural and industrial sectors any longer, but by the knowledge worker including IP [3]. This scenario has then become as an important mandate for ICT related sector and IP who are responsible to manage all forms of information. This recognition has enabled IP to gain more recognition and a better future to play their roles effectively as information providers, information analysts and information consultants [15].

The rise in the status of information and IP has put the information profession on par with the status of other profession [20]. Such recognition can be seen with the creation of the post of CIO, knowledge manager, CKO and many more. In Malaysia, IP is a new field but developing very fast. It is because the world is moving into information era and IP is really needed in the marketplace.

Working as IP in ICT related sector is absolutely enjoyable, challenging and dynamic. There are two attractions can be looked at tangible and intangible attraction [14].

Salary

In enlightened organizations, the information department is recognized as a valuable asset, aid to management and the IP have the appropriate status and rewards. Partly because there is a shortage of IP, the status and remunerations are rising fast. Now, publicity is increasing for IP as a career in its own right, a career which may be entered for the positive reasons that it provides a satisfying and rewarding occupation.

Job Satisfaction

Job satisfaction is a kind of intangible attractions. There is no doubt that only a small percentage of those who enter IP work wish to leave it for some other type of work. They often find IP just as challenging. The reasons for this high level of job satisfaction are many. For example, it may be connected with the IP opportunity to be particularly valuable in the overlapping areas of knowledge where one scientific discipline

merges into another. Certainly, a good information department which is alert and forward-looking can sometimes actively influence an organization's research program by drawing attention to new information from one field of knowledge that may have potential applications in others.

Consensus Building

Angie Brown, a system engineer for the past two years at the home improvement retailer The Home Depot Inc. in Atlanta says that in addition to training, assignment choice plays a key role in her job satisfaction. Brown says managers "influence but do not control people" and seek input from employees while developing IT projects.

"We have a lot of bright people, and if they can be engaged in our issues and challenges, we can come up with better solutions, "says Ron Griffin, CIO at The Home Depot. "We try to involve our (employees) in all aspects of the biz, and not just treat them as techno nerds."

Technology managers at Allstate Corp. in Northbrook, III. also give IT employees a say in determining which projects they will take on next. Each posting includes the duration, scope and skills required for the project. A manager then determines if that employee has the right skills for the project.

"We encourage our employees to take ownership of their own careers and take a proactive role in determining what they want to do, "say Mike Escobar, assistant vice president of enterprise and shared services systems and a 25-year Allstate veteran.

"People looking for stability might go to corporate systems, financial and the HR system area….but others can move on every few months to something else."

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Seeking Balance

Accommodating the needs of an employee's family life also creates more job satisfaction, say IT professionals. And it requires flexibility from management. Like the heads of more and more IT departments, United Stationers CIO Ergin Uskup worked out a compromise with Buchholz to keep her on staff: work three days at home and two days in the office [2]. In a knowledge era, careers of IP are not only concentrated to libraries, archives or record centers. Graduate students of information studies have a lot of choices, either to work in libraries and other information related sector as a manager or executive.

There are many information agencies where IP are situated [1]. The complete lists are as below.

i. Libraries
ii. Archives, record center, record department, manuscript center
iii. Information brokerage firms, information consultancy firms
iv. Information research and analysis company
v. Information bureau\Museum, memorials, galleries
vi. Publishing houses (indexing and abstracting services)
vii. Online information providers, gateway intermediary firms
viii. IT based company, information system department

Currently, people who are proficient in using information can influence politicians as well as decision makers. This would give impact on information utilization. Most of the employers who employ IP in their company are coming from ICT companies, which obtained MSC Status Company. Through these companies, IP could have bright working prospects. Only selected companies are able to obtain this status. The MSC Status Company is companies which are recognized by Malaysia Government as achieved a certain standard as prescribed by the government. This study hopes to provide an illuminative understanding of job opportunities in ICT related sector. The objectives of the study are as follows:

i. To investigate the types of job, which are related to information work.
ii. To examine the qualification and IT skills that the job required.
iii. To analyze the personal qualities and attitudes that IP must have from the employers' perspective. To identify the factors that lead to the opening of many jobs as IP an ICT field.

The study presents about IP in several different angles. It was conducted in corporate sectors in Selangor area. It covers the investigation of types of jobs for IP, necessary qualification and skills needed, personal

qualities and attitudes that IP must possess and the various factors that lead to the opening of many jobs in the ICT related sector. These all are studied according to the employers' perspective.

METHODOLOGY

This study attempted to gain information on the IP prospect of working in the ICT related sector, and the criteria needed as perceived by the employers. The results and recommendations of the research were done based on the analyzed data. The researcher conducted the research in the form of survey methods. This study was done in Selangor. The population of the study was the employers of 50 selected companies in the ICT related sector, which obtained MSC Status Company. As in April 20 2015, there are 2336 active companies which obtain MSC status from Malaysia government. Out of the number, the researcher had distributed 150 sets of questionnaires among the selected companies. The researcher used the questionnaires as the instrument. The questionnaires consist of 20 questions that cover the aspect of IP qualities, nature of their work and their prospects of working. There are four of the multiple-choice questions, where the respondents were given some extra spaces to be fulfilled according to certain qualities as not stated by the researcher. For the rest of the questions, the respondents were asked to choose the most appropriate answer on the answers given. All of the answers were recorded in percentage.

Data collection was carried out in August 2015. All the questionnaires were distributed among ICT companies through online in the beginning of August and it was done continuously until the end of August. From the research that had been conducted, the researcher had distributed 150 sets of questionnaires to the respondents, who are the employers in the selected ICT companies of Selangor. In order to get the response, the researcher provided two weeks for them so that they can fill up all the questionnaires. Those respondents who refused to answer the questionnaires; the researcher called them through phone, asking for permission, explaining the research objectives and resent the questionnaires. This happened because the respondents are the employers of the company and they are very busy. Most of their time spent outside.

All the data that had been gathered from the questionnaires were analyzed manually. The researcher took about two weeks to analyze all the data gathered. The researcher distributed 150 sets of questionnaires. A total of 50 sets were returned. This number represents 33.3% and 7.75% of the population. The rest did not reply. The poor response from the respondents is due to access failure, change email address and busy job schedule. The researcher did not take into consideration incomplete questionnaire. At the beginning of the research, the researcher targeted to have 60-70 respondents to answer.

FINDINGS AND DISCUSSION

Types of Job Related to Information Work
Job Designation of IP in the Companies

Table 1: IP by job designation

Job Designation	Frequency	Percentage
Database manager	6	12%
Knowledge manager	19	38%
Information officer	16	32%
Others	9	18%
Total	50	100%

Based on the Table 1, it is found that most of the ICT related sector companies use the job designation of knowledge manager for IP in their companies. The percentage is 38%. This number then followed by the information officer with 32%, others is 18% and database manager represents 12%.

Number of IP in a Company

Table 2: Number of IP in a company

Number	Frequency	Percentage
5-less	14	28%
6-10	30	60%
10-more	6	12%
Total	50	100%

Table 2 shows the number of IP in a company. About 30 companies, which represented 60% have 6-10 IP. Almost 14 companies which represented 28% have 5-less IP, and 6 companies which represented 12% have 10-more IP.

Age Scale of IP

Table 3: IP age scale

Age Scale	Frequency	Percentage
20-30 years	34	68%
30-40 years	16	32%
40-50 years	0	0%
Total	50	100%

By looking at the Table 3, it is found that the IP at the age of 20-30 years old recorded as the highest percentage of 68%. Whereas, respondents at the age of 30-40 years old recorded at 32%. None of the respondents employed IP at the age of 40-50 years old.

Teamwork of IP

All of the respondents stated that IP is working in a team. This number achieved 100%.

Salary Scale of IP

Table 4: IP salary scale

Salary Scale	Frequency	Percentage
RM4,000-less	35	70%
RM5,000-RM9,000	15	30%
RM10,000-RM19,000	0	0%
RM20,000-more	0	0%
Total	50	100%

Table 4 indicates that 70% of the IP get RM4,000-less of their monthly salary. This number then followed by 30%, which get RM5,000-RM9,000. However, none of the IP gets their salary RM10,000-RM19,000 or RM20,000-more.

Departments Where IP Attached

Table 5: Department where IP attached

Department Name	Frequency	Percentage
IT department	24	48
HR department	0	00
Marketing department	4	8
Others (KM department, R&D department, etc.)	22	44
Total	50	100%

From Table 5, IT department scored the highest percentage (48%) of the department where the IP attached. This number then followed by other departments as not listed by the researcher in the questionnaires (44%) such as KM department, R&D department. However, marketing department scored 8% and none of the respondents choose the answer of HR department.

Information Work Performed By IP in the Company

Table 6: Jobs performed by IP

Information Work	Frequency	Percentage
Analyzing information	28	56%
Preserving information	1	2%
Disseminating information	17	34%
Others (Managing and capturing information, maintaining of hardware and software, etc.)	4	8%
Total	50	100%

Table 6 shows the types of information work performed by IP. It shows that majority which represented 56% of the IP are analyzing information, 34% are disseminating information, 8% performed other information works as not listed by the researcher such as managing and capturing information, maintaining PC, server and network, whereas 2% are preserving information.

Sources of Information Used to Perform Job as IP

Table 7: Sources of information used by IP to perform their job

Sources	Frequency	Percentage
Publication	0	0%
Database	2	4%
Internet	0	0%
All	48	96%
Total	50	100%

Based on the Table 7, about 96% of the IP use all the sources as listed by the researcher i.e. publication, database and internet. Whereas, only 4% of the IP use only database. Neither of the IP uses only publication nor internet as the source of information.

Qualification, IT Skills and Job Experience of IP
Difficulties in Employing IP

Table 8: Difficulties in employing IP

Difficulties	Frequency	Percentage
Yes	32	64%
No	18	36%
Total	50	100%

From Table 8, almost 32 respondents which represent 64% face difficulties in employing IP in their company. Nevertheless, about 18 respondents or 36% face no difficulties at all. The types of difficulties are different from one sector to another.

Qualification Level of IP

Table 9: Qualification level of IP

Qualification	Frequency	Percentage
Diploma	19	38
Degree	25	50
Masters	6	12
Total	50	100%

Table 9 shows the qualification level needed in order to be an IP. About 50% of the respondents required degree, almost 38% required diploma and 12% required masters. Thus, qualification is important to be an IP.

Type of IT Skills

Table 10: Type of IT skills for IP

IT Skills	Frequency	Percentage
Programming	13	36%
Networking	20	40%
Designing	13	36%
Others (Internet, KM systems, technical logic thinking, etc.)	4	8%
Total	50	100%

Table 10 shows various types of IT skills needed for an IP. About 40% of the respondents consider networking as important. Both programming and designing share the same amount, which is 36%. Whereas, about 8% for others such as internet, KM system and technical logic thinking.

Aspect Emphasis Most by Employers on IP

Table 11: Aspect emphasis most by employers on IP

Aspects	Frequency	Percentage
Qualification	20	40%
IT skills	25	50%
Job experience	5	10%
Total	50	100%

As shown in Table 11, IT skills play the most important role for the employers. It represented 50%. Then, followed by qualification (40%) and job experience (10%). Thus, the employers' emphasis mostly on IT skills rather than qualification and job experience.

Continuous Training of IP

In addition, IP also should be given continuous training in order to enhance their knowledge and skills. Thus, all respondents (100%) answered that they give continuous training to the IP in their company.

Personal Qualities and Attitudes Needed in an IP

Table 12: Personal qualities and attitudes of IP

Personal Qualities	Frequency	Percentage
Business savvy	6	12%
Visionary capacity	13	26%
Language proficiency	0	0%
Creativity	5	10%
Innovatively	5	10%
All	21	42%
Total	50	100%

Table 12 shows list of personal qualities and attitudes needed in order to be an IP. None of the respondents choose only language proficiency. Both creativity and innovatively shared the same amount, which is 10%. About 12% choose business savvy and 26% choose visionary capacity. However, almost 42% of the respondents choose all the listed personal qualities. They regarded all of the personal qualities listed are important to be an IP.

Job Opportunities and Job Retaining for IP in ICT Related Sector

IP Contribution towards the Companies

About 100% of the respondents answered the same answer about IP contribution towards their companies. They agree that IP gives high contribution to their companies.

Ways of IP Contribution towards the Companies

Table 13: Ways of IP contribution towards the companies

Contribution	Frequency	Percentage
Increase company profit	2	4%
Provide in-house training	0	0%
Provide information for competitive intelligence	16	32%
Coordinate and integrate decentralized technology	3	6%
Add more values to products and services	3	6%
Accelerate information resources	3	6%
All	23	46%
Total	50	100%

In terms of contribution as stated in Table 13, all of the IP give contribution to the company differently. About 4% help increase company profit, 6% of each help coordinate and integrate decentralized technologies, add more values to products and services and also accelerate information resources. However, majority or 46% of the respondents choose all the stated answers as the ways of IP contributions to the companies.

Future Plan of Hiring More IP

Table 14: Future plan of hiring more IP

Response	Frequency	Percentage
Yes	32	64%
No	18	36%
Total	50	100%

Not the employer's entire plan to employ more IP in the future. This is supported by 35% of the respondents' answers. Whereas, 64% of the respondents answered that they plan to employ more IP in their companies. This condition is based on the companies' vision and mission.

Reason(s) of Employing More IP

Table 15: Reason(s) of employing more IP

Reason	Frequency	Percentage
Emergence of k-economy	0	0%
Booming of high-technology	4	8%
Globalization	0	0%
Importance of k-workers	14	28%
All	14	28%
Total	32	64%

However, Table 15 stated the reasons of employing more IP. Respondents who plan to employ more IP in their company stated their reason(s). None of the respondents gave the reasons for the emergence of k-economy and globalization alone, whereas 8% stated the reason of booming of high technology. The highest amount of 28% then scored by both the importance of k-workers and all the reasons given.

Ways of Retaining IP in the Company

Table 16: Ways of retaining IP within the company

Retaining	Frequency	Percentage
Offer better salary	14	28%
Supervised but independent	36	76%
Provide other facilities (house, car, hand phone, etc.)	0	0%
Total	50	100%

From Table 16, it is understood that there are various ways of retaining IP within certain companies. Majority or 76% of the respondents choose to retain their IP through supervised but independent. About 28% of them offer better salary to their IP and none of them choose to provide other facilities such as a house, car, hand phone, etc. This study is targeted to find out the types of jobs in information fields, certain qualities needed by the employers to employ IP and to investigate the future prospects of working in the ICT related sector. During doing this research, the researcher had faced several problems. The major problem is regarding the questionnaires that had been distributed. Since the researcher distributed the questionnaires through online, not many respondents willing to respond. As a result, the researcher made a phone call, asking permission, explaining the objectives and clarifying the term of IP. This action was done to ensure that the respondents respond very well to it. It was done continuously until the researcher satisfies. It takes about three weeks to collect 50 sets of questionnaires. All of them answer all the questions completely. Those who do not answer completely, the researcher did not take into consideration.

From the findings, the researcher would like to discuss some IP prospects of working in the ICT related sector. The results show that all the respondents employ IP in their companies. They perform their tasks as IP, using various job designations within the companies. Based on their job scope and job responsibilities, they are required to work in groups and involve actively with Community of Practice (CoP) of the companies. However, different sectors in ICT have different targeted for their IP. For example, in the electronic design sector, most of the IP are on engineering background and they are focusing more on hard skill, compared to those who are working on content development and consultancy sector. Day by day, there are an increasing number of ICT companies. The needs for IP are also increasing. Nevertheless, many employers face difficulties to obtain qualified IP. It is because the employers have to look at many sides, i.e. appropriate qualifications, IT, business, managerial, language, interpersonal skills and job experience. These combinations make the scarcity of IP. To attract more IP to employ, employers sometimes offered attractive salary. However, for the sake of competitive intelligence, some of the employers employ foreign IP from developed countries. Furthermore, the employers consider personal qualities and attitude as the important elements in employing IP. This means that besides looking at the tangible, the employers also looking at the intangible qualities. All the criteria are really needed for the development of both companies and IP themselves. The positive and dynamic IP then will allow the companies to increase the productivity.

Based on the findings, there is a bright future for IP to work in ICT related sector. It is because the results show a high percentage of employing more IP in the future. According to the employers, life is moving towards knowledge era, and the needs of IP are changing drastically. Their roles become more important and cover a wide area of jobs. People in different fields even can join this kind of work. Nowadays, there are many ICT companies and sectors that will employ IP. However, to ensure the qualities of IP and to enhance their knowledge and skills, the employers should provide training and retraining both locally and abroad, at least twice a year. This would be able to let the IP to cope with the changes in information and technology world.

In terms of job satisfaction, IP were at the level of satisfactory which means that they are satisfied with their jobs. They can manipulate and utilize information easily. Besides, the employers are able to retain IP within their company by allowing them to do their jobs independently but supervised. Thus, the findings proved that offering better salary does not attract IP most.

i. There are many types of job, which are related to information work in the ICT related sector.
ii. Data shows that IP has various types of job designation.
iii. IP is working on teamwork, which usually comprise of 6-10 person.
iv. In ICT related sector, IP attached to various departments.
v. IP salary is attractive, between RM 4,000-less.
vi. Most of the employers face difficulties in employing IP.
vii. IP at least must hold a diploma-have a certain level of IT, managerial, interpersonal and business skills. They are also required to attend training and retraining.

viii. Job experience is regarded as a contributing factor in employing IP.
ix. Because of k-economy in the knowledge era, IP has good opportunities to work in the ICT related sector.
x. IP provides many advantages to the company profits.
xi. Majority of the employers retain their IP by giving them supervised but independent in their work.

CONCLUSION AND RECOMMENDATIONS

From the findings and discussions provided, the researcher would like to outline several recommendations. They are as follows:

Increase Job Awareness on IP

The job as IP is quite new in Malaysia. Not many people really aware of it. Mass media such as newspaper, radio, television and internet should give more focus and publicity on IP. Moreover, they also should publish various types of job vacancies for the IP. There should be more information on job designation, job scope, job responsibilities and job specification. These would give a clearer picture to the perspective IP.

Introduce More Information Programs in Higher Learning Institution

Nowadays, the demand for graduates from information studies and ICT are higher. Thus, higher learning institution must be alert with the job market demand. The programs and subjects offered must be relevant. In ensuring the curriculum of the information studies and ICT really be developed according to the job market demand, a new paradigm shift is needed. The new information programs should be re-engineered and created more, complying with the new demands of the market. Furthermore, it is important for the current curriculum to be revised while the new elements are included. Overall, educational reform is necessary in order to produce qualified graduates or manpower that matches the needs of the industry. It is hoped that the problem of IP scarcity could overcome.

Balance the Hard Skill and Soft Skill Needs

Employers should look at both sides; hard skill (such as IT skills) and soft skills (such as business, language and managerial skills). It is not the easy way to find all different skills in one person. The employers also should try hardly to ensure the quality of IP. They could select the appropriate person from employment agencies or collaborate with certain colleges and universities to get their fresh graduates from selected programs. Suppose one person came across an employer with the appropriate qualification, know about business and management, has knowledge and experience of IT and possesses strong interpersonal skills such as a person in IP roles. Such people could be seen as “islands of true business” [21]. Furthermore, the employers should identify and train the capable person to be an IP in their company. If needed, sponsored them to further their studies, attend seminars and conferences either locally or abroad. This can be considered as a kind of beneficial investment.

Cultivate Positive Attitude on IP towards Their Work

Personal qualities and attitudes are the important elements to be look by the employers in hiring IP. To be a good IP, employers should train and provide a conducive environment, which allows them to be positive to their job, to be dynamic, proactive and innovative. These traits could be cultivated through their daily work. By having these entire positive attitudes, they are able to work by themselves with less supervision from the employers. IP who are excellent in their performance should be rewarded either monetary or non-monetary rewards.

Employ More IP in the ICT Related Sector

The emergence of globalization and k-economy has led to the new era i.e. the knowledge era. This era has provided a good environment and opened up new paths for IP in the ICT related sector. IP becomes more important and their roles in the future would be changed and become wider. Since IP contributes much to the company profit, employers should employ more in the future. In addition, IP who served abroad should be sent back. It is hoped that the workforce supply would be sufficient enough to serve IP tasks.

This study raised a few issues for future research. First, the present research is basically the beginning of this kind. More research in this area is still needed in order to find the employers’ perspective regarding IP prospects of working in the ICT related sector. Because of certain constraints, the finding of this research is quite low. It is hoped that the future researcher will replicate and enhance the findings. Second, this study confined only to the ICT related sector. It is suggested that future research should cover not only in this sector, but other sectors as well. Lastly, this study was confined only to the target respondents; employers in the ICT related sector. It is suggested that future research includes all employers in various sectors. This will provide a better view of the employers’ expectation towards their perspective IP. It also will show how IP serves as organizational development and innovation. The information-dominated world today sees information as a

potential commodity with an attached economic value. Information as a resource has widened the job market for IP that need a new set of skills and knowledge. Today, companies need people who have the know-how of IT. The existing professionals who have equipped with IT knowledge, business and managerial knowledge will be welcomed to join the emerging job market, especially in the corporate sector. IP can all too easily find themselves prey for certain kinds of hunters. So, sit if you feel safe, but while you do, do look back because is something is gaining it may well be someone with a gun and then it is time to move.

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