Full Length Research Paper

Selection criteria of recruitment for information systems employees: Using the analytic hierarchy process (AHP) method

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The information systems (IS) department is made up of employees in different information technology/information system (IT/IS) skills. Recruitment should therefore use different selection criteria for personnel in different roles. This study used the IT/IS skills examined in past literature as guidelines for recruitment. Expert review and the analytic hierarchy process (AHP) were then used to analyze the selection criteria used in recruitment for five different IS roles. The five roles were: project manager, systems analyst, database administrator, programmer and systems engineer. The results highlighted the importance of selection criteria by showing that each role differed greatly in the professional skills required. This study can therefore provide human resource departments with fair and objective selection criteria. A practical recruitment strategy can also be designed to reduce the chances of personnel not performing as expected after being employed.

Key words: Information systems employees, information technology/information system (IT/IS) skills, recruitment, recruiter selection criteria, analytic hierarchy process (AHP).

INTRODUCTION

Recruitment is an important issue in human resource (HR) management. The aim of recruitment is to find high quality people that are suitable for the company organization at the lowest cost possible. Companies sometimes find that the new recruit does not perform as expected. The problem is particularly common in the information systems (IS) department where a mix of different specialist skills is required. If the new recruit does not perform as expected, this leads to frequent turnover and instability in the department. In serious cases, it may even impact the service quality in enterprise information systems. Employees in other parts of the company may become negative or even clash with the IS department. One possible cause is the inability of the selection criteria used during recruitment to effectively evaluate the professionalism of the IS personnel. Azmi (2010) proposed that human resources should select competent personnel in order to improve work performance. How to select the right people for different roles in the IS department is therefore an important issue. The selection criteria designed by the HR department is traditionally used during recruitment to evaluate the people being interviewed. When the IS department is recruiting, the information technology/ information system (IT/IS) skills, management knowledge, and knowledge of business processes they look for in new recruits will vary according to the type of role being filled. Traditional selection criteria may therefore be inadequate to the task. Gatewood et al. (2008) agreed that HR selection criteria should follow different evaluation standards depending on the role. The selection of IS personnel should therefore use different items to evaluate the suitability of the personnel being considered for recruitment.

The analytic hierarch process (AHP) has been applied to a variety of different fields recently. In AHP, the primary problem or goal is broken down into several components/ elements. Ratio of scales is then used to compare their

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relative importance and identify the most important factor. It is therefore quite useful for identifying the critical factors needed for solving problems containing uncertainty or multi-attribute decision-making (Saaty, 2001). Vaidya and Kumar (2006) considered AHP to be an important and mature analytical method. As it lays out the critical factors and is also an easy to use technique that helps analyze the problem, AHP is now extensively applied in academic settings. AHP has also achieved good results in studies involving the issue of recruiter selection criteria (Taylor III et al., 1998; Shih et al., 2005; Guo et al., 2008; Liao and Chang, 2009; Chiu et al., 2010). Fang et al. (2010) noted that AHP can select different evaluation guidelines for roles requiring different specialties, making it very helpful for selecting high quality personnel. Based on earlier discussion, this study used the AHP method to analyze and establish the different selection criteria required for IS specialists in different roles. Only by having different selection criteria for different roles can practical requirements be filled. The findings can also provide IS jobseekers with a guide to the IT/IS job market so they can develop their personal professional competitiveness as needed.

LITERATURE REVIEW

Measures of IS employees' skills

Information technology develops rapidly that, it is advancing at a faster rate than general industrial develop- ment. The skills and requirements for IS personnel are therefore changing constantly as well. Businesses are therefore forced to reconsider how the skills of the IS personnel support the company's IS operations during recruitment. The company cannot afford to ignore the professional knowledge and skills of IS employees. From a resource-based view (RBV), the professional knowledge and skills of IS employees represent a part of the company's IS capability and has an effect on the company's competitiveness (Ravichandran and Lertwongsatien, 2005; Tarafdar and Gordon, 2007). High quality employees will also help enhance the value, quality of service, and level of satisfaction with the enter- prise information systems. The impact on organizational activities is therefore quite significant (Byrd and Turner, 2001; Lee et al., 2002; Pawlowski and Robey, 2004) and can in turn create strategic value (Fink, 2011). For this reason, some of the literature argues that the focus should be on understanding what capabilities IS employees should possess.

A review of past articles suggests that IS employees must possess a wide range of professional knowledge. Nevertheless, these can all be categorized as knowledge about information technology and business management as well as personal communication skills. Noll and Wilkins (2002) for example suggested that IS employees

should possess the following critical skills: business knowledge, user support, advanced IS applications, programming, systems planning. The most important of these skills for IS employees were business knowledge and user support. Fink and Neumann (2008) in turn concluded after an extensive review of the literature that IT personnel should possess three capabilities: business capability, behavioral capability and technical capability. Personnel's technical capability in particular has a great deal of influence on IT-dependent system agility and this has further effect on the company's IT-dependent stra- tegic agility. Technical capability is therefore considered to be an important indicator. Gallivan et al. (2004) also investigated the actual professional skills of IS employees between 1988 and 2003. The study found that companies were more willing to employ IS personnel if their professional capabilities matched the popular information technologies at the time. Koh et al. (2004) agreed with this view. Companies however, were even more inclined towards hiring well-rounded employees with good business knowledge and "soft skills".

While many academics have made suggestions on the professional skills that IS employees should possess based on different perspectives, at the moment, the view put forth by Lee et al. (1995) is probably one of the more popular today. They proposed that there are four critical knowledge/skills for IS professionals, namely: 1) technical specialties knowledge/skills; 2) technology management knowledge/skills; 3) business functional knowledge/skills; and 4) interpersonal and management knowledge/skills (Table 1). Other researchers have studied their perspec- tive (Lee et al., 2002; Bhatt et al., 2005; Goles et al., 2008) and used it as the foundation for their own studies. This study has therefore opted to use the research per- spective of Lee et al. (1995) as the operational definition for measuring the professional knowledge and skills of IS personnel during recruitment. In other words, the IS department must evaluate technical specialties know- ledge, technology management knowledge, business functional knowledge and interpersonal and management skills to provide a reference for recruitment.

Analytic hierarchy process

AHP was first proposed by Saaty (1971) and is based on the analysis of expert surveys. AHP has been extensively used in research on business management issues in recent years. In strategy management, Sirikrai and Tang (2006) used AHP to develop a method for industry analysis and analyzed the Thailand automotive parts industry. Li et al. (2010) combined AHP with SWOT analysis to use in analyzing and selecting green manu- facturing strategies. AHP can therefore effectively help business management with decision-making. Apart from strategy selection issues, it can also be used to solve other tangible selection problems. Lai et al. (2002) used

Table 1. Definition of IS employee skills.

Definition	Description
Technical specialties knowledge/skills	The rapid rate of technology change in the IS field implies that a variety of technical skills is needed. The measure for IS technical knowledge included 18 items covering a range of IS technical specialties (for example, operating systems, programming languages, database management systems, networks, telecommunication, etc.).
Technology management knowledge/skills	Technology management knowledge/skills are concerned with where and how to deploy information technologies effectively and profitably for meeting strategic business objectives. The composite measure for technology management knowledge/skills included 3 items.
Business functional knowledge/skills	The increasing emphasis on applying information technologies to serve business goals and the need to reengineer business processes before the adoption of new information technologies require IS professionals to possess in-depth business functional knowledge and skills. It included 4 items which cover both general business knowledge/skills.
Interpersonal and management knowledge/skills	It is personal behavioral knowledge/skills and it must assume in organizations. The composite measure for technology management knowledge included 11 items.

Source: Lee et al., 1995.

AHP to solve the problem of group decision making in software selection. Ngai (2003) used it to select the best website for placing online advertising. There are in fact, many similar applications where the AHP method is used and it is now quite a successful analytical method that helps research with solving tangible selection problems.

AHP has now developed into ANP or fuzzy AHP, and while they are applied in slightly different ways, they are still generally based on multi-attribute evaluation. Ding (2010) for example, used fuzzy AHP to understand the critical factors influencing customer value for global shipping carrier-based logistics service providers. As described by Saaty (1980, 2000), the basic concept of AHP is to first establish the problem or goal to be analyzed as part of Level 1. The problem is then broken down into several kinds of components/elements also referred to as the criteria. These criteria can be considered to be another level, referred to also as Level 2. From there, it can be broken down even further into other levels such as Level 3, Level 4 and so on. Each sub-criterion within a level is independent and can be used to evaluate the criteria in the next upper level. Measurement is carried out using the ratio scale. A problem is therefore divided into two criteria for comparison (compare Ci and Cj). Nine ratio scales are laid out to evaluate their respective degree of importance to the evaluator and form a pairwise comparison matrix. To help the evaluator arrive at a consistent answer with the pairwise comparison matrix, the reliability must be verified. Usually, this is done by calculating the consistency index (C.I.) for the pairwise comparison matrix to avoid poor decision-making. If C.I. = 0, that means the decisions are completely consistent with each other. If C.I. > 0, that means the decisions are not consistent. C.I. ≤ 0.1 means an acceptable margin of error (Saaty, 1980). Saaty (2000) proposed the observation of the consistency ratio (C.R.). If C.R. ≤ 0.1, it means that the evaluation within the matrix is acceptable.
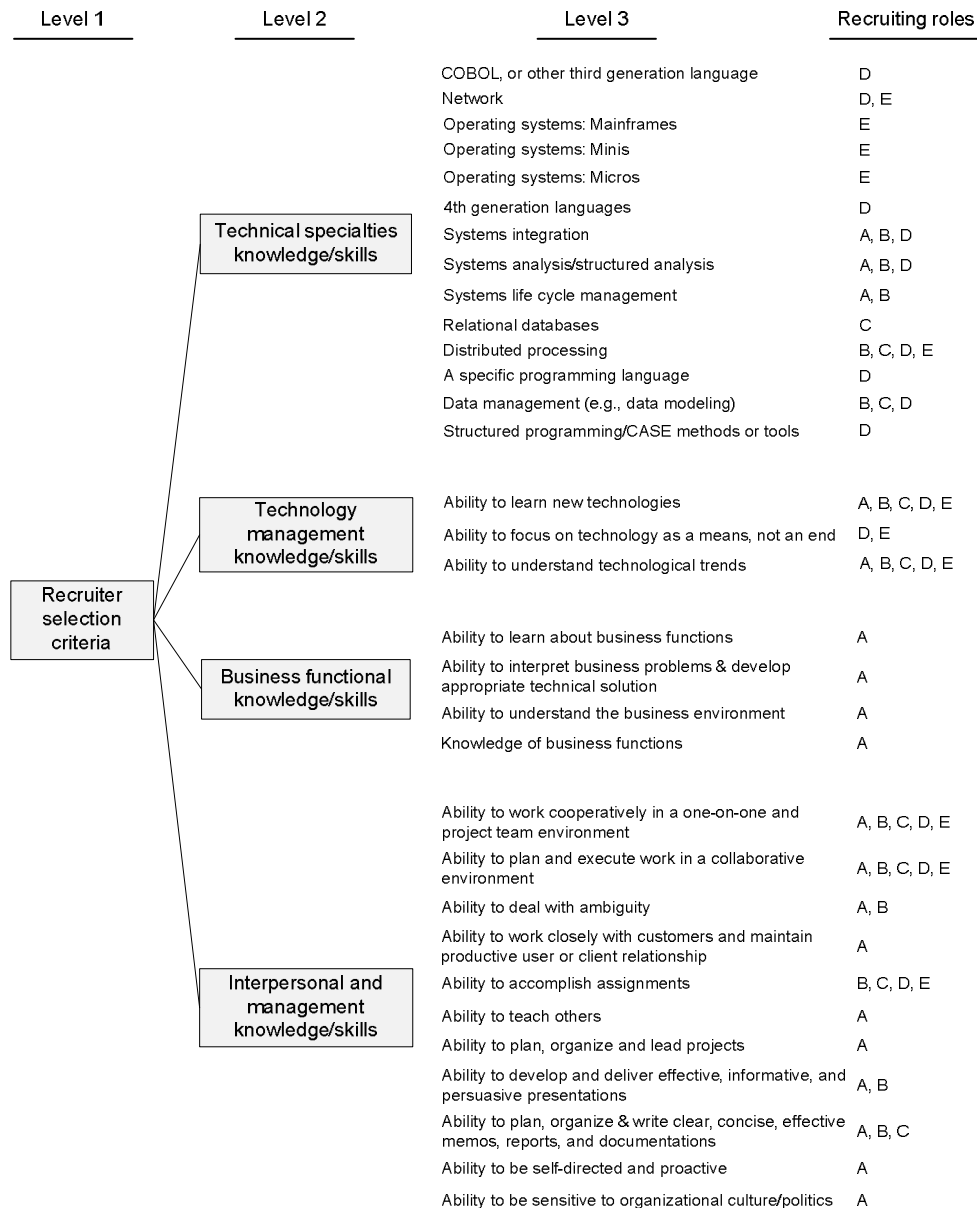
METHODOLOGY

Experimental procedure

This study used the ExportChoice software to carry out model analysis of the AHP data. Calculations were based mainly on Dr. Saaty's concept. The study wishes to understand the relative weightings of each criterion for different positions during the recruitment of IS personnel. To this end, the five most common IS roles that companies look for during recruitment were chosen as the IS recruitment jobs, these being, project manager, systems analyst, database administrator, programmer and systems engineer. To improve the reliability of this study, a two-stage survey was used. The experimental procedure is given thus:

i) The survey questions from Lee et al. (1995) were used to design a bisection questionnaire survey for confirming the importance of the sub-criteria. The main survey subjects were information software specialists with a total of 29 expert opinions (13 programmers, 2 system analysts, 6 system engineers, 2 database administrators and 6 project managements) collected.
ii) The results from procedure 1 were collated, and the items picked as important by over 70% of the responses, were included into the screening threshold for the AHP questionnaire.
iii) The sub-criteria that passed the screening threshold in procedure 2 were then used to design the AHP structured questionnaire.
iv) The AHP structured questionnaire was then distributed to other IS professionals. The role was also used for differentiation. If the C.R. for any aspect in a role does not meet the standard (C.R. > 0.1), then, the questionnaire was considered an invalid response. A total of 89 questionnaires were distributed. After removing the 40 invalid responses, 49 actual responses were recovered for a recovery rate of 44%.
v) According to the different role of valid questionnaires, this study calculated the weight of each criterion. We further discussed the results of the analysis.

Questionnaire design

As the experimental process consisted of a two-stage survey, this study designed two different types of questionnaires. The first questionnaire followed the definitions compiled by Lee et al. (1995) and contained a total of 36 items. The bisection method was used

Level 1	Level 2	Level 3	Recruiting roles
		COBOL, or other third generation language	D
		Network	D, E
		Operating systems: Mainframes	E
		Operating systems: Minis	E
		Operating systems: Micros	E
		4th generation languages	D
	Technical specialties knowledge/skills	Systems integration	A, B, D
		Systems analysis/structured analysis	A, B, D
		Systems life cycle management	A, B
		Relational databases	C
		Distributed processing	B, C, D, E
		A specific programming language	D
		Data management (e.g., data modeling)	B, C, D
		Structured programming/CASE methods or tools	D
	Technology management knowledge/skills	Ability to learn new technologies	A, B, C, D, E
		Ability to focus on technology as a means, not an end	D, E
		Ability to understand technological trends	A, B, C, D, E
Recruiter selection criteria	Business functional knowledge/skills	Ability to learn about business functions	A
		Ability to interpret business problems & develop appropriate technical solution	A
		Ability to understand the business environment	A
		Knowledge of business functions	A
	Interpersonal and management knowledge/skills	Ability to work cooperatively in a one-on-one and project team environment	A, B, C, D, E
		Ability to plan and execute work in a collaborative environment	A, B, C, D, E
		Ability to deal with ambiguity	A, B
		Ability to work closely with customers and maintain productive user or client relationship	A
		Ability to accomplish assignments	B, C, D, E
		Ability to teach others	A
		Ability to plan, organize and lead projects	A
		Ability to develop and deliver effective, informative, and persuasive presentations	A, B
		Ability to plan, organize & write clear, concise, effective memos, reports, and documentations	A, B, C
		Ability to be self-directed and proactive	A
		Ability to be sensitive to organizational culture/politics	A

Figure 1. The AHP-based framework for recruiter selection criteria of different IS roles.
Note: Recruiting role: A. Project manager, B. System analyst, C. Database administrator, D. Programmer, E. Systems engineer

to confirm the importance of each sub-criterion in each role. The interview subjects were IS experts so as to give the study more reliability. The second questionnaire was based on the importance of each sub-criterion derived from the results of the first questionnaire. Only those that were rated as important by over 70% of the responses were chosen for the second questionnaire. To understand how the selection criteria for IS personnel in different roles were weighted; the questionnaire was based on the AHP structured questionnaire by Saaty (1980). The structured questionnaire allows comparing the different criterion within each level. This is therefore Question A: Question B. The AHP scale was used for comparison. The questionnaires were divided according to the role and the weighting calculated for each of the sub-criteria corresponding to an IS employee skill, so as to derive the modified-to-fit statistical results.

EMPIRICAL ANALYSES

Based on the results from the first questionnaire in the experimental procedure, the original 36 items were reduced to 32 items. There were significant differences in how important each role considered each sub-criterion to be (Figure 1). This implied people in each role had a different criterion, which agreed with the premise of this study. With the exception of the project manager, all the other roles excluded "Business functional knowledge/ skills" as a criterion. This showed that the recruitment of IS personnel for management roles require staff who are familiar with the business environment.

Table 2. Criteria weights of recruiting project manager.

Criteria	Criteria weight	Sub-criteria	Sub-criteria weights	Overall weights	Rank
Technical specialties knowledge/skills	0.248	Systems integration	0.307	0.076	5
		Systems analysis/structured analysis	0.320	0.079	4
		Systems life cycle management	0.373	0.093	2
Technology management knowledge/skills	0.182	Ability to learn new technologies	0.375	0.068	6
		Ability to understand technological trends	0.625	0.114	1
Business functional knowledge/skills	0.253	Ability to learn about business functions	0.196	0.050	9
		Ability to interpret business problems & develop appropriate technical solution	0.362	0.092	3
		Ability to understand the business environment	0.213	0.054	8
		Knowledge of business functions	0.229	0.058	7
Interpersonal and management knowledge/ skills	0.317	Ability to work cooperatively in a one-on-one and project team environment	0.070	0.022	18
		Ability to plan and execute work in a collaborative environment	0.139	0.044	10
		Ability to deal with ambiguity	0.087	0.028	17
		Ability to work closely with customers and maintain productive user or client relationship	0.092	0.029	16
		Ability to teach others	0.068	0.022	19
		Ability to plan, organize and lead projects	0.121	0.038	11
		Ability to develop and deliver effective, informative, and persuasive presentations	0.115	0.036	12
		Ability to plan, organize and write clear, concise, effective memos, reports, and documentations	0.112	0.036	13
		Ability to be self-directed and proactive	0.095	0.030	15
		Ability to be sensitive to organizational culture/politics	0.101	0.032	14

Based on the results in Figure 1, and the sub-criteria considered important by each role, a different AHP structured questionnaire was designed for each role and the results calculated. Firstly, looking at the role of the professional manager (Table 2), the most important criterion for project managers among the respondents were "Interpersonal and management knowledge/skills (0.317)", followed by "Business functional knowledge/ skills (0.253)", "Technical specialties knowledge/skills (0.248)", then finally "Technology management knowledge/skills (0.182)". C.R. was calculated to be 0.01 and less than 0.1, so, it met the C.R. requirement proposed by Saaty. The weighting produced by the analyses was therefore appropriate. The most important criterion for the role of system analyst, just like the project manager, was "Interpersonal and management knowledge/skills (0.378)".

Table 3. Criteria weights of recruiting systems analyst.

Criteria	Criteria weight	Sub-criteria	Sub-criteria weight	Overall weight	Rank
Technical specialties knowledge/skills	0.264	Systems integration	0.177	0.047	13
		Systems analysis/structured analysis	0.217	0.057	7
		Systems life cycle management	0.227	0.060	6
		Distributed processing	0.183	0.048	12
		Data management (e.g., data modeling)	0.196	0.052	11
Technology management knowledge/skills	0.358	Ability to learn new technologies	0.560	0.200	1
		Ability to understand technological trends	0.440	0.158	2
Interpersonal and management knowledge/skills	0.378	Ability to work cooperatively in a one-on-one and project team environment	0.141	0.053	8
		Ability to plan and execute work in a collaborative environment	0.141	0.053	9
		Ability to deal with ambiguity	0.141	0.053	10
		Ability to accomplish assignments	0.208	0.079	3
		Ability to develop and deliver effective, informative, and persuasive presentations	0.181	0.068	5
		Ability to plan, organize & write clear, concise, effective memos, reports, and documentations	0.188	0.071	4

This was followed by "Technology management knowledge/skills (0.358)" with "Technical specialties knowledge/skills (0.264)" in last place (Table 3). C.R. was 0 and this was less than 0.1, thus matching the C.R. requirement. For database administrators, programmers and system engineers, all three roles placed the greatest importance on the same criteria (Tables 4, 5, and 6), this being "Technical specialties knowledge/ skills". The C.R. for each of these roles was in order: 0.02, 0.02 and 0. As all were less than 0.1, they matched the C.R. require-ment. This implied that personnel with technical spe-cialties and knowledge were given priority in these roles.

The results of the analysis were then examined and in the overall weights for the role of project manager, the three top-scoring sub-criteria were: "to understand technological trends", "systems life cycle management" and "ability to interpret business problems and develop appropriate technical solutions. From this, it can be seen that the project manager is a role that spans different IS specialties. The applicant must not only understand information technology but also lead teams during task planning, organization and execution. They must therefore communicate and coordinate with every team member through clearly-written documents to identify a more feasible approach. For the system analyst, the top three items in overall weights were "learn new technologies", "to understand technological trends" and

"to accomplish assignments". Personnel to be recruited for this role must have a good attitude toward learning and can accomplish assigned tasks. The programmer and the system analyst shared the same top three items in overall weights. Both were expected to accomplish assigned tasks. As for system engineers, the overall weights ranking emphasized a good learning attitude as well as the ability to work as part of a team. Finally, the overall weights and the criteria importance for the database administrator both emphasized their profes-sionalism in database administration, making it the role that places the greatest emphasis on IS professionalism.

DISCUSSION

This study found that other than the role of project mana-ger, all the other roles excluded "Business functional knowledge/skills" as a criterion. Past advice from acade-mics and experts suggested that IS employees should focus on understanding the business process, but this was at odds with this study's statistics. The study then examined the data for the criteria in other roles more closely. The data showed that the importance of this cri-terion was considered to be relatively high. Nevertheless, it was not high enough to pass the screening threshold set by this study for the AHP questionnaire (must be rated

Table 4. Criteria weights of recruiting database administrator.

Criteria	Criteria weight	Sub-criteria	Sub-criteria weight	Overall weight	Rank
Technical specialties knowledge/skills	0.487	Relational databases	0.284	0.138	3
		Distributed processing	0.315	0.153	2
		Data management (for example, data modeling)	0.401	0.195	1
Technology management knowledge/skills	0.228	Ability to learn new technologies	0.577	0.132	4
		Ability to understand technological trends	0.423	0.096	5
Interpersonal and management knowledge/skills	0.285	Ability to work cooperatively in a one-on-one and project team environment	0.288	0.082	6
		Ability to plan and execute work in a collaborative environment	0.215	0.061	9
		Ability to accomplish assignments	0.276	0.079	7
		Ability to plan, organize and write clear, concise, effective memos, reports, and documentations	0.221	0.063	8

Table 5. Criteria weights of recruiting programmer.

Criteria	Criteria weight	Sub-criteria	Sub-criteria weight	Overall weight	Rank
Technical specialties knowledge/skills	0.508	COBOL, or other third generation language	0.083	0.042	14
		Network	0.100	0.051	13
		4th generation languages	0.119	0.060	10
		Systems integration	0.122	0.062	9
		Systems analysis/structured analysis	0.133	0.068	8
		Distributed processing	0.101	0.051	12
		A specific programming language	0.082	0.042	15
		Data management (e.g., data modeling)	0.108	0.055	11
		Structured programming/CASE methods or tools	0.152	0.077	4
Technology management knowledge/skills	0.259	Ability to learn new technologies	0.363	0.094	1
		Ability to focus on technology as a means, not an end	0.346	0.090	2
		Ability to understand technological trends	0.291	0.075	6
Interpersonal and management knowledge/skills	0.233	Ability to work cooperatively in a one-on-one and project team environment	0.331	0.077	5
		Ability to plan and execute work in a collaborative environment	0.298	0.069	7
		Ability to accomplish assignments	0.371	0.086	3

as important by over 70% of responses). For the role of system analyst, the importance of this criteria reached 67%. It therefore agreed to some extent with this criterion. The result can be interpreted to mean that business functional knowledge is something that only mid to high-level IS specialists need to know, especially for

Table 6. Criteria weights of recruiting systems engineer.

Criteria	Criteria weight	Sub-criteria	Sub-criteria weight	Overall weight	Rank
Technical specialties knowledge/skills	0.385	Network	0.227	0.087	6
		Operating systems: Mainframes	0.170	0.065	11
		Operating systems: Minis	0.213	0.082	8
		Operating systems: Micros	0.208	0.080	9
		Distributed processing	0.182	0.070	10
Technology management knowledge/skills	0.306	Ability to learn new technologies	0.342	0.105	3
		Ability to focus on technology as a means, not an end	0.376	0.115	1
		Ability to understand technological trends	0.282	0.086	7
Interpersonal and management knowledge/skills	0.309	Ability to work cooperatively in a one-on-one and project team environment	0.364	0.112	2
		Ability to plan and execute work in a collaborative environment	0.300	0.093	5
		Ability to accomplish assignments	0.336	0.104	4

project managers or system analysts. As for other roles, the job market places the emphasis on IT competency. As the jobs tend to be more technical in nature, this is reflected in the weighting of different roles criteria.

This study examined the ranking for each role and found that the results differed. Each role had its own distinctive set of sub-criteria. The project manager for example must understand business, the system analyst must understand system architecture, the database administrator must understand database management, the system engineer must be able to set up and manage local networks and operating systems while the programmer must be proficient in programming, structured programming and using CASE tools. This implied that each role varied greatly in the kinds of skills they value. The skill requirements of the job market have therefore become very specialized. Personnel recruitment should therefore design different written tests or interviews for each type of role rather than using one selection criterion for all recruitment.

Finally, based on the proportion of criteria weights for each role, the "Technical specialties knowledge/skills" is the most popular recruiter selection criteria. People with technical specialties knowledge/skills therefore appear to be the most competitive in the job market. As information technology is always changing, IS employees must engage in constant learning to update their technical specialties knowledge/skills. Sometimes, the pace of change is so rapid in information technology that skills learnt just three years ago may have already become an

obsolete specialty. This does not mean that IS employees are at risk of spending more time and energy in learning. There is some professional knowledge that continues to grow with time for IS personnel. Examples include an IS personnel's know-how for business processes and operational requirements in a specific field such as healthcare and financial information. Some knowledge cannot be acquired over a short period of time and can only be learnt through extended professional training. At the same time, for a role like system analyst, the methods for system analysis and software engineering have not changed as quickly as information technology over the last few decades. Analytical logic will increase with experience so the performance of a system analyst should also improve over time, resulting in a smoother software development process. While the requirements and skills for IS employees do change, mastery of critical knowledge and skills will improve their competitiveness and make them more attractive to recruiters.

Conclusion

The goal of the study was to develop suitable recruiter selection criteria for IS personnel. The empirical results of this study found that a different selection criterion is indeed necessary for different roles due to major differences in specialization. IS personnel recruitment should therefore design different recruitment methods of different specialties. For example, project managers put a

strong emphasis on interpersonal relationship management and business functional knowledge/skills. A suitable level of stress can be placed on the applicant to learn more about their patience and attitude. For database administrators, programmers and system analysts, the skill requirements emphasize technical specialties knowledge and skills. Written tests or actual operation can be used to learn about applicants' level of professionalism. The criteria weights described in the research findings can also be used to construct a fair and impartial recruiter scoring criteria to solve the problem of subjective scoring by the interviewer.

As recruitment is an important HR task, most recruiters tend to rely on their personal experience during recruitment. In this study, the AHP method leveraged recruiters' experience to compile a set of recruitment guidelines that HR workers can use as a reference to design their recruitment strategies.

RESEARCH LIMITATIONS AND RECOMMENDATIONS

The study's results allow the IS department to understand their main selection criteria during recruitment activities. There are some limitations to this study however, and they are mentioned thus: Firstly, the research subjects for the questionnaires were mainly information personnel. The questionnaires were therefore targeted at personnel working in information management and lack the perspective of HR personnel. Secondly, the subjects for this study were located in Taiwan (Republic of China), a nation with a relatively well-developed IS industry. Countries with a different cultural background and economic environment might end up with slightly different results. Finally, this study makes the following recommendations for future researchers. For the research topic, a suitable recruitment evaluation criteria weighting model can be developed for each type of industry. Different industries may have different selection criteria. For the research depth, this study supports the argument of Liberatore and Nydick (2008) that the results of AHP analysis can be developed in an information system for supporting operational or management requirements.

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