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Full Length Research Paper

The effectiveness of online employment background screening systems

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This research assessed the effectiveness of online background screening. It also looks at the problems encountered in the use of online background screening and the proposed solution to these problems in order to improve the usage of online background screening systems. Statistical analysis of quantitative information obtained from an e-mail survey questionnaire, illustrates the effectiveness of online background screening.

Key words: Effectiveness, online background screening, pre-employment screening, background screening, information technology.

INTRODUCTION

The National Association of Professional Background Screeners (NAPBS, 2005) observed that the background screening industry is so large that there is little standardisation amongst competing firms. As a result, the majority of background screening companies and other organisations do not use information technology (IT) to perform background screening services. Most organisations are still trapped in the old methods of screening such as manual document checking (cross-checking), phone screening (Givertz, 2008) and fax communications (Nixon, 2008) because of this lack of a systematic approach to background screening using IT. Yet, internet background checks make screening a very simple process due to the ease of obtaining relevant data via the internet. This is made possible by the existence of commercial online (CD) databases created by some individual companies (Database Records; Intelius; Mircobilt.com). This research seeks to investigate the effectiveness of online background screening.

Background

Organisations would want to use the latest cutting edge technology to improve their work processes but the limitation to do so would be the lack of understanding of the effectiveness of online background screening. NAPBS (2008) reports a statistic that 23% of background checking companies has their own ATS (Applicant Tracking Systems) and 23% are integrated with an ATS. 53% said they had no ATS. Hence, the need for establishing the effectiveness of online background screening. Imagine how it could benefit all, if all docu-mentation, all verifications and all reports related to this background screening initiative are captured, managed, stored, preserved and delivered electronically, anywhere at any time in all organisations. Imagine speeding up the processes by having access to all relevant information by all firms and organisations involved with employment screening. In encouraging Information Management (IM) in South Africa, Kotze (2008) manager of enterprise content management (ECM) strategy services at Nokusa engineering informatics states that “we can bring about enormous efficiencies by managing information, documents, email, content, scanned images and records.

- integrating stuff from all relevant departments and organisations”. The vision is well-managed information to ensure better citizen service and service delivery in general. In South Africa, only a fraction of companies perform employment verifications, so the odds are actually in favour of the applicants providing false information (Database records, 2008)

Further, database records states that its employment

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verification is carried out the old fashioned way.

There has been increasing pressure for researchers to find better employment screening practices to minimise the chances of hiring unqualified employees (Doty-Navarro and Kleiner, 2000). At the same time, there is significant advance in information communication technology (ICT) tools and techniques which can be harnessed to speed up IT related processes (Al-Zahrani, 2006) including employment background screening. Assessing the effectiveness of online screening could improve the performance of existing background screening systems and make the background screening industry aware of the effectiveness of online background screening as compared to other methods of screening. Other methods of screening used in the background screening services are phone screening, fax screening and VoIP screening. Phone screening is using the telephone to perform background checks. Fax screening is using the fax to exchange background screening data. VoIP is using internet telephone to perform background screening.

INFORMATION TECHNOLOGY (IT) BASED PRE-EMPLOYMENT SCREENING

This web based platform gives recruitment professionals and hiring managers the ability to work smarter and increase productivity (Lalovich, 2008). It involves a variety of methods which use a whole range of computer hardware and software tools (IT tools) to carry out the task of pre- employment screening of candidates before hiring them for jobs. The assumed advantage of this method over the traditional methods of phone screening and fax communications) is that it performs employment screening with very little human interference and therefore, does not waste time and reduces significantly the cost of labour during the screening process. The methods use a number of implementation tools to achieve screening objectives which are discussed briefly in the following subsections.

Internet / web technology tools

These are information technology (IT) tools that use the internet to submit the applicant's personal information when applying for jobs over the internet. Basically, the internet technology tools used for this purpose are two; namely online application forms and emails containing CVs and resumes as attachments. Web technology (WT) tools are used to place orders for background checks on per applicant basis by clients.

Pre-employment screening tools

They are of two types: Applicant Tracking Systems (ATS) and Extensible Mark-up Language (XML), which are described as follows.

Applicant tracking systems

This is software designed to track down online job applications and match the information contained in them with the job requirements of a particular advertised post. Applicant tracking systems (ATS) assists with pre-screening applicants in line with the job requirements for the post.

Extensible mark-up language

XML are tools that enables us to identify and extract specific pieces of data from ordinary business documents such as emails, letters, CVs, application forms, references and report, etc. By using custom schemas, XML tools enable us to organise and work with documents and data in ways that were previously impossible or very difficult using unstructured data in those documents.

Background screening tools

There are three main tools used for background screenings: Online Background Screening Software (OBSS), Interactive Voice Response (IVR) Systems and Voice over Internet Protocol (VoIP) Systems.

Online background screening systems

These consist of data mining software that is used to search online databases for information or data relevant to employment background screening of candidates. Background Screening Systems (BBS) work by combining or integrating unstructured text from text documents and structured data from databases to provide complete views for improved analysis and decision making on verifying of personal data on whether to hire or not to hire candidates for jobs. The OBSS produce completed background screening reports and seal the deal faster with eOffers and job decline letters.

Interactive voice response technology

This technology is a computer based interactive voice response telephone system used for applicant screening and scheduling for customised recruitment solutions. The system can be used interactively to exchange information designed to screen candidates for jobs during an interview schedule.

Voice over internet protocol

It can be used as one of the methods of selection or screening by conducting oral interviews with the candidates. VoIP is a protocol for transmitting the human voice in digital form over the internet or other networks as an audio stream, instead of using traditional telephone lines. VoIP uses the internet protocol (IP), but is not limited to communication by computer. Phone to phone communication can be conducted using this technology as well.

Electronic offers (e-Offers)

E-Offers are hiring systems complete with hire paperwork designed to communicate job offers to candidates electronically. It is designed to seal the deal faster with electronic offers, complete with electronic signature, acceptance of employment terms, including preconfigured compensation and benefits packages.

RESEARCH METHODOLOGY

The investigation on the effectiveness of information technology (IT) in employment screening was done through measuring three USE (Usefulness, Satisfaction and Ease of use) variables (Lund, 1998). The USE variables are considered to have a reflection on the effectiveness of online background screening systems. The research investigated how these variables influence each other to show the effectiveness of IT in employment screening. The effectiveness of any pre-employment screening program must meet the following minimum criteria:

a) The method must achieve quality screening results.
b) The method must obtain results as quickly as possible and reduce cost of screening.
c) The screening method must improve accuracy and completeness of the results obtained.

These requirements fall under USE variables tailored to meet the requirements of this study. The question items used in the investigation were based on these views. These variables are used to measure the effectiveness of both the software and hardware systems used on online background screening. This is important to assess all future IT utilisation for IT based pre-employment screening programs. Convectional wisdom teaches us that we should draw conclusions from the IT industry and find the way to embrace this trend (Lalovich, 2008).

Sample

The most reasonable sampling technique was purposive sampling technique (Saunders et al., 2004; Coldwell and Herbst, 2004). It is a non- probability sampling technique, which provides the researcher with an opportunity to select a sample purposively without the need of some form of sampling frame. This is because respondents in the research came from firms (or companies), which deal with employment background screening. As such, the sample is homogeneous. The researchers also wanted to make an in depth analysis of online background screening in relatively large firms which are most likely able to afford online background screening. It is these subjects from these large firms that were selected which employed at least four or more people registered with the NAPBS. Therefore, the sampling technique was largely judgement purposive sampling (Coldwell and Herbst, 2004) in terms of where to get the most appropriate and useful information on online background screening.

Data collection method

An email survey method using questionnaires was employed as a tool for collecting data. Practitioners from managerial level employees and professional screeners in the corporate background screening services companies who are registered with NAPBS were the targets of these questionnaires, since all members had E-mail addresses. After sending questionnaires to registered members and others from local firms, 107 responses were successfully collected and analysed.

The research instrument

The questionnaire comprised a section where respondents were asked their extent of agreement using a five point likert scale (with 1 = strongly disagree, to 5 strongly agree). The section contained 15 statements measuring the three usability elements of the information technology (IT) based background screening systems: Usefulness, Satisfaction and Ease of use. These statements and question items were formulated by Lund (1998) to measure the effectiveness of IT in organisations. The questionnaire also comprised one open ended question which the researcher formulated to investigate the problems encountered when online background screening systems are used.

Data analysis

Frequency tables were used to analyse the findings entered using the likert scale. The likert scale facilitates the summarisation of the data. The same values entered using the likert scales were used to calculate the correlation analysis. The correlation enables separate analysis between the variables: Usefulness, Satisfaction and Ease of use. They give a clearer picture of the effectiveness of IT in background screening. A statistical package SPSS version 16.0 was used to generate the frequency tables and calculate the correlations co-efficiency.

RESULTS ANALYSES

In order to determine the effectiveness of information technology (IT) based screening systems, the correlations of the variables of Perceived Usefulness, Ease of Use and User Satisfaction were calculated. Each variable was made up in turn of a group of 5 questions. These questions were randomised in the questionnaire so that the responses were also randomized. This removes ‘order biases’ from the responses, greatly improving the reliability of the answers given. The questions were also not given any order of importance, which means they were given equal weights during analysis. The correlations of each variable was analysed in relation to the other. The relationships of the three variables were established and are believed to contribute significantly on

Table 1. A partial correlational analysis of three variables: Usefulness, ease of use and satisfaction.

Parameter		Usefulness	Ease of use	Satisfaction
Usefulness	Pearson correlation	1.000	0.810**	0.856**
	Sig. (2-tailed)		0.000	0.000
	N	111.000	111	111
Ease of use	Pearson correlation	0.810**	1.000	0.797**
	Sig. (2-tailed)	0.000		0.000
	N	111	111.000	111
Satisfaction	Pearson correlation	0.856**	0.797**	1.000
	Sig. (2-tailed)	0.000	0.000	
	N	111	111	111.000

** Correlation is significant at the 0.01 level (2-tailed).

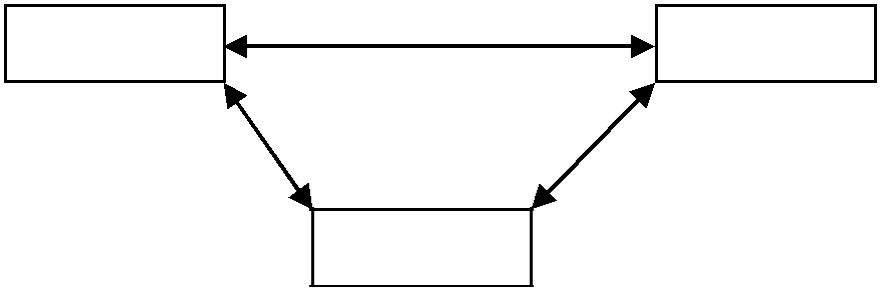

Figure 1. Partial correlations analysis the three variables.

significantly on the perceived effectiveness of IT in background screening. A correlation analysis given in Table 1 was done on the aggregated data of the three groups which depicted a high positive influence on each other. Figure 1 summarises diagrammatically the results of the correlations analysis performed to illustrate the relationships between the three variables.

Tests of significance

The null hypothesis states that the correlation is equal to zero (that is, the variables Usefulness, Ease of Use and Satisfaction have no influence on the online background screening) . If the correlation is significantly different from zero, then there is a relationship between the variables. The following results were obtained after the analysis:

(i) The correlation between Usefulness and Ease of Use was significant, r_{108} = 0.810. This indicates a strong relationship between the two groups of statements that determines the usability of BSS in background screening.
(ii) The correlation between Usefulness and Satisfaction was significant, r_{108} = 0.856. The results show a significant relationship between usefulness and satisfaction that also determine the usability and satisfaction with OBSS in employment screening.
(iii) The correlation between Ease of Use and Satisfaction was significant, r_{108} = 0. 797. The findings depict a very strong link between satisfactions with the ease at which OBS is done.

It can be seen from the above output that the correlation coefficients among the three variables are significantly different from zero; therefore, the null hypothesis cannot be accepted. It follows then that the three variables contribute significantly to the effectiveness of using online background screening in employment screening. This field study required that users evaluate online background screening systems primarily using three dimensions; usefulness, ease of use and satisfaction. Partial correlations calculated using scales derived for these dimensions suggested that ease of use and usefulness influence one another, such that improvement in ease of use will influence positively ratings of usefulness and vice versa, while both drive satisfaction. Satisfaction was strongly related to the actual and predicted

usage of online background screening systems which indicates the effectiveness of online background screening. If respondents were one is satisfied with a system it follows that the services they get are useful and the system is also ease to use. Though online background screening is largely considered effective in this study. Research findings on an open ended question included in the questionnaire reflected some of the problems encountered and experienced when using online background screening such as:

(i) Not accurate enough due to missing data.
(ii) Unreliable in some instances due to lack of detail.
(iii) Not all information is submitted and / or data can be entered incorrectly.
(iv) Subjectivity and human expertise needed.
(v) Rendered useless during power outages – conventional background checks should not be completely replaced by IT background screening.

On interpretation of these results the first three points, point to the idea that IT background screening (that is, online background screening) is not always reliable and accurate enough under certain circumstances, where there are potential gaps in data in a given online database. The respondents proposed as a solution to the problems to be proactive and offer an intuitive system to predetermine inaccurate data.

DISCUSSION

In order to determine the effectiveness of online background screening, the following metrics were used: Perceived Usefulness, Ease of Use and User Satisfaction. The correlation of Usefulness and Ease of Use are believed to drive the perceived satisfaction with online background screening. In the research findings usefulness and ease of use positively influence each other and both drive down satisfaction in so far as the assessing of online background screening systems is concerned. It means online background screening is considered effective despite the problems presented. According to Travis (2008) experience shows that participants are reluctant to be critical of a system, no matter how difficult they found the task. In the findings the same phenomenon of subjects reluctant to be critical of online background screening products were seen. The study speculates that the respondents feel that giving a low rating to a product will portray a negative picture of their work. Interviews could help elicit critical comments from participants about the true performance of background screening systems. Effectiveness is taken as the accuracy and completeness with which users achieve certain goals (ISO, 1998). Indicators of effectiveness include quality of solution and error rates (Frokjaer et al., 2000).

In this study, quality of solution was used that is, the structured harvesting of employee information as the primary indicator of effectiveness that is measure of the outcome of the user's interaction with a system. Other aspects of usability such as efficiency and satisfaction are not the focus of this hypothesis, though, they are also strong elements in the usability of a system. Efficiency is the relation between the accuracy and completeness with which users achieve certain goals and the resources expended in achieving them. Indicators of efficiency include task completion time and learning time. Further investigations on this study can compare task completion time of screening methods as a primary indicator of efficiency. Satisfaction reflects the users' comfort with and positive attitudes towards the use of the system. Users' satisfaction can be measured by attitude rating scales such as SUMI – the software usability measurement inventory (Kirakowski and Corbett, 1993).

Online background screening systems are generally believed to be unreliable and inaccurate in some instances. This suggests a solution has to be invented so that they can universally be accepted as comprehensively effective with low error rates. The solution is to be proactive and offer an intuitive system to predetermine inaccurate data or information. Three issues need to be addressed in order to solve the problem. Firstly, there is need to include validation checks as presence checks to avoid missing data during data entry when clients order background checks. Secondly, the online background screening process should be reversible in order to recapture missing data, if need be. Thirdly, updates in the databases should be timely. NAPBS (2005), reports that one of the major obstacles to the screening process is the delay in providing access to public records or excessive court fees. This problem can be over come by keeping this data in up to date databases which would be accessible online with no costs attached.

Conclusions

The study was intended to determine the effectiveness of online background screening. It was discovered that; First, the variables usefulness and ease of use positively influence each other and both drive satisfaction and second, that online background screening is effective though it presents some problems due to missing data in some instances. This reflects a lack of a comprehensive approach to take advantage of its full potential. There are two issues to be addressed in order for OBS systems to be universally accepted. Firstly, there is need for an integrated online approach that comprehensively screens data. Secondly, most countries need to develop accessible and up to date national online databases that can be accessed by authorised companies for the purpose of employment background screening.

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APPENDIX

IT -ENABLED EMPLOYMENT SCREENING SURVEY QUESTIONNAIRE

Introduction

Thank you for taking your time to participate in this research study. You are encouraged to answer all the questions. All information will be treated with the strictest confidentiality. The research study is about the impact of IT in employment screening. It is hoped that the final report could be of benefit to all of us and I would be happy to share the results of this study with you if need be. The completed questionnaire must be returned to the email address: m_muderedzwa@yahoo.com by 27/11/2008.

Instructions

The following PARTS gather your views about IT based background screening. Based on your experience with similar products, please rate your agreement with the following statements about how you feel in general using online background screening systems / software. Please indicate your opinion on the following statements by putting an X in each case using the following key.

Key: 1. Strongly Disagree 2. Disagree 3. Undecided 4. Agree 5. Strongly Agree

Statement	**12345**
This section gathers your views on the impact of online background screening (OBS) system(s)	
I am satisfied with OBS systems	
OBS is wonderful	
OBS is useful	
I don't notice any inconsistencies as I use OBS	
OBS does everything I would expect it to do	
I feel I need to have OBS systems	
I can use OBS successfully every time	
OBS is flexible	
OBS makes the things I want to accomplish easier to get done	
I can recover from mistakes quickly and easily	
OBS helps me to be more effective	
I found the various functions in OBS system were well integrated	
OBS works the way I want it to work	
OBS saves time when I use it	
I would recommend OBS to a friend	
b) What are the problems experienced and encountered in using online background screening? What are the possible solutions in your opinion?	

Bibliographic and demographic data

Kindly answer the following questions by completing the appropriate sections and putting an X to fill in the boxed sections.

1. Gender	Female	☐	Male	☐
2. Age	(Fill in actual age):			
3. Job Title	(Fill in this space):			
4. Organisation Type	Background Screening Services Firm/Company			
	Background Screening Consultancy Firm/Company			☐
	Others specify: ()			☐
5. Companies Size	Small Company	Medium Company	Large Company	