

Conference Proceedings of

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## **Welcome**

The AiCE 2013 conference follows on from the highly successful initial AICE 99 conference and the AiCE 2000, AiCE 2002, AiCE 2005, AiCE 2008 and AiCE 2012 conferences. This conference looks at the continued development of Computer Ethics within Australia, taking into Ethics and Governance issues of new emerging technologies.

Papers were selected for their relevance in relation to the Computer Ethics and the conference theme. The aim of this conference is to further the work already achieved within Australia and bring together researchers in the field to discuss the latest issues and their implications upon Australia.

We commend the authors for their hard work and sharing their results, and the reviewers of the conference for producing an excellent program.

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# A survey of Australian ICT professionals' perceptions regarding the most common ethical problems they face in the workplace

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## **Introduction**

Professionals in information and communications technology (ICT) face ethical situations in the workplace and need to deal with them effectively. Various attempts have been made to assist them. On the one hand, there have been attempts to educate professionals on how to conduct ethical reasoning (Simpson, Nevile & Burmeister, 2003; Al-Saggaf and Burmeister, 2012). On the other hand, there have been attempts to help professionals better utilise the codes of conduct of their professional society (Burmeister & Weckert, 2003; Bower, Burmeister, Gotterbarn & Weckert, 2006; Burmeister, 2013). The present study, supported by the Australian Computer Society and the Australian Research Council, surveys ICT professionals in Australia about their perceptions regarding the most common ethical problems they face in the workplace.

## **Previous work**

There are widespread unethical practices in the ICT industry (Aziz, Lokman & Yusof, 2012; Khanifar, Langaghi & Bordbar, 2012; Ethics Resource Center, 2012). In Europe, these include violation of intellectual property rights, breaches of data security and data protection, software bugs and moral damage, systematic discrimination, software flaws, inferior software quality and economic damage, engaging in conflict of interest, and unauthorised access (Van den Bergh & Deschoolmeester, 2010, p. 6). In Malaysia and Taiwan, the main ethical problems are negligence, broken promises, abuse of power, failing to follow guidelines, unfairness, absence of truthfulness, personal responsibility, and violating the 'Golden Rule', among other things (Sherratt, et al., 2005). In Australia, the main issues concerning unethical behavior in the ICT industry are compromising quality, engaging in conflict of interest, unprofessional behaviour, invasion of privacy, making false promises, copyright violations, spreading malware and virii, and compromising functionality (Lucas & Weckert, 2008, p. x). Lucas and Bower (2007, p. 28), for example, found that 'compromising quality to meet deadlines' was the most important ICT issue then, constituting almost 55% of all cases, with 'compromising user requirements to meet deadlines' and 'compromising functionality to meet deadlines' neck-and-neck at almost 30%.

## **Method**

### ***Survey procedure***

To answer the research questions, the study employed a quantitative survey that was implemented on the web. The survey questionnaire was administered using SurveyMonkey.com to allow the participants to fill the questionnaire and return it over the internet. The survey questionnaire was also administered online because of issues such as convenience, cost, time and accessibility. The survey questionnaire was informed by the results of a previous survey conducted by Lucas and Mason (2008) and also by the instrument they used.

All active Australian Computer Society (ACS) members (approximately 18,600) were invited to participate in the web-based survey by direct email sent to them by the ACS once on 12 September 2013. The survey was closed on 6 November after the response rate reached 12.4%. The online questionnaire was prefaced by the ethics consent sheet (including assurances of anonymity) and a description of the study. The questions comprised both closed ended and open ended questions. This paper focuses only on the component of the study relating to the most common ethical problems experienced by Australian ICT professionals.

### ***Sample***

A total of 2,315 participants completed the questionnaire. Out of the 2,315 respondents who participated in the study 84.5% (N=1940) were males, and 15.5% (N=356) were females. By age, 30% (N= 692) of the respondents indicated that they were under 35 years; 22.3% (N=516) indicated that their age fell between 36 and 45 years; 25% (N=576) said their age fell between 46 and 55 years; and 22.7% (N= 524) indicated that they were 56 years and above. According to the survey results, 33.8% (N=698) of the participants in the study described their occupational category as manager, 14.8% (N=307) said they were developers; 24.3% (N=502) indicated they were consultants and 13.3% (N=277) said they worked in technical support.

### ***Analysis***

The main question this analysis tried to answer is: which ethical problems were selected as the most frequently faced by ICT professionals? Since the question about the most common ethical problems allowed respondents to select more than once answer, a Multiple Response Frequency (MRF) analysis was judged to be the most appropriate analysis technique. In addition, cross tabulations were also performed to see if there are differences in responses based on geographical location and self described occupational category. The findings from the MRF analysis and the cross tabulations are summarised below.

### ***Findings***

With regards to the question: how often does unethical behaviour occur in the ICT workplace, the results of this survey revealed that 13.1% of the respondents indicated that unethical behaviour occur frequently in the ICT workplace; while 47.1% noted that it occurs occasionally with only 32.4% saying it occurs rarely. This suggests that 60% noted that unethical behaviour occur at least occasionally. This is different from the 85% result that Lucas and Weckert's (2008) study has found.

Of the 57 ethical problems listed for respondents to select, the MRF analysis revealed that 'Compromising quality to meet deadlines' (5.4%) was highest on the list of the most common

ethical problems experienced by ICT professionals, followed by ‘Blaming others for own mistakes’ (4.7%) and ‘Compromising functionality to meet deadlines’ (4.2%). Table 1<sup>4</sup> below provides more details. With the exception of ‘Blaming others for own mistakes’ ethical problem, this result is consistent with the Lucas and Bower’s (2007) finding suggesting the 2007 ethical problems are also major problems for ICT professionals in 2013.

	Responses		Percent of Cases
	N	Percent	
Unprofessional Behaviour	633	3.1%	30.3%
Conflict of interest	682	3.3%	32.6%
Compromising quality to meet deadlines	1,104	5.4%	52.8%
Compromising functionality to meet deadlines	846	4.2%	40.5%
Compromising user requirements to meet deadlines	632	3.1%	30.2%
Compromising security to meet deadlines or make things work	611	3.0%	29.2%
Blaming others for own mistakes	957	4.7%	45.8%
Bullying	630	3.1%	30.1%
Incompetence	750	3.7%	35.9%
Overworking staff	762	3.7%	36.5%
Total	20,368	100.0%	974.5%

Table 1: Ethical problems frequencies

An inspection of the results of the cross tabulations based on geographical location (see Table 2 below for more details) revealed that, with the exception of respondents in the Northern Territory and those Overseas, respondents in all other Australian states ranked ‘Compromising quality to meet deadlines’ as the highest on the list of the most common ethical problems in the IT workplace. For respondents in the Northern Territory and those Overseas ‘Blaming others for own mistakes’ was the highest on the list with ‘Compromising quality to meet deadlines’ as the second. In addition, with the exception of respondents in Tasmania and those overseas, respondents in all other Australian states selected ‘Compromising functionality to meet deadlines’ as the third most common problem after ‘Blaming others for own mistakes’. For respondents in Tasmania ‘Blaming others for own mistakes’ was considered the third most common problem after ‘Compromising functionality to meet deadlines’. Interestingly, for respondents outside Australia, the third most common problem was ‘Conflict of interest’.

<sup>4</sup> Items with less than 3% were dropped from this table. Thus the percentages of items shown below do not add up to 100%.

State	Unprofessional Behaviour	Conflict of interest	Compromising quality to meet deadlines	Compromising functionality to meet deadlines	Compromising user requirements to meet deadlines	Compromising security to meet deadlines or make	Blaming others for own mistakes	Bullying	Incompetence	Overworking staff
ACT	78	78	118	100	86	72	107	80	89	86
NSW	189	202	329	249	183	170	307	199	219	228
NT	7	4	8	6	3	6	9	8	7	7
Qld	67	88	141	118	80	71	118	81	111	99
SA	34	34	75	45	39	39	55	28	40	39
Tas	13	11	19	18	8	16	14	10	15	13
Vic	167	162	275	208	152	161	231	149	176	201
WA	57	77	109	78	63	60	82	57	72	67
Overseas	18	23	26	21	16	13	31	14	18	20
Total	630	679	1100	843	630	608	954	626	747	760

Table 2: Ethical problems frequencies based on geographical location

The results of the cross tabulations based on self described occupational category (see Table 3 below for more details) revealed that, with the exception of respondents who described their occupation as ‘Administrator’ and ‘Technical support’, all other respondents ranked ‘Compromising quality to meet deadlines’ as the highest on the list of the most common ethical problems in the IT workplace. For respondents who described their occupation as ‘Administrator’ and ‘Technical support’, ‘Blaming others for own mistakes’ was the highest on the list with ‘Compromising quality to meet deadlines’ as the second. Moreover, ‘Blaming others for own mistakes’ was ranked second by Managers and Consultants while to Developers ‘Compromising functionality to meet deadlines’ was the second most common problem. Respondents selected different problems as their third most common problem. While Developers and Educators<sup>5</sup> considered ‘Blaming others for own mistakes’ as the third most common problem, the administrator and technical support respondents ranked ‘Overworking staff’ as the third most common problem. Managers and Consultants, on the other hand, selected ‘Compromising functionality to meet deadlines’ as the third most common problem.

<sup>5</sup> Those in education ranked also ‘Conflict of interest’ as their third most common.



Self described occupational category	Unprofessional Behaviour	Conflict of interest	Compromising quality to meet deadlines	Compromising functionality to meet deadlines	Compromising user requirements to meet deadlines	Compromising security to meet deadlines or make	Blaming others for own mistakes	Bullying	Incompetence	Overworking staff
Manager	223	228	372	267	209	182	303	196	240	246
Developer	73	66	146	118	76	83	109	77	97	90
Consultant	151	188	279	230	190	153	247	146	201	180
Administrator	34	38	54	37	28	49	60	36	42	53
Technical support	62	58	100	78	51	64	111	76	75	90
Education	44	50	51	38	22	27	50	43	35	44
Total	587	628	1002	768	576	558	880	574	690	703

Table 3: Ethical problems frequencies based on self described occupational category

## Conclusion

The preliminary results confirm and extend earlier findings about the common problems faced in the ICT workplace in Australia. Unlike that previous work where the response rate was approximately 2%, this survey had a response rate of over 12%, giving further credence to the results obtained. The present study is ongoing, with further followup interviews and focus groups planned across Australia, to tease out the implications of the survey and to describe in detail how professionals interpret each of these major ethical problems. Furthermore, the study seeks to discover effective strategies that are currently being employed to address these problems. The study recommends surveying the Australian ICT professionals about their perceptions regarding the most common ethical problems they face in their workplace annually so as to plan effective strategies for solving them accordingly.

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