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Contents

Editorial

This is the first issue in the fourth year of publication of the *Journal of Business Systems, Governance and Ethics* and the articles included cover a very wide range of topics. The articles also come from a number of different countries: Nigeria, Switzerland, Cyprus, Malaysia and Australia.

In the first article on *Motivations for the Adoption of Chronic Disease Information Systems in General Practice*, Daniel Carbone and Stephen Burgess highlight the key motivational factors that lead to the successful implementation of Chronic Diseases Information System (CDIS). in twenty-eight general practices, in a case study of a large general practice division network in Australia. Their study showed that patient care was the most important motivation for adopting CDIS, followed by risk management and financial incentives, but that motivational forces are inter-related. They suggest that the decision to adopt CDIS should be based on a number of these identified factors.

The second article, by Eyesan Leslie Dabor and Semiu Babatunde Adeyemi investigates: *Corporate Governance and the Credibility of Financial Statements in Nigeria*. They note that optimal decision-making is based on the quality of information available to the decision maker, and that financial statements are a major sources of information for investors and other stakeholders. Hence, credibility of these statements has important implications for quality of investor decisions. Their study used primary data collected from 248 respondents, and secondary data from 20 quoted companies in Nigeria and sought to determine the relationship between corporate governance and the credibility of financial statements. They found that including non-executive directors on the board, and compliance with audit committee composition are likely to enhance the credibility of financial statements.

The third article is titled: *Strategic Design Factors for an Automated Customer Interface* and was written by Kristian Bader and Geoff Turner who identify three agents that influence automation of the customer interface in insurance companies: intensified competition, changes in the customer base and technological development. The paper describes a qualitative empirical study involving interviews of experts from a sample of Swiss insurance companies. The study posed the question: “What are the critical success factors that enable the automation of the customer interface in insurance companies?” and the article describes and discusses the results.

The next article: *Women and Superannuation: Work Until You Drop?* by Jo Vu and James Doughney describes how, in Australia, superannuation is becoming an increasingly important source of retirement income, but that Australian women face a significant barrier in accumulating superannuation entitlements because of their positions in the paid and unpaid workforce. Analysis of the Survey of Employment Arrangements and Superannuation and other Australian Bureau of Statistics data, together with data published by the Australian Prudential Regulatory Authority, reveals that dramatic policy initiatives will be needed to improve women’s access to retirement resources.

In the final article, Rusnah Muhamad discusses: *Religiosity, Ethical Judgments and Malaysian Muslim Students*. The paper discusses how culture is often cited as one of the powerful determinants in shaping the personality and behaviour of individuals and that religion, being an important element of culture, is seen as playing an important role in determining how people behave in certain situations. This study investigates the influence of religious education on the perceptions of unethical business practices among final year students in a university in Malaysia, concentrating on the impact of education on the level of religious commitment among Malay Muslim students and how these two variables influence their ethical judgment. It found that the level of religiosity is negative and significantly related to the level of tolerant towards unethical business practices.

Arthur Tatnall
Editor

Motivations for the Adoption of Chronic Disease Information Systems in General Practice

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Abstract

The purpose of this paper is to highlight the key motivational factors that lead to the successful implementation of Chronic Diseases Information Systems (CDISs) in twenty eight general practices in a case study of a large general practice division network in Australia. The literature identified three major areas of CDIS motivation: patient care gap motivator, internal motivators and external motivators. Patient care emerged as the most important motivation for adopting CDIS, followed by risk management and financial incentives. However, the study also determined that the motivational forces are inter-related and suggests that the decision to adopt CDIS should consider a number of these identified factors.

Keywords

Health Information Systems, Motivational factors, Chronic Diseases, Primary Care, Socio-technical theory,

Introduction

Chronic diseases (CDs) such as cancer and cardio-vascular, diabetic and respiratory conditions are by far the leading cause of mortality in the world and represent 60% of all deaths. Out of the 35 million people who died from chronic disease in 2005, half were under 70 and half were women. Furthermore, 338 million people are expected to die of chronic conditions over the next ten years [1-3].

According to the Word Health Organisation, many of these diseases can be prevented, but health care systems do not make the best use of their available resources to support the prevention process. All too often, health care workers fail to seize patient interactions as opportunities to inform patients about health promotion and disease prevention strategies. Furthermore, most current health care systems are based on responding to acute problems, urgent needs of patients, and pressing concerns. The hallmarks of contemporary health care are testing, diagnosing, relieving symptoms and expecting a cure. While these functions are appropriate for acute and episodic health problems, a disparity occurs when applying this model of care to the prevention and management of chronic conditions. *Preventive* health care is inherently different from health care for acute problems, and in this regard, current health care systems worldwide fall remarkably short [1].

The World Health Organisation further suggest that well-designed, locally relevant and sustainable clinical information systems (IS) are essential if the goal of coordinated long-term care is to be achieved. They enable the organization of patient information, tracking and planning of patient care, provision of support for patient self-management, and scheduling of patient follow-up. These systems are especially effective when they encourage communication between clinical team members and patients [3].

However, motivating doctors in primary care settings to implement current clinical best practice and information technology (IT) supported systematic approaches to chronic condition care has so far proven illusive [4-10].

In Australia, for example, the last few years have seen strong calls and financial incentives from the Federal Government for the application of technological advances to contain escalating health costs [11, 12]. These incentives resulted in considerable uptake of computers, but failed to translate in the actual use of those technologies for systematic care [13-18]. In short, technological and financial approaches have failed to motivate a shift in current practice. And although there at least almost fifty theories in use in the information systems field alone [19] the motivational forces that lead to successful implementation and adoption of Information systems in health settings for the prevention and management of chronic diseases in primary health care settings are not well known.

This article discusses the motivations behind the implementation of a chronic disease information system (CDIS) in a number of general practices that are part of a particular general practice network in Australia.

Literature Review

An important part of the discussion in this article is an examination of the different approaches to health care.

> *Evidence-based medicine is a rather young concept that entered the scientific literature in the early 1990s. .... Its focus is on offering clinicians the best available evidence about the most adequate treatment for their patients. ...Patient-centered medicine, although not a new phenomenon, has recently attracted renewed attention. ... It puts a strong focus on patient participation in clinical decision making by taking into account the patients' perspective, and tuning medical care to the patients' needs and preferences.*

(Bensing, 2000: 17)

Binsing (2000) goes on to add that evidence-based medicine is *disease-oriented,* not *patient-oriented.* The other major difference is that general practitioners (GPs) build capacity on the treatment of diseases by evidence from large clinical trials, not necessarily from building experience by treating patients themselves (although obviously the two are not mutually exclusive).

The advent of evidence-based medicine, as opposed to acute care models, and in particular the production of best practice clinical guidelines, has been a significant recent advance in medical practice. However, a consistent finding in health services research is the gap between the evidence and actual medical practice [20]. Studies show that 30 to 40% of patients do not receive care according to current scientific evidence, while approximately 20% of the care provided is not needed or is potentially harmful [8, 9]. Research into the barriers to uptake of evidence identifies such barriers to be multifactorial: professional (knowledge, skills, medico-legal concerns), social (peer influence) and organisational (time constraints, complexity, financial) [21].

This premise begs the questions: what are these clinical 'shifts'? How can information systems support them? The health literature tells us that the adoption of technology-supported systematic approaches in primary (direct to patient) care require a major shift in current medical care approaches [22, 23].

Wagner, a prominent chronic diseases care advocate, suggests that the effective interventions tend to fall into one of five areas [24, 25]:

1. *The use of evidence-based, planned care:* An information systems implementation could easily provide the necessary evidence to clinicians, extracting medical data from their electronic health records (if available) in a usable form, and presenting the clinician 'evidence' for the need to alter medical treatment based on internationally valid medical protocols developed for the care of chronic disease sufferers. The planned care can easily be organised in an automated and systematic way through the use of electronic recall and reminders [26-28].
2. *Reorganization of practice systems and provider roles:* the use of team approaches in chronic disease information systems (CDIS) care is well documented in the health literature, providing and supporting specific roles to nurses, practice managers and administrative staff so that all make a contribution to the patient's care [8, 17, 28-30].
3. *Improved patient self-management support:* CDIS can produce instant electronic management plans and supporting care-educational literature to support the patient outside the practice [27].
4. *Increased access to expertise*: CDIS should be able to provide easy access to referral templates for clinicians to use to refer patients to the appropriate specialist as well as ready made decision support systems for diagnosis, prevention and management of CDs [8].
5. *Greater availability of clinical information*: CDIS should be able to efficiently collate all the relevant clinical patient information for the clinician as required [26].

In this article we are interested in the motivations for general practices to adopt information systems that support the use of evidence-based, planned care. A discussion of the motivations is particularly crucial if we take into account that the central assumptions of the evidence-based medicine paradigm *may not be shared* by all general practitioners, making its application in general practice a particular challenge [31, 32]. Some GPs regard clinical evidence as a 'square peg to fit in the round hole' of the patient's life [33]

Motivational factors driving change in general practice

The literature suggests that affecting change in any organisation is at best extremely difficult. Logical reasons for change do not appear to automatically translate into change in behaviour or practice for a variety of reasons and this is just as true in primary health care settings [7, 21, 34]. The literature also suggests that although a number of 'business' models for information systems in primary care have existed for a while, the focus of implementations has mainly been on the advantages that the technology brings to general practice. Hence, development and implementation models for general practice have been '*technology driven'*; traditionally tending to see the implementation process as a technical matter removed from organizational dynamics [14]. Nevertheless, it is generally accepted that the traditional technical approaches are not adequate to understand the process of implementation of information systems [35]. There is substantial agreement that the success of implementing information systems is determined by more *socio-technical* factors [36-38]; even though it is less clear what these factors are [39]. This is all in addition to the difficulties that can be faced when trying to implement an *evidence-based* system as described in the previous section.

The following sections identify different motivators for the adoption of CDIS in general practices.

Patient motivator

As described earlier, *this motivator* for the adoption of CDIS is concerned with the identification of a CD care problem or evidence of a gap in care. There is growing evidence that there are serious problems with the quality of care that patients with chronic conditions receive; with some studies suggesting that only 20 to 50% of people with common chronic conditions are under adequate control [40-42]. There appears to be often little 'translation' of the problem from the world of academic research to the practice level. This is also supported by the literature where it is estimated that it can take up to 17 years for clinical evidence to be put into practice at the GP level [43]. Thus, the chance to introduce a system which could be seen to streamline this process would be seen as being desirable.

Patient Needs motivator

In an Australian study, GPs believed that some patients want them to take overall control of their condition, listen to and help them deal with their problems (not just treat their symptoms), educate them, and, for older patients, provide social contact. Patients also want their GP to ensure they have an adequate quality of life. GPs felt that this placed great pressure on them [30]. There are new social expectations of health care, scientific cures and technological advances [15, 44]; as well as ageing populations and less community cohesion and social support [4, 15, 45]. Even the Internet has become a challenging medium often used by patients to question GPs on possible diagnosis and treatments.

Interestingly, some GPs believe that the patient will not change their unhealthy behaviour [46]. They have described how patient compliance, motivation and capacity influence the type of care given: 'In chronic care, you need the cooperation of the patient; it's a team effort involving the practice and the patient.' Factors such as the severity of the patient's condition, his/her social situation, level of education and attitude towards the illness all need to be taken into account [30].

Internal motivators

Internal motivators are present when the push for the adoption of a CDIS is from within a practice or GP network. Typically, these motivators are based on the personal values and beliefs of GPs, since they are typically the ones to make strategic decisions at this level. At the centre of general practice is the fundamental principle of patient care. Oldroyd et al (2003), in a study of Australian GPs' perception of chronic care, found that GPs saw themselves as coordinators of care as well as advocates for patients; including educating them about their illness, helping them to understand specialist recommendations and working in partnership with them. Some GPs talked about a tension between the GP as a businessperson, the GP as a patient support and the GP as an evidence-based clinician. Some even indicated they try to avoid chronic-disease care and to dissuade prospective patients with chronic diseases from coming to the practice [30]. On the other hand, GPs also felt that chronic care was rewarding because it enabled them to get to know their patients better, they could prevent complications and their patients appreciated them and felt happier. Patients also seem to come to terms better with the seriousness of their illness [30]. Also, a GP 'business' does not subscribe to the bottom line alone. Thus, decisions about processes within the practice are also influenced by 'clinical level' strategic decisions. These are well recognised in the health literature; for example, Ralph Audehm, a well known GP, academician at Melbourne University (Australia) and clinical systems promoter, outlines a number of researched strategic questions that GPs will ask themselves to make sense of the challenges at hand. For example, some of these are (Audehm 2004):

- Is it important? (Burden of illness)
- Am I likely to be effective? (Role, impact)
- Can I make the outcome visible? (Feedback, observable/measurable)
- What will assist getting a quick return (reward/reinforcement)
- Is it desirable (win-win, all stakeholders)
- Is it doable? (Realistic)
- Can we make it a routine part of practice? (Sustainable).

These multiple 'bottom lines' must be taken into account within the motivational framework to be able to effectively motivate GPs [15, 17].

Another important factor to take into account is that GPs can be very wary of investing resources into their practices, and sometimes with good reason. Much of what is 'pushed on them' by external bodies (including Governments) is not necessarily of benefit to them. For example, many of the benefits of the introduction of information technology in general practice accrue to *other sectors* of the health system, such as hospitals and pathology companies, rather than directly to the practice [13].

However, GPs are not the only players to influence strategic decision making and developing awareness at the internal level, for example, 'Local champions', such as practice managers in larger practices, are an important feature of systems in the literature, who must also actively and enthusiastically promote the system, build support, overcome resistance, and ensure that the system is actually installed and used [29].

A possible key motivator for GPs might be the use of CDIS to avoid litigation caused by inefficiencies, such as ineffective recall systems (Jessee and Morgan-Williams 1987). Effective CDIS can put backup systems in place that patients are reminded about being screened for the existence of chronic conditions at suitable intervals.

In summary, internal motivators are one of the keys to creating effective awareness of the issues at the strategic level. A user of the framework must be able to understand those forces and situations to gain an insight into the practice's readiness for change.

External motivators

External motivators are present when an external body provides incentives or direction for the introduction of CDIS. The offer of financial incentives (by health authorities) for the completion of pre-determined cycles of care to individual chronic disease sufferers can be important. For example, if an Australian GP performs a six month and a one year review of a diabetic patient, by way of taking certain measurements and performing certain blood tests to control the disease, the GP gets an extra amount of money on top of the normal consultation. These Practice Incentive Payments (PIPs) promote integrated delivery systems though the use of practice guidelines; preventive care interventions and disease management programs [5].

Another important external factor involves other professional bodies, which can play a determinant role in motivating practices to act on perceived shortcomings. Bodies like the Australian General Practice Accreditation Limited (AGPAL) are providers of quality improvement that support primary care practice teams to increase efficiency, reduce risk and stay current with trends and best practice [47]. Practices seek accreditation as a way of showing their customers (patients) that there is an appropriate standard of care at their practice.

As already suggested, government forces can also influence adoption of information systems in general practice. The Australian federal government encourages larger practices though its Link program as a means of achieving modernisation, economies of scale and co-location of health services. In 1998/99, an incentive payment to encourage mergers between small practices was introduced [48].

In Australia, General Practice Networks have been instrumental in commencing the attitudinal and cultural shifts necessary at the local level for general practitioners to comprehend the potential uses of information technology [13, 49-51]. The establishment of these networks (previously known as 'divisions of general practice') has helped to break down the historical isolation of general practitioners from other parts of the health system (and from each other). Through these networks, general practitioners are able to explore the benefits of information sharing within the context of emerging team approaches to the care of individuals and communities, and to address issues of confidentiality, privacy and consent [13].

Methodology

In order to examine the motivational factors outlined in the previous section, a case study approach has been adopted – with an Australian general practice network being the foundation of the case. This approach allows collected data to be analysed, either to build up or to validate or theories, typically through collection of textual data through interviews [52-54]. The data collection technique used in this study was primarily semi-structured interviews. In this specific instance the analysis involved a comparison of the views of 28 general practices in the network as to the motivations behind their adoption of CDIS, which were subsequently compared back to the literature.

Research approach

This study involved a socio-technical exploratory approach to identify potential motivating factors for the adoption of CDIS via a literature review (as already identified) [55]. In this study, preliminary interviews were carried out with practice managers in 10 general practices within the general practice network region, where at least one CDIS had been used for more than three years. A second, larger data collection phase, then examined the views of different stakeholders in addition to practice managers: GPS, nurses and staff. The population characteristic of the practices and individuals tested in the study is shown in Table 1.

Table 1: Demographics of data collection

Number of Practice in General Practice Network	38
Number of practices examined	28 (75% of network)
Number of practice managers interviewed	13
Number of doctors interviewed	10
Number of nurses interviewed	6
General staff interviewed	7
Total interviews	36 (average 1.3 interviews per practice)

Results

In the preliminary data collection phase, ten practice managers were asked about their motivations for the adoption of their CDIS. In this question they were asked to rate (from 1 (important motivator) to 6 (lowest motivation):

- One patient care gap motivator (patient care)
- Three internal motivators (risk management, insurance to minimise risks and involving staff), and
- Four external motivators (the support of the general practice network, the need to be accredited, general government influence and financial incentives for adoption).

The average ratings of their responses are shown in Table 2.

Table 2: Ratings for CDIS motivators

Motivator	**Classification**	**Average Rating**
Patient care	Patient needs	1.67
Risk management	Internal motivator	2.00
General practice network support	External motivator	3.56
Accreditation issues	External motivator	4.33
Wanted to involve/ include staff	Internal motivator	4.78
Financial incentive (PIP)	External motivator	5.22
Government influence	External motivator	5.67
Insurance incentive (to minimise risk)	Internal motivator	5.78

The two clear motivators from the preliminary phase of the study were patient care (the one 'patient needs' motivator listed) and the need for risk management (an internal motivator). The other factor considered (on average) to at least be of 'some importance' was support by the general practice network itself. It was interesting to the authors that, even though practice managers were not GPs, they still rated patient care so highly even though they were generally employed to manage the 'business' side of the practice.

In the main data collection stage, further interviews were conducted and the different stakeholders were asked again rate the different motivations for adopting CDIS. All of the other categories of stakeholders (GPs, nurses and general staff) rated patient care as the most important motivation. Different reasons for ranking patient care. For instance, one GP suggested that it is embedded in the practice:

> *My first ranking would patient care because it was fragmented and buried within the practice… so that's number one.*

Another GP suggested that patient care is rated so highly because:

> *…what you're trying to do is do the best for your patient with chronic condition…*

Once again, the second highest rated response was Risk Management. This comment from a GP highlights the possible threat of litigation.

> *I don't really recall that our practice took a different view on more assertive Cervical Screening than it took to more assertive CD management in general. Maybe conversely if there was a driver it was owning our own recall systems, the driver was the Medical defence industry and MDAV in particular and their risk management programs highlighting cervical screening systems as being one of the more evident causes of medical litigation.*

At this point it could possibly be argued that 'risk management' actually is an external motivator – as the threat of litigation does come from outside of the practice.

After the main data collection occurred, financial incentives rated higher overall than it did just for practice managers. One GP actually rated financial incentives higher than patient care. It was also rated highest by a practice manager. One general staff member commented:

> *Financial of course, they are Doctors aren't they?*

The need for accreditation was the next highest rated motivation.

However, some of the comments suggested that the task of rating or ranking the motivations is not quite as simple as it might seem. Here, although a GP rated patient care as the most important factor, there is a rider…

> *Number one is patient care, I mean...it has to be a good idea and it has to be plainly demonstratively good for the patient, there is no point in doing anything if it is not good for the patient, in conjunction to that it has to be of benefit to me…taking on a new initiative costs me a bucket of money and not be rewarded I am not going to do it.*

These comments from a GP and a nurse highlight the interrelationships:

> *I guess back then it was driven by risk management issues, financial incentives, which gets back to accreditation but then all integrates into patient care but I think you have got to be convinced that something is worth doing and basic things like these are worth doing*

> *I think it's a bit of each (on the list of motivators) For me… from my point …of the clinic, I think we need consistency, so that if the patient sees one doctor and then see another doctor we can be more consistent…sure for accreditation purposes we want to keep our information up-to-date, but I think we really need to make sure we're screening…I think we need get them all so we can treat them to the best of our ability and make sure they're getting the best of care…and if we do it across the board so everyone… (gets the care)*

In summary, the data collected suggests that the motivational forces tend to be inter-related. However, a much higher influence is asserted by patient care. This was well supported across all practice types and different stakeholders. However, interviewees were very clear to point out that patient care must conform to financially sustainable models and be facilitated by workforce and infrastructure factors.

There are two points to make here: one is that an approach to implementing a chronic disease information system in general practice must be able to tap into these motivational forces as a complete solution, catering to the perceived needs of stakeholders. The second is that evidence based analysis is crucial to create awareness in individuals of the 'gaps' in care affecting chronic disease patients.

Conclusion

This article identified different categories of motivators and a defined ranking of their strength to affect the adoption of Chronic Disease Information systems in general practice. Following a literature review of known motivators, thirty-six participants (representing, doctors, nurse, practice managers and staff) from twenty-eight practices were interviewed to examine the relevance of these factors. The findings suggested that the *key*, and highest ranked, motivational factor identified in this study for the adoption of CDIS was gaps in patient care (Patient Care) as a motivational force. However, another important factor that rated highly in the study was the need to introduce CDIS as a means of minimising the risk of legal threats (risk management), predominantly as a means of avoiding patient litigation. Other prominent motivations for the introduction of CDIS were the benefits of financial incentives and increased likelihood of gaining or maintaining accreditation with accreditation bodies. Another important finding was the need to consider the relationship between these motivational forces when adopting CDIS. For instance, even if CDIS is adopted for the purpose of improving patient outcomes, it should still be done so in an environment that allows for improved financial outcomes, or at least no deterioration of the financial situation.

In essence, any information systems implementation would be better accepted if the main drivers or motivators are understood before the implementation takes place; and the implementation itself caters for their solutions as part of the overall system. Furthermore, no single motivator should be seen to be the *only* driver, a multi-pronged approach that strengthens all identified motivators equally should be used to satisfy the multiple needs of those affected by the introduction.

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Corporate Governance and the Credibility of Financial Statements in Nigeria

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Abstract

Optimal decision-making is based on the quality of information available to the decision maker. Financial statements published by companies are the major sources of financial information available to investors and other stakeholders of the company. The credibility of these financial statements has very salient implications for the quality of decisions that investors can make. By using primary data collected from two hundred and forty eight respondents, and secondary data from twenty quoted companies in Nigeria, we sought to determine the relationship between corporate governance and the credibility of financial statements. The secondary data was analysed using multiple regression, while the primary data was used to test hypotheses using the chi-squared test. We find that including non-executive directors on the board, and compliance with audit committee composition as provided by the Nigerian Companies and Allied Matters Act (CAMA) 1990 are likely to enhance the credibility of financial statements. We did not find evidence to suggest that CEO duality or absence of institutional shareholding would have negative effect on the credibility of financial statements. We recommend that apart from including non-executive directors on the board and ensuring that the composition of the audit committee complies with corporate regulatory framework, stakeholder must constantly assess the credibility of the financial statements by assessing the benefits accruing to them in relation to their financial exposure to the organization.

Keywords

Corporate governance, CEO-duality, discretionary accrual, audit committee, credibility.

Background to the Study

The quality of decisions that investors can make is largely dependent on the quality of information available to them. This information can be classified into quantitative (financial) and qualitative (non financial). However, financial information is of great significance, as it requires a reasonable level of skill to interpret and use. The published financial statements prepared by directors of limited liability companies and audited by external auditors remain the primary means of informing shareholders and other users about the financial performance, progress and position of the business. *Ceteris paribus,* audited financial statements should be credible, believable and reliable. However, this condition, other things being equal, may not hold. Exceptions to this assumption include: insufficient corporate governance structures, codes and institutions, timeliness of the financial information and the level of skill and the sophistication of the capital and financial markets for which the financial statements have been prepared. Low quality reporting results from sloppy accounting, inadequate regulation, crony capitalism, lagging and multiple regulations, economic and political factors influencing managers' and auditors' incentives (see Liu and Zhang, 1996; Ball, *et al*., 2003; Fox, 1998; and Rask, *et al*., 1998).

When there is a separation of ownership from control of a business enterprise, as in the limited liability company, there is usually a tendency for managers of these companies to engage in fraudulent financial reporting to protect their interest at the detriment of the interests of users of financial statements. Oyejide and Soyibo (2001) observed that managers in some unforeseen circumstances assume contingent control rights that provide them with the potentials to operate against investors' best interest and as such conceal some pieces of information in order to align the interest of managers to that of the stakeholders. In order to revitalize the confidence of reporting system, there has been a clamour for corporate governance. Sloan (2002) is of the view that the credibility of financial statements depends largely on the existence of strong corporate governance structures. The Central Bank of Nigeria Code of Corporate Governance for Banks (2006) states: "specifically for financial sector, poor corporate governance was identified as one of the major factors in virtually all known instances of financial institution distress in the country." Kumolu (2007) points out that the thrust of corporate governance lies in putting in place structures that would ensure that management is accountable to the stakeholders.

The review of literature shows an inextricable link between corporate governance and board effectiveness. It is only an effective board that would be concerned about the credibility of financial statements. An effective board is one that seeks to maximize shareholders' wealth through the means of enterprise and accountability. It is this accountability dimension of an effective board that links corporate governance with the credibility of financial statements.

Accounting is big business because trust is a scare commodity. The accountant and indeed the auditor are in business because they are believed to produce believable financial reports. In a corporate setting, it is the duty of directors to prepare financial statements to disclose their stewardship to shareholders. Directors usually employ both accountants and auditors. The employment of the auditors by the directors is subject to ratification by the shareholders. When directors have fraudulent motives both the accounting and auditing functions are paralyzed. Consequently, in order to check the fraudulent intentions of directors, a strong corporate governance mechanism is required.

In this study we examine the relationship between corporate governance and the credibility of financial statements. The study contributes to literature by using Nigeria data to examine this issue. Moreover, the study uses both primary and secondary data. Specifically the study attempts to find answers to the following questions:

i. Does CEO duality enhance the credibility of financial reports?
ii. How effective is the audit committee in ensuring the credibility of financial statements?
iii. In what ways do the variables like board size, board structure and shareholding structure affect the credibility of financial statement?

The current study is aimed at finding out the relationship between corporate governance and credulity of financial statements. Weak corporate governance structures provide incentives to management to manipulate financial statements, and this results in low reporting quality. However, the exact relationship between corporate governance variables and quality of financial reports is not exactly known because the literature is unresolved on the issues of board size, board structure board independence, ownership structure and CEO duality as they affect the quality of corporate governance. Basically, as it relates to financial reporting the main objective of corporate governance is to ensure that the financial statements prepared by directors and attested to by independent auditors are actually true and fair. We test in this study one dimension of credibility, which is the absence of earnings manipulation through discretionary accruals. Specifically the study seeks to find out:

i. whether the absence of CEO duality mars credibility of financial statements;
ii. whether the presence of more non-executive directors relative to executive directors enhances the credibility of financial statements;

iii. whether audit committee constituted in accordance with the extant corporate regulatory pronouncements in Nigeria [e.g., s.359(4) of the Companies and Allied Matters Act, (CAMA) 1990] promotes the credibility of financial statements in the country; and

iv. whether institutional ownership of shares enhances the credibility of financial statements.

The following hypotheses are formulated to guide in finding answers to the research questions:

H_1: Companies having CEO duality do not produce more credible financial statements than those that do not have CEO duality.

H_2: Companies having boards dominated by non-executive directors do not have more credible financial statements than those whose boards are dominated by executive directors.

H_3: Companies having audit committees constituted as stipulated by CAMA 1990 produce less credible financial statements than those that have audit committees constituted without regard to the provisions of CAMA.

H_4: Companies with institutional shareholders produce less credible financial statements than those without institutional shareholders.

In this study, we examine the relationship between corporate governance and the credibility of financial statements, using both primary and secondary data. We capture credibility of financial statements by using absolute discretionary accrual. The corporate governance variables used include proportion of non-executive directors, institutional shareholding, role of Chief Executive Officers (CEOs) and audit committee composition.

Section II reviews the literature. The research design, model specifications, the data used in the analysis, and sample selection procedure are contained in Section III. Section IV captures the data analysis and research findings while Section V summarises and concludes the paper.

Review of the Literature

The Wikipedia online encyclopaedia (2006) sees corporate governance as framework of rules, relationships, systems and processes within and by which fiduciary authority is exercised and controlled in corporations. These rules include applicable laws of the land and the internal rules of the company. Relationships include those between related parties, managers, directors of board, regulatory authorities, employees and the community at large. Systems and processes deal with matters such as delegation of authority, performance measurement, assurance mechanism, reporting requirements and accountabilities. Hence, corporate governance structures spell out the rules and procedures for making decisions on corporate affairs. It provides the structure through which company objectives are met, as well as a means for monitoring the attainment of the objectives.

Corporate Governance can be viewed from a narrow or broad perspective. From a narrow perspective, corporate governance is concerned with structures within which a corporate entity or enterprise receives its basic orientation and direction (Rwegasira, 2000), and from a broad perspective, corporate governance may be seen as the heart of both a market economy and of a democratic society (Sullivan, 2000).

The literature on corporate governance is awesome, veering into economics, law, business, finance and accounting. The focus of much effort in corporate governance research is to try to establish whether there is any relationship between corporate governance variables and some other variables such as earnings management, corporate failure, and corporate performance.

Board of Directors: The board of directors is the central link between corporate governance and performance of management. Jensen (1993) contends that while the ostensible role of the board of directors (BOD) is to provide high-level counsel and oversight to management, corporate internal control problems often originate from the BOD itself. He attributes the BOD’s governance features to factors such as CEOs’ agenda – setting power, low equity ownership of the board members, overcrowding of the board and a board culture that encourages consent rather than dissent. Given this scenario, the credibility of financial statements may be questionable. Size, independence and share ownership of the board are the most often discussed issues in the literature when talking about the attributes of the board.

An independent board is one that is free from manipulation and control of the CEO. Fama and Jensen (1983) argue that including outside directors (also referred to as non-executive or independent directors) enhances the viability of the board and reduces the probability of top management colluding to expropriate shareholders' wealth. However, there is no general consensus as to the perceived benefit of outside directors. Crystal (1991) for example contends that the CEO essentially hires outside directors, hence they are unlikely to assume a decisive position to the CEO. Byrd and Hickman (1992) noted that a clever CEO may have more outside directors to give shareholders a false impression of having a high quality of governance system when, in reality, they are panders for the achievement of narrow and sub-optimal objectives.

Empirically, research remains inconclusive on the degree of effectiveness of board and the inclusion of outside directors. Particularly, Bedard, *et al*. (2001) considered four variables in relation to corporate boards: board independence, the inclusion of independent directors on the board, the separation the office of the CEO from that of the chairman of the board, and the presence of an independent nomination committee. They find that independent directors are considered better monitors than other directors because they have the ability to act in the best interest of the company. They also report that non-executive directors have incentives to develop a reputation as experts in decision control and monitoring.

There is no consensus in the literature as regards the relationship between the size of the board and board effectiveness. The size of the board is defined as the total number of directors (both executive and non-executive) on the board. Dalton, *et al.* (1999) reported that large boards motivate better environmental links and more expertise. However, Jensen (1993), Eisenberg, *et al.* (1998) and Yermack (1996) find that an "over crowded" board is likely to be an ineffective board. What is "overcrowded" is definitely relative.

It is believed that a director with a sizeable ownership in the firm is more likely to question and challenge management proposal because his or her interest is at stake (Mace, 1986). Jensen (1993) argues that encouraging outside directors to hold a substantial ownership position in the firm provides them with better incentive to monitor management closely and this suggests that credibility is positively related to outside directors' ownership.

Morck, Shleifer and Vishny (1988) observe that there are two opposing effects of inside ownership - the alignment and the managerial entrenchment effects. Managerial interests become more closely aligned with shareholder interests as inside stock ownership rise from zero. However, managerial entrenchment effect sets in where management's stock ownership becomes large enough to give managers control.

A situation where the CEO holds the position of the chairman of the board has been described as a prescription for failure of internal control system (Jensen, 1993 and Fama and Jensen, 1983). However, Brickely, *et al.* (2000) suggest that the separation of these two positions (CEO duality) engenders monitoring costs, which may offset the benefits of separation of the roles of CEO and board chairman.

Research Design

We use both primary and secondary data in this study. The primary data is collected using a purposely-constructed questionnaire. The questionnaire is distributed to users of financial statement of companies who are knowledgeable in financial reporting and analysis. Knowledge ability is determined by asking the respondent whether he or she is knowledgeable enough to interpret financial statement information for economic decision-making purposes. Two hundred and forty-eight copies of the questionnaire were given to those users perceived as being knowledgeable by the researchers, and who were ascertained to understand the basic issues in financial reporting. Academic qualification, the kind of work the respondents do, together with their disciplines helped to determine "knowledge ability". The analysis of the data supplied through the questionnaire was done using descriptive and inferential statistics. The secondary data were gathered from the annual reports of 20 randomly selected quoted and active Nigerian Stock Exchange companies.

Model Specification: The model first establishes total accruals, which were then partitioned into discretionary (managed) and non-discretionary accruals. The discretionary portion is then regressed on corporate governance variables of sampled companies.

Chen *et al.* (2007) opines that accruals are likely to capture evidence of financial misreporting because they reflect manager's accounting estimates and accounting choices. Thus, discretionary accruals is used to proxy the credibility of financial statements. In establishing discretionary accruals, we used the modified Jones model. Kothari, *et al.* (2005) and Dechow, *et al.* (1995) have identified the Jones model as a strong tool for measuring discretionary accruals. The model uses such components of financial statements as turnover (sales revenue), account receivables, profit and assets to establish discretionary accruals.

Firstly, the model establishes total accruals by subtracting cash flow from operations from net income before extraordinary items. Thus,

$$TACC = NIBEI - CFO \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad (1)$$

Where TACC represents total accruals, NIBEI is the net income before extraordinary items, and CFO is cash flow from operations.

Total accruals are then partitioned into two components, i.e., non-discretionary accruals, which relate to normal activities of the company and discretionary accruals, which are determined according to the subjective reasoning of management. That is, discretionary accrual is a function of management choice of accounting policies.

$$TACC = a_0 + a_1 (\Delta REV - \Delta REC) + a_2 PPE + a_3 ROAM_{t-1} + e \quad \ldots \quad (2)$$

Where ΔREV is change in revenue; ΔREC is change in accounts receivable; PPE means plants, property and equipment (fixed assets) and ROAM is return on assets managed in the previous accounting period. All the variables that enter the equation are scaled by total assets (TA) of the previous year - TA_{t-1}

The non-discretionary accruals portion (NDA) is also modelled as a function of the change in revenue, change in accounts receivable, plant, property and equipment and return on assets managed in the previous accounting period as follows:

$$NDA = a_0 + a_1 (\Delta REV - \Delta REC) + a_1 PPE + a_3 ROAM_{t-1} \quad \ldots \quad \ldots \quad \ldots \quad (3)$$

The difference between (2) and (3) above is the residual e, and this is the discretionary accruals (DA). Thus,

$$DA = TACC - \left[a_0 + a_1 (\Delta REV - \Delta REC) + a_2 PPE + a_3 ROAM_{t-1}) \right] \quad \ldots \quad \ldots \quad (4)$$

The model parameters to be estimated are a_0, a_1, a_2, and a_3.

All the variables, except $ROAM_{t-1,}$ are scaled by total assets in previous year.

Chen, *et al.* (2007) provide justification for the inclusion of the variables by pointing out that normal levels of working capital accruals (non-discretionary accruals) are controlled by changes in revenue (turnover) less changes in receivable (ΔREV – ΔREC), while normal levels of depreciation charges and deferred tax accruals are controlled through property, plant and equipment (PPE). The inclusion of return on assets managed in previous year was added as suggested by Kothari, *et al.,* (2005).

Having obtained discretionary accruals as above, the multivariate regression model using the ordinary least square estimation method as suggested by Oaikhenan and Udegbunam (2004) below is used to expound the relationship between corporate governance and credibility of financial statements as follows:

$$ADA = a_o + a_1 CEO + a_2 PNED + a_3 AUDCOM$$

$$+ a_4 INST + a_5 SIZE + a_6 ROAM$$

$$+ a_7 LEV + a_8 LOSS + a_9 AUD + \varepsilon \; \ldots \quad \ldots \quad \ldots \quad (5)$$

where ADA = Absolute discretionary accrual

CEO = Role of Chief Executive Officer

Director (coded 1 if different from chairman and coded 0 if otherwise)

PNED = Proportion of Non-executive Director

AUDCOM = Audit committee composition, coded 1

if complied with CAMA, 1999, 0 if otherwise

INST = % of institutional shareholding exceeding 5%.

SIZE = Measured by the log of sales revenue

ROAM = Ratio of net income before interest and taxes to total assets

LEV = Ratio of total debts to total assets.

LOSS = Coded 1 if company experienced a net loss and 0 if otherwise

AUD = Auditors report, coded 1 if not qualified and 0 if qualified:

The model parameters would be estimated using the ordinary least square method. The dependent or explained variable in the model is absolute discretionary accruals (ADA), which is the proxy for the credibility of financial reporting. The explanatory variables comprise the research variables and dummy variables.

The research variables are corporate governance mechanisms measured by the role of the chief executive director or officer (CEO), proportion of non-executive directors (PNED), audit committee composition (AUDCOM) as stipulated by CAMA, 1990, and institutional shareholding (INST). The *a priori* expectation is that these corporate governance variables are negatively related to absolute discretionary accruals.

The control variables include size measured by the logarithm of sales revenue or turnover. Large companies may have less incentive to indulge in fraudulent financial reporting, but increase in sales could mean increase in receivables. Returns on assets managed (ROAM) are added as control variable for firm profitability and indicate the efficiency in the utilization of resources. Leverage is added because corporations approaching debt covenant violation may undertake income increasing or decreasing steps. Loss is added as corporations in financial distress may also increase reported income to reduce losses. Finally, auditors' report is included where financial reports are qualified, indicating possibility of misreporting.

Data Analysis

The descriptive statistics in Table 1 were computed based on the data presented in *Appendix 2*. The Table shows research and control variables. CEO with a sample size of 19, has a mean and standard deviation of 1.0000 and 0.0000 respectively. Similarly, PNED has its sample size as 16 with mean (standard deviation) as 0.7349 (0.0174). The mean and standard deviation of other variables are SIZE, 0.8456 (0.3546); ROAM, 0.1472 (0.0112); LEV, 0.5823 (0.0245); LOSS, 0.15 (0.0361) and AUD, 9474 (0.0474) respectively.

Table 1 Descriptive Statistics for Explanatory Variables

Variable	N	Mean	Std. Dev.	Mini	Maxi	Range
CEO	19	1.0000	0.0000	0.0000	1.0000	1.0000
PNED	16	0.7349	0.0174	0.5556	0.9091	0.3535
AUDCOM	20	0.9500	0.0475	0.0000	1.0000	1.0000
INST	18	0.5614	0.0430	0.1126	0.8844	0.7718
SIZE	20	0.8456	0.3546	5.6262	7.9044	2.2782
ROAM	20	0.1472	0.0112	0.0049	0.4686	0.4637
LEV	20	0.5823	0.0245	0.3440	0.8961	0.5521
LOSS	20	0.1500	0.0361	0.0000	1.0000	1.0000
AUD	19	0.9474	0.0474	0.0000	1.0000	1.0000

Source: Computed from Annual Reports

A further analysis of the data in *Appendix 2*, shows that 19 companies in the sample had separate roles for their chief executive officer and board chairman. The information in financial report of one company regarding CEO duality could not be ascertained and so it was left out. Similarly, 16 of the 20 companies had their proportion of non-executive directors greater than their executive directors; the remaining 4 companies had either equal presentation or less proportion of non-executive directors to executive directors. Eighteen companies had institutional shareholders with more than 5% holding while only 2 companies had no institutional shareholder. Lastly, while 19 companies had their auditor's report on their financial statements, no record was found for auditor's report of one company. Of the 19 companies whose records were found, only one has a qualified report.

OLS Regression Result: There were 208 companies quoted on the Nigerian Stock Exchange as at 1st January, 2007, however, after exclusions, the population of our interest reduced to 127. It is from this 127 that 20 companies were selected. *Appendix 1* shows the variables for the estimation of discretionary accruals, while *Appendix 2* shows the control and research variables for data analysis. The final result is summarised below (The *t* values are shown below the relevant parameters in parentheses):

$$\begin{aligned} ADA = \; & \underset{(0.48148)}{36916.0} - \underset{(-0.17925)}{2.0209}\,CEO + \underset{(4.3395)}{2.45681}\,PNED \\ & + \underset{(2.18155)}{16.8507}\,AUDCOM + \underset{(0.80763)}{8.0600}\,INST + \underset{(0.64298)}{19.9295}\,SIZE \\ & - \underset{(-0.65519)}{0.19468}\,ROAM - \underset{(-3.4608)}{87.600}\,LEV + \underset{(3.2218)}{3.9855}\,LOSS \\ & + \underset{(6.8846)}{0.06789}\,AUDR \end{aligned}$$

$R^2 = 0.89832$ Adjusted $R^2 = 0.68350$

$F(7, 17) = 2.2267$ DW–statistic $= 2.0082$.

The R^2 of 0.89832 implies that about 90% variation in ADA is explained by the independent variables, namely, CEO, PNED, AUDCOM, INST, SIZE, ROAM, LEV, LOSS and AUDR. The adjusted R^2 of 68% shows that the model is a good fit with high predictive power. The *F*-statistic, which measures existence of linear relationship between the dependent variables, reveals a significant statistical relationship as the F_{calc} of 2.2267 is greater than F_{tab} of 2.10 at 10% level of significance. Our *a priori* expectation is that CEO, PNED, AUDCOM and INST were all negative. This is not empirically supported as only CEO was negatively related to ADA. Specifically, however, the negative relationship is not strong as the absolute t-value of CEO is 0.17925, which is less than the t_{tab} value of 1.734 at 5% level of significance.

PNED showed a positive relationship with the dependent variable, ADA. This relationship is significant as *t*-ratio value of 4.3395 is greater than the *t*-tabulated value of 1.734 at 5% level of significance.

Audit committee composition (AUDCOM) measured by the use of a dummy variable coded 1 if complied with the requirement of the company's act was also positively related to ADA in a significant manner as the *t*-ratio value of 2.18815 is greater than t_{tab} value of 1.734 at 5% level of significance. The fourth research variable INST shows a positive insignificant relationship with ADA, as the t-ratio value of 0.80763 is less than the t_{tab} value of 1.734 at 5% level of significance.

There is a negative relationship between the control variables ROAM and LEV, and the dependent variable ADA. However, the relationship for both is insignificant as shown by their t-ratio values of -0.65519 and -3.4608 at 5% level of significance. However, SIZE, LOSS and AUD all showed positive relationship with ADA. However SIZE is insignificant while the others are significant at 5% level of significance as shown by their t-ratio values.

The data from the responses to the research questionnaire were analysed and reported next.

Table 2 Audit Committee and Credibility Financial Reports.

Responses	No of Respondents	(%) Respondents
Yes	160	65
No	88	35
Total	**248**	**100**

Two hundred and forty-eight copies of the questionnaire were distributed to the respondents who were considered to be knowledgeable and 65% of these respondents (160) believed that the presence of audit committee improves the credibility of financial statements while the remaining 88 respondents (or 35% of the total respondents) held a contrary view. We use the results in **Table 2** to test hypothesis III which proposes that companies having audit committees as stipulated by CAMA, 1990 do not produce credible financial statements.

The result shows that $\chi^2_{calc} = 7.80 > \chi^2_{tab} = 3.84$, we reject null hypothesis and retain alternative hypothesis that companies having audit committee as stipulated by CAMA 1990 produce credible financial statements.

Table 3 CEO duality and credibility of financial statement

Responses	No. of Respondents	% Respondents
Yes	200	81
No	48	19
Total	**248**	**100**

Source: Field study, 2008

Two hundred respondents of the 248 respondents think that CEO duality reduces the credibility of financial statements. This represents 81% of total respondents. These data were used to test hypothesis I that states that companies with different persons for the office of CEO and chairman do not produce credible financial reports.

Since $\chi^2_{cal} = 28.4 > \chi^2_{tab}\ 3.84$ we reject the null hypothesis and retain the alternative hypothesis. We conclude that companies with different persons for the office of CEO and chairman produce credible report.

Table 4: Institutional Shareholders and Credibility of Financial statements

Responses	No of Respondents	% Respondent
Yes	161	65
No	87	35
Total	**248**	**100**

Source: Field study, 2008

Sixty-five per cent or 161 respondents were of the opinion that the presence of institutional shareholders would enhance the credibility of financial statements. We use this result to test hypothesis IV: "There is no significant difference in the opinions of respondents who agreed that corporations with institutional shareholders do not produce credible financial statements and those who disagreed." Since $\chi^2_{cal} = 2.00 < \chi^2_{tab} = 3.84$, we retain the null hypothesis.

Table 5: Proportion of non-executive directors and credibility of financial statements

Responses	No of Respondents	% Respondent
Yes	100	40
No	148	60
Total	**248**	**100**

Source: field study, 2008

One hundred or 40% of the respondents were of the view that including non-executive director enhances credibility of financial statements while the other 60% or 148 of the respondents did not think so. Generally, the respondents were of the view that not including non-executive directors on the board of companies operating in Nigeria will not affect the credibility of financial statements in the country as currently observed. The extent of the statistical difference in the two opinions held was tested using χ^2. Since $\chi^2_{cal} = 2.32 < \chi^2_{tab} = 3.84$, we retain the null hypothesis and reject the alternative hypothesis. Hence, we conclude that the inclusion of non-executive directors do not enhance credibility of financial statements.

Summary, Conclusions and Recommendations

Summary of Findings: Credibility in financial reporting is a crucial factor in assessing the performance of every corporate organization in relation to acceptable level of corporate governance practice. This paper has executed a survey-based research design along with multiple-regression approach to uncover the extent to which corporate governance structures determine the credibility of financial statements in Nigeria. The primary data and secondary data collected and analysed revealed that:

i. where the office of the CEO is separated from that of the chairman, that is absence of CEO duality, the financial statements produced appeared to be credible;

ii. companies having audit committee as stipulated by CAMA, 1990 seem to produce credible financial statements;

iii. companies with institutional shareholders did not appear to produce credible financial reports; and

iv. there was no evidence to suggest that the inclusion of non-executive directors would enhance credibility of financial statements prepared by quoted companies in Nigeria.

The analysis of the secondary data using multiple regression, uncovered the following:

i. there is a weak negative relationship between the policy of separating the office of the chairman and CEO, and the credibility of financial statements;

ii. there is a strong positive relationship between proportion of non-executive directors, and the credibility of financial statements;

iii. audit committee composition was found to be significantly and positively related to the credibility of the financial statements; and

iv. companies having institutional shareholder did not appear to have an edge over those without institutional shareholders in the generation of credible financial statements.

Conclusion and Recommendations: Credibility of financial statements is a crucial variable in determining investor choices and decisions. Strong corporate governance structure would enhance the credibility of these statements. Our findings generally corroborate this. To strengthen corporate governance is to ensure corporate democracy by ensuring a power balance among stakeholders of the firms namely shareholders, directors, management and other stakeholders. The literature is not settled on the exact relationship between corporate governance structure and firm performance. As the debate rages, the ultimate decision as to the appropriate corporate governance mechanism mixed that would enhance credibility of financial statements, stakeholder must have an unwavering gaze at performance (quantitative and qualitative), both monetary and non-monetary, and both accounting and non-accounting measures. At the end of the day it is not just good corporate governance or credible financial statement that stakeholders are interested in, but rather in a company whose performance can be quantified in terms of improved and improving benefits for the stakeholders.

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APPENDIX 1: Data for Discretionary Accruals Estimation Obtained from each Company's Financial Report

S/N	COMPANY	TACC	$1/TA_{t-1}$	(REV-REC	PPE	$ROAM_{t-1}$
1	CAP Plc	0.0931	$10^{-7}\times 8.04$	-0.0163	0.1296	0.1183
2	Berger Paints Nig. Plc	-0.4091	$10^{-7}\times 6.85$	0.0159	0.8759	0.1419
3	DN Meyer Plc	-0.3366	$10^{-7}\times 9.21$	-0.1583	0.2315	0.1189
4	West African Portland Cement Plc	-0.0825	$10^{-8}\times 2.60$	0.1176	0.7520	0.0838
5	Cement Company of Northern Nig Plc	-0.1329	$10^{-7}\times 1.86$	0.0485	0.3985	0.2214
6	Ashakacem Plc	0.1863	$10^{-8}\times 7.60$	0.1945	0.1889	0.3699
7	Nigerian Bottling Co. Plc	-0.0719	$10^{-8}\times 2.90$	0.2190	0.6592	0.997
8	Nestle Nig. Plc	-0.2599	$10^{-8}\times 7.50$	0.4610	0.4379	0.4553
9	Nigerian Breweries Plc	-0.2627	$10^{-8}\times 1.20$	0.0798	0.6282	0.1748
10	Guinness Nig Plc	-0.1830	$10^{-8}\times 2.00$	0.0265	0.5705	0.2462
11	Dunlop Nig. Plc	-0.2065	$10^{-7}\times 1.40$	0.0359	0.6665	-0.0365
12	R.T. Britcoe (Nig). Plc	-0.0247	$10^{-7}\times 3.59$	0.8531	0.1416	0.1137
13	May & Baker (Nig) Plc	0.1161	$10^{-7}\times 7.45$	0.1215	0.2913	0.1583
14	Ekocorp Plc	-0.2867	$10^{-6}\times 1.614$	0.0140	0.9024	0.1430
15	Beta Glass Plc	-0.2135	$10^{-7}\times 1.15$	-0.1162	0.6328	0.0626
16	Vitafoam Nig. Plc	0.0262	$10^{-7}\times 4.85$	-0.1214	0.2432	0.2097
17	First Aluminum Nig. Plc	-0.0848	$10^{-7}\times 2.63$	0.3780	0.4381	0.1312
18	A.G. Leventis (Nig). Plc	-0.1789	$10^{-7}\times 1.58$	0.1729	0.4301	0.0516
19	UAC Nig. Plc	-0.0581	$10^{-8}\times 5.6$	-0.0435	0.5598	0.1299
20	Okomu Oil Palm Co. Plc	-0.0205	$10^{-7}\times 1.80$	0.0521	0.8075	0.1613

APPENDIX 2: Research and Control Variables Data Obtained from each Company's Financial Reports

S/N	COMPANY	CEO	PNED	AUDCOM	INST	SIZE	ROAM	LEV	LOSS	AUDR
1	CAP Plc	1.0000	0.6000	1.0000	0.5018	6.1834	0.2223	0.5231	0.0000	1.0000
2	Berger Paints Nig. Plc	1.0000	0.9000	1.0000	0.1126	6.2770	0.0397	0.5896	1.0000	0.0000
3	DN Meyer Plc	1.0000	0.625	1.0000	0.6070	6.1364	0.09727	0.8944	1.0000	1.0000
4	West African Portland Cement Plc	1.0000	0.6923	1.0000	0.7177	7.4227	0.1491	0.6574	0.0000	1.0000
5	Cement Company of Northern Nig Plc	1.0000	0.8889	1.0000	0.8028	6.7720	0.1122	0.7458	0.0000	1.0000
6	Ashakacem Plc	1.0000	0.8182	1.0000	0.5016	7.1991	0.3768	0.5241	0.0000	1.0000
7	Nigerian Bottling Co. Plc	1.0000	0.8889	1.0000	0.6621	7.7438	0.0815	0.6017	0.0000	1.0000
8	Nestle Nig. Plc	1.0000	0.625	1.0000	0.6230	7.5358	0.4686	0.8961	0.0000	-
9	Nigerian Breweries Plc	1.0000	-	1.0000	0.5410	7.9044	0.2102	0.6099	0.0000	1.0000
10	Guinness Nig Plc	1.0000	-	1.0000	0.5380	7.9044	0.1623	0.6352	0.0000	1.0000
11	Dunlop Nig. Plc	1.0000	0.7500	1.0000	0.3619	7.6724	0.0049	0.7092	1.0000	1.0000
12	R.T. Britcoe (Nig). Plc	1.0000	0.5556	1.0000	0.4968	6.7022	0.1130	0.4197	0.0000	1.0000
13	May & Baker (Nig) Plc	1.0000	-	1.0000	-	6.8880	0.1283	0.6137	0.0000	1.0000
14	Ekocorp Plc	1.0000	-	1.0000	0.1920	6.3004	0.1402	0.4834	0.0000	1.0000
15	Beta Glass Plc	1.0000	0.9091	1.0000	0.7667	5.6262	0.0488	0.4264	0.0000	1.0000
16	Vitafoam Nig. Plc	1.0000	0.5714	1.0000	0.3120	6.6833	0.1240	0.5949	0.0000	1.0000
17	First Aluminum Nig. Plc	1.0000	0.5556	1.0000	0.8200	6.5472	0.1378	0.6653	0.0000	1.0000
18	A.G. Leventis (Nig). Plc	1.0000	0.7778	1.0000	0.8844	6.8473	0.0906	0.3486	0.0000	1.0000
19	UAC Nig. Plc	1.0000	0.7000	1.0000	-	7.2300	0.1349	0.3630	0.0000	1.0000
20	Okomu Oil Palm Co. Plc	1.0000	0.9000	1.0000	0.6634	6.3919	0.1104	0.3440	0.0000	1.0000

Strategic Design Factors for an Automated Customer Interface

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Abstract

A substantial review of the extant literature, which is not included in the paper, identifies three agents that influence automation of the customer interface in insurance companies. They are (1) intensified competition mainly resulting from deregulation of general insurance markets, (2) changes in the customer base (tendency to individualisation, request for more flexible products), and (3) technological development, in particular the increasingly intensive use of information and communication technologies for business purposes. Despite these new market influences, even today many insurance companies do not consider automating their processes at the customer front end. Critical thinking and awareness of the influencing factors that surround decisions on automating service delivery processes are not on the managers' agenda. Further, it is not especially clear what the criteria are that influence automation of the customer interface in insurance companies. With this in mind a qualitative empirical study, conducted by interviewing experts from a sample of Swiss insurance companies that was representative of the structure of competition in the Swiss insurance market, was undertaken. The relevant question asked was, "What are the critical success factors that enable the automation of the customer interface in insurance companies?".

An outcome of the study is a list of eight topics, namely (A) Market forces, (B) Strategic focus, (C) Company-customer-interaction process, (D) Suitability of products, (E) Multi-channel service delivery, (F) Customer segmentation, (G) Business case, and (H) Technological aspects, that include a total of twenty one design factors considered important when designing an automated customer interface. Discussions centred on these topics and these design factors provided answers to six key questions that facilitated the development of an appropriate managerial model. The study shows that various criteria from many topics are relevant for the design of an automated customer interface. For a company, consequently, designing an automated customer interface is a task that needs to be looked at from various functional areas and that needs interdisciplinary decision making. As such, it requires intention and promotion at a strategic level in order to give it the adequate status and resources that are necessary for a successful implementation.

Keywords

Automated customer interface, insurance companies, competition, customers, technological development

Introduction

The progress in information and communication technologies has changed our daily lives, our consumption behaviour, our work and our leisure time in a crucial way. It has become possible, thanks to the integration of different services through the internet, to establish contacts between customers of a service and possible suppliers – and this does not depend on where the two parties are located. The consequences of this development are new ways of trading; business is done faster, on a global basis and in a more transparent way.

Nowadays, in company-customer relationships in nearly all industries customers carry out process steps that have previously been performed by company employees (Gebert *et.al.*, 2003). Two classic examples are electronic banking and online shopping. Also check-in for a flight can be executed within one's own four walls at the computer screen (Waser, 2006). From a technical point of view this phenomenon is called 'process automation' or, even more precisely, 'automation of the customer front end'. From a process-related point of view, it is called 'process outsourcing'. As a result of this development, the customer is no longer only a consumer, but a valuable resource that is a part of the service supply chain (Grün and Brunner, 2002).

In many companies, particularly in production and service industries, process automation has already taken place or is at least underway. This process goes along with the development of information technology (IT) in general and of the internet in particular. Therefore, critical thinking and awareness of the influencing design factors that surround decisions on automating service delivery processes are essential for managers (Ragins and Greco, 2003). By seeing and understanding the possibilities and consequences of process automation, managers generate more alternatives in responding to the demands of the market (Yen and Gwinner, 2003).

This paper describes strategic design factors for an automated customer interface. The final objective of the paper is to present a managerial model that supports decision makers to build up and run an automated customer interface in their company. The basis for the paper is a qualitative research performed in 2006 in general insurance companies in Switzerland. However, the findings from the study have a general character and are valuable for all kinds of service delivery companies.

Research Questions

The main research question was constructed in order to explore the interview participants' perspectives (Collis and Hussey, 2003) regarding the internet as delivery channel for general insurance services [56]. Following the aim of the study, it is as follows:

> **What are critical success factors enabling the automation of customer interfaces for service delivery companies?**

Additional research questions, subsequently called 'lead questions', were formulated to allow for flexibility when exploring the phenomenon (Strauss and Corbin, 1990). They were designed to meet the objectives of the research. In addition to this, the lead questions supported the main research question and outlined the comprehensive character of the topic. The lead questions focus on the interview participants' opinions about what the drivers and difficulties of an automated customer interface may be and why it is worth being set up in a company. The six lead questions are described in table 1.

Research Results

The research results are discussed in three parts:

1. A concentration of all the interviewee's answers in eight topics. Within each topic there are relevant strategic design factors. In total, twenty-one design factors have been identified.
2. Distinct answers to the six lead questions.
3. A managerial model that classifies the 21 design factors into three groups and assigns them to the company-customer interaction process.

	Lead Questions	Comments
1	What market forces support the automation of the customer interface in general?	The intention of lead question 1 is to set the scene from a market point of view. In particular the question aims to understand, what the market forces are that demand automation of the customer interface.
2	Does the general trend towards process automation influence the automation of the customer interface in particular? – If yes, how?	The general trend towards process automation that can be observed in different industries is in the focus of lead question 2. Generally, all processes in a company can be automated. This question points in the direction of the process at the interface between company and customer.
3	What are the expected benefits, costs, risks and difficulties when automating the customer interface?	Answers to lead question 3 have great importance in practice. Like every investment, automation of a customer interface will need to be justified by financial benefits. Lead question 3 examines the main elements of a business plan: the expected benefits and costs as well as the expected risks and difficulties.
4	Is an automated customer interface a suitable delivery channel in the context of the whole marketing concept?	An automated customer interface is, next to the process related and the technological aspects, a marketing instrument. This instrument has to be coordinated with other instruments in the context of the marketing concept. Lead question 4 queries this coordination and the suitability of the internet as a sales and service delivery channel.
5	What specific resources and organisational set-up are needed in order to automate the customer interface?	Lead question 5 seeks to understand the resources and organisational structure that are required to set-up and operate an automated customer interface. In particular, it focuses on personnel resources in the form of skills and experience, on infrastructure resources and on organisational prerequisites.
6	What other aspects are to be taken into account when automating customer interfaces?	The last lead question asks about additional aspects that may not have been discussed during earlier questions.

Table 1 – Lead questions

Eight topics containing 21 strategic design factors

The interview participants generally see the internet as a technical tool that supports the company's business processes that, within this context, may be used as a service delivery channel. The research questions concentrated on the use of the internet as a service delivery channel. The interview transcripts show varied statements, which were combined and structured into eight topics (A-H) as a means of analysing the research findings. These eight topics are:

A. Market forces
B. Strategic focus
C. Company-customer interaction process
D. Suitability of products
E. Multi-channel service delivery
F. Customer segmentation
G. Business case
H. Technological aspects.

The eight topics do not contain direct answers to the lead questions. The reason for this is that the semi-structured interviews had the character of a discussion but direct answers to the lead questions are formulated in the next section of this paper. An analysis of the discussions into the eight topics follows.

Topic A – Market forces

Topic A discussed the consequences of deregulation, the saturation of the market as a consequence of deregulation and technological developments in the market. These aspects formed the main discussion points in answering lead question 1. Two criteria derived from the discussion of topic A were important in the development of an appropriate managerial model:

A1 Deregulation of the general insurance market asks for an increased **organisational flexibility** with regards to the organisational and employee development, with regards to product, product portfolio and risk management and with regards to pricing. This flexibility is required in order to follow up the dynamics and the increased speed of the market development, in order to stand out against the competitors and in order to answer to the individualised customer needs.

One negative consequence of the deregulation is that the products have become less transparent and less comparable to the customers. As a result, customers need to have more knowledge about general insurance services in order to grasp their complexity. This situation represents a key difficulty in automating the customer interface. Therefore, companies must find flexible solutions that, on the one hand, differentiate them from other companies and, on the other hand, meet the needs of various individual customers and customer segments.

A2 The saturated market results in an increased cost pressure, which can be relieved to a certain degree by **automating processes**. In the course of this, the development of the internet as a technology is seen as an ideal vehicle for the automation process. Of course, companies must be ready to make the inevitable financial investments.

The criteria organisational flexibility (A1) and process automation (A2) are the first design criteria that will be used in defining the managerial model. The next topic, topic B, looks at the strategic focus a company needs to have when starting delivery of services through an automated customer interface.

Topic B – Strategic focus

When discussing topic B, the interviewees identified three significant themes: strategic positioning, hesitation and customer needs. Three criteria were derived from these discussions:

B1 The set-up and operation of the internet as a sales channel needs organisational decisions and a dedicated budget. In order to give it the right standing within the organisation a **clear strategic positioning** of automated service delivery is required. As the strategy formulation and relevant decisions on it are senior management tasks, this needs to be done at the highest possible organisational level.

B2 There is a lot of irritation in companies regarding the internet as a sales channel. Possibilities of this channel are generally unknown and information and communication about it are missing. In order to overcome the hesitation and to learn how to **manage the internet** it needs some organisational processes that support the learning process within the company.

B3 Companies seem to know only little of what customers need and want. The market is still very oriented toward supply. In order to position the internet clearly as a marketing instrument, it will be essential to know what the **customers' needs and behaviour** are. Therefore, market studies and customer surveys will be increasingly important.

The three criteria B1, B2, and B3 will also be used when defining the managerial model. The next topic, topic C, considers the company-customer interaction process.

Topic C – Company-customer interaction process

Topic C encompassed discussion of elements of the company-customer interaction process. As a result of these discussions, two relevant criteria were established:

C1 The interviewed experts were in disagreement. The differences centred on whether customers should be able to carry out all possible **customer scenarios** from the very beginning or follow a rational step-by-step approach introducing the six processes progressively. Clearly it seems to be essential to be absolutely sure of the chosen path at the very beginning. For effective communication with the customer and for the organisational learning process it will be essential to have no conflict on this point.

C2 On the other hand there is agreement among the interviewees on two **major challenges**. Both are inherent in the nature of the general insurance business and are that insurance companies are considered to be somewhat disreputable and there is a low contact frequency with customers. However, neither challenge is seen as a reason for not being active on the internet. On the contrary, it is necessary to answer these challenges by defining and using appropriate marketing instruments.

Along with topics A and B, the criteria C1 and C2 will be used when defining the managerial model. The next topic, topic D, discusses the suitability of products for delivery through an automated customer interface.

Topics		**Design Factors**		**Factor Groups**
A	**Market forces**	A1	Organisational Flexibility The flexibility of a company's organisation is crucial in order to follow up with the dynamic environment.	1
		A2	Automation of Processes The cost pressure requires decisions to optimize processes. One starting point is the automation of processes.	2
B	**Strategic focus**	B1	Positioning of Automated Service Delivery The delivery of general insurance services through the internet needs a clear strategic positioning.	1
		B2	Manage the Internet The company must learn to manage the internet in order to serve the customer appropriately.	3
		B3	Customers' Needs and Behaviour The company needs to improve its understanding of the customers' needs as the contact to the customer through the internet is not so close.	3
C	**Company-customer interaction process**	C1	Customer Scenarios The company needs to decide which customer scenarios it wants to reflect on the internet delivery channel.	2
		C2	Major Challenges The company needs to find ways to overcome the two major challenges (disreputability, low contact frequency) of the general insurance business model.	3
D	**Suitability of products**	D1	Market Segmentation The company needs to clearly distinguish between the processing of the mass market with standard products and the carrying out of individual customer needs.	2
		D2	Specific Internet Products The company needs to decide whether it wants to offer specific internet products.	2
E	**Multi-channel service delivery**	E1	Overall Multi-Channel Management Concept The company needs to clearly position the delivery of general insurance services through the internet within an overall multi-channel management concept.	1
		E2	Customers' Choice The company needs to accept the choice of the customer regarding the delivery channel.	1
		E3	Product-Channel Allocation The company needs to assign products to different delivery channels based on the degree of advice required by the purchaser.	2
F	**Customer segmentation**	F1	Understand Young People's Behaviour The company needs to be prepared to answer the needs of today's internet generation as soon as it comes into the age of legal capacity.	3
		F2	Customer Data Records The company needs to start analysing and learn to interpret customer data records.	3
		F3	Market Research The company needs to perform standardized and regular market research and to interpret its results.	3

G	**Business case**	G1	Senior Management Support The company needs to ensure the strategic and senior management support for the delivery of general insurance services through the internet.	1
		G2	Organisational Set-Up The company needs to prepare an adequate organisational set-up.	1
		G3	IT Resources The company needs, due to the shortcomings in IT resources, to prepare for this situation.	1
		G4	Brand Awareness The company needs to ensure high brand awareness, as this is important to connect the real and the virtual world.	1
H	**Technological aspects**	H1	IT Landscape The company needs to prepare its IT landscape and architecture by harmonising it.	1
		H2	Lead with Business Department The company needs to ensure the responsibility of the delivery of general insurance services through the internet is with the business department.	1

Table 2 – Topics and design factors

Topic D – Suitability of products

Topic D considers the fact that products offered by many companies today often have a structure that is too complex to be reflected in an understandable way on the internet. Therefore, a company is required to make some decisions regarding their product structure. From the identified decisions, two have the character of criteria for the design of the customer interface:

D1 The often complicated product structure is a child of deregulation that allowed companies to service customers with individual products. Individualisation leads to a higher complexity in the structure of the product and richness in variants. There is a limit when a product can be presented on the internet and still be understood by the customer. Companies must find a middle course between standardisation (with simple structures) and individualisation (with more complicated product structures), which may be best achieved by **segmenting the market**.

D2 One possible way of answering the question regarding standardisation vs. individualisation is to create specific **internet products**. From the interviews there is evidence that this is a very common topic requiring a decision. A positive response would have influence on the whole product portfolio of the company.

Criteria D1 and D2 will be further used in the definition of the managerial model. The next topic, topic E, discusses the aspects of multi-channel service delivery.

Topic E – Multi-channel service delivery

Discussions on topic E considered the multi-channel service delivery aspects that require central decisions and, as a part of this, examined delivery via the internet. The discussions provided criteria E1, E2, and E3 that will become part of the managerial model.

E1 In many companies the delivery of services via the internet will constitute a delivery channel that will compete with existing delivery channels. Therefore, it is important that the delivery of services is coordinated in an **overall multi-channel management concept**. As such, a project to set-up and operate an internet delivery channel must never be planned and executed in an isolated way. The other, existing, channels need to be included.

E2 Should a company choose to offer products through several different channels, the customer would have the opportunity to contact the company in different ways. Deciding on the channel is the **customer's choice**. Generally, customers will expect the same level of service from all of the channels. If the company does not plan to meet this expectation, for whatever reason, customers need to be informed about the differences. It is crucial that customers know what to expect from which channel.

E3 For some products a higher degree of advice is required by the customer than for others. The extent depends on the structure of the product. The simpler the product structure, the easier it is for a customer to understand and make a decision. It follows then that a product with a rather simple structure is easier to present on the internet and, as such, more suitable for sale via this channel. **Product-channel allocation**, therefore, is an important decision to be taken. However, each company will have to decide, based on clear criteria, which of their products are best suited for each of their delivery channels. Also, because of the strength of the sales agent delivery channel, the interviewees considered that any decision as to which products should be chosen for sale over the internet may have to be taken in conjunction with sales agents.

The next topic, topic F, will discuss the aspects of customer segmentation.

Topic F – Customer segmentation

Discussions on topic F, customer segmentation, examined criteria that might ideally structure the customer base and looked at how, based on market research, an organisation's customer base might be better understood. From these discussions, three criteria can be derived and provide input for the managerial model:

F1 It is acknowledged that the youth segment of the market has a remarkably high affinity for the internet. This segment, therefore, is a suitable target group to which general insurance services can be delivered via an automated interface. Even so, the requirements of this segment need to be comprehensively analysed within the context of an internet delivery project. A company needs to **understand young people's behaviour**. This will help to design customer oriented future internet projects.

F2 Each company has a lot of information about their customers available in their computer databases. According to the interviewees, only a few companies consistently analyse and evaluate these **customer data records**. Within the framework of the implementation of an automated delivery service and in the context of a consolidated multi-channel marketing system it would make sense to work more effectively with these databases.

F3 Interviewees indicated that, as a rule, insurance companies do not seem to make standardised and regular **market research**. As a consequence, there is no structured information available about the needs and wishes of their customers. It has already been suggested (see discussion of criterion F1) that the needs of customers must be known and structured. Otherwise it will be difficult to have a customer-oriented multi-channel product delivery system.

The three criteria F1, F2, and F3 will flow into the managerial model. The next topic, topic G, discusses four aspects of a business case for investments in the automation of the customer interface.

Topic G – Business plan

Topic G examines the four main elements of a business plan. Issues that arose when discussing benefits and costs are not necessarily directly related to the set-up of an automated customer interface but rather aspects that need to be considered when planning the development of a project. In contrast, risks and difficulties include success factors particularly related to an automation project. For the managerial model to be developed the following criteria seem to be necessary:

G1 **Senior management support** is necessary. A project needs a good organisational set-up and senior management support in order to be successful. Project success critically depends on decisions that, due to challenges and difficulties that will occur, can only be taken by top management representatives. From the beginning, a company's management has to provide unwavering support for an e-insurance project.

G2 **Organisational structure** is also crucial for the success of an e-insurance project. The hierarchical positioning of the project's sponsor needs to be as high as possible and connected to extensive areas of authority (in congruence with the tasks to be performed and the responsibility to be taken). Further, a senior manager needs to take the leading role and vouch for the project at all times.

G3 The success of a project depends on the adequate supply of **IT resources**, whether internal or external to the company, and they need to be available at the beginning of a project. Employees need to be hired or contracts with external companies need to be concluded in good time.

G4 A well-known brand name makes the implementation and operation of an e-insurance solution easier. A company needs to consider its **brand awareness** in order to be able to make a judgement about its effectiveness. If it is not perceived as effective, this could make such a project difficult. Measures may need to be taken in order to increase brand awareness.

The last topic, topic H, discusses technological aspects of automated service delivery over the internet.

Topic H – Technological aspects

This topic was not originally in the focus of this study. Nevertheless, for the interviewees it seemed to be an important topic as all of them mentioned aspects of technology during the interviews. Discussion centred mainly on the present technological situation and which approach would be best to initiate an internet delivery project. Two aspects seemed to be relevant criteria when designing the customer interface:

H1 Many companies do not seem to have a homogeneous **IT landscape** and architecture. This is a bad technological perspective from which to start automating the customer interface. It is advisable to harmonize and standardize the IT landscape first and only start an internet delivery project once this has been achieved. This will give the company the necessary flexibility.

H2 The delivery of general insurance services via the internet is generally considered a business task, namely a marketing task, and not a technological task. As a result, even though technology is an unavoidable and critical aspect of such a project, it must be emphasised that responsibility for the installation project and the ongoing operations of an automated customer interface must remain with a **business department**.

Criteria H1 and H2 are the last criteria that will be used in the definition of a managerial model.

Table 2 summarizes the eight topics and the twenty-one design factors. It further assigns the design factors to one of three category factor groups. This will be relevant for the development of the managerial model that will be presented later in this paper.

Answers to the Lead Questions

Introduction

As stated earlier, the eight topics do not contain comprehensive answers to the six lead questions discussed with the interviewees. Therefore, it would seem appropriate to provide a summary of their answers to each lead question. Within each answer, the design factors that were derived from the eight topics are included. Figure 1 gives a schematic overview of how the eight topics are related to the six lead questions.

Answering LQ 1: Influence of Market Forces

What market forces support the automation of the customer interface in general?

The answer to lead question one contains statements assigned to topic A, 'Market Forces', and topic F, 'Customer Segmentation'.

In general, the context of the interviews indicates that three groups of market forces influence the automation of the customer interface. They are (1) the consequences of deregulation, (2) the degree of market saturation and (3) technological development. Each of these aspects affects the operation of the internet as a sales channel. The main effect is that it will be possible to decrease operational costs by automating the process at the customer front end. However, interviewees suggested that technological prerequisites within their companies as well as customer behaviour at the present time are hindering this automation. Nevertheless, it was expected that this will change sometime in the future.

Even though the interviewees did not thoroughly and systematically explore the rationale for internet use, it was their opinion, as experts, that there is considerable pressure towards use of the internet as a sales channel. This pressure is created mainly by the expectations of the market itself as well as by the three market forces mentioned previously. The interviewees' views are even more valuable as they have all faced the change from regulated to deregulated markets and have experienced the advance of technology in the last few years.

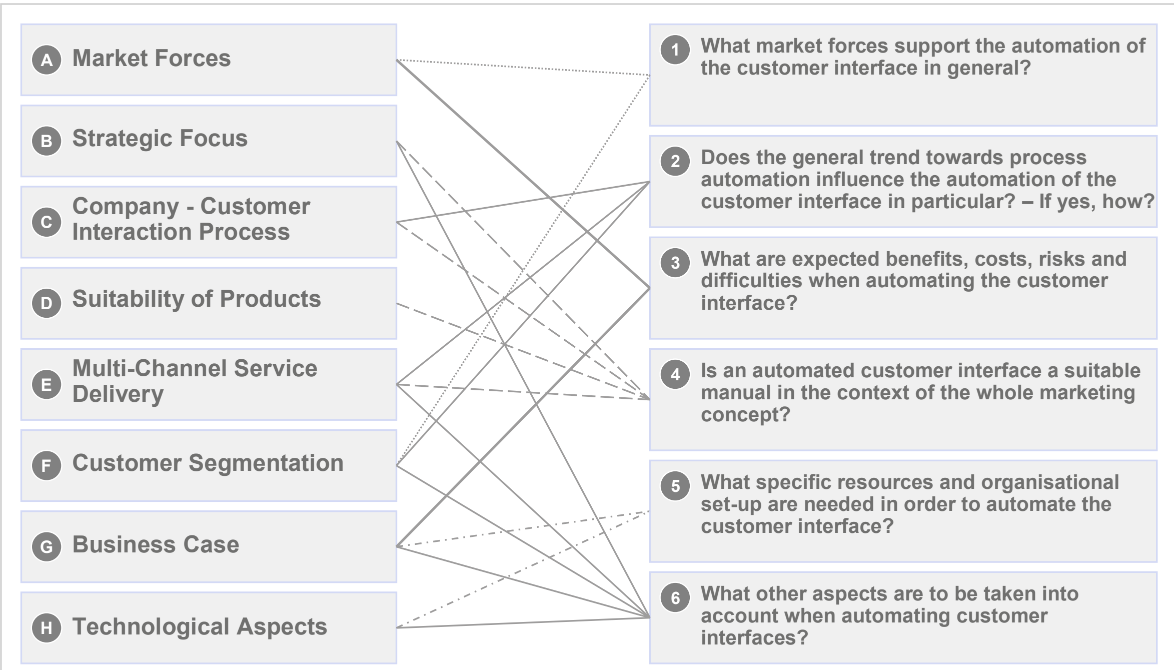

Figure 1 – Relation between the topics and the answers to the lead questions

Answering LQ 2: Trend towards Process Automation

Does the general trend towards process automation influence the automation of the customer interface in general?

The answer to lead question two contains statements assigned to the topics C, E, and F. Most of the interviewees see the general trend towards process automation as a major influence on the automation of the customer interface. However, they were unable to provide any specific examples to support their views because they do not systematically examine this general trend towards process automation. As such, the interview dialogue allows only restricted conclusions as to whether the general trend toward process automation actually influences automation of the customer interface.

At this point it should be emphasised that the interviewees are of the opinion that it is only a matter of time before the customer interface will be increasingly automated. The reason for this is not so much to do with the general trend towards process automation but in the wider availability of technology. Customers are becoming more used to dealing with technology in general and they will, in future, expect an automated interface to their insurance company. However, it is unclear when automation of an interface will take place and what exactly the customers' expectations will be. This uncertainty regarding the timeframe of automation underpins a considerable degree of disorientation concerning this issue. The interviewees have few proactive statements regarding the automation of the customer interface yet they continue to build, somewhat explicitly, on the protection of conventional delivery channels, in particular the sales agent channel.

Answering LQ 3: Benefits, Costs, Risks & Difficulties

What are the expected benefits, costs, risks and difficulties when automating the customer interface?

The answer to lead question three contains statements that can be assigned to topic A, 'Market Forces' and topic G, 'Business Case'. As with answers to the previous lead question, the responses to lead question three are somewhat vague. This is probably because only a few of the companies have a solid and detailed business case. Most of the companies are only going through a learning process at this point of time in the course of which they are gaining experience with internet use as a probable means of automation. Nevertheless, the interviewees were prepared to provide their insights into the four business case categories mentioned in the question.

For prospective benefits, the interviewees identified market capability, reach of more customers and productivity increases. Where actual business cases for investments in e-insurance projects exist, it was surprising that each of those three categories were described only in a qualitative way thereby making it difficult to use them in an evaluation of the possible investment.

Concerning costs, two categories were mentioned. On the one hand, there is not only the investment that must be made in the area of IT but also the marketing expenditures that needs to be taken into account. On the other hand, only operational costs were taken into consideration. In general, the interviewed experts would expect some savings in human resources due to the automation of processes through technology. The final business case will have to balance the IT investments with the automation potential based on these IT investments. For confidentiality reasons, there was no discussion about precise financial figures during the interviews.

The expected risks were distributed into three categories, all market related. First, there is the risk that a product, including the pricing, may be copied easily because of the transparency that is made possible by the internet. Although this point is mentioned as a risk it was considered extremely difficult to estimate its effect. Second, there is the risk of losing connection with the market if a company does not adapt to current technological developments. This risk was also considered inestimable. Third, customers' expectation is seen as a risk. What does the customer want today, in five years, in ten years? For many companies, this uncertainty seems to be a risk that forces them to act on assumptions. It is surprising then that structured customer surveys are only very rarely undertaken. An increased number of effective surveys would reduce this uncertainty and, therefore, the risk related to it.

Finally then to the mention of difficulties. Only a minority of the interviewees even raised the issue of difficulties and so it is not really possible to generalise. Nevertheless, three points seem to be important in respect of an automated customer interface: the availability of strategic support, the necessity of an adequate organisational set-up and the availability of IT resources and skills. Furthermore, the effect of a strong brand must not be underestimated. A strong brand is seen as an important element in the bridge between the real world and the virtual world of the internet. If brand strength was weak it may provide a significant difficulty in any e-insurance project.

Answering LQ 4: Suitability as Delivery Channel

Is an automated customer interface a suitable delivery channel in the context of the whole marketing concept?

The answer to lead question four is influenced by aspects that were discussed in many topics: topic B, 'Strategic Focus', topic C, 'Company-Customer Interaction Process', topic D, 'Suitability of Products' and topic E, 'Multi-Channel Delivery'.

Even though the answers to this question seem to be rather positive, they are made with reservations. As a consequence some conditions need to be fulfilled and several restrictions need to be made in order to achieve an unconditionally positive answer to this question. Under conditions, the following two points provide a summary:

1. If there is an intention to utilise the internet as a sales channel, it requires a clear positioning: on the one hand in the context of marketing strategy and on the other hand in the context of the multi-channel concept. If this is achieved the status of the topic within the company will be strengthened and this will have two consequences:
   - Allocation of appropriate financial and other resources within the framework of an organisation's overall strategy and inclusion in the company’s hierarchy of objectives.
   - Clear demarcation of tasks, competencies and responsibilities from other delivery channels.
2. Consideration must be given to the potentially complex product structure and, connected to this, the varying amount of advice required by the purchaser. This requires decisions to be taken in answer to the following two questions:
   - Which customer scenarios shall be offered over the internet? Should the complete process chain be introduced progressively or all at once?
   - Should products be created exclusively for the internet service channel? A positive answer to this question could easily be justified by lower delivery costs for this channel. However, all of the costs associated with this specific delivery channel need to be determined first and only then will it be possible to propose a sound business case.

In addition to these conditions, there are restrictions that were identified by the interviewees when discussing the company-customer interface and were identified as very real challenges to the general insurance business model. First, there is the disreputability of insurance companies and second, the low frequency of customer contact. These two factors seem to have a core character in the general insurance business, which means they are likely to have a limiting effect on the delivery of general insurance services on the internet. However, this effect may be averted with appropriate marketing activities and must not be used as a reason to avoid moving in this direction.

Answering LQ 5: Need for Specific Resources

What specific resources and organisational set-up are needed in order to automate the customer interface?

The answers to lead question five are based on aspects that were discussed in topic G, 'Business Case' and topic H, 'Technological Aspects'. The question focuses on issues that are preliminary to automating the customer interface concerning the resources and the organisational set-up that will be needed for an effective e-insurance project.

The main focus of the interviewees was narrow in respect of the resources that need to be available, concentrating almost entirely on those required by a company’s IT department. With regard to the organisational set-up, it was the degree of management attention that was deemed critical. Even if these resources are not considered specific for the setting up of an automated customer interface, they are nevertheless important to the interviewees.

In connection with available resources, technical infrastructure is listed as well as human resources and technical skills. Combined, these three factors constitute the internal framework on which an automated customer interface is founded and any deficiency is likely to negatively impact on a successful e-insurance project. There was one particular aspect that constituted the main focus: all groups from within and outside of the company that are allowed to access data (e.g. customer data, product data) need to have access to the same data. This presupposes that all data are centrally stored and filed in a structured way. However, this does not seem to be the case in many companies at present. Consequently, data storage and its associated protocols must be harmonised before a company starts working on a project on customer automation. Such a technically harmonised IT infrastructure seems to be a fundamental requirement for automation of the customer interface.

The availability of human resources with the relevant technical skills is considered paramount to the successful conclusion of such a project. If there are many on-going technological projects within a company, the availability of staff with the relevant skills is often difficult to guarantee. A similar situation would exist if there were no other projects being undertaken inside a company at the time. As such, the early planning of technological projects as well as the consultation of external specialists might help solve this problem.

The importance of senior management support for such a project has already been discussed. Management attention is crucial as such a project requires many interdisciplinary decisions that need to be taken and supported by the management. After a project is finished and the result is handed over to the line organisation, the responsibility for multi-channel service delivery needs to be embedded into the organisational structure.

Answering LQ 6: Other Aspects to be Considered

What other aspects are to be taken into account when automating the customer interface?
From the conceptual set-up of the study, lead question six was intended to be a vessel for any statements that could not be assigned clearly to any other question. Indeed, there were numerous aspects discussed with no clear association to any of the other questions. The answers to lead question six may be assigned to the topics B, E, F, G, and H.

If one wants to establish the internet as a delivery channel, it is absolutely crucial to know the tool one intends to work with. Unfortunately, in most companies the required experience has not yet been acquired. Every company that intents to take the course towards internet delivery has to learn how to deal with this instrument. In this context, optimizing the delivery process is as important as preparing and optimizing the technological base. Optimization requires feedback. However, feedback needs to be given not only from within the company but also from outside, namely from the customers. This requires the establishment of internal and customer feedback processes.

Another factor is the principle that the choice of delivery channel lies with the customer. As a consequence, the company's product offerings must be the same on all delivery channels. Nevertheless, a company will not be able to lead the customer as closely and directly on the internet channel as it may on other channels simply because the customer is directly involved in a large part of the delivery process. Therefore, it is even the more important to have feedback processes in place that allow a company to understand the customers' wishes and to be able to answer them.

As described in the discussion of topic F, one way to acquire a more explicit understanding of customers is to analyse data records. It may have to do with the relatively high technological complexity that only a few companies analyse their customer data in a structured way in order to get information on customer behaviour. Nonetheless, this process is seen as an important task in the design of an automated customer interface.

Another important aspect can be derived from the fact that technology plays a crucial role when setting up the delivery of general insurance services through the internet. This leads to a wide influence by the IT department. However, it must be made very clear that setting up an automated customer interface is a business project that needs to be managed and led by a business department, preferably the marketing department. Within an insurance company, the IT department can only be a service department providing certain core competencies. This constitutes an aspect that, due to the importance of IT in such a project, is often not given sufficient consideration.

In summary answers provided to the six lead questions provide different perspectives. For lead questions one, three, five, and six tangible and positive answers may be formulated. In contrast, with lead questions two and four it is not possible to draw positive conclusions and those that have been established are bounded by reservations.

The Managerial Model

The main objective of this paper is to make a contribution to practice in the area of automated service delivery for service delivery companies by providing a managerial model. This objective has been achieved by identifying and discussing eight topics, each containing several design factors, and by answering the six topical lead questions. The outcome is a model comprising four aspects: the three groups of design factors with the company-customer interaction process as the central element. The company-customer interaction process characterizes a company's customer interface.

The managerial model presented in this section is based on the design factors that were described earlier. The factors cover issues that an organisation must address to successfully deliver services by way of an automated customer interface. In order to better understand and effectively manage the factors, they are further structured into three groups (see table 2): pre-conditions, decision taking, and learning process:

1. **Pre-conditions**: Before even starting delivery of services through the internet, some pre-conditions must be established in order to be prepared for live operations. Creating the pre-conditions often takes a lot of time and resources. The point in time when a company is ready to deliver through the internet is dependent on meeting these pre-conditions.
2. **Decision taking**: There are decisions that need to be taken in order to meet the requirements of delivery through an automated customer interface. Some of the decisions have a long-reaching character and therefore need careful consideration. It would be unhelpful for decisions to be revisited again and again but there needs to be elements of constancy during the set-up phase as well as during operations. Decisions of this kind need to be taken and supported by the company's senior management.
3. **Learning process**: As it is with everything new, service delivery using the internet has to be learned and, over the time, optimised. Delivery through the internet is an initiative that affects more or less the whole company. Therefore, the whole company has to learn and optimise itself in order to effectively serve the customer.

Structuring the design factors into three groups constitutes an essential element of the managerial model. Figure 2 presents the managerial model showing the connection of its elements. These design factors are the main strategic issues organisations face when designing an automated customer interface. The groups, as well as the design factors themselves, influence not only each other but also customer activities and the company's process and technological landscape. In the centre of the model is the company-customer interaction process with the six main process steps.

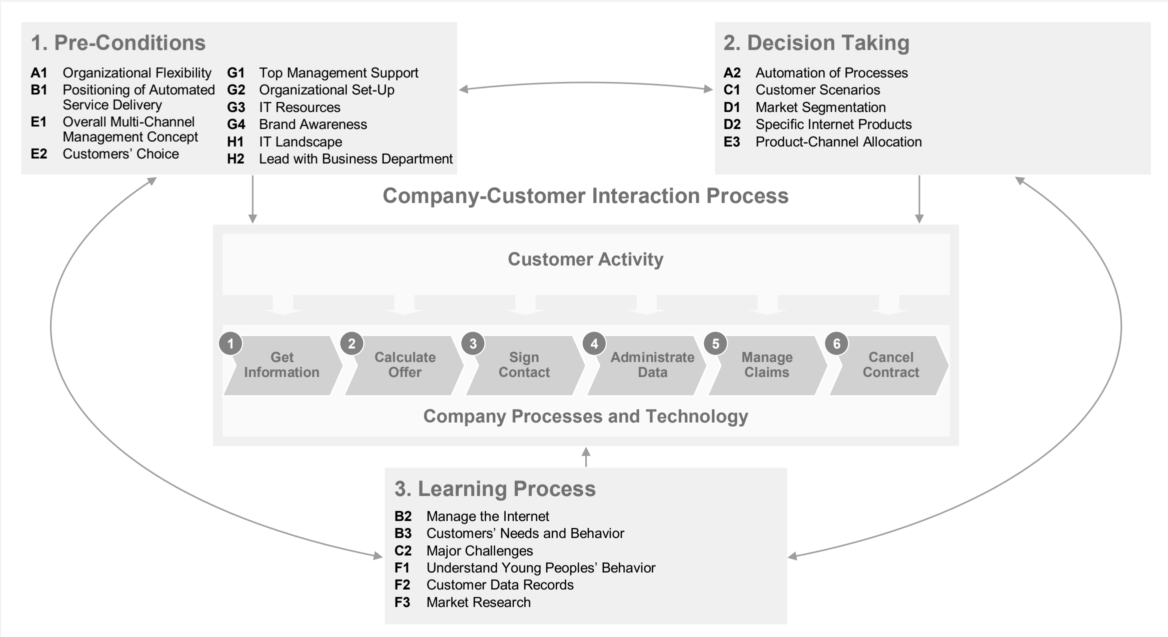

Figure 2 – Managerial model

Automation is characterised by the technological development that underpins the six process steps. Importantly, it should be remembered that the customer participates directly in the each of the six process steps, perhaps with the exception of step two. Indeed, the customer is a part of the interface itself. In order to satisfactorily complete an automation project such as this several steps need to be completed. Pre-conditions need to be fulfilled, key decisions need to be taken and an organisational learning process needs to be initiated. Depending on how an organisation weights the design factors in each of these steps, the journey to automate the company-customer interface may take a different road.

This managerial model links, summarises and consolidates this situation with three key points making the contribution to practice:

- The integrated approach of the model: the model takes into account not only each single design factor but integrates them according to three groups of activities (pre-conditions, decision taking, learning process) and aligns them to the company-customer interface. As a result a practitioner can understand which aspects are important and what their effects are. This managerial model provides a blueprint for planning the implementation of an automated customer interface.
- The orientation towards the company-customer interface: the company-customer interface stands in the centre of the model. It represents something virtual and often difficult to understand. Indeed, in many organisations many of the unanswered questions relate to the automated company-customer interface. This model makes the virtual interface more visible and comprehensible.
- From practitioners for practitioners: an important aspect of the research was to listen to the voice of practitioners and to conduct a study relevant not only to theoreticians but also to practitioners. The fact that the findings of the study are based on the views and understanding of practitioners gives the outcome more credibility. Nevertheless, this managerial model still needs to be thoroughly tested in practice.

Main Lessons Learned

There were several outcomes intended from the study. The first was to identify the general insurance products for which an internet delivery channel would be suitable. The second was to identify the different process steps and customer scenarios that might emanate from such a delivery channel. The third was to develop a managerial model that could be used by general insurance companies when designing an automated customer interface.

Interestingly, the first expected outcome was barely addressed by the interviewees. There was some discussion on the structure of the delivery channel and on the degree of advice required for the customer but little about product modelling. While some elements of the second expected outcome have been included in gaining an understanding of the environment in which the model will be used, this paper focuses almost exclusively on the third intended outcome only. This outcome was fully achieved. The managerial model presented in this paper contains all the factors that the contributors to this study considered relevant when designing an automated customer interface.

As the managerial model is derived from the experts' answers to the lead questions, the design factors used to portray the model have varying degrees of detail. Based on discussions with the interviewees, some of the factors are more expansive while others are not as detailed. Nevertheless, this does not influence the quality of the model. It is a practical model and as such it will be of help to practitioners during the concept phase of creating an automated customer interface. Details will have to be worked out specifically for each case. The advantage of the model at hand is that it includes not only very particular design elements but also external factors delineated by the environment.

What is presented in this paper is a managerial model built on the input of a range of experts in the field of general insurance. The model is yet to been tested. This is a task for the future with the aim of proving its validity and effectiveness.

Recommendations for the future

The design of an automated customer interface in general insurance companies was the focus of this paper. This assignment was undertaken by a series of interviews with experts in the field of general insurance based on six lead questions. From specific answers to these questions as well as from the summarised research results and from the managerial model, different areas for future investigation can be identified.

- A first area in which additional research would be interesting is in the area of process automation more generally. From the answers to lead question two it was not absolutely clear if the general trend towards process automation would also apply to automation of the customer interface as well. However, one might have to concede that process orientation in service delivery companies has not progressed very far. Therefore, a general study into process orientation in service delivery companies would be beneficial.
- With regard to lead question three, it would be interesting to better understand the business planning model for specific projects in insurance companies. The focus would be on benefit expectations and how these are formulated and quantified. This would provide a deeper insight into this area and make a comparison between the internet and other service delivery channels easier. In this context it would also be interesting to know how the benefit realisation will be measured and managed: an objective that, due to the lack of clear criteria, may possibly remain difficult to answer.
- A third aspect that is derived directly from the study is the question of whether the factors that were identified to be important for the design of an automated customer interface would survive in practice or not. This means that the managerial model described in this paper has to be tested. A rigorous practical testing project would identify whether the criteria are the right criteria and whether the list of criteria is complete. Both questions affect the practicability of the model. Furthermore, it needs to be determined whether the allocation of the criteria into one of the three groups - pre-conditions, decision taking and learning process - are realistic in practice.

In addition to the points that have a direct relation to this study, there are some additional questions that may add more substance to the suitability of an automated delivery channel for general insurance services.

- One question focuses on the behaviour of young people using the internet. In this context it would be interesting to understand their approach to, and acceptance of, business dealings over the internet on the one hand and regarding internet insurance delivery on the other hand.
- A second question only loosely related to the topic touches on the competition between different delivery channels, particularly between sales agents, brokers, the internet and other channels (e.g. associations, clubs, and unions). It would be interesting to understand whether there really is the intense competition that the interviewees saw and how the parties involved perceive it. Additionally, it would be useful to understand what needs to be done to soften this competition.
- The question of how e-strategies are defined and realized in companies and how they are synchronized with other functional strategies (e.g. marketing strategy, IT strategy, and sales strategy) is also related to this research. In connection with this question it would be interesting to know not only the management's perspective but also how employees and customers understand the development and implementation of a strategy.
- The aspect of partnering with other companies is important when delivering services on the internet. It would therefore be useful to know how such partnerships should be evaluated, implemented and, finally, how their success can be measured.

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Women and Superannuation: Work Until You Drop?

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Abstract

Superannuation is becoming an increasingly important source of retirement income. However, women in Australia face a significant barrier in accumulating superannuation entitlements because of their positions in the paid and unpaid workforce. When in paid work, women occupy lower positions, have more career breaks due to care responsibilities and have more part-time and casual employment. Many women, of course, do not work outside the home, and a smaller proportion of women engage in paid employment than do men. Consequently women have lower incomes, less wealth and less generous retirement benefits. Our analysis of the Survey of Employment Arrangements and Superannuation and other Australian Bureau of Statistics data, together with data published by the Australian Prudential Regulatory Authority, reveals that dramatic policy initiatives will be needed to improve women's access to retirement resources. Such policies do not apply only to superannuation but must address women's positions in the paid workforce and their care responsibilities.

Keywords

Retirement, Women, Intergeneration, and Superannuation.

Introduction

Economic security is central to achieving equity for women. As today's generations of Australian women age the two main sources of support income on which they will rely are the age pension and the superannuation assets they (and or their partners) accumulate throughout their lives. 'Superannuation refers to a long-term savings arrangement which operates primarily to provide income for retirement.' (ABS 2002a) Since the 1980s, Commonwealth Government retirement policy has privileged individual superannuation over the state funded age pension, which increasingly is seen as a safety net.

Both the age pension and superannuation are claims on future production. Such claims obviously provide financial security when they fall due upon retirement, but they also provide a sense of economic and social security now. As the pension becomes relatively less significant, those who rely on it exclusively or mainly will feel less secure now because they will in reality be less secure in the future. Conversely those with reasonable superannuation claims and appreciating non-financial assets, especially the family home, will be more secure in the future and will feel correspondingly more secure now.

Security in both its physical (external) and psychological (internal) aspects becomes an increasingly important feature of our general wellbeing as we age. Our need for security parallels our weakening physical powers and diminished income-earning capacities. Partly we can offset our growing dependency by maintaining secure sources of wealth and income as we depart the paid workforce. Economic security, however, while not an end in itself is an indispensable means: its absence forces us to attend to purely instrumental economic wellbeing, and this unambiguously diminishes our capability to lead free and flourishing lives.

We make these reasonably obvious points to emphasise the consequences of the fact that the economic resources needed for human wellbeing are unequally distributed. Women, even in relatively prosperous societies like our own, have lower average levels of access to the economic requirements of wellbeing. The consequences are readily apparent. Women's need for security is greater, and women are less able to offset the increased dependency that comes with age than are men. The unequal distribution of resources needed for wellbeing in retirement is especially unjust because, while the population is ageing generally, women live longer than do men. Their need is correspondingly greater. 'Over the past 20 years … life expectancy at birth improved by 6 years for males, to 78 years, and 4 years for females, to 83 years.' (ABS 2006a)

While population ageing will not create the economic 'crisis' many currently suppose it will (Doughney & King 2006; Doughney 2005b), it nevertheless does have important implications for resource allocation, equity and the possibility that older people may age well. The phenomenon of ageing requires that we create proactive plans, policies and strategies to ensure that the various dimensions of ageing well can be maximised and are achievable. Gender is one of those dimensions. The battle for equality does not cease at retirement.

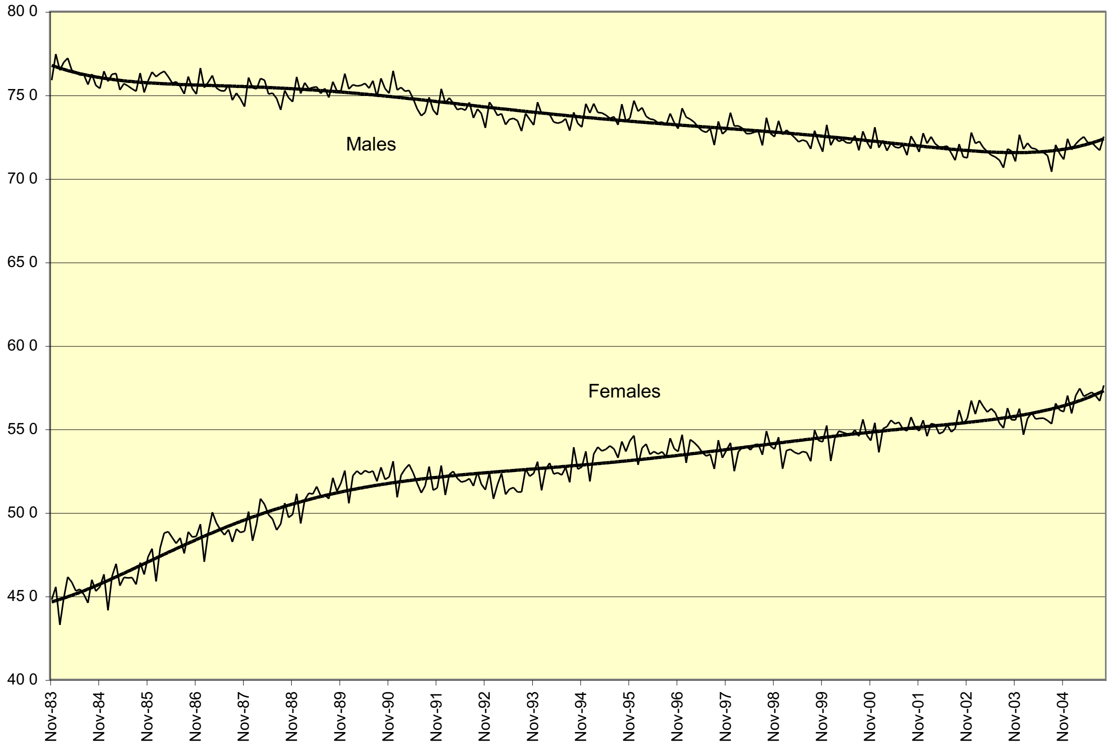
In the second section we analyse in three parts the most recent national data from the Australian Bureau of Statistics (ABS), the Reserve Bank of Australia (RBA) and the Australian Prudential Regulatory Authority (APRA). The first is women's current access to economic resources via the labour market and remuneration. The second validates our assertion above that Australia and other English-speaking countries are relying more on superannuation and related forms of individual retirement saving rather than on the age pension. The third is that women's access to superannuation resources is significantly worse than that of men. The data reveal that dramatic policy initiatives will be needed to improve women's access to retirement resources. Such policies do not apply only to superannuation but must address women's positions in the paid workforce and their care responsibilities. The policy issues we take up in the third section.

Influences on Women's Retirement Resources

(i) Women's disadvantage in the paid labour force

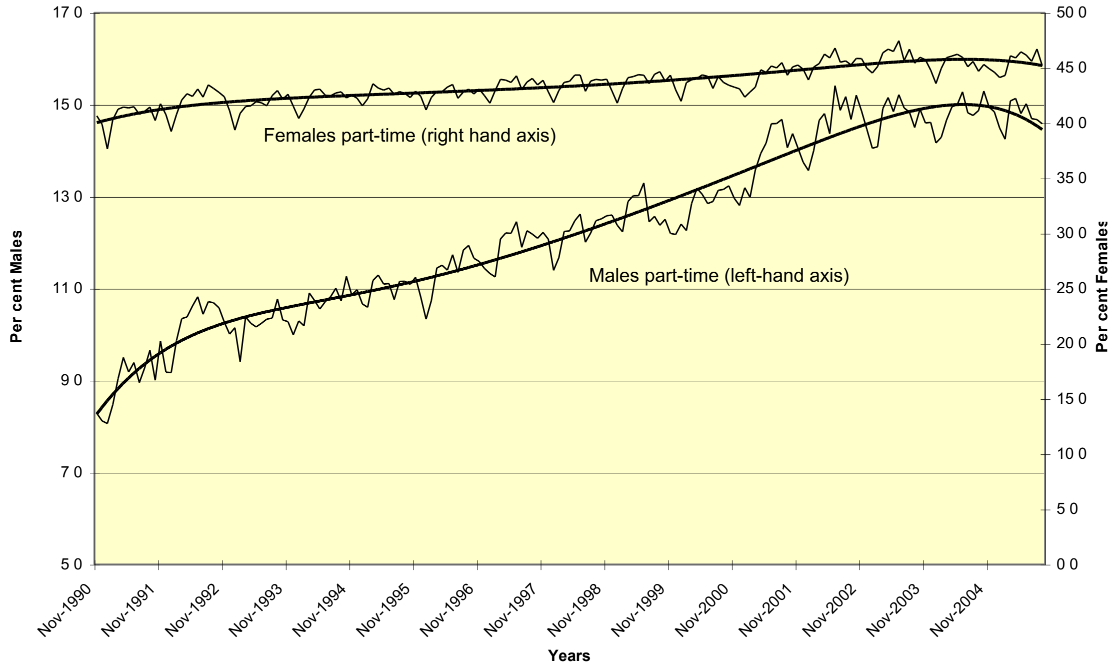
Despite the increase in women's participation in Australia's paid workforce, women are far more likely to work part-time and to work fewer hours than do men. Even when working full-time, women's employment continues to be concentrated in lower level jobs (Doughney & Leahy 2006), and their average earnings amount to only 85 per cent of male average full-time adult ordinary time earnings. These results are depicted in charts 1-3 below.

Chart 1: Female and male labour force participation Australia 1983-2005



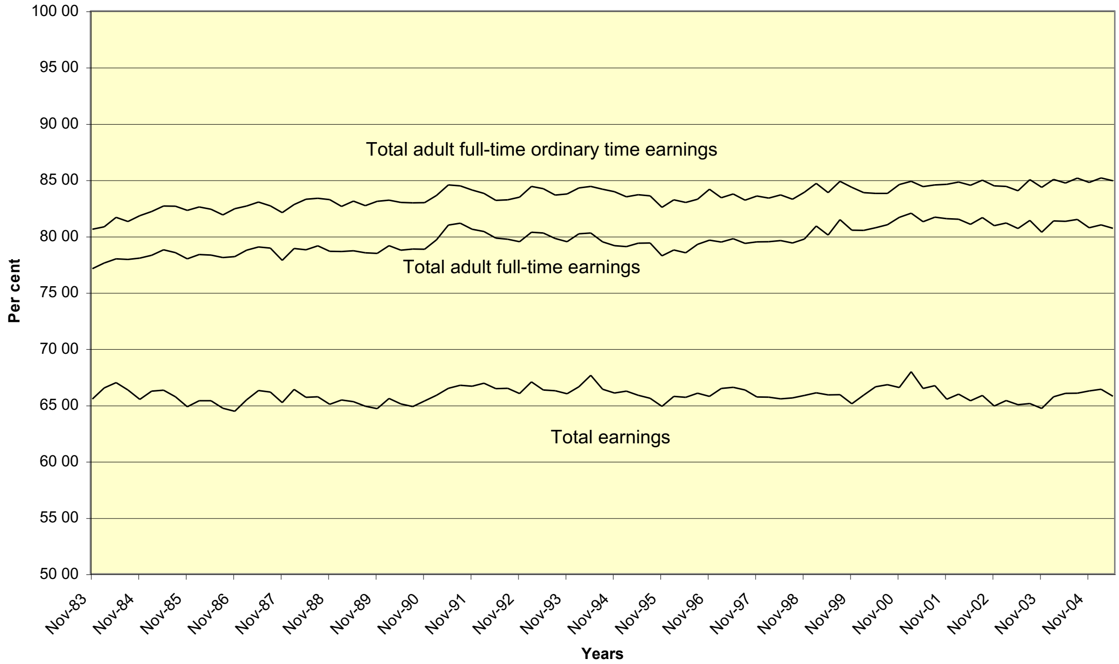
Source: ABS (2005c, Cat. no. 6291.0.55.001)

Chart 2: Female and male part-time work Australia 1983-2005



Source: ABS (2005c, Cat. no. 6291.0.55.001)

Chart 3: Female earnings as a percentage of male earnings Australia 1983-2005



Source: ABS (2005d, Cat. no. 6302.0)

Women's average labour force participation has increased from below 45 per cent in 1983 to about 57 per cent today. It grew more rapidly in the 1980s than it has done in the 1990s. However, a considerable proportion of this growth has been in part-time work. Chart 2 shows that today about 45 per cent of jobs held by women are part time. This compares with about 15 per cent for men. This explains why women's total earnings, the lowest of the three lines in chart 3 have remained at about two-thirds the level of men's.

Earning a lower income compared with men means that women's retirement savings in the form of superannuation contributions are correspondingly lower. Women from Non-English Speaking Backgrounds (NESB) are at most risk regarding superannuation contributions. Unemployment rates are higher among them, and those in employment are more likely to work in manual, low-paid jobs (83 per cent). Women who are sole parents are also particularly disadvantaged, and in 2002 the majority of lone parents were women (Doughney et al., 2003).

(ii) Superannuation and retirement income in Australia

In Australia the principal form of retirement savings by individuals is superannuation contributions for the employee paid by the employer. Ellis Connolly and Marion Kohler describe the history of this development in a 2004 RBA discussion paper:

> *Superannuation has been used in Australia as a policy instrument to increase retirement incomes and reduce reliance on the age pension (which is provided by the government) … In 1986 compulsory superannuation was introduced in Australia. The system initially applied to employees on Federal awards, with 3 per cent of their earnings saved in superannuation funds in lieu of wage rises. The system was extended to apply to most employees in 1992 under the Superannuation Guarantee Charge (SGC), with the contribution rate gradually raised to its current level of 9 per cent of earnings and coverage increased to 90 per cent of employees. Perhaps not surprisingly, households' superannuation assets as a proportion of GDP almost quadrupled in Australia over the last 20 years (Figure 1), and are now the second largest component of household wealth after non-financial assets, which comprise mostly housing. (2004, p. 2; citing Bateman, Kingston and Piggott 2001, p. 210; Commonwealth Treasury of Australia 2001)*

Connolly and Kohler also note that 'the growth in superannuation funds (or their equivalent) was an experience shared by the US and the UK' (2004, p. 2).

In 2004-5 aggregate employer contributions were $42.4 billion, while individuals' contributions totalled $23.5 billion (APRA 2006). Currently more than 300,000 retiree households receive superannuation payments, while more than one million households receive government retirement pensions. Note that it is possible to receive the age pension or part-pension and superannuation payments. The mean weekly pension payment to households in 2003-4 was $369, compared with the mean superannuation payment of $870 (ABS 2005e). Those with superannuation payments only are twice as well off (in income terms) as are those with the pension only, as the data in table 2 below suggest (ABS 2001a, 2001b). Note that the ABS warns that superannuation income may be under-reported in the latter survey-based set of data.

Unlike superannuation *payments*, the age pension does not derive from a form of saving (i.e. saving in the form of pre-retirement superannuation *contributions*). A pension is a government transfer at the time of its payment. However, both pensions and superannuation are claims on future social or national income. The former is a future social claim, insofar as it is an entitlement extended to all persons older than a given age with assets and incomes less than prescribed amounts. The latter may be a defined benefit in the future based on contribution level (of employer and individual) and salary level. Alternatively, it may be a progressively quantified future entitlement based on contribution level, asset growth over time and selection of asset types, proportionate mix of assets and risk strategy.

Superannuation may be paid in the future as a lump sum, an annuity-type payment (superannuation pension) or some mix of the two. In 2004-5, $19.6 billion was paid out in lump sums, while $10.4 billion was paid in the form of superannuation pensions. The total paid of $30 billion compares with total government age pension and related war-service or disability payments for 2004-5 of $23.4 billion (ABS 2006). Assets held by superannuation funds have grown dramatically, as chart 4 shows. Currently $446 billion are held in accumulation funds, $19.3 billion in defined benefit funds, $253.2 billion in hybrid funds and $43.2 billion in annuities and life office reserves: a total of $761.9 billion.

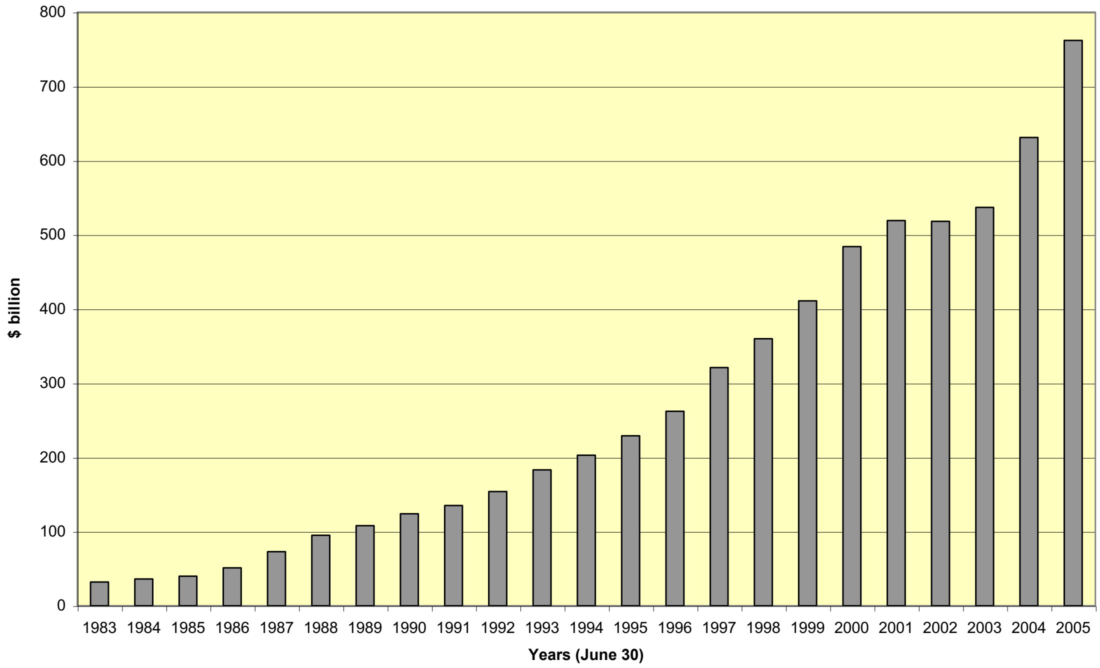
The important distinction between the age pension and superannuation is that the pension is not dependent on a person's lifetime or pre-retirement income. Superannuation savings, however, are a direct function of person's lifetime or pre-retirement income. Given the facts concerning women's salaries and working lives we presented in the previous section, this functional relationship puts women at a clear disadvantage.

Table 2: Mean household weekly income vs. forms of retirement income Australia 2003-4

Mean income	Wages and salaries $	Retirement pensions $	Super- annuation/ annuity income $
Gross household income (household weighted)	1,493	369	870
Income tax and Medicare levy payable (household weighted)	321	1	133
Disposable household income (household weighted)	1,172	368	737
	% wages and salaries		
Gross household income (household weighted)	100.0	24.7	58.3
Income tax and Medicare levy payable (household weighted)	100.0	0.4	41.5
Disposable household income (household weighted)	100.0	31.4	62.9
	% superannuation/annuity income		
Gross household income (household weighted)	n.a.	42.4	100.0
Income tax and Medicare levy payable (household weighted)	n.a.	1.0	100.0
Disposable household income (household weighted)	n.a.	49.9	100.0

ABS (2005e, Cat. no. 6523.0)

Chart 4: Assets held by Australian superannuation funds 1983-2005 $ billion



Source: APRA (2006)

(iii) Women's disadvantage in saving for retirement

Women's average working lives are shorter than are men's, and they are also interrupted due to child-bearing, child-rearing and other care responsibilities (Olsberg 2004). Hence, women's capacity to accumulate retirement savings is impaired. Career interruptions also tend to lead to deterioration in women's labour market and promotional opportunities. The points are reinforced in findings of the ABS:

> *As employer superannuation contributions are a proportion of employee earnings, and female employees tend to earn less than male employees, women generally receive smaller employer contributions. They also have less personal income to contribute to superannuation than men resulting in lower superannuation savings overall. (ABS 2002a)*

The ABS also makes the point that 'women's generally younger retirement age and longer life expectancy' means that 'women may need to accrue more superannuation savings than men to maintain a similar standard of living throughout their longer retirement years'. (ABS 2002a) As Ross Clare notes, this is almost to state the 'bleeding obvious', but even stating the bleeding obvious clearly can help in targeting policy responses more precisely (2004, p. 2).

While more than 90 per cent of all Australian employees are covered by superannuation, women employees hold the minority (45 per cent) of superannuation accounts (ABS 2001b). More importantly, according to the ABS *Survey of Employment Arrangements and Superannuation* (2001b, SEAS), women's median account balances were 47.6 per cent of men's. More recent data, drawn from the August 2004 *Employee Earnings, Benefits and Trade Union Membership* survey (ABS 2005f), shows that women's superannuation concentration follows their employment concentration: in part-time work and in lower paid jobs (see table 3). Chart 5 illustrates the effects more clearly. For women employees to be concentrated at the left-hand side of chart 5 means that their retirement claims will be lower because those future claims are a direct function of today's income.

Table 3: Superannuation coverage of employees by average weekly earnings Australia 2004 %

	Full-time employees			Part-time employees			Total employees		
	Males %	Females %	Persons %	Males %	Females %	Persons %	Males %	Females %	Persons %
Under $200	0.6	0.4	0.5	41.9	29.7	32.9	6.6	14.0	10.1
$200 and under $400	3.9	4.7	4.2	27.6	31.3	30.4	7.4	17.1	11.9
$400 and under $600	14.1	22.2	17.0	15.8	23.3	21.3	14.4	22.7	18.3
$600 and under $800	23.5	29.6	25.7	5.5	7.9	7.3	20.9	19.5	20.3
$800 and under $1,000	17.5	17.5	17.5	2.9	3.3	3.2	15.4	10.9	13.3
$1,000 and under $1,200	13.9	12.2	13.3	1.5	1.4	1.5	12.1	7.2	9.8
$1,200 and under $1,400	8.2	5.9	7.4	0.9	0.6	0.7	7.1	3.5	5.4
$1,400 and under $1,600	5.0	2.4	4.0	0.5	0.3	0.3	4.3	1.4	3.0
$1,600 and over	10.7	3.9	8.3	1.3	0.2	0.5	9.3	2.2	6.0
No wage or salary	2.6	1.1	2.1	1.9	1.9	1.9	2.5	1.5	2.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: (ABS 2005f, Cat, no. 6310.0)

Clare (2004) uses 2002 ABS *Household Income and Labour Dynamics Australia* (HILDA) unit record data to present the data given here in table 4. If we multiply the percentages for men and for women who have superannuation by their respective average balances we arrive at the estimated balance per man and woman by age group. These data are given in chart 6. Chart 7 gives women's average balances as a percentage of those of men for each cohort. Clearly women in the younger cohorts, whose attachment to the labour force has increased over past decades, have larger percentage balances. Yet they still lag behind men's for the reasons noted above, namely women's disproportionate concentration in part-time and casual work and their child-bearing, child-rearing and care responsibilities that reduce their time and prospects in the paid labour force.

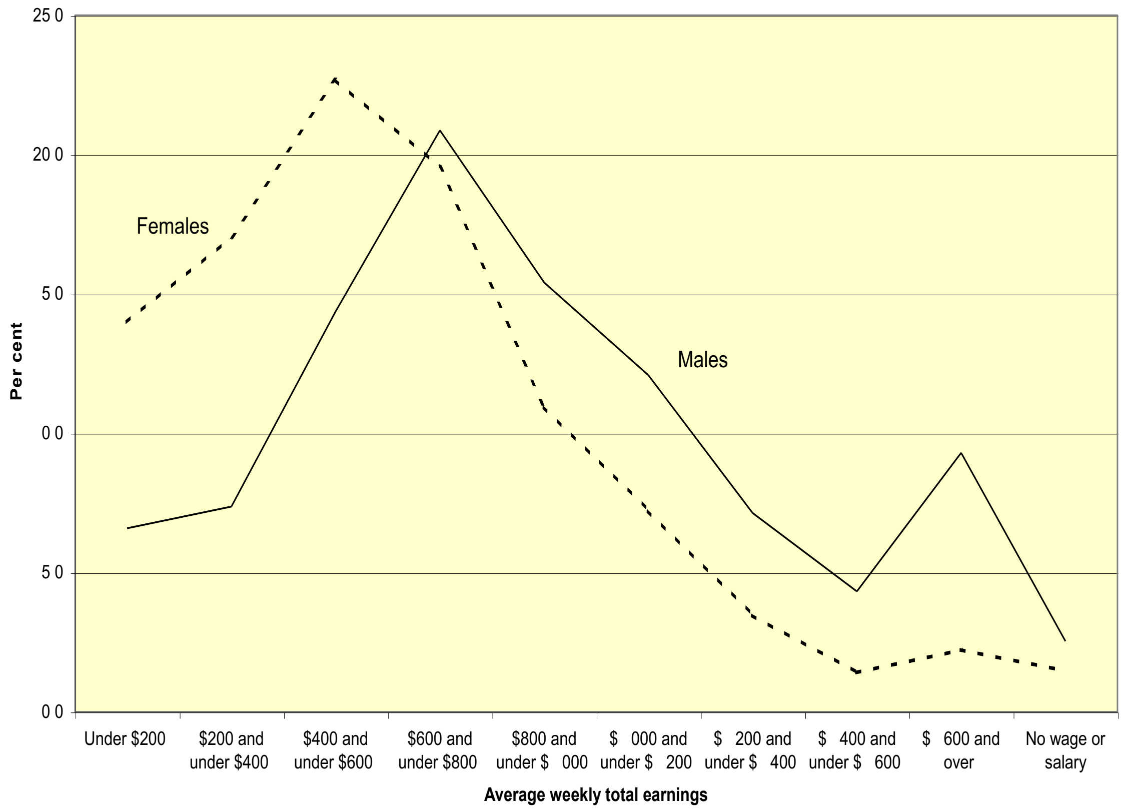


Chart 5: Superannuation coverage by average weekly earnings and gender Australia 2004 $

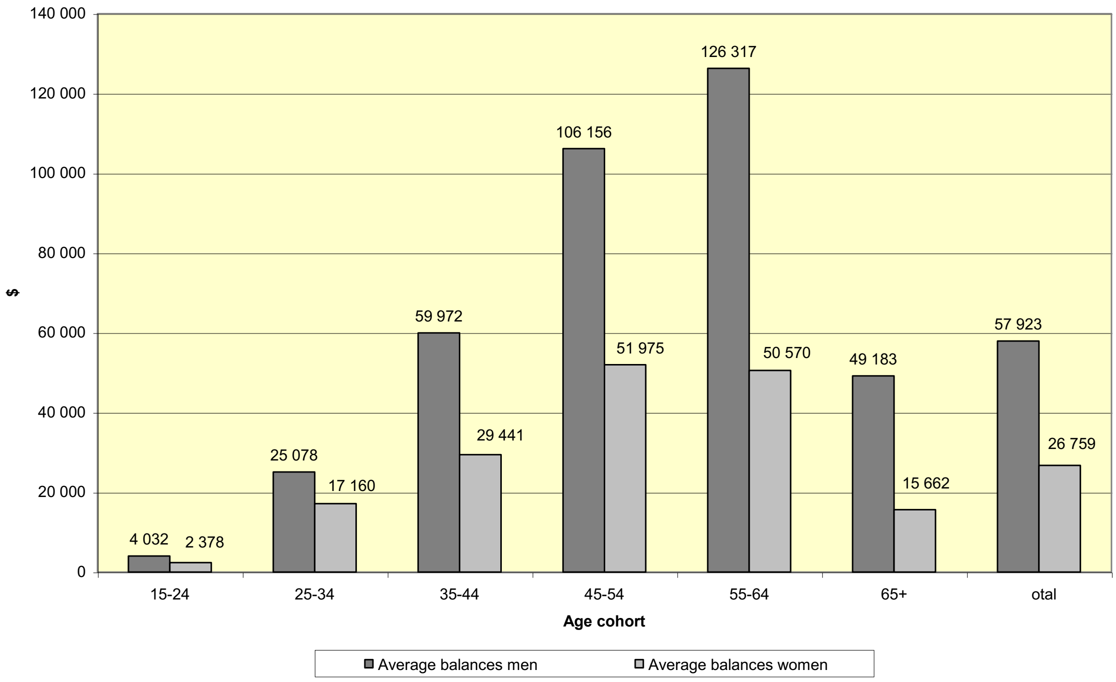
Source: (ABS 2005f, Cat, no. 6310.0)

Table 4: Superannuation balances by age and gender Australia 2002 (HILDA)

Age cohort	Men		Women	
	% with superannuation	Average balances for those with superannuation $	% with superannuation	Average balances for those with superannuation $
15-24	59.3	6,800	55.3	4,300
25-34	92.2	27,200	82.5	20,800
35-44	91.7	65,400	78.3	37,600
45-54	86.8	122,300	77.0	67,500
55-64	68.8	183,600	53.4	94,700
65+	26.6	184,900	12.6	124,300
Total	73.6	78,700	61.8	43,300

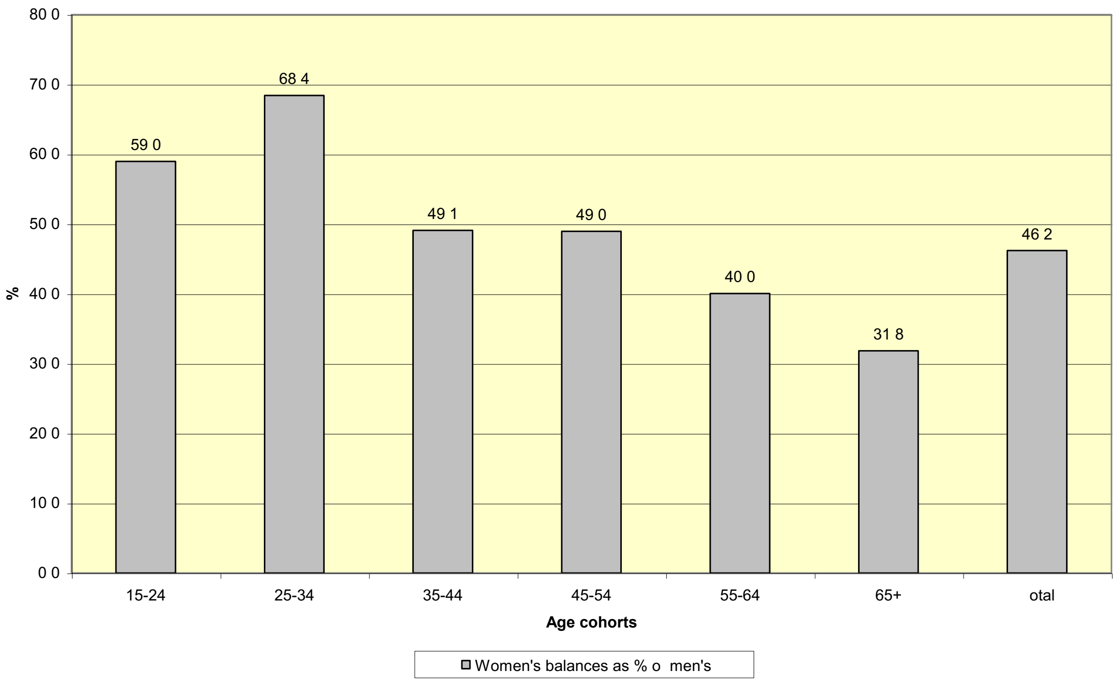
Source: Clare (2004, p. 4), based on 2002 data from the ABS Household Income and Labour Dynamics Australia (HILDA) survey.

Chart 6: Average superannuation balances by age and gender Australia 2002 $



Source: Derived from Clare (2004, p. 4), based on 2002 data from the ABS Household Income and Labour Dynamics Australia (HILDA) survey.

Chart 7: Women's average superannuation balances by age as per cent of men's Australia 2002 %



Source: Derived from Clare (2004, p. 4), based on 2002 data from the ABS Household Income and Labour Dynamics Australia (HILDA) survey.

Dimensions of a Just Retirement Policy

Is women's economic independence in retirement a mere pipe-dream? Let us make three very important points about the relationship between family income and the resources available to ageing women. First, many more women today are living independently, either by choice or because of divorce or separation from their partners. Second, women will 'need to accrue more superannuation savings than men to maintain a similar standard of living throughout their longer retirement years' (ABS 2002a). Third, women's status *within* their families is also a question of concern. Women's dependence is in part due to the smaller share of economic resources that they bring to the family and control within it (Sen 1999).

(i) Policies focussing on women's paid and unpaid labour

At any rate it seems clear to us that women's inequality in retirement derives from an unjust state of affairs for women leading to retirement. The first cause is that women's salaries are lower than men's are even when they work the same number of hours. This is not due to women working in industries and occupations that pay less, at least on a broad definition of industry and occupation (Doughney et al. 2003; Doughney 2004; Doughney & Leahy 2005). Nor is the reason solely that women have career breaks for child-bearing and rearing and other care responsibilities. The main reason is that women occupy lower positions in organisations within industries and across occupations. This is what we must address, and it will require more radical affirmative-action remedies than have been contemplated to date in Australia.

Other causes – such as women's greater proportion of part-time and casual work and women's intermittent time in and out of the labour force (i.e. lower rate of participation) – themselves derive from, and can only be remedied if we start to challenge, women's disproportionate share of society's unpaid labour (Doughney et al. 2003). Nine-tenths of all unpaid labour comprises the various forms of household work, of which women's unpaid labour accounts for 65.8 per cent (compared with men's

34.2 per cent). Women also do most of Australia's voluntary (including elder care) and community work (56.5 as against 43.5 per cent). Women account for 64.9 per cent of all unpaid household, voluntary and community work (as against 35.1 per cent for men). Women work on average 5 hours more per week than do men when we aggregate paid and unpaid working hours. Women who work similar hours to their partners still do 60.1 per cent of domestic work, compared with the 64.8 per cent of all domestic work that is done by women overall (Doughney et al. 2003).

Facts such as these cannot and should not be ignored. The data imply that women will spend less time in the paid workforce but do more hours of labour. The data also imply that women will continue to be concentrated in part-time and casual work in order to balance care responsibilities. The personal, economic and social impacts of the above social divisions of labour and earnings gaps are summarised well by Martha Nussbaum (1999, p. 135) in an American context that is also relevant in Australia:

> *The fact that women still are expected to perform most unpaid housework and childcare constrains women's access to employment and their productivity within it. It also contributes to a perception of women's lesser 'usefulness' and productivity that injures women's access to many opportunities and resources. As Susan Okin writes, summarizing a number of empirical studies, 'The perception that women's work is of less worth, largely because either unpaid or poorly paid (despite the fact that in most places they do more of it, and it is crucial to the survival of household members) contributes to women being devalued and having less power within the family and outside of the household' [Okin 1995, p. 284]. This perception, in turn, further reinforces women's economic dependence on men.*

Such dependence will continue into retirement unless we contemplate radical policy measures that will affect women's position in society when they are younger. In addition to affirmative action at work, the following proposals by Grace, Leahy and Doughney (2005) address care responsibilities. The proposals comprised part of a response to the recent *Striking the Balance* project on work-family problems launched by Sex Discrimination Commissioner Pru Goward for the Human Rights and Equal Opportunity Commission. The proposals are:

1) A child-raising payment of a living wage to be paid in relation to all children under 3 years of age, and all persons requiring more than a certain threshold of caring work. This could be shared between parents and caregivers. It could be used to fund time out of the labour market or to enable labour market earning.
2) High quality affordable childcare for children under 3 years of age.
3) Free high quality childcare for children aged 3+.
4) Free, high quality accessible out of school hours care, including suitable supervised programs for young people in the early years of secondary schooling
5) Generous training and retraining opportunities for parents who have spent time out of the labour market.
6) Adequate day programs for people with disabilities.
7) Adequate pay for people employed as carers in the market economy, reflecting the complexity and social importance of their work.

Though expensive, these policies merely 'bring hidden costs into the open and allocate them to those who benefit from the inputs'. As a society 'we cannot continue free riding on the labour of mothers and underpaid carers' (Grace, Leahy & Doughney 2005).

(ii) Policy proposals for women in retirement

In addition to the above we propose that women's economic independence in part will depend on greater access to financial literacy education in order to plan for retirement. Moreover, short of the above radical prescriptions being adopted, women will be forced to rely on the age pension more than will men. Therefore two policy options open up:

1) To increase the age pension to ensure that women's economic wellbeing in retirement increases in the direction of those who have increasing superannuation entitlements.
2) Use the age pension to redress the discrimination women experience before retirement such that they are not further discriminated against in retirement because of their earlier disadvantage.

These proposals rest on evidence that (1) women are disadvantaged in both paid and unpaid labour and (2) that retirement incomes from superannuation are increasingly important for economic security and are a direct function of pre-retirement income.

Conclusion

The evidence this paper presents on women's positions in retirement and, especially regarding superannuation, leads to two key points. Firstly, women's disadvantage in retirement follows from women's disadvantaged position in the paid labour force. Secondly, women have the additional disadvantage of performing most of society's unpaid labour. This combination requires special remedies. A just retirement policy, which the paper has considered, must include special measures to redress women's previous unjust treatment. We propose a mix of superannuation-related and pension measures. Precisely how to articulate these measures in the context of Australia's changing economic, taxation, and ageing policy is the challenge for future research. One thing we do say to encourage researchers in this field is that they should not lose themselves in the web of complex policy practicalities. Important though the practicalities are, researchers must see through them so that they can keep their eyes on the vision of justice that should guide their endeavours.

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Religiosity, Ethical Judgments and Malaysian Muslim Students

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Abstract

Culture is often cited as one of the powerful determinants in shaping the personality and behaviour of individuals. Religion, being an important element of culture, is seen as playing an important role in determining how people behave in certain situations. Various authors have suggested religion as an important dimension in Malaysian ethical behaviour studies especially for the Malays. Yet this construct is generally ignored or incorporated into other constructs. This study investigates the influence of religious education on the perceptions of unethical business practices among final year students in one of the local universities in Malaysia. In particular, this study examines the impact of education stream on the level of religious commitment among Malay Muslim students and how these two variables influence their ethical judgment. It was found that the level of religiosity is negative and significantly related to the level of tolerant towards unethical business practices. The findings also establish that more students from the religious education stream are found to be more religious and consequently, are less tolerance towards unethical business practices.

Keywords

Religiosity; Islamic business ethics; unethical business practices; Malay Muslims.

Introduction

The relationship between the cultural environment and ethical perceptions has been widely explored (see for example Hunt and Vitel, 1986; Choi, 2001; Srnka, 2004). Culture, through its components, elements and dimensions, is seen to dictate the organizational structures, the micro-organizational behavior, and the cognitive functioning of individuals, in such a way as to ultimately affect the judgment or decision made (Choi, 2001).

This study investigates the influence of the education stream on the level of religious commitment and ethical awareness of the final year students in one of the local universities in Malaysia. In particular, the study examines the relationships between the different streams of education of the students (that is, religious stream versus secular stream) and their level of religious commitment as measured by the Muslim Attitudes towards Religiosity Scale (MARS) (a scale adapted from Wilde and Joseph (1997) and Khashan and Kreidie (2001). Further, the study examines the relationship between the religiosity score obtained by these students and their ethical awareness of various businesses conduct. This study highlights the impact of the Islamic religion on the perception of Malays as represented by Malay Muslim students and further reinforces the findings from previous research on business ethical judgments in Malaysia (see for example, Goodwin and Goodwin, 1999; Rashid and Ho, 2003).

The first section discusses the impact of culture, religion, religiosity and Islamic ethical philosophy. It further reviews previous attempts drawn from the literature to measure religiosity. The second section describes the research framework, followed by a discussion on the research design, data collection and analysis method and the results of the study. The conclusion and recommendations for future research are presented in the final section.

Review of the Literature

Culture, Religion and Religiosity

Hofstede (1980) defines culture as the norms, values and beliefs of a particular group or community in a particular area or geographic location, that are shared by its members. More importantly, values are viewed as the deepest level of culture and the most difficult to change, and in turn would affect social systems and institutions in a particular country. According to Blamey and Braithwaite (1997), value is an enduring belief that a specific mode of conduct or end-state of existence is personally or socially preferable to an opposite or converse mode or end-state of existence. Thus, values are the core set of beliefs and principles deemed to be desirable (by groups) of individuals (Andrews, 1987; Mason, 1992). Moreover, values are considered to be general beliefs that define right or wrong (Rashid and Ho, 2003). Arguably, therefore, values could affect how individuals perceive the form of behavior considered appropriate and effective in any given situation.

According to Renzetti and Curran (1998) it was Durkheim (1954) who first provided the sociological definition of religion. Durkheim defines religion as a social institution composed of a unified system of beliefs and practices about sacred things. Renzetti and Curran (1998) explain that the word sacred referred by Durkheim means things regarded by a community of believers as extraordinary and awe-inspiring. Renzetti and Curran (1998) noted that according to Durkheim religion serves four major social functions namely social solidarity, social control, providing meaning and purpose to life and providing psychological or emotional support. Therefore, religious beliefs and rituals, then, reinforce group identity, offer solace in times of crisis, and promote morality (Durkheim (1954), as cited by Renzetti and Curran (1998)).

Religion has been identified as one of the critical elements in the cultural environment (Hunt and Vitel, 1986; Sood and Nasu, 1995) since religion affects the way in which people behave (Sadler, 1970), and it is perceived that it may affect an individual's perception. Religion, it is claimed (Sood and Nasu, 1995), would affect individual behavior directly through the rules and taboos it inspires (Harrell, 1986) and indirectly through classification of all phenomena, development of a code of conduct, and establishment of priorities among these codes (Sood and Nasu 1995). More specifically, one (the others are *Tawheed* and *Shariah*) of the basic elements of the Islamic religion is *Akhlaq* (moral and values) providing a framework that shapes the moral and ethical behavior of Muslims in the conduct of all aspects of their life (Ismail, 1990 and Saeed *et al*., 2001). In addition, it is claimed that the Holy *Quran* provides a stable and flawless set of values in guiding Muslims' behaviour (Abdullah and Siddique, 1986).

Measures of Religiosity

Sociologists use the term religiosity to describe an individual's or group's intensity of commitment to a religious belief system (Renzetti and Curran, 1998). According to Scutte and Hosch (1996) religiosity is a difficult construct to measure since there are several definitions of religiosity.

Caird (1987) proposes three different measures of religiosity: cognitive (focus on religious attitudes or beliefs), behavioral (evaluate church attendance or private prayer), and experiential (query as to spiritual experiences). Mookherjee (1993) defines religiosity in terms of public or participatory (based on church membership and the frequency of church attendance) and private or devotional religious behavior (based on the frequency of prayer, bible reading, and a cumulative score of devotional intensity). Renzetti and Curran (1998) propose five different dimensions of religiosity: ritualistic religiosity which considers church and synagogue attendance, experiential religiosity which measures how strongly a person feels attached to their religion, ideological religiosity which assesses how committed a person is to religious doctrine or teachings, consequential religiosity which looks at the extent to which religion affects the way a person conducts his or her daily life and intellectual religiosity which focuses on a person's knowledgeability of the history and teachings of a religion. Therefore, it may be concluded from the above discussion that religiosity is a complex social phenomenon that requires multidimensional measurement.

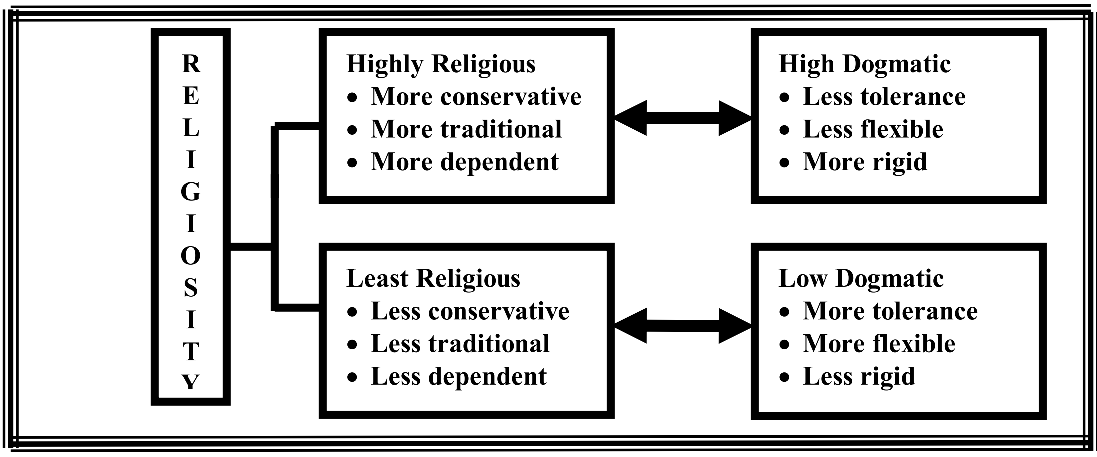

Figure 1: Religiosity and Decision-making (Source: Delener, 1994)

More importantly, it is argued that religiosity or religiousness, as an important value in the individual's cognitive structure, can influence an individual's behaviour (Delener, 1994). According to him the pro-religious individuals are likely to be more dogmatic and more conservative than are the non-religious individuals. As such, it is expected that the more religious persons would be more likely to align their behaviour to conform to their religious belief and practices. It is further suggested that those who are strongly committed to religion are both attitudinally and behaviorally capable of making decisions consistent with moral conscience (Pargament *et al*., 1988; Delener, 1994). A simple paradigm showing the religious variable as a possible factor influencing the decision-making process as hypothesized in the study is illustrated in Figure 1. With regard to this study, it is expected that the respondents who have a higher religiosity score would behave in conformance with the 'desirable' values and behaviours as conceived by the *shariah* law, and thus, they would be less tolerant towards unethical business activities and practices of the business community.

In examining religiosity in the context of Malay Muslim society, religiosity measures adapted from Wilde and Joseph (1997) and Khashan and Kreidie (2001) that are specific for Muslims are considered appropriate.

The Islamic Ethical Philosophy

The word 'ethics' originated from the Greek words 'ethos'. Beauchamp and Norman (2003) define ethics as a systematic attempt, through the use of reason to make sense of our individual social and moral experiences, in such a way as to determine the rules that ought to govern human conduct and the values worth pursuing in life. Ethics, according to Stoner *et al.* (1994) is concerned with "right and wrong". It is an individual's personal beliefs regarding what is right and wrong or good and bad (Davidson and Griffith, 2000). In Islam, ethics is normally used synonymously with morality (Hanafy and Sallam, 2001). It main purpose is to provide a systematic and logical reason or justification for what is right and virtuous and what is wrong and bad. According to Beekun (1997) it is a normative field because it prescribes what one should do or abstain from doing. Ethics, according to Jamal (2003) governs all aspects of a Muslim's life.

Islamic ethical philosophy has been explored from six main axioms, namely Unity (or *Tawheed*), Equilibrium, Free Will and Responsibility, *Khilafah* or Vice-regency and *al-adl* or Justice (Naqvi, 1981; Chapra, 1992; Alhabsyi and Ghazali,1994). *Tawheed* or unity is the vertical dimension of Islam (Naqvi, 1981). Bashir (1998) noted that *Tawheed* entails the unity of life on earth and in the hereafter, and the unconditional surrender by all to the will of God. It integrates the political, economic, social and religious aspects of an individual's life into a homogeneous whole, which is consistent from within the individual himself as well as integrated with the whole Universe.

Khilafah or vice-regency is a special duty of man on this earth (*Quran*, 2:30; 6:165; 35:39; 38:28; 57:7). *Khilafah* defines man's status and role and specifies his responsibilities (Bashir, 1998). *Khilafah*, according to Alhabsyi (1994) implies the universal unity and brotherhood of mankind based on the Islamic faith which claims social equality and dignity of all human beings.

Equilibrium, on the other hand constitutes the horizontal dimension of Islam (Naqvi, 1981). *Al-Adl* (or justice) according to Alhabsyi (1994) is the rendering of trust where it is due. Trust in this case refers to all aspects of human life including economic, social and legal aspects, both at the individual as well as at the societal levels. In a situation where conflict arises between individual and societal interest, the latter should prevail (Alhabsyi, 1994). Equilibrium is closely related with the concept of justice. The rendering of trust, where it is due, is one of the criteria needed to achieve equilibrium.

Free will according to Naqvi (1981) is the freedom to choose either to become God-like by realizing his theomorphic character or to deny God. However, man's freedom is not absolute, only God is absolutely free. Responsibility is closely related to Free will (Naqvi, 1981) in a sense that it sets limits to what man is free to do by making him responsible for what he does. According to Saeed *et al.* (2001) there are four categories of responsibility within the Islamic framework. These are responsibility towards God; responsibility towards society; responsibility towards himself; and responsibility towards the environment.

The impact of Islamic religion on different aspects of business is quite substantial since ethics governs all aspects of a Muslim's life (Jamal, 2003). In summary, among the positive values applicable to form a basic framework of Islamic business ethics would be *iqtisad* (moderation), *al-adl* (justice), *ihsan* (kindness par excellence), *amanah* (honesty), *infaq* (spending to meet social obligations), *sabr* (patience) and *istislah* (public interest). These values should be guiding Muslim businessmen in defining the extent and nature of their activity (Selvaraj and Muhamad, 2004; Rahman, 1994). Lewis (2001) points out values that are negative and thus to be avoided: *zulm* (tyranny), *bukhl* (miserliness), *hirs* (greed), *iktikar* (hoarding of wealth) and *israf* (extravagance). Business activities and pursuits within the positive parameters are *halal* (allowed and praiseworthy) and within the negative parameters are *haram* (prohibited and blameworthy) and must be moderated. Production and distribution that are regulated by the *halal-haram* code must adhere to the notion of *al-adl* (justice). Collectively, these values and concepts, along with the main injunctions of the *Quran* provide a framework for a just business and commercial system.

Although, it is not easy to locate societies where the Islamic values, moral and ethical principles are truly implemented in every sphere of life, this does not nullify the Islamic model of business ethics (Jamal, 2003). Further, the recent development of Islamic resurgence throughout the Muslim world is witness to a mounting religious commitment among Muslims. According to Esposito (1991) this development has resulted in an increasing emphasis on Islamic law or *shariah* as a main source of guidance in all aspects of life. Hence, this study is an attempt made to investigate empirically the impact of the Islamic faith on ethical awareness of Muslims in a Muslim majority society as suggested by Jamal (2003).

The Malay Society and the Islamic Religion in Malaysia

Malaysia is a multiracial country, comprising three major ethnic groups namely the Malays, Chinese and Indians. The Malays account for nearly 60 percent of the total population of 22 million peoples

(Rashid and Ho, 2003). The Federal Constitution (Article160 [2], states that one of the main criteria in the definition of a "Malay" is that he or she must be a Muslim (Suffian *et al*., 1978; Mutalib, 1990).

Islam is claimed to be the most important factor in Malay identity as a source of solidarity among members of the community and a form of ethnic differentiation from non-Malays (Gjelsvik, 2001). Accordingly, he argues that Islam provides the social fabric of Malay society in Malaysia. However, from before the spread of the Islamic religion in Malaysia Malay society was already embedded in its 'traditional' norms, practices and systems of social law, or *adat* (Mutalib, 1990; Kling, 1995; Gjelsvik, 2001). The phenomenon, according to Mutalib (1990) has resulted in a kind of hybrid or variegated Islamic doctrine, consisting of a heavy mixture of both Islamic and un-Islamic practices. The next section discusses briefly the different phases of the business environment and draws on the literature on unethical business practices in Malaysia.

Unethical Business Practices in Malaysia

Prior to independence from the British in 1957, the Malaysian business sector was largely monopolised by the Chinese and foreign business interests (Selvaraj *et al*., 2004). The Malays survived as farmers in rural areas and the Indians were mainly confined to the rubber plantations (Rani, 1991). According to Abdullah (1996) the bloody tragedy of May 13th, 1969 was a catalyst for Bumiputras (i.e. sons of the soil, referring to the Malays and the indigenous people of Sabah and Sarawak) entrepreneurial development. The tragedy led to the establishment of the New Economic Policy (NEP: 1970-1990) aimed at narrowing the economic gap among the races and restructuring the involvement of different ethnic groups in various economic sectors. The NEP successfully produced established Malay businessmen such as Matshah Safuan of Safuan Holdings, Tan Sri Dato' Azman Hashim of Arab Malaysian Group, Tan Sri Dato' Haji Basir Ismail of Maybank Berhad and the like (Cheong, 1993).

The nature of unethical business practices changes over time. In the 1960s, some investors and businessmen took advantage of poor farmers and fishermen by practicing a monopoly-monopsony system (Aziz, 1964). This is a situation whereby a particular businessman acts as a middleman between suppliers (in this case, farmers and fishermen) buying their products under the concept of monopsony (i.e. when buyers exercise market power (Hyman and Kovacic, 2004) and consumers, reselling these products under the concept of monopoly (i.e. when sellers exercise market power (Hyman and Kovacic, 2004). According to Aziz (1964) such a system basically involves unethical business practices with respect to weighing and measuring. The unethical problems in business become more complex and sophisticated (such as short selling of shares, mismanagement of assets, fraud and insider trading) in the1980s and in some cases have resulted in serious crimes. The murder of Jalil Ibrahim**,** the chief auditor of Bank Bumiputra Berhad in Hong Kong in 1983 is an example of a crime related to business (Abadi, 1983).

Hussin (2001) observes that Malaysians perceive the present business practices by Malaysian businessmen as being tolerable even though several incidences of wrongdoings are reported in the media. The Muslim businessman is considered to be involved in unethical business practices the moment he is involved in businesses that are not allowable (*haram*) in Islam such as dealing with liquor, gambling, financial activities involving *riba* (Hussin, 2003). He observed that many Malaysians are involved in these types of businesses.

The Research Framework

The framework for this study is developed based on Hunt and Vitel (1986) and Stajkovic and Luthans (1997). As shown in Figure 2, the model indicates that the perceived ethical standards of an individual and the resulting ethical behavioral conduct are grounded in the unique characteristics of a specific culture of a society. Particularly, this study focuses on religion (in this context the Islamic religion) as the main element of culture in shaping personal values and belief of members of a society. Specifically, the study investigates the impact of the education stream on the level of religiosity of the Malay Muslim students and how these two variables influence their ethical awareness.

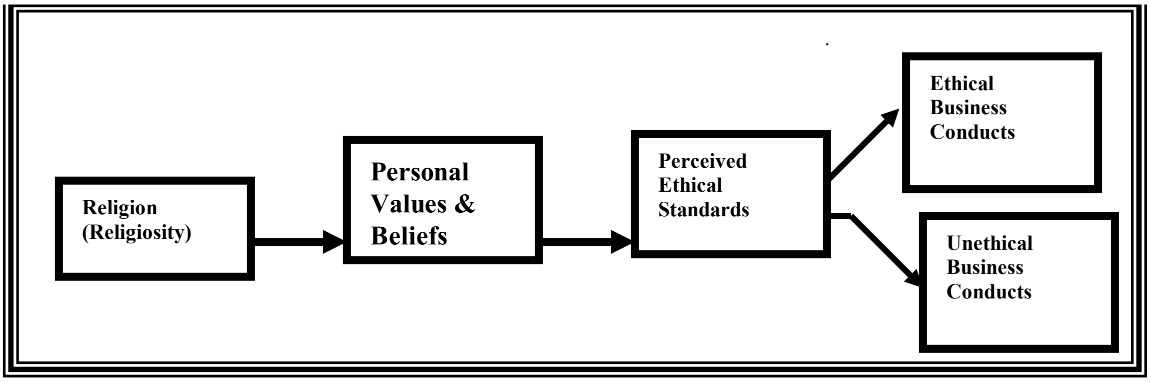

Figure 2: Research Framework (Adapted from Hunt and Vitel, 1986 and Stajkovic and Luthans, 1997)

Hypothesis Development

Prior research suggests that the degree of religiosity has a possible influence on the ethical awareness of individuals. Works on religiosity have tended to focus almost exclusively on Christianity (Wilde and Joseph, 1997). However, it is difficult to build upon on the findings of previous studies of the relationship between religion and ethical judgments in the Muslim society context, due to lack of research in this area. Nevertheless, from the research framework depicted in Figure 2 it is expected that the respondents who have a higher religious commitment would be less tolerant, than those with low commitment, towards unethical business activities practiced by the business community. The respondents in this study are represented by Malay Muslim students in one of the local public universities in Malaysia. A student group is selected in view of the fact that these students will soon become key members of Muslim society. As noted by Alam (1995) they will become future leaders, managers and administrators. As such, the results may be expected to provide some indication of how the future generation of Malay Muslims might be expected to behave. Hence, the hypothesis examined is:

H1: *Malay Muslim students who are more religious are less tolerant towards unethical business activities practiced by the business community as compared to Malay Muslim students who are less religious.*

It was observed that the Chinese stream of education of Malaysian Chinese has influence on the score of Chineseness (Ong, 1993). Thus, in the same line of thought since Chinese education would be able to influence the Chineseness among the Chinese, it's also posited that Islamic religious education would be able to influence the level of religious commitment among the Muslims. Therefore, it is hypothesized that religious education would be able to influence the degree of religiosity of Malay Muslim students as represented by their religiosity score and accordingly would influence their perceptions on unethical business practices. As such, the related hypotheses examined are:

H2: *The religiosity score of Malay Muslim students from the religious education stream is higher than that of Malay Muslim students from the secular education stream.*

H3: *Malay Muslim students from the religious education stream are less tolerant towards unethical business activities practiced by the business community compared to Malay Muslim students from the secular education stream.*

Research Design, Data Collection and Method of Analysis

The religious commitment (or religiosity) examined in this study is from the context of the Islamic religion. The awareness on unethical behavior collated in the survey for this study is mainly related to the basic elements of Islamic business ethics such as involvement in *haram* (prohibited) businesses, cheating, bribery and profiteering. The main purpose is to investigate the level of tolerance among the Muslim students towards these activities as practiced by the business community.

The stated hypothesis was tested using an independent samples t-test and simple regression analysis by running the Statistical Package for Social Sciences (SPSS) software. For this purpose, the respondents are categorized into two groups: the more religious group and the less religious group. Chi-square analysis was carried out to examine the relationship between religiosity and unethical business practices scores with selected demographic variables, namely gender and stream of education.

The questionnaire designed for this study is divided into three parts. Section A is related to the personal background of respondents, Section B is related to the moral judgment of Malay Muslims towards unethical business activities practiced by the business community. Finally, Section C measures the religiosity score (MARS) of the respondents. Questions on unethical business practices (in section B as adopted from Hussin, 2001) were presented in a 7-point Likert scale, 1 being "more ethical" and 7 being "less ethical". As such the higher the score a respondent gets for this section, the more tolerant he/she will be towards unethical business activities practiced by businesses. The religious questions (in Section C) are presented in a 5-point Likert scale (1 being "less religious" and 5 being "more religious") and the behavior question in a semantic differential scale (either in the form of strong believer – strong disbeliever and very religious – very unreligious). The higher score indicates that a respondent has stronger adherence to the Islamic religion.

A total of 429 students from the Faculty of Business and Accountancy and Academy of Islamic Studies University of Malaya took part in the survey. Once gathered, the data were tested for normality and reliability. An examination of the values of skewness and kurtosis indicate that all items are reasonably normally distributed. The Cronbach alpha coefficient for the unethical business practices and religiosity items are 0.9016 and 0.7464 respectively. According to Nunnally (1967) coefficient of 0.6 or 0.5 will suffice. Thus, these levels of reliability are sufficiently high.

Findings

A total of 429 completed questionnaires were used for this study. Ninety nine per cent of the students are between 23 to 25 years old and 65 % are female. Forty per cent of them were undertaking Islamic studies (considered a religious stream) and the rest are either accounting or business majors (considered a secular stream).

Religiosity and Ethical Awareness

The religiosity of the respondents was determined by using percentiles (Ong, 1993) whereby the upper and the lower thirds of the distribution are identified as the more religious and less religious. Thus, respondents with scores of lower than 100 (131 respondents or 30.1%) were labeled as less religious and those with scores of 104 and above (142 respondents or 33.1%) were categorized as the more religious group. The same procedure was followed for business perception scores. Respondents with scores of lower than 50 (144 respondents or 33.6%) were regarded as more ethical while those with scores of 71 and above (147 respondents or 34.3%) were deemed to be less ethical.

Table 1: T-test Result

	t	p	Mean	Eta square
Business Practices/Religiosity	6.890	0.000	More religious=54.0; Less religious=68.54	0.15
Religiosity/Education stream	7.525	0.000	Religious Stream=103.10; Secular Stream=98.6	0.12
Business Practices/Education stream	4.969	0.000	Religious Stream=56.49; Secular Stream=66.05	0.05

The results from independent samples t-test is shown in Table 1. The result reveals that the three stated hypotheses have been supported whereby the p values were found to be significant. As for *H1*, Malay Muslim students who have a higher religiosity score (or more religious) are less tolerant towards unethical business activities. The lower mean score (M=54.0) for the more religious respondents indicates that they are less tolerant towards unethical activities practiced by businesses. The mean score (M=68.54) for the less religious respondents are higher, indicating that they are deemed to be less ethical. Therefore we accept *H1* – the more religious Malay Muslim students are less tolerant towards unethical business activities practiced by the business community.

It was posited in *H2* that the religiosity score of the Malay Muslim students from the religious education stream is higher than that of Malay Muslim students from the secular education stream As presented in Table 1, the mean score (M=103.10) of religiosity measurement for the religious stream respondents is higher than that from the secular stream (M=98.60) indicating that they have higher religious commitment and are deemed to be more religious.

Consequently, in *H3* it is indicated that Malay Muslim students from the religious education stream are less tolerant towards unethical business activities practiced by the business community compared to respondents who are from the secular education stream. Table 1 reveals that the lower mean score (M=56.49) of unethical business practices for the religious education stream students shows that this group are less tolerant towards unethical business activities practised by the business community.

Eta squared (ŋ) was calculated to determine the magnitude of the differences between the groups examined (Pallant, 2001). As shown in the table, the differences are considered large for the ethical awareness vs different religiosity groups (ŋ=0.15); moderate for religiosity score vs different education streams (ŋ=0.12); and small for the ethical awareness vs different education streams (ŋ=0.05).

Table 2: Regression Model Results (ANOVA Table)

Model	SS	df	MS	F	Sig.
Regression	15165.745	1	15165.745	45.675	.000
Residual	141778.41	427	332.034		
Total	156944.16	428			

Table 3: Regression Model Results (Coefficients)

<table>
<tr><td rowspan="2">Model</td><td colspan="2">Unstandardized Coefficients</td><td>Standardized Coefficients</td><td rowspan="2">t</td><td rowspan="2">Sig</td></tr>
<tr><td>B</td><td>Stad. Error</td><td>Beta</td></tr>
<tr><td rowspan="2">Religiosity (const) R^2 = .097</td><td>148.473</td><td>12.796</td><td rowspan="2">-.311</td><td>11.603</td><td>.000</td></tr>
<tr><td>-.859</td><td>.127</td><td></td><td>.000</td></tr>
</table>

The regression results are depicted in Tables 2 and 3. The regression coefficient for religious commitment (-.859), indicates that students who are more religious evaluated the unethical business activities as more unethical than did those with lower levels of religiosity score. In other words, an inverse relationship exists between religiosity score and perceived unethical business practices, or ethical awareness.

Table 4: Religiosity and Business Practices Score within Gender and Education Stream.

	Religiosity		Business Practices	
	Less religious (n=131)	More religious (n=142)	Ethical (n=144)	Unethical (n=147)
Gender				
Male	36 (34.6%)	68 (65.4%)	83 (72.2%)	32 (27.8 %)
Total	104		115	
Female	95 (56.2%)	74 (43.8 %)	61 (34.7%)	115 (65.3 %)
Total	169		176	
χ^2 highly significant at > .001	Cramer's V value = 0.188; p = 0.000, (p<0.001)		Cramer's V value = 0.336; p = 0.000, (p<0.001)	
Education Stream				
Secular	109 (66.5 %)	55 (33.5 %)	46 (29.3 %)	111 (70.7 %)
Total	164		157	
Religious	22 (20.2 %)	87 (79.8 %)	98 (73.1%)	36 (26.9%)
Total	109		134	
X^2 highly significant at > .001	Cramer's V value = 0.361; p = 0.000 (p<0.01)		Cramer's V value = 0.403; p = 0.000 (p<0.01)	

The result of cross-tabulation between gender and education stream with religiosity and unethical business practices scores show that there is a relationship between these variables. As presented in Table 4, 56.2 % of the female Malay Muslim students are found to be less religious, while 65.4 % of the male Malay Muslim students belong to the more religious group. In terms of their ethical awareness more male Malay Muslim students (72.2 %) view the unethical activities as more unethical, and therefore are deemed to be more ethical, as compared to the female Malay Muslim students (34.7 %). It was found that 65.3 % of the female Malay Muslim students fall in the category of less ethical in terms of their perception on unethical business practices.

The result of cross-tabulation between the education stream with religiosity and unethical business practices scores reveal that 66.5 % of Malay Muslim students from the secular education stream are less religious and 70.7 % of them are found to be more tolerant of unethical business practices and thus, are less ethical. On the other hand, 79.8 % of Malay Muslim students from the religious education stream are found to be more religious and 73.1 % of them are considered as more ethical.

Therefore, chi-square analysis was carried out to investigate the relationship between these two scores and the two demographic variables. Both gender and education stream were significantly related to religiosity score ($p < 0.001$) and unethical business practices scores ($p < 0.001$). In addition, the Cramer's V values were used to determine the strength of association between these variables (Field, 2000; Foster, 2001). This measure lies between 0 and 1 and is considered significantly different from 0 if the observed value of χ^2 is significant (Mendenhal *et al.*, 1993). As noted in Table 4 the relationship between these variables can be considered as slightly weak since the Cramer's V values obtained for these variables were quite low. However, these relationships were significant because the observed χ^2 (p<0.000) were significant.

Conclusion

The study suggests that the degree of religiosity has a significant influence on the ethical awareness of Malay Muslims in Malaysia. This conclusion is qualified by the finding, however, religiosity only contributes 9.7 % towards the respondents' perceptions. Malays uphold strongly the value of self-respect or preserving face as one of the important values (Abdullah, 1996; McLaren and Rashid, 2002). As such they would not willingly disclose information regarding unacceptable religious behavior. Thus, they may not want to admit that they are not strong believers and do not perform the obligatory duty for Muslims such as the five daily prayers, fasting in the month of *Ramadan* and *zakat*. Another possible explanation is that Malay Muslims are deeply embedded in the various systems inherited from the British colonial period that are incompatible with Islamic values (Mutalib, 1990). As such, some practices that are considered against Islamic values (for example transactions involving interest) have been accepted as norms in the business society. The findings reported in this study are consistent with Hassan's (1986) observation of Malaysian Muslims. According to him, Islam does not influence all aspects of the behavior of Malay Muslims in Malaysia.

According to Alhabsyi and Ghazali (1994) the majority of Malaysian Muslims would abide by most of the dictates of their religion in so far as their consumption goes. According to him, they are very particular as far as consuming the lawful items are concerned. However, they are not very particular about whether their incomes are completely lawfully earned. For example, the recent issue of two factories in Selayang producing sausages using pig intestines has witnessed mounting dissatisfaction and retaliation from Muslims (Utusan Malaysia, 2005).

The study also reveals that the education stream (i.e. secular versus religious) is able to influence the religious commitment among Malay Muslims and consequently influence their perception towards unethical business activities practiced by businesses in society. Thus, the intensity of religious education does play a role in inculcating good values and religious commitment among the Malay Muslims. Perhaps policy makers should consider an integrated education system to integrate both worldly and spiritual values in youngsters for the betterment of the society.

Future research may be extended to investigate the influence of other factors on ethical awareness such as age, professions and income. The influence of these factors could not be examined in the present study since the respondents were among university undergraduate students.

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