

## Essential Traits, Relevant Skills and Ethical Values of Public Sector Forensic Accountants: An Empirical Survey.

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### Abstract

Forensic accountants play an important role in government where they need to look for signs of suspicious financial activity and fraudulent activities. According to Digabriele (2008), forensic accountants should possess various combinations of skill and knowledge including accounting, auditing, law, investigation techniques along with strong ethical values and soft skills. There is no research carried out in Malaysia which investigates on the essential traits, relevant skills and ethical values of forensic accountants in the public sector organisations. Therefore, the main objective of this empirical survey is to investigate the perceptions of public sector accountants who are employed by the Accountant General Department (AGD) in Malaysia's Ministry of Finance on the essential traits, relevant skills and ethical values of public sector forensic accountants. The scope of ethical values focused on the Islamic values and ethics to enhance the forensic accountant's skills in the AGD. Through statistical techniques such as factor analysis, t-test and ANOVA, the empirical data collected from survey questionnaires are tested to investigate the relationships among the study variables and to compare the perceived relationships among the different groups of accountants and accounting offices in the AGD with the objective to identify the top ten information on the traits, relevant skills and Islamic ethical values for the forensic accountants in the public sector.

**Keywords:** Traits, Relevant Skills and Ethical Values of Forensic Accountants, Public Sector Accountants, Malaysia

### 1. Introduction

Public sector governance requires controlling and accounting officers to discharge their responsibilities of stewardship of public resources by being open, accountable, prudent in decision making, managing and delivering results (Buang, 2008). The provision of the Financial Procedure Act 1957 also places a high premium for controlling officers to be personally responsible and accountable for propriety and accountability. Therefore, the need to be aware of fraud in all its manifestations is an essential component of good governance

in public sector.

Some of the most typical frauds in the government sector are bribery, false statements and false claims, embezzlement, conflict of interest, phantom contractor, collusive bidding, progress payment fraud, over or under invoicing, extortion, nepotism and favouritism, loss of revenues on account of tax or duty evasion, unfair recruitment, computer frauds and others (Buang, 2008). With the increase use of information technology systems in the function of government entities, the prevention of fraud, corruption and consequently the detection of such activities become more complicated (Buang, 2008).

Therefore, the use of forensic accounting procedures or services to detect financial reporting frauds and corruption practices should be increased in the public sector organisations by having and recruiting more forensic accountants. Forensic accountants should play a crucial role in the public sector where they need to look for signs of suspicious financial activities and frauds by individuals and management.

Although the main thrust of forensic accounting is involved with the financial aspects of an investigation, it encompasses all the necessary investigative expertise and experience such as interrogative skills, knowledge of law and rules of evidences, investigative proficiency and interpersonal skills (Syed Ahmad, 2008).

Forensic accountants utilise an understanding of business information and financial reporting systems, accounting and auditing standards and procedures, evidence gathering and investigative techniques, and litigation processes and procedures to perform their work (Crumbley & Smith, 2009). The skills and preparation for precision, attention to detail, objectivity, problem-solving ability, and strong oral and written communication skills are important for forensic specialists (Torpe, 2009). Forensic accountants are also required to see beyond financial records and to examine financial transactions related to a legal case or issue to help identify fraudulent or illegal activity (Torpe, 2009).

The introduction of Islamic values recently in the Malaysian public administration was intended to ensure greater accountability, integrity, transparency and good public governance in the public service delivery. The concept of Twelve Pillars is one of the government's efforts to absorb good values and ethics among public officers (Md Zain, 2008). Islam Hadhari Principles are another national approach of Islamic Civilisation being adopted by government that focus on the development of good practices towards ethical public services (Ahmad Badawi, 2006). In the case of Muslim accountants, the Quran highlights an important aspect of Islam's concept of leadership in forensic skills. In Islam, leadership is a trust and the job of the leader is to discharge this responsibility to the best of his abilities through personal sacrifice, courage and the ability to keep the group focused on the goal (Ismail, 2009).

## 1.1 The Problem Statement, Objectives and Scope of Research

Management of government entities should have the primary responsibility for the prevention, detection and investigation of fraud. All public officers have to be alert to the possibility of fraud and misconduct. To meet this responsibility, public officers must possess some knowledge of fraud indicators or symptoms that will enable them to evaluate accounting frauds/ errors and materially misstated financial statements (Buang, 2008).

There is no research carried out in a public sector accounting organisation in Malaysia which investigates on the relevant skills of forensic accountants as well as the focus on the Islamic values and work ethics to combat financial fraud in the public sector.

Therefore, the following are the objectives of this paper to investigate the perceptions among public sector accountants on the traits, relevant skills and ethical values of forensic accountants:

1. To identify essential traits for a forensic accountant in the public sector.
2. To identify the basic skills and the relevant enhanced skills for a forensic accountant in the public sector.
3. To determine whether Islamic ethical values (religiosity concept) can enhance the essential traits and relevant skills of a forensic accountant in the public sector.

The scope of this empirical survey research on the traits, relevant skills and ethical values of forensic accountants in the public sector will be focused on the perceptions among public sector accountants employed by the Accountant General Department (AGD) in the Ministry of Finance, Malaysia. Public sector accountants in the AGD are identified as the controlling officers and they are therefore required to provide forensic services for the prevention, detection and investigation of fraudulent activities and corruption practices in the government departments and agencies.

## 2. Literature Review And Research Model

Forensic accounting is defined as the application of financial skills and an investigative mentality to unresolved issues conducted within the context of the rules of evidence (Bolgna and Linquist, 1995). Syed Ahmad (2008) reiterated that it is the combination of the expertise in the accounting discipline and the investigation skills in which the findings are used to prosecute a suspect in the court of law.

Forensic accounting is more than counting numbers. It involves solving complex financial puzzles, particularly in fraud, insurance, disputes, and providing legal evidence for presentation in a legal forum (Grippio & Ibex, 2003). Activities include investigations of business information and data. These investigations can be used to establish employee fraud, provide litigation support such as substantiation of insurance claims, analysis of facts, formulation of questions and examination of accounting systems and also business valuations. The accountant

is already trained in many of the skills required for such tasks but needs some additional specialised skills to the skills of a traditionally trained accountant.

Digabriele (2008) had identified and suggested the relevant skills for forensic accountants from a nationwide survey on a random sample of 1,500 accounting academics, forensic accounting practitioners and users of forensic accounting services,. The relevant skills of forensic accountants as being identified by Digabriele (2008) are 1) deductive analysis, 2) critical thinking, 3) unstructured problem solving, 4) investigative flexibility, 5) analytical proficiency 6) oral communication 7) written communication, 8) specific legal knowledge and 9) composure.

Digabriele (2008) had surveyed practitioners, academics and users of forensic accounting services throughout the United States to determine whether there were differences in views of the relevant skills suggested in the practitioner literature. Digabriele had identified nine competencies of forensic accountants. Digabriele was able to group the competencies into those related to knowledge, ability and those related to performance. The knowledge and abilities component relates to whether an individual has the background knowledge and thinking skills to be effective whereas the performance component relates to the individual's ability to turn this knowledge and ability into an effective presentation. Results from Digabriele's study suggested that the three major stakeholder groups differ on all of the knowledge and ability items but agree on all of the performance items. His results also suggested that academics and practitioners have more agreement over the important forensic accountant skills than the users of forensic accounting services. His research revealed that practitioners and academics agreed that critical thinking, unstructured problem solving, investigative flexibility, analytical proficiency and legal knowledge are important skills of forensic accountants. The respondent groups did not differ on oral communication, written communication or composure rankings.

Another study carried out by American Institute of Certified Public Accountants (AICPA) in United states of America (USA) found that communications skills, the ability to simplify the complex and the ability to present opinions in a legal setting are critical to the effectiveness of the forensic accountants (Davies, Farrell & Ogilby, 2008). In other words, non-technical skills such as communication, problem solving and interpersonal skills were important for the accounting professionals besides the accounting and legal knowledge. This is proven with the results obtained by AICPA (USA) in 2008 from the survey questionnaires conducted on the characteristics and skills of the forensic accountants. The results obtained from the attorney, academicians and CPA (practitioners) revealed that analytical characteristics remain the foremost trait that forensic accountants are expected to possess. The results also revealed that communication skills, the ability to simplify the complex and the ability to present legal opinions in a legal setting are critical to the effectiveness of the forensic accountants.

Since Malaysia is an Islamic country with a multi-culture society, the practice of the Islamic Work Ethics is encouraged in the public sector organizations. From the Islamic knowledge and moral values, ethics in Islam is a reflection of good values whether in behavior, action, thinking or even heart. Ethics must be a good attitude, behavior and discipline in any spheres

of human living whether it can be seen or not by the people. To uphold the integrity of the Malaysian civil service, the government continuously emphasises the need for civil servants to maintain the trust that the public has in them through the inculcation of Islamic values to encourage ethical practices (Ismail, 2007). The following are the Islamic Values adopted for the practice of the Islamic Work Ethics (Ismail, 2007):

1. Trustworthiness
2. Sincerity
3. Accountability
4. Dedication
5. Gratefulness
6. Moderation
7. Consistency
8. Cleanliness
9. Discipline
10. Cooperation
11. Justice

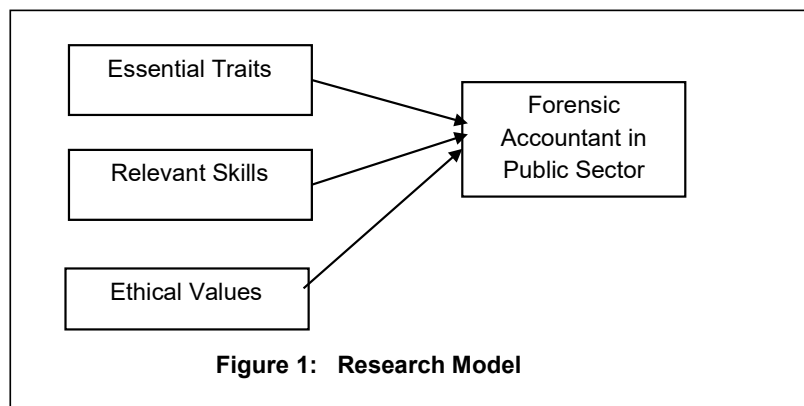
The twelve (12) pillars of ethical values for the civil service in Malaysia based on the concept of Islamic values established by the National Institute of Public Administration in Malaysia (Md Zain, 2008) are as follows:

1. Value of time
2. Success of Perseverance
3. Pleasure of Working
4. Dignity of Simplicity
5. Worth of Character
6. Power of kindness
7. Influences of Examples
8. Obligation of Duties
9. Wisdom of Economy
10. Virtue of Patience
11. Improvement of Talent
12. Joy of Originating

The former Prime Minister of Malaysia, Dato' Seri Abdullah Ahmad Badawi had introduced the Islamic Hadhari (Civilisation Islam) approach in 2004 which emphasizes civilization and is consistent with the tenets of Islam with a focus on enhancing the quality of life through the mastery of knowledge and the development (physical and spiritual) of the individual and the nation as a whole. Islam Hadhari summarizes ten (10) principles for the nation to take on global challenges in ensuring that its approach and implementation are acceptable to the multiracial, multicultural and multi religious society of Malaysia (Kumar & Che Rose, 2010). The following are the ten (10) principles of Islamic Hadhari for the Islamic work ethic that emphasized on the cooperation in work and consultation for creativity and innovation in the public sector (Badawi, 2006):

1. Faith and piety in Allah
2. A Just and trustworthy government
3. A free and independent people
4. A vigorous pursuit and mastery of knowledge
5. A balanced and comprehensive economic development
6. A good quality of life for the people
7. The protection of the rights of minority groups and women
8. Cultural and moral integrity
9. The safeguard of natural resources and the environment
10. Strong defenses capabilities

The following figure 1 is the research model for the empirical investigation of this study.



### 3. Research Methodology

A postal survey with the aid of a questionnaire was carried out in September 2010. A self-administered survey questionnaire was used in this study as the main research instrument to collect data from all public sector accountants employed by the AGD.

Part 1 of the questionnaire focuses on the profile of the respondents such as gender, age, education, professional membership, working experiences, job position and respondents' awareness on forensic accounting. In part 2 of the questionnaire, a list of line-items on the traits and skills of a forensic accountant was adapted from previous tested and validated survey instrument established by Davies, Farrell & Ogilby (2008) and Digabriele (2008). The ethics and moral values based on the Islamic concept and the work ethics of the AGD was added in part 3 of the questionnaire. In total, 84 line-items of the forensic accountant's characteristics were incorporated in the questionnaire of which 16 items were on the essential traits, 17 items related to basic skills, 13 items related to relevant enhanced skills, 33 items related to Islamic values and ethics and 5 items on the work ethics of the AGD. Pre-testing and pilot testing of the questionnaire were undertaken and some revisions were made prior to

the full administration of it.

A Likert scale was employed to obtain the perceptions of the respondents on the importance of traits and skills of forensic accountants in the public sector. The respondents were asked to state to what extent (from '1' to '7' where '1' is for 'not important at all', '2' is for 'not important', '3' is for 'less important', '4' is for 'neutral', '5' is for 'slightly important', '6' is for 'important' and '7' is for 'very important') the 46 line-items of traits and skills were important in determining the quality of the forensic accountant in the public sector.

Respondents were also asked to state the extent (using Likert scale) to which they agree with seven statements on 38 items related to Islamic values and work ethics which can strengthen the effectiveness of the forensic accounting services in the public sector of Malaysia. A '1' is given if they 'strongly disagree', a '2' if they 'disagree', a '3' if they 'slightly disagree', a '4' if they are 'neutral', a '5' if they 'slightly agree', a '6' if they 'agree' and '7' if 'strongly agree' with the statements.

Table 1 shows the reliability coefficients for the 84 question - items instrument to measure the identified seven study variables of forensic accountants in the public sector. The closer the Cronbach alpha is to 1, the higher the internal consistency reliability of a measure indicated by the study variable. Pallant (2001) suggested that the value for Cronbach alpha greater than 0.70 is preferred.

**Table 1: Reliability Test of Survey Instrument**

	<b>Study Variables</b>	<b>Question Items</b>	<b>Reliability Statistics (Cronbach's Alpha)</b>
1	Essential Traits and Characteristics	16	0.910
2	Core/ Basic Skills	17	0.924
3	Relevant Enhanced Skills	13	0.927
4	Islamic Values in Public Administration	11	0.909
5	Islamic Hadhari Principles towards Ethical Public Services	10	0.918
6	Twelve Pillars of Good Values for Public Officers	12	0.923
7	Work Ethics of the AGD for Excellent Accounting Services	5	0.799

## 4. Data Analysis And Discussions Of Results

### 4.1 Descriptive Analyses on the Profile of Respondents

Questionnaires were distributed to 731 respondents and 361 useable responses (49.4% response rate) were received. The details concerning the distribution and collection of questionnaires are provided in Table 2.

**Table 2: Distribution and Collection of Questionnaires**

Accounting Offices	Number of Questionnaires Distributed	Number of Questionnaires Returned and Analysed
Headquarter Offices (HQ)	206	96 (46.6%)
Branch Offices & Self Accounting Departments (Branch/SAD)	237	150 (63.3%)
Responsibility Centers at Ministries/ Government Departments (RC)	288	115 (39.9%)
<b>Total</b>	<b>731</b>	<b>361 (49.4%)</b>

Based on the descriptive statistics, about 67% of the respondents who completed the survey questionnaires were female and 33% were male accountants. About 64% of the respondents were between the ages of 24 and 33 years old and the balance 36% were between 34 and 59 years old. The mean age of respondents is 34 years old and the average working experiences of respondents in the AGD is seven (7) years with 30 years as the maximum work experiences and one (1) month is the minimum work experiences. The majority (75%) of the respondents was junior accountants and the remaining respondents (25%) were senior accountants (20%) and top management level of accountants (5%).

All respondents had at least graduated with a first degree in accounting (89.7%) and 2 respondents (0.6%) had obtained a professional degree in accounting i.e. MICPA and ACCA. However, 35 respondents (9.7%) had continued their education in Master in Accounting or Master in other related disciplines.

About 48.8 % or 176 respondents had registered with Malaysian Institute of Accountants (MIA) as Chartered Accountants, 3.8% or 14 respondents had also chosen to be member of other accounting professional membership such as MICPA, ACCA, CIMA and IIA. The non-member group of MIA was about 171 respondents (47.4%) who have less than 5 years working experiences.

In terms of awareness of forensic accounting among the surveyed public sector accountants,



about 98.3% of them have heard about forensic accounting either through seminar/conferences attended, internet, newspapers and education.

#### **4.2 Inferential Analysis For Research Objectives**

Data collected from the survey questionnaires were analysed using the statistical package for the social science (SPSS Version 17). Data were analysed using several statistical tests such as factor analysis and correlation test to explore the relationships between the study variables and using t-test and ANOVA to investigate the perceptions among public sector accountants on the possession of essential traits, relevant skills and Islamic ethical values for the forensic accountants in the public sector i.e. between junior (75%) and senior accountants (25%) and between headquarter office (26%), branch offices and self accounting offices (35%) and responsibility centers at Ministry & Government Departments (39%).

##### **4.2.2 Factor Analysis, Independent Samples of T-Test and ANOVA for Group Comparisons**

Factor analysis is used as a method of testing for the construct validity of each factor extracted from the 84 line-items of the survey questionnaire. With 361 respondents received from the survey questionnaire, factor loading of 0.40 is considered to be more appropriate to meet the minimal level of practical significance for this study (Tabachnick & Fidell, 2001). The Kaiser-Meyer-Olkin (KMO) which is more than 6 and Bartlett's test of sphericity which is large and significant ( $p$ -value  $< 0.05$ ) are used as part of the appropriateness of data for Factor Analysis (Tabachnick & Fidell, 2001). For the purpose of this study, the 84 line-items of the questionnaire were subjected to principal components analysis with Varimax rotation. With the KMO index of 0.942 & Bartlett's test: 0.000, Eigenvalue: 55.943,  $p$ -value of 0.001 obtained, the results confirmed the seven (7) extracted study variables for this study are valid and are in conformity to the literature review and prior empirical evidences.

The following Table 3 shows the results of factor analysis on the respondents' perceptions or opinions for question-items from the entire set of variables of this study. Using KMO and Bartlett's test results for the goodness of data, the summarized results highlight the significant criteria of factor extractions and factor loadings based on the eigenvalue and percentage of variance explained for each factor or study variable extracted.

**Table 3: Summarised Results of Factor Analysis  
– Goodness of Measures of All Study Variables**

Factors	Items	Factor Loading	KMO = 0.942	Eigenvalue	Percentage of Variance Explained	Cronbach's Alpha
1. Relevant Enhanced Skills	18	0.758 - 0.418		27.210	32.393	0.937
2. Islamic Pillars of Ethics	13	0.735 - 0.472		6.584	7.838	0.924
3. Essential Traits and aracteristics	16	0.671 - 0.472		3.580	4.261	0.942
4. Islamic Values for public ministration	12	0.743 - 0.418		3.176	3.781	0.918
5. Basic / Core Skills	11	0.651 - 0.496		2.389	2.844	0.904
6. Islam Hadhari Principles	9	0.777 - 0.400		2.083	2.480	0.914
7. Islamic Work Ethics	4	0.674 - 0.520		1.971	2.346	0.869

An independent samples t-test (test of differences in mean score) was conducted to compare the mean scores of all study variables between two different types of accountants i.e. senior and junior accountants. While, one-way between groups ANOVA with post-hoc comparisons is used to compare mean scores of perceived opinions of all study variables between three different types of accounting offices i.e. 1)headquarter office, 2)branch offices and self accounting offices, and 3)responsibility centers at Ministry & Government Departments.

#### **4.2.3 Top Ten Information on the Essential Traits, Relevant Skills and Islamic Ethical Values for the Forensic Accountants in the Public Sector**

The following section highlights the top ten information on the essential traits, relevant skills and Islamic ethical values for the forensic accountants in the public sector based on factors extracted (factor analysis) as perceived by two different types of accountants (t-test) and three different types of accounting offices (ANOVA) in the AGD.

### i. Essential Traits of the Forensic Accountant

The results of Factor Analysis, T-Test and ANOVA in Table 4 indicate all respondents have collectively agreed and gave high ratings on the essential traits for forensic accountants in the public sector except there is a significant difference on the mean score of analytical issue from different groups of accountants and accounting offices. There is also a significant difference on respondents' perception in terms of detail-oriented level from the different accounting offices. The different background characteristics of respondents (senior and junior accountants) and different functional areas of accounting offices (headquarter offices and responsibility centers at different ministerial level) can therefore be considered as representative views of disagreements.

**Table 4: Essential Traits of the Forensic Accountant**

FACTOR ANALYSIS		MEAN	T-TEST Sig. (p < 0.05)	ANOVA Sig. ( p < 0.05)
Essential Traits & Characteristics		Population	Accountants	Accounting Offices
Factor Extracted	Factor Loading	N = 361	Senior = 91 Junior = 270	HQ = 95 Branch/SAD = 126 RC = 140
KMO: 0.942 & Barlett's test: 0.000, Eigenvalue: 3.580 Cronbach Alpha = 0.910				
1. Analytical	0.671	6.45	<b>0.010*</b>	<b>0.016* (HQ &amp; RC)</b>
2. Evaluative	0.669	6.34	0.161	0.387
3. Confident	0.666	6.28	0.937	0.585
4. Detail - Oriented	0.631	6.43	0.547	<b>0.016* (HQ &amp; RC)</b>
5. Function well under pressure	0.631	6.23	0.319	0.570
6. Inquisitive (curious)	0.622	6.35	0.675	0.982
7. Ethical	0.607	6.47	0.885	0.280
8. Persistent	0.602	6.02	0.319	0.540
9. Generate new ideas and scenarios	0.592	6.12	0.982	0.542
10. Responsive	0.585	6.14	0.663	0.217
<b>Note: The mean difference is significant * 5% level of significance test</b>				

The above finding for the top ten information on the essential traits that forensic accountants in the public sector should possess is consistent with another study carried out by AICPA, USA (Davies, Farrell & Ogilby, 2008) which revealed that all three respondents i.e. CPA practitioners, attorneys and academician had agreed for the forensic accountants in the private sector need to be analytical, detail-oriented and ethical.

## ii. Basic /Core Skills of the Forensic Accountants

The results of Factor Analysis, T-Test and ANOVA in Table 5 have also indicated that all respondents have collectively agreed and gave high ratings on the basic skills of the forensic accountants in the public sector. However, there is a significant difference on the mean score of the issue of solving the unstructured problem by respondents from different types of accounting offices. The different background characteristics and functional areas of accounting offices i.e. in the headquarter offices and responsibility centers at different ministerial level are expected to be the reasons for those significant differences of respondents' perceptions.

**Table 5: Basic Skills of the Forensic Accountant**

FACTOR ANALYSIS		MEAN	T-TEST Sig. (p < 0.05)	ANOVA Sig. ( p < 0.05)
Basic/Core Skills		Population	Accountants	Accounting Offices
Factor Extracted	Factor Loading	N = 361	Senior = 91 Junior = 270	HQ = 95 Branch/SAD = 126 RC = 140
KMO: 0.942 & Barlett's test: 0.000, Eigenvalue: 2.389 Cronbach Alpha = 0.904				
1. Organise an unstructured situation	0.651	6.14	0.771	0.630
2. Solve unstructured problem	0.642	6.27	0.413	<b>0.054* (HQ &amp; RC)</b>
3. Simplify the information	0.639	6.11	0.141	0.868
4. Solve structured problems	0.625	6.24	0.375	0.197
5. Synthesis results of discovery and analysis	0.624	6.23	0.266	0.389
6. Tell the story	0.563	5.78	0.992	0.938

7. See the big picture	0.554	6.28	0.100	0.882
8. Investigative intuitiveness	0.553	6.35	0.532	0.426
9. Think like the wrongdoer	0.536	6.04	0.817	0.747
10. Research Skills	0.500	6.15	0.285	0.962
<b>Note: The mean difference is significant * 5% level of significance test</b>				

Basic skills of forensic accountants in the public sector such as 1) simplify the information, 2) investigative intuitiveness, 3) synthesis results of discovery and analysis and 4) think like the wrongdoer are found to be consistent with the survey research carried out by AICPA, USA (Davies, Farrell & Ogilby,2008).

While, the effective oral and written communication are not in the top ten information from the present study as compared to the top ten information provided by the survey research carried out by AICPA, USA (Davies, Farrell & Ogilby,2008) for the forensic accountants in the private sector whose three respondents are from CPA practitioners, attorneys and academician.

### iii. Relevant Enhanced Skills of the Forensic Accountant

The results of Factor Analysis, T-Test and ANOVA in Table 6 showed that all accountants at junior and senior level in the AGD have collectively agreed and gave high mean score for those identified relevant enhanced skills for the public sector forensic accountants. However, both junior and senior level of accountants do not agree with the issue of internal controls to be associated with this study variable.

**Table 6: Relevant Enhanced Skills of the Forensic Accountant**

FACTOR ANALYSIS		MEAN	T-TEST Sig. (p< 0.05)	ANOVA Sig. ( p < 0.05)
Relevant Enhanced Skills		Population	Accountants	Accounting Offices
Factor Extracted	Factor Loading	N = 361	Senior = 91 Junior =270	HQ = 95 Branch/SAD = 126 RC = 140
KMO: 0.942 & Barlett's test: 0.000, Eigennvalue: 27.210 Cronbach Alpha = 0.937				
1. Audit Evidence	0.758	6.52	0.475	0.459
2. Asset Tracing	0.712	6.29	0.844	0.120

3. Gen. Knowledge of rules of evidence and civil procedure	0.711	6.32	0.183	0.583
4. Knowledge of relevant professional standards	0.685	6.29	0.409	0.336
5. Knowledge of law enforcement	0.677	6.26	0.500	0.106
6. Fraud detection	0.656	6.57	0.653	0.246
7. Conflict negotiation and resolution	0.591	6.17	0.313	0.312
8. Internal Controls	0.579	6.42	<b>0.024*</b>	0.602
9. Interviewing Skills	0.574	6.17	0.102	0.416
10. Analyse and interpret financial statements	0.570	6.53	0.696	0.190
<b>Note: The mean difference is significant * 5% level of significance test</b>				

About eight (8) from the top ten information for the relevant enhanced skills for the forensic accountants in public sector are consistent with the top ten information reported by another study carried out by AICPA, USA (Davies, Farrell & Ogilby, 2008) for the forensic accountants in the private sector whose three respondents are from CPA practitioners, attorneys and academician.

#### iv. Islamic Pillars of Ethics

Through factor analysis, the construct validity of the concept of twelve pillars established for public officers was evaluated. The results of Factor Analysis, T-Test and ANOVA in Table 7 highlight the concept of twelve pillars of good values and ethics (Md Zain, 2008) among public sector accountants in the AGD. For the purpose of this study, all respondents have collectively agreed and gave high ratings on the **thirteen** Islamic pillars of ethics for the forensic accountants in the public sector. It is observed that two pillars i.e. the worth of character and the obligation of duties from the original concept of twelve pillars were dropped/excluded because the respondents perceived and strongly agreed that the three relevant aspects of work ethics in the AGD should be included to modify the twelve pillars concept as well as to enhance the forensic skills of public sector accountants.

**Table 7: Islamic Pillars of Ethics for the Forensic Accountant**

FACTOR ANALYSIS		MEAN	T-TEST Sig. (p < 0.05)	ANOVA Sig. ( p < 0.05)
Islamic Pillars of Ethics		Population	Accountants	Accounting Offices
Factor Extracted	Factor Loading	N = 361	Senior = 91 Junior =270	HQ = 95 Branch/SAD = 126 RC = 140
KMO: 0.942 & Barlett's test: 0.000, Eigennvalue: 6.584 Cronbach Alpha = 0.924				
1. The joy of originating (nikmat mencipta)	0.735	6.02	0.385	0.471
2. The dignity of simplicity (kemuliaan kesederhanaan)	0.718	6.17	0.063	0.836
3. The power of kindness (kekuatan sifat baik hati)	0.703	6.10	0.554	0.899
4. The improvement of talent (peningkatan bakat)	0.696	6.11	0.967	0.283
5. The influences of examples (pengaruh teladan)	0.647	6.19	0.283	0.659
6. The success of perseverance (ketekunan membawa kejayaan)	0.612	6.44	0.616	0.685
7. The virtue of patience (keutamaan kesabaran)	0.610	6.39	0.898	0.557

8. Priority to the client (mengutamakan pelanggan)	0.597	6.31	0.512	0.744
9. Loyalty (kesetiaan)	0.552	6.45	0.904	0.345
10. Wisdom of economy (kebijaksanaan berhemat)	0.539	6.44	0.327	0.294
11. Teamwork (kerja berpasukan)	0.529	6.63	0.741	0.092
12. The pleasure of working (keseronokan bekerja)	0.521	6.39	0.651	0.217
13. The value of time (menghargai masa)	0.472	6.55	0.361	0.914
<b>Note: The mean difference is significant * 5% level of significance test</b>				

#### v. Islamic Values for Public Administration

The introduction of eleven Islamic values in public administration was intended to ensure greater accountability, integrity and transparency in the public services (Md Zain, 2008). For the purpose of the first top ten information, the results of Factor Analysis, T-Test and ANOVA in Table 8 showed that all accountants in the AGD have collectively agreed and gave high mean score for seven (7) Islamic values only and they perceived to include other Islamic values from other Islamic concepts such as the twelve pillars of public administration and Islam Hadhari perspective. However, there is a significant different in the mean score of respondents in the headquarter offices and responsibility centers in respect to the vigorous pursuit and mastery of knowledge to be acquired by the forensic accountants.



**Table 8: Islamic Values for Public Administration for the Forensic Accountant**

FACTOR ANALYSIS		MEAN	T-TEST Sig. (p < 0.05)	ANOVA Sig. ( p < 0.05)
<b>Islamic Values for Public Administration</b>		<b>Population</b>	<b>Accountants</b>	<b>Accounting Offices</b>
Factor Extracted	Factor Loading	N = 361	Senior = 91 Junior = 270	HQ = 95 Branch/SAD = 126 RC = 140
KMO: 0.942 & Barlett's test: 0.000, Eigenvalue: 3.176 Cronbach Alpha = 0.918				
1. Justice (Keadilan)	0.743	6.67	0.434	0.174
2. Discipline (Disiplin)	0.706	6.65	0.061	0.737
3. Cooperation (Kerjasama)	0.662	6.55	0.645	0.301
4. Accountability (Akauntability)	0.662	6.74	0.513	0.348
<b>5. Obligation of duty</b> (Kewajiban menjalankan tugas)	0.638	6.67	0.551	0.205
<b>6. Worth of Character</b> (Ketinggian Peribadi)	0.558	6.56	0.302	0.190
7. Consistency (Konsistensi)	0.553	6.47	0.262	0.757
8. Dedication (Dedikasi)	0.537	6.45	0.175	0.150
<b>9. Integrity</b> (Integriti)	0.526	6.82	0.971	0.147
<b>10. A vigorous pursuit and mastery of knowledge</b> (Penguasaan ilmu pengetahuan)	0.519	6.61	0.548	<b>0.018* (HQ &amp; RC)</b>
<b>Note: The mean difference is significant * 5% level of significance test</b>				

## vi. Islam Hadhari Principles For Ethical Public Services

In respect to Islamic Hadhari Principles, the results of Factor Analysis, T-Test and ANOVA in Table 9 reveal that all respondents have collectively agreed for the adoption of this approach on the development of good practices towards ethical public services. The top nine information of Islam Hadhari Principles need to be integrated for the effectiveness of forensic accounting services or to strengthen the quality of the public sector forensic accountants are listed in Table 9.

**Table 9: Islamic Hadhari Principles Approach for the Forensic Accountant**

FACTOR ANALYSIS		MEAN	T-TEST Sig. (p < 0.05)	ANOVA Sig. ( p < 0.05)
Islam Hadhari Principles		Population	Accountants	Accounting Offices
Factor Extracted	Factor Loading	N = 361	Senior = 91 Junior =270	HQ = 95 Branch/SAD = 126 RC = 140
KMO: 0.942 & Barlett's test: 0.000, Eigennvalue: 2.083 Cronbach Alpha = 0.914				
1. A good quality of life for the people	0.777	6.26	0.413	0.137
2. A free and independent people	0.777	6.10	0.895	0.232
3. A balanced and comprehensive economic development	0.774	6.22	0.075	0.599
4. Protection of the rights of minority groups and women	0.738	5.94	0.104	0.812
5. Safeguard of natural resources and the environment	0.726	6.00	0.253	0.630
6. Strong defences capabilities	0.660	6.14	0.963	0.651
7. Cultural and moral integrity	0.622	6.35	0.132	0.238
8. A just and trustworthy government	0.484	6.57	0.497	0.151
9. Faith and piety in Allah	0.400	6.75	0.646	0.187
<b>Note: The mean difference is significant * 5% level of significance test</b>				

## vii. Islamic Work Ethics For Forensic Accountants

The top four information for the Islamic work ethics for forensic accounting services in the AGD are listed in Table 10. However, the results of Factor Analysis, T-Test and ANOVA in Table 10 show that there is a statistically significant difference in the mean scores among senior and junior accountants on the Islamic work ethics i.e. gratefulness and cleanliness. This could be likely due to their different level of authorization and leadership functions in the operational and decision making involvement.

**Table 10: Islamic Work Ethics for the Forensic Accountant**

FACTOR ANALYSIS		MEAN	T-TEST Sig. (p < 0.05)	ANOVA Sig. ( p < 0.05)
Islamic Work Ethics		Population	Accountants	Accounting Offices
Factor Extracted	Factor Loading	N = 361	Senior = 91 Junior = 270	HQ = 95 Branch/SAD = 126 RC = 140
KMO: 0.942 & Barlett's test: 0.000, Eigenvalue: 1.971 Cronbach Alpha = 0.869				
1. Moderation (Kesederhanaan)	0.674	6.43	0.050	0.293
2. Gratefulness (Bersyukur)	0.668	6.13	<b>0.046 *</b>	0.734
3. Cleanliness (Kebersihan)	0.537	5.98	<b>0.033*</b>	0.615
4. Sincerity (Keikhlasan)	0.520	6.08	0.408	0.868
<b>Note: The mean difference is significant * 5% level of significance test</b>				

## 5. Conclusion And Recommendations

The results of this study are intended to provide an insight on the level of awareness and commitment by the government organisations in managing knowledge workers such as public sector accountants to be forensic accountants and in promoting ethical practices in forensic accounting services.

The main objective of this empirical survey is to investigate the perceptions of public sector accountants who are employed by the AGD in the Malaysia's Ministry of Finance on the

essential traits, relevant skills and Islamic ethical values of public sector forensic accountants. Through statistical techniques such as factor analysis, t-test and ANOVA, the empirical data collected from survey questionnaires are tested to compare among the different groups of accountants who are working in the different accounting offices in the AGD to identify the top ten information on the essential traits, basic and relevant enhanced skills and Islamic ethical values for the forensic accountants in the public sector.

The top ten information on the **essential traits that forensic accountants in the public sector** should possess are 1) analytical, 2) evaluative, 3) confident, 4) detail oriented, 5) function well under pressure, 6) inquisitive, 7) ethical, 8) persistent, 9) generate new ideas/scenarios and 10) responsive. The top ten information on the **basic /core skills of the public sector forensic accountants** are 1) organize an unstructured situation, 2) solve unstructured problem 3) simplicity the information, 4) solve structured problems 5) synthesis results of discovery and analysis 6) tell the story 7) see the big picture, 8) investigative intuitiveness, 9) think like the wrongdoer and 10) research skills. The top ten information of **relevant enhanced skills for the public sector forensic accountants** are 1) audit evidence 2) asset tracing, 3) general knowledge of rules of evidence and civil procedure 4) knowledge of relevant professional standards 5) knowledge of law enforcement 6) fraud detection 7) conflict negotiation and resolution 8) internal controls 9) interviewing skills and 10) analyze and interpret financial statements.

Under the concept of religiosity, the thirteen **Islamic pillars of ethics for the forensic accountants in the public sector** are 1) the joy of originating 2) the dignity of simplicity 3) the power of kindness 4) the improvement of talent 5) the influences of examples 6) the success of perseverance 7) the virtue of patience 8) priority to the client 9) loyalty 10) wisdom of economy 11) teamwork 12) the pleasure of working 13) the value of time. In addition, the top ten information on **Islamic values for public administration** which provide greater accountability, integrity and transparency in the public services are 1) justice 2) discipline 3) cooperation 4) accountability 5) obligation of duty 6) worth of character 7) consistency 8) dedication 9) integrity 10) a vigorous and mastery of knowledge. The top nine information of **Islam Hadhari Principles to strengthen the effectiveness of the forensic accountants** are 1) a good quality of life for the people 2) a free and independent people 3) a balanced and comprehensive economic development 4) protection of the rights of minority groups and women 5) safeguard of natural resources and the environment 6) strong defenses capabilities 7) cultural and moral integrity 8) a just and trustworthy government 9) faith and piety in Allah. Primarily, the top four information of **Islamic Work Ethics for the effectiveness of forensic accounting services** in the AGD are 1) moderation 2) gratefulness 3) cleanliness and 4) sincerity.

The overall result from this survey research as revealed by all public sector accountants in the AGD is concluded that the forensic accountants in the public sector have to be analytical, detailed-oriented and ethical. Thus, it is found that the conclusion for this study is consistent with the prior study carried out by AICPA in USA which revealed that all three types of survey respondents i.e. CPA practitioners, attorneys and academician had agreed for the forensic

accountants in the private sector to be analytical, detail-oriented and ethical (Davies, Farrell & Ogilby, 2008).

This empirical investigation also recommends that a forensic accountant in the public sector must be open to consider all alternatives, scrutinize the fine details and at the same time able to see the big picture of the issue or scenario based on the Islamic work ethics.

Therefore, job rotation programmes in the AGD can help the forensic accountants to gain more knowledge and experiences through working in different accounting offices and in different government agencies. This valuable working experience and exposure will help public sector accountants in the AGD to be more prepared to become a forensic accountant apart from attending trainings on the forensic accounting and auditing. It is also fundamentally necessary for newly appointed accountants in the AGD to have the required skills set of a forensic accountant. Furthermore, it is encouraged for the forensic accountants in the AGD to have a Certified Fraud Examiner (CFE) certificate for the forensic accounting services.

Forensic accounting and auditing should also be taught to the lower level of management staff in order to create awareness and to promote anti-fraud culture and anti-corruption practices in the AGD. All accounting departments in the AGD should have at least few forensic accountants or the department/unit of forensic accounting services with the purpose to prevent or to detect fraud cases or corruption practices.

Most of all, Islamic values and Islamic related work ethics should be promoted and practiced in order to make forensic accounting services a success in the AGD. All staff in the AGD should know their roles and carry out their tasks with integrity and ethical values based on the Islamic concept of work ethics.

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