

APPLICATION OF CONTINGENCY THEORY OF ACCOUNTING INFORMATION TO THE UAE BANKING SECTOR

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ABSTRACT

Although extensively studied in the last two decades, contingency theory has been given relatively little consideration in terms of the factors that influence the accounting information systems. Few organizations appear to have systematic processes in place for managing the evolution of their measurement systems and few researchers appear to have explored two of the main questions: What are the requirements of accounting information in UAE banks? And, how efficient is the accounting systems in UAE banks? The paper addresses these questions by providing empirical evidence of management accounting information contingencies based on a sample of banks in the UAE.

Keywords: accounting, auditing, accounting information systems

INTRODUCTION

Several alternative theories have been put forward for accounting on information systems which are to some extent related to the model of this study. For example, Macintosh (1981) describes a new theory of information system, which embraces both a macroorganizational concept; technology and a human information processing system. In the 1970s, contingency theory and the possible relationship of context, organization control and accounting structure were discussed in accounting literature such as Waterhouse and Tiessen (1978), Gordon and Miller (1976) and Watson (1975). Studies integrating transaction cost economics and contingency theory, by Widener (2004), Gerdin and Greve (2004) explored forms of contingency fit in management accounting research. Hartmann and Moers (2003) addressed testing contingency hypotheses in budgetary research using moderated regression analysis. Fisher and Govindarajan (1993) examine incentive compensation design, strategic business unit mission and competitive strategy. But very few empirical studies have been carried out in developing countries using the contingency approach as have been carried out in the developed countries.

This paper uses contingency theory literature to identify, evaluate and analyze the factors that affect the design of financial and accounting information system. It explores the relationship between management accounting within an organization and the features of the organization. A conceptual framework is developed to relate management accounting function to financial accounting and auditing function by using banks as a case study in the UAE.

THE CONCEPTUAL MODEL

The component parts of the conceptual model are the financial information, managerial information and auditing information reporting, and the interaction among them (Figure 1).

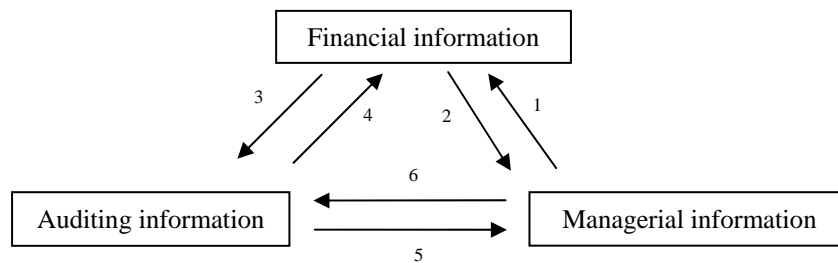


Figure 1. Conceptual model

The individual components of the framework are discussed below.

The outer arrows (1, 3, and 5) reflect the accounting information requirements across various components in the framework. The inner arrows (2, 4, and 6) reflect the encounter of information between specific components in the framework. The relationship between the components are explained below:

- Arrow 1 reflects the requirement of financial information reporting systems from the perspective of management accounting.
- Arrow 2 reflects the encounter of the financial information reporting systems by the management accounting function.
- Arrow 3 reflects the requirement of financial information reporting systems by the audit function.
- Arrow 4 reflects the encounter of the financial information reporting systems from the perspective of the auditing department.

- Arrow 5 reflects the management accounting information requirement from the auditing department.
- Arrow 6 reflects the encounter of information in the audit system from the management accounting department.

While information requirement is a broader concept, and is based on plans and proposals, usage reflects the actual absorption of information. In general, usage is a subset of the requirement. The gap between the requirement and the usage of information signifies the difference between stipulated requirement and actual information received.

Hypothesis 1: The authors postulate that the difference between the information requirement and its usage is significant.

In addition to this, the framework evaluates the efficiency of accounting systems. This information is gathered questionnaire.

Financial Accounting Environment

In the earlier years of financial accounting development, organizational studies by Woodward (1965) and Lawrence and Lorsch (1967) focused on the relationship between organizational contexts and the structural aspects of organization. In these studies, the organizational context was assumed to indicate the conditions under which it must operate: the environment, the technology and personnel available, and its size. Studies by management accountancy researchers such as Gordon and Miller (1976) and Waterhouse and Tiessen (1978) have described the organization dimensions through different schemes such as organization task, organization structure, people and technology.

Sathe (1978) observes that the controllership function serves two major constituents: management on the one hand, and external agencies like the Internal Revenue System (I.R.S), the Security Exchange Comotions (S.E.C), and stockholders on the other hand. Ewusi-Mensah (1981) has argued that organizations are "living purposeful" or "adaptively rational" systems whose survival depends on their ability to interact successfully on a continuous basis with the surrounding environment. The organizational internal environment is the management and components of organizational internal structure.

Murdick (1970) considers management control as applying control on: environment, organization, individuals, functional and mechanical processes. Tricker (1976) states that a management control system in any organization is

dependent on a set of factors: the organization of structure and management style, the internal situation of the enterprise, and the environment.

Messmer (2006) examined the maintenance and strengthening of a highly skilled and responsive finance and accounting department as one of the senior financial executive's key tasks. At the same time, corporate governance regulations have added to the finance department's work, making it increasingly complex, difficult and high-profile. Fan, Raymond, and Jason (2006) analyzed control trends in the insurance and financial services industry. Boisvert (2006) analyzed the challenges in organizational performance related to budgets, cost models, management dashboards and continuous improvement experienced in various firms in Quebec to determine how these techniques contribute to organizational performance management. Kroll (2006) explored some of the best practices that leading companies are adopting to build a stronger treasury function through automation.

The foregoing reviews reveals that the management control system in any organization is dependent on a set of factors related to the business environment, organization structure, management style, and other local internal factors which can only be determined by examining specific contingencies situations.

Management Accounting Information System

The American Accounting Association (AAA) (1973) defines management accounting as the application of appropriate techniques and concepts in processing historical and projected economic data of any entity to assist management in establishing plans for reasonable economic objectives and making of rational decisions with a view towards achieving these objectives. The AAA (1974) has advocated the position that the accounting information system (AIS) is intended to (i) be in a position of the total information system of organization and (ii) support decision-making.

Traditionally, accounting has served as the major supplier of information for decision-making. Bedford (1961), Simon (1954) and Sathe (1978), in their study of centralization versus decentralization discussed the need for an accounting system to consider the decision making process. Caplan (1966) and several other authors have discussed the need to consider the relationship between the decision making process and accounting system. Caplan (1966) defined the management accounting process as an information system whose major purposes are (i) to provide the various levels of management with data which will facilitate the decision-making function of planning and control and (ii) to serve as communication medium within the organization.

Ein-Dor and Lorsch (1987) discussed the elements of the formal organization. While each of these authors adopts a slightly different set of descriptions, the main aspects of the formal organization appear as described by Ginsberg (1980). The structure of the organization affects the manner in which budgeting information is best used. Hopwood (1972) argued that budget-constrained style was associated with higher level jobs and was related to tension and poor relationship with both peers and subordinates, and dysfunctional behavior.

Rezaee (2005) views that in the past, bank accountants paid little or no attention to the use of managerial accounting concepts in the banking industry. Researchers have identified several phases in bank profitability reporting. For example, Roosevelt and Johnson (1986) describes eight phases, while Faletti (1986) presents four, and Chisholm and Duncan (1985) examine three phases. The differences in phases lie more in degree than in content. Basically, there are three distinct phases of bank profitability reporting: responsibility and profit center reporting, product profitability reporting, and customer profitability reporting. These phases are built based on the responsibility accounting concept.

Marra (2003) argues about the use of evaluation for improving public organizations' performance through better design of governance structures and more entrepreneurial managerial efforts.

Crocker (1993) investigated the enactment of the Foreign Bank Supervision Enhancement Act of 1991 (FBSEA) that marked a change in the regulation of foreign bank operations in the US. An important element in this change is the treatment of representative offices, which are direct offices of banks that do not exercise banking powers, by both federal and state bank supervisory authorities. Williams (1989) examined the role of the compliance officer because of a shift in the policies and methods of the major bank regulators.

Jarrett (1983) revealed that an effective administrative control system is necessary to provide managers with information concerning functions and activities. That information is then used in the managerial decision-making process. In this study, the element of organization under investigation is the management accounting system. Hence, a relationship does exist between management accounting system, financial accounting, and auditing in the organization's context. To evaluate an administrative control system these following steps need to be considered:

1. Identify potential control areas
2. Define system objectives
3. Document the system
4. Evaluate the system

5. Design compliance tests
6. Conduct compliance tests
7. Evaluate tests
8. Discuss findings with management
9. Write reports

To be cost-effective, the value of the knowledge gleaned from the audit must be greater than the audit's estimated cost.

Auditing Function

Contingency theory posits the view that there is no universal control system that is "best" but that the circumstances or context faced by the organization determine which control systems are appropriate (Woodward, 1965; Waterhouse & Tiessen, 1978; Fisher, 1995). Horngren (1982) stated that "The choice of a technique or system is inherently dependent on specific circumstances." The selection proposition form of contingency theory hypothesizes a simple unconditional association between an organization's context, e.g. production technology employed, and the control systems utilized (Selto, Renner, & Young, 1995).

Theories of natural and managerial selection support the selection proposition (Drazin & Van de Ven, 1985; Selto et al., 1995). Hannan and Freeman (1977) rely on natural selection arguments to develop their population ecology perspective, which states that one finds in equilibrium only that organizational form optimally adapted to the demands of the environment. Similarly, the managerial view of selection incorporates the effects of macroorganizational rules that are imposed by authority or convention on organizational systems (Drazin & Van de Ven, 1985). However, prior empirical work has not specifically examined the effect of a fit between task characteristics and supervision practices on the performance of actual audit teams. In addition, existant theoretical and empirical work has focused exclusively on the public accounting sector, leaving other prominent sectors such as governmental auditing unexamined despite calls for such research (e.g. Blocher, Roussey, & Ward, 1988; Chow, Kramer, & Wallace, 1988).

According to this perspective, managers need information to cope with the uncertainty of the tasks performed by the work unit. As work-related uncertainty increases, the need for information increases. Thus, the greater the uncertainty faced by the work unit, the greater its information processing requirements (Tushman & Nadler, 1978; Daft & Lengel, 1986). The supervision practices used by the work unit (expressed in terms of the coordination and control procedure it uses) serve as the formal mechanism that provides the information processing

capacity for the work unit, with different control procedures providing different capacities (Daft & Lengel, 1986). As a consequence, the more the information needs (i.e. task uncertainty) fit the information processing capacities adopted by the work unit (expressed in terms of the control procedures it uses), the more should work unit effectiveness be enhanced (Galbraith, 1977; Tushman & Nadler, 1978; Fry & Smith, 1987).

Van de Ven and associates (e.g., Van de Ven & Delbecq, 1974; Van de Ven & Koenig, 1976; Van de Ven & Ferry, 1980; Drazin & Van de Ven, 1985; Gresov et al., 1989) developed measures of three forms of control structure bureaucratic, personal and group. In an audit setting, the elements of the bureaucratic mode are found in auditing standards requiring the development of formal, pre-established audit programs setting forth procedures to be followed (e.g. GAO 1994, para. 4.2. a; AICPA 1996, para. 311.05; see also Dirsmith & McAllister, 1982; Bamber & Snowball, 1988).

In an audit setting, standards require the personal mode of control: in that audit team supervisors are expected to instruct, direct and review the work of subordinate team members (GAO 1994, para. 6.23; AICPA 1996, para. 311; see also Bamber & Bylinski, 1982; Dirsmith & McAllister, 1982; Bamber & Snowball, 1988; Solomon, 1987).

Because the personal and group modes of control both rely on relations within the team, with one being hierarchical and the other being lateral, Drazin and Van de Ven (1985) reasoned that they are closely linked conceptually. Although auditing standards do not require the group mode of control, related academic literature has specifically discussed its relevance (e.g. Bamber & Bylinski, 1982; Dirsmith & McAllister, 1982), or such related constructs as consultation with peers (Bamber & Snowball, 1988). Also, the conceptual linkage between personal and group modes of control is suggested by such descriptions as social form of control (Ballew, 1982), and team or collaborative interactions (Solomon, 1987).

Work unit contingency research has identified two general types of factors contributing to a work unit's information processing requirements: internal factors, such as task technology and level of professionalization, and external factors, such as size of the work unit and the organization's task environment (Altman, Valenzi, & Hodgetts, 1985; Dewar & Hage, 1978; Schoonhoven, 1981; Gresov, 1989). Size is typically defined as the number of work unit members (Van de Ven & Delbecq, 1974; Fry & Slocum, 1984). It is often reasoned that as size increases, there is a need to formalize and regularize work unit relationships and to specify standard operating procedures for performing tasks that will accomplish the mission.

Early empirical research in the work unit contingency theory area by Van de Ven and his colleagues has found that the greater the information processing requirements of a work unit, the higher the information processing capacity of the control practices used. More specifically, they found that work units facing low or moderate task variability and difficulty, have demonstrated some vertical and horizontal interdependence, and large work unit size employ the bureaucratic mode of control. Conversely, work units facing high task variability and difficulty, demonstrate high vertical and horizontal interdependence, and small work unit size have been found to employ the personal and group modes of control (Van de Ven & Delbecq, 1974; Van de Ven & Koenig, 1976; Fry & Slocum, 1984; Macintosh & Daft, 1987; Dewar & Hage, 1978; Umanath & Kim, 1992). However, this initial work unit contingency theory research did not examine the impact of matching information processing requirements with the information processing capacity of the control practices used on work unit performance, although it did produce the overall framework for subsequent work.

More research (Gresov, 1989; Gresov et al., 1989) has extended this line of inquiry to examine the effect of relationships between information processing requirements and capacity on such work unit outcomes as worker satisfaction and performance (Drazin & Van de Ven, 1985). Within this line of work, a systems perspective has been advanced (Drazin & Van de Ven, 1985; Fry & Smith, 1987) in which the simultaneous effect of multiple factors on work unit performance is holistically examined (Gresov, 1989) by means of multivariate statistical analyses.

Using the systems perspective, Gresov (1989) (see also Gresov et al., 1989) found that work unit efficiency (number of forms processed per member) was higher in work units where there existed a fit between two task characteristics and the three modes of control used, than for work units where there existed a misfit. Similarly, Govindarajan (1988) found that when organizational strategy was matched with the control system used, performance was enhanced. Pennings (1987) conducted a study within the organizational theory area that is perhaps most closely aligned with our own in terms of statistical analysis. He conducted a multivariate, canonical correlation analysis of the environment-structure performance relationship. Dividing his sample into high and low effectiveness organizational units, he found that high performers show strong environment-structure interrelationships while low performers do not support the hypothesis.

The fit hypothesis – typically between only two contingency factors – has also been examined in the management accounting area. Kim (1988) found that the fit between task variety and MIS team coordination positively influences management accounting system user satisfaction. Abernethy and Stoelwinder (1991) found that the fit between task uncertainty and budget use positively

influences goal achievement. Selto et al. (1995) found that misfit between just-in-time worker empowerment and management authoritarianism negatively influences work group performance.

Ittner and Larcker (1995) and Pennings (1987) found that organizations having more informally orchestrated total quality management programs, are characterized by nontraditional information-and-reward systems, experienced a higher level of performance than organizations where there was a misfit. It would appear, therefore, that the systems perspective of examining the fit between information requirements and capacity in terms of performance has general merit.

Banks are realizing that their information systems (IS) must have better controls to reduce their exposure to data inaccuracy, security breaches, system failures and misalignments with business objectives. IS and audit are working closely in several organizations as IS is called upon to help bring audit up to its needed level on technological innovations. Likewise, audit can serve to focus on whether the IS department is concentrating its efforts on the right things and help show the department how it can work more efficiently. Melymuka (1994) studied communication as the key to aligning information systems with business goals. Although Antoine (1995) amongst others has examined similar issues across other bank auditing, internal auditing can realize the benefits of technology as much as any other areas of a company. Numerous banks rely on the Tandem technology for mission-critical functions. But even Tandem is not immune to errors that arise when programmers make software changes. To prevent problems ranging from auditing headaches to system outages, banks have turned to "change management" solutions for critical midlevel systems (Curley, 1999).

As banks' senior management and boards of directors become increasingly focused on once-obscure matters such as regulatory compliance, financial reporting and fraud detection, the necessity for the internal audit function to be more effective and accurate has become ever-more acute. The system also helps bank's auditors look for possible instances of fraud (Gerson, 2004).

The present study extends prior auditing research by specifically examining audits, where there is a relationship between audit function characteristics, financial accounting, and management accounting. In this study, the element of organizational structure under investigation is the management accounting system. Hence, the study evaluates the relationship that exists between management accounting system, financial accounting, and auditing and the organization's context.

Study Objectives

The broad conceptual model discussed is of help in providing a comprehensive answer to

- Examine the current financial information, accounting information and auditing information which interact with the bank's environment.
- Evaluate the match between the current financial information, management accounting information and auditing information which interact with the bank's environment in view of requirements.

However, the question also arises from the second point as to whether a contribution cannot be made to the theoretical debates such as whether accounting systems need to be uniquely specified for each bank. The analysis will therefore compare the banks, financial environment, accounting information and auditing information requirements to see whether:

- (a) These influencing factors are largely the same; do they lead to similar accounting information requirements?
- (b) The differences, if any, in these influencing factors, lead to differences in accounting information requirements?

Examination of (a) and (b) is particularly important in judging whether the current literature, which emphasizes the specific organization uniqueness of accounting system suitability, is very relevant for bank in a developing country like UAE, which may have a commonality of environment financial information, accounting information and auditing information interactions.

Significance of Study

The findings of the study will provide the accounting and auditing practitioner guidelines and appropriate solutions of an effective accounting information systems in these organizations. The study will be able to assist the practitioner to identify the obstacles in their work, and arrive at suitable solutions.

There have been very few studies on management accounting information systems problems in the banking sectors in UAE. This is particularly true concerning the public sector banks which are experiencing conflicting requirements from their governing body and resulting activities.

METHODOLOGY

The researchers investigate four banks: Ras Al Khaima Bank, HSBC Bank, Abu Dhabi National Bank and Abu Dhabi Commercial Bank. The questionnaires covered aspects of financial accounting, management accounting, and auditing viewers, requirements of accounting information, evaluation of banks accounting systems, evaluation of information operation of accounting systems and branch unity role. Target respondents in the four banks include top, middle and lower manager levels of decision makers. The issued questionnaire comprised three parts: (1) the requirement of the accounting information, (2) evaluation of the cash handling procedures in the banks and (3) evaluation of the accounting system operations.

Sample of the Research

The questions were pre-tested through personal interviews with a few of the managing directors of large banks, after testing an initial draft of the questionnaire was designed using a combination of scales taken from prior studies and original questions based on issues uncovered in the exploratory study. A reference group of members with expertise from each of the banks was assembled. The group met twice to discuss the face validity of the questions and any modifications or enhancements that they felt were appropriate. This process resulted in several substantive changes to the control questionnaire.

Questionnaire Development and Sample Selection

The authors used a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The questionnaire consisted of four sections.

The first section (S.1) measured managers' perceptions about requirements of accounting information, and then views on how the current financial information, accounting information and auditing information interact within the bank environment.

The second section (S.2) assessed how the bank managers evaluate their accounting systems based on the bank operations and their skills. Managers were also asked whether, as a result of using accounting systems, their abilities to formulate, analyze, and interpret the operation systems had improved or not.

The third section (S.3) assessed the extent of the evaluation of operational aspects of accounting systems such as bank functions, programming functions, analysis function and internal accounting controls.

The fourth section (S.4) focuses on individual officials dealing with cash directly, the delegation of cash handling, the delegation of responsibilities handling and recording accounting transaction, and issues of reporting of voucher system from cheques.

All 133 questions were closely administered to all levels from lower management to top management. The exercise resulted in a 100% response rate. Simple statistical tools viz. averages, percentages, frequency and correlations coefficient analysis have been used to analyze the collected data. This approach allows the testing of the measurement model of contingency between the factors: (1) financial reports, (2) managerial accounting, and (3) auditing, and then applying it to the structural model. For the first order level, items have been modeled reflecting of the specific factors: (1) financial reports, (2) accounting systems, and (3) auditing. Specific questions were designed in pairs and then directed to the respondents to determine the requirements for accounting information. The first step in this study was to develop the relationship of contingency variables: financial reports, accounting systems and auditing.

RESULT OF THE STUDIES

Distribution of Banks Managers

Complete responses were received from Ras Al-Khaima Bank (32), HSBC (37), Abu Dhabi Bank (33) and Abu Dhabi Commercial Bank (31). The frequency level was 19 top management (14%), 34 middle management (26%), 80 lower management (60%), as shown in Table 1. Out of these the sampling frame for the questionnaire survey was the population of the management of the four selected banks.

Table 1
Management level

Management level	Frequency	Percentage
Top management	19	14
Middle management	34	26
Lower management	80	60
Total	133	100

Requirements of Accounting Information

In section 2, the first hypothesis reveals that the difference between the information requirement and its usage is significant. Table 2 provides the results

of the tests of Hypothesis 1. As evidenced from Table 2, the significance at all four banks thereby provide strong support for the hypothesis. Nevertheless there is fluctuation in the inter-relation factors in Ras Al Khaima Bank and Abu Dhabi Commercial Bank, and it seems stable in HSBC Bank and Abu Dhabi Bank as shown in the table.

Table 2
Requirement of accounting information

No.	Cases of the study	Arrows, factors of the framework	Correlation coefficient	Results and decisions
1	Ras Al Khaima Bank	1 and 2 3 and 4 5 and 6	0.849 0.742 0.846	Highest correlation between 1–2 and 5–6
2	HSBC	1 and 2 3 and 4 5 and 6	0.798 0.619 0.653	Highest correlation between 1–2. The others are less correlated but still fair
3	Abu Dhabi Bank	1 and 2 3 and 4 5 and 6	0.706 0.654 0.608	Highest correlation between 1–2 and 5–6. The others are less correlated but still fair
4	Abu Dhabi Commercial Bank	1 and 2 3 and 4 5 and 6	0.830 0.918 0.838	Highest correlation between 3–4 and high correlation of the others; 1–2 and 5–6

Ras Al Khaima Bank shows strong information requirements between the financial environment on one side and managerial and auditing on the other side. It shows a weaker relation between the managerial accounting and auditing.

HSBC Bank shows almost the interrelated complete interaction as viewed in the result of the correlation but the factors of the financial environment and managerial are still the most significant.

Abu Dhabi Bank shows that the strong relationship between the financial environment and managerial information is still the most significant.

Abu Dhabi Commercial Bank shows a strong relationship between the financial environment and the auditing function as more important than the other factors. This bank shows the highest correlation between the factors.

With regard to correlation analysis, the difference between the information requirement and its usage should be at a minimum.

Tests of contingency structural model are used to assess (1) the banks' model of contingency factors, (2) the difference between the information requirement and its usage factor on each other, and (3) the application of the model on the four banks in the UAE (Ras Al Khaima, HSBC, Abu Dhabi Bank, and Abu Dhabi Commercial Bank).

Table 3 is concerned with examining the first hypothesis. One-way ANOVA was performed to examine the requirements of accounting information for the four banks.

Table 3
One-way ANOVA – Requirements of accounting information for the four banks

	Sum of squares	Df	Mean square	F	Sig.
Between groups	44.964	21	2.141	2.095	0.007
Within group	114.469	112	1.022		
Total	159.433	133			

The results show that there were significant differences between the information requirement and its usage (2.095 when F is equal to 0.05).

General Comparison

The analysis of the correlation shows that the result of the investigation on the hypothesis is considered to be significant. In general, comparisons between the requirements of accounting information system to financial accounting, and auditing information and provisions of accounting information system to be the same. It can be observed from the results in Table 4 that all the applications of the model are achievable.

As shown in the table, requirement for accounting information in factors 1, 2, 3, 4, 5 and 6 and their overall correlations are 0.820, 0.704 and 0.749.

From the results, one can argue that the requirements are significant in the four banks. With regard to information requirements, it seems that the requirements of accounting information for Ras Al Khaima Bank is stronger and highly interrelated in the factors of the research model. This view applies similarly in the other banks (except Abu Dhabi Bank) though to a lesser extent.

Table 4
Overall accounting information correlations of the banks in the UAE

No.	Arrows, factors of the framework	Requirements of accounting information	Result and decisions
1.	Financial and accounting information factors 1, 2	0.820	The requirement is highest correlation
2.	Accounting and auditing information factors 3, 4 and 9, 10	0.704	The requirement is highest correlation
3.	Auditing and financial information factors 5, 6 and 11, 12	0.749	The provision is highest correlation than the requirement

One can argue that the requirements are significant in the four banks. One-way ANOVA was performed to examine the requirements for accounting information for the four banks. As can be seen in Table 5, the results show that there were significant differences between the accounting information (2.385 where F is equals to 0.05).

Table 5
One-way ANOVA – Requirements of accounting information for the selected banks

	Sum of squares	Df	Mean square	F	Sig.
Between groups	73.339	35	2.095	2.385	0.000
Within group	86.094	98	0.879		
Total	159.433	133			

Evaluation of Accounting Information System Operations

The efficiency of the accounting information system was based on seven questions concerning the programming, analysis function, internal control, computer operations, operations handling and output were, as compared to the requirement of accounting information in the four banks.

Table 6 shows the results of the analyses carried out on the questions using Likert scale of 5 where 3, 4 and 5 ratings are considered as high percentages.

Table 6
Evaluation of operation of accounting systems

No.	Operation of accounting systems	Ras Al Khaima Bank (%)	HSBC Bank (%)	Abu Dhabi Bank (%)	Abu Dhabi Commercial Bank (%)
1	How efficient is the system analysis function in the bank?	66	41	35	29
2	How efficient is programming in the bank?	69	35	39	38
3	How efficient is the analysis function?	66	37	38	32
4	How efficient is the control on the internal accounting?	50	49	40	35
5	How efficient are computer operations in accounting?	53	43	32	32
6	How efficient are computer operations towards operations handling?	63	35	48	41
7	How efficient are computer operations towards output?	50	46	32	32

There is clear evidence from the statistical analysis that Ras Al Khaima Bank is the highest ranked bank terms of observations of the cases that fall into various categories, followed by HSBC Bank, Abu Dhabi Bank and Abu Dhabi Commercial Bank in that order. What the finding suggests, in essence, is that the high performers in terms of views expressed were those factors with high levels of inter-relationship. The results confirm that there is a clear link between the factors and the transferability of accounting information system operations in this model.

Evaluation of Banks' Cash Handling

Descriptive statistics of the evaluation of the relationship between each bank's accounting information system to financial, managerial and auditing information factors are shown in Table 7. The hypothesis stipulated in advance as significant were tested using frequency and percentages. The most important information was obtained through the questions related to cash handling, i.e. individual protections dealing with cash directly, delegation in handling cash, delegation in handling cash records and voucher system separation.

Table 7 shows the results of the analysis. The analysis of the Likert scale of 5 where 3, 4 and 5 ratings are considered as high percentages.

Table 7
Evaluation of the bank accounting system

No.	Evaluation of the bank accounting system	Ras Al Khaima Bank (%)	HSBC Bank (%)	Abu Dhabi Bank (%)	Abu Dhabi Commercial Bank (%)
1	To what extent do individual protraction associates deal with cash directly?	72	30	38	39
2	To what extent is delegation practiced in handling cash?	59	32	52	45
3	To what extent is delegation practised in recording accounting transactions?	42	37	53	47
4	To what extent is the operation voucher system different from check issues?	50	35	44	39

These results provided additional support to the model of the framework of the contingency theory. The study reveals throughout the data presentation and the analysis that the factors as listed in the proposed model are closely interrelated.

In summary, the analysis proves the hypothesis of the evaluation of the banks' cash is most important and most influential. The results show that banks have different levels of response: Ras Al Khaima Bank shows the highest percentage and probability of (1) dealing with cash directly, (2) delegation of handling cash, and (3) recording accounting transaction and voucher system separate then check issues. Abu Dhabi Commercial Bank shows the second, followed by Abu Dhabi Bank and HSBC Bank.

The findings provide support for the hypothesis and listed the factors that are important predictors of banks' efficiency of operations. However, it is worth considering the nature of the relationships in greater detail in such applications in the UAE. It also indicates the nature of the banks' operations that emerges as a result of the statistical analysis. In terms of making sense of the other model boxes in the model literature, it is useful to recall that ease of transfer of the model is useful and it can be easily transferred inside a bank, but it can also be easily imitated. This argument would suggest that the banks in UAE have opaque policies, and they cannot be fully understood because of system complexity.

CONCLUSIONS

This study has attempted to apply a very broad and general model to the topic of the design of financial and managerial accounting systems in the UAE banks. This proved to be a very difficult task. To the best knowledge of the authors there was limited literature on developing countries' financial and managerial accounting systems and in the banks to serve as the basis of the study. Furthermore, the model, though derived from literature has hardly been applied in developing countries.

In specifying the objective of the research at the end of literature review, it was stated that this work should provide some initial insight as to the value of using literature on financial and managerial accounting systems when investigating developing countries and in specific UAE banks. The general conclusion seems to be that the nature of the model used, which specifies the accounting information requirements is indeed useful.

The model of this study serves as a means to try to understand accounting information systems in developing countries in general. But there is a further implication from this research. The authors suggest that one has to study each bank in its own unique external and internal environment and that ideally matched accounting and control system will be unique or specific to each bank. This does not seem to be the case for banks in developing countries on the basis of the four banks studied.

The main finding was the overwhelming similarity right down to the requirement of accounting information. It was found that the UAE banks are dominated by the decentralization culture and that there is likely to be much more mileage to be derived from developing a general model of accounting and financial control. This is not to say that the accounting system is adequate – the general model needs to specify the accounting processes as well as classifications and these processes need to be investigated according to the accounting information requirements used in the general model developed in the literature. Perhaps, once this general model of financial and accounting system (as distinct from accounting classification) is developed, there may be a need to investigate the unique feature of each banks but the benefits seem likely to be marginal compared to the development of a general financial accounting systems theory and method.

The study method used here, on the four banks is an appropriate way of investigating this relatively new area. It is a successful method and it may be worth extending this analysis over more banks either on a case-by-case or other basis.

This study could be applied to other organizations to test generalizability of the findings in the research. In particular there are unique accounting and control systems in public and private organizations and it would be interesting to examine these differences. The study could also incorporate non-accounting information in the banks.

The research could be applied as a quantitative or qualitative method in the UAE after dividing each specific factor of the model into a number of factors. It might be more practical and appropriate to investigate the theory using the quantitative method approach after the main factors of each model have been determined. The researchers consider the quantitative method to be the most important to be applied in the near future.

This study, while recommending modeling of financial accounting, managerial accounting and auditing variables for contingency theory in banks and its application to the banks in the UAE, recognizes that such competence leads to intentions to form a path for developing applications in other areas for any manager, at any level of decision making where there are accounting information requirements. In this approach, the researchers have identified a different perspective from which to view financial, managerial and auditing information system needs for the banks in developing countries especially in the UAE. There is also a need for more specific accounting information and measurement of detailed parts of a general control model in other sectors of the economy. Probably accounting information could be obtained to be offered to the respective industry. The areas of the theory application could be in industries and agricultures, besides banks.

Moreover, it would probably work with other organizations' departments besides the administrative units used in this study. There is very little research, particularly in developing countries, defining the hierarchical levels within organizations which was why the researchers investigated them and then defined the three level of management. The lower managers were much harder to define simply because they are not defined in any organization document or in the structure of the banks. For this reasons it will be very difficult to define the accounting and non-accounting information requirements and provisions for each hierarchical level. As this type of research builds up it should be seen whether the extent to which it is valid to borrow accounting technology from developing countries and apply to developing countries in financial and managerial accounting systems. However, some modification would be required to make the systems appropriate for the specific environment. The UAE does not need to start from scratch in building and solving its accounting systems problems; it could borrow from the experiences of developed countries. Although there has been some research in finance and managerial accounting systems in the developing

countries, there has not, within the knowledge of the researchers, been a study of accounting area of the banks in such countries.

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