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Francis and Grimlund (henceforth F&G) develop a simple taxonomy of financial statement transactions and evaluate classes of transactions in terms of their susceptibility to error, misappropriation, and fraudulent misrepresentation. The paper provides insightful discussions about the ways errors and irregularities can happen and "what to audit and why." I begin my discussion by providing a brief summary of the risk-based audit planning model presented in the paper. I then compare the F&G model to the approach outlined in Houghton and Fogarty [1991] and attempt to reconcile any apparent differences between these two approaches. Remaining remarks focus on what I believe are key audit planning issues not discussed in the paper, and current trends within the auditing profession that indicate a movement away from a transactions orientation for audit planning and toward a more holistic business orientation.

The F&G Risk-Based Audit Planning Model

In order to better understand the susceptibility of "accounting populations" to errors and irregularities, F&G subdivide transactions into distinct groups based on the *timing* of the recording of the underlying economic events, and the circumstances that *trigger* the recording of transactions. An accounting transaction is categorized by F&G as "incomplete" if, at the end of the accounting period, an account balance related to the transaction will remain on the books, and one can reasonably expect at least one additional accounting transaction will be recorded in any future accounting period related to the same underlying event.[1] All other accounting transactions are defined as "completed." For example, a credit sale (purchase) is an incomplete transaction prior to collection (payment) of the related receivable (payable). The transaction is completed when cash is collected or paid. F&G's audit planning model is based, in part, on the assumption that incomplete and completed transactions have different propensities for errors and irregularities.

The recording of accounting transactions is sometimes — but not always — triggered by the occurrence of external events. F&G subdivide completed and incomplete transactions based on the triggering event — external event was, or was not, the trigger. The F&G audit planning model is also based on the assumption that transactions for which recording is triggered by external events have different propensities for errors and irregularities than those for which recording is not triggered by external events.

Table 1 summarizes the audit planning implications that fall out of their analysis of propensity for errors and irregularities for each of these classes of transactions.

According to F&G, externally-triggered completed transactions have a low risk of random error or fraud because of the confluence of the control systems of all involved parties over the recording process. F&G suggest that completed transactions for which recording is not triggered by external events should be tested for asset misappropriation and random error because they are not subjected to the same degree of control. However, they suggest the risk of fraudulent account balance manipulations is very low in all completed transactions because they would normally be detected by routine testing of the ending cash balance. Finally, F&G suggest that all incomplete transactions should be tested for random errors and fraud, but not for asset misappropriation with concealment,

[1] F&G define "incomplete" transactions as "those economic exchanges that remain incomplete at the end of the fiscal period." This is my attempt to make the definition more precise.

Table 1: The F&G Risk-Based Audit Planning Model

- **Rely on Controls for Assurance on *Completed* Transactions Where Recording is Triggered by *External* Events**

- **Test *Completed* Transactions for Misappropriation and Concealment When Recording is *Not* Triggered by *External* Events**

    - Non-Cash Completion of Sales
        - Bogus sales returns
        - Bogus cash discounts
        - Fraudulent write-offs of accounts receivable as uncollectible
    - All Cash Disbursements
        - Bogus vendor invoices
        - Overstated dollar amounts
        - Payroll ghosting
        - Overstatement of hours or pay rates
    - Internally-Generated Asset Write-Offs
        - Fraudulent write-offs of marketable securities
        - Fraudulent write-offs of inventory
        - Bogus retirement or fraudulent write-off of long term and fixed assets

- **Test *All Incomplete* Transactions for Random Error and Fraud**

    - Accruals (Especially Internally-Generated)
    - Valuation Adjustments

because they, too, are not subjected to the same degree of control. Incomplete transactions have no risk of asset misappropriation because, by definition, an asset cannot be *misappropriated with concealment* if it is the subject of an incomplete accounting transaction that evidences its continued existence on the books.[2]

Although the apparent focus of the F&G audit planning model is on the "nature of transactions," in effect the underlying rationale about propensities for errors and irregularities is based on the authors' expectations about the *extent of control system effectiveness* over the transactions. For example, they assert that risk of random error for completed transactions is low because "completed transactions are normally subjected to the joint effects of the internal control systems of the two parties to the transaction." Also, they suggest that non-cash completion of sales, all cash disbursements, and internally-generated asset write-offs are higher risk transactions because "these types of transactions do not lend themselves to the same degree of internal processing controls as do externally-generated high-volume transactions."

[2] F&G consider only misappropriation *with concealment*. Their model ignores outright theft (misappropriation without concealment) because they believe for most clients the control system can be relied upon to detect these events.

Alternative audit planning models that incorporate characteristics of errors and irregularities have been reported in the literature. One such model was reported in Houghton and Fogarty [1991] (henceforth H&F). In the next section, I discuss the H&F audit planning model and attempt to reconcile it with the F&G model.

The Houghton and Fogarty [1991] Audit Planning Model

H&F surveyed 480 audit engagements conducted by Deloitte Haskins & Sells, International to determine the characteristics of auditor-detected errors [3] and whether areas in which errors occur could be identified during the audit planning process. Their results indicate that non-systematically processed transactions have a significantly disproportionately higher likelihood of error than systematically processed transactions. H&F separate non-systematically processed transactions into those that are recurring and normal, such as year-end accruals, and those that are unusual such as the recording of a finance lease transaction, the acquisition or sale of an affiliate, installment sales of real estate, etc.

The results of the H&F study were incorporated into a revised audit approach used by DH&S at the time of publication of the study. The revised audit approach involved placing greater reliance on audit planning, and in particular on the assessment of inherent risk, to determine the extent of audit testing. Key aspects of the revised audit approach are presented in Table 2.

Similar to F&G, H&F (p. 18) conclude that "internal accounting control procedures are effective controls over the recording of exchanges with outside parties. Such controls relate to the movement of assets, and most asset movements are systematically recorded."
H&F go on to state that "traditional controls are not as applicable to transactions that do not involve exchanges. Most non-systematically processed transactions are not exchanges, and many involve client judgment. Such transactions include changes in asset and liability valuations, cut-offs that are not systematically determined, or unusual transactions that require special processing."

The H&F planning model is simpler than the F&G model. It identifies only two broad classes of transactions: transactions for which processing is systematic and those for which processing is non-systematic. The underlying client characteristic that heightens or lessens risk is the same as that discussed in F&G; that is, internal accounting control is usually effective for systematic processing, and less effective or non-existent for non-systematic processing.

An attempt to reconcile these two audit planning models led me to the following observations. First, systematically processed transactions can be both complete or incomplete, and in both cases these transactions are probably low risk. In the recent past, several studies have documented the effectiveness of accounting systems at processing routine transactions originating from exchanges with outside parties.[4] The evidence shows the risk for incomplete routine transactions that are systematically processed is typically not heightened. After all, management must rely on information from these systems to manage their businesses.

Second, H&F observed that routine bookkeeping adjustments were the most frequent cause of error. These adjustments are usually internally-generated incomplete transactions, so H&F's data support F&G's risk propositions.

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[3] H&F do not differentiate between errors, misappropriations, and fraudulent financial statement manipulations. Presumably, their definition of "error" encompasses all three possibilities.

[4] For example, see *Systems Audibility and Control*, Institute of Internal Auditors [1992].

Table 2: The H&F Audit Planning Model

- **Non-Systematically Processed Transactions are Generally Designated as High Inherent Risk and Are Subjected to Focused Testing to Address the Specific Identified Risk**

- **If the Answer to Any of the Questions Given Below is "Yes," an Inherent Risk Has Been Identified and the Individual Transaction or Class of Transactions to Which the Risk Applies Will Be Addressed in the Design and Execution of Specific Audit Procedures:**

    - Does the account contain entries that are non-systematically processed?
    - Does the account contain any unusual transactions?
    - Does the account have a history of audit error?
    - Does the account represent a particular industry risk for the client?
    - Does the account contain amounts that, based on existing knowledge of the client's business or other knowledge, represent a greater than normal risk of error?

- **If the Answer to Each of These Questions is "No," Inherent Risk is considered "Low" for the account or class of transactions and Audit Procedures are Extended Only if an Internal Control Weakness Has Been Identified**

Third, consistent with other studies[5], H&F report that judgment and GAAP errors, while fewer in number than routine bookkeeping errors, were significantly larger in size. These findings imply that certain internally-generated incomplete transactions represent a higher risk than others. If this is true, it would be useful to divide this class of transactions into subclasses with different grades of risk, e.g., where valuations and complex transactions requiring significant judgment represent the subclass of internally-generated incomplete transactions with the highest risk of a material misstatement, and routine bookkeeping adjustments represent a lower risk subclass.

I believe the strength of the F&G paper lies in its challenge to the reader to think through the risk and control implications inherent in certain classes of transactions. Although these implications will likely come as no surprise to the typical field auditor, too often they are ignored or forgotten by the professional in the field who views his job as maximizing the efficiency of the audit production process.

Other Risk Considerations

The F&G and H&F audit planning models provide valuable insights about the relative vulnerabilities of different classes of transactions to random errors, concealment of asset misappropriations, and fraudulent financial statement manipulations. However, it is important to note that other risk considerations can — and perhaps should — influence audit planning. Some of these risks are presented in Table 3.

[5] See, for example, Hylas and Ashton [1982] and Bell and Knechel [1994].

Table 3: Other Important Risk Considerations for Audit Planning

- Client business risks
  - Strategic risks
  - Process-level risks
  - Industry competition
  - Product/service obsolescence
  - Technology risks
  - Strategic alliances among competitors within the industry
- Risks related to organizational culture and management integrity
  - Constrained internal communication
  - Past irregularities
  - Management evasiveness
  - Corporate values and social responsibility
  - Incentive compensation schemes and degree of management tolerance for sub-goal performance
- Compliance risks
  - Federal sentencing guidelines
  - Extent of industry regulation
  - Compliance risk management practices and quality of the compliance system

It is impossible to prioritize and effectively address these other risks without first obtaining a thorough understanding of the client and the environment in which it operates. I suggest that if these risks do exist for a given audit client, they will likely provide a greater impact to audit planning than the risks outlined by F&G related to the nature of transactions.

As we approach the beginning of the 21st century, emerging technology is enabling the establishment of a new economic order. The economic world is poised for yet another wave of "complexification," or "the third wave" as Toffler refers to it. Business organizations, governments, indeed, all forms of working, living institutions are metamorphosing by shedding less-productive parts and processes and by connecting to other organizations in new and innovative ways via advanced communications technology, thereby establishing new niches.

In this rapidly evolving economic climate, auditors face the difficult challenge of evaluating the implications of quick and dramatic economic and technological changes on financial statement assertions. Do new alliances among a client's competitors render accounting choices and asset valuations obsolete? What is the impact on the client's asset values when business process advantages are enjoyed by competitors? Is the client's industry highly regulated, and if so, what is the level of exposure to compliance risks? What is the appropriate level of disclosure about these business, organizational, and compliance risks? In the current litigious environment, what is the level of auditor business risk arising from association with the client? Do bottlenecks in internal information flows heighten the risk of material misstatements in the financial statements?

The auditing profession is currently inventing new auditing methodologies that address these important risks. Risk assessment methods confined to evaluating the nature of transactions are viewed by today's auditors as outdated and ineffective. My remaining remarks will focus on the current trend within the auditing profession to reinvent auditing methodology and shift the audit planning focus from a transactions orientation to a holistic business orientation.

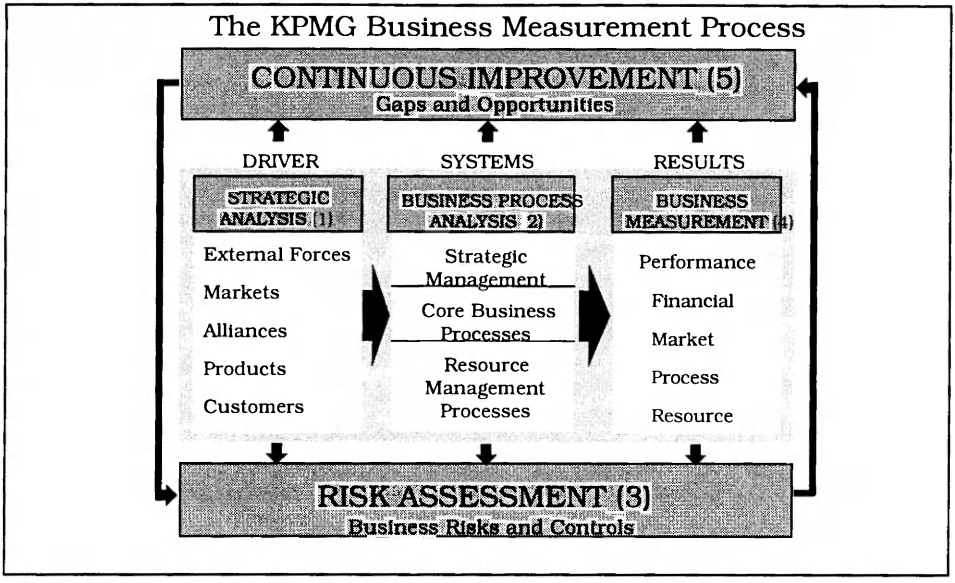
The KPMG Business Measurement Process

Today many parties related to the client seek assurance from the auditor about business process performance, compliance with laws and regulations, and other forms of business assurance that go beyond the traditional assurance about complete and accurate recording and reporting of business transactions in compliance with generally accepted accounting principles. These parties include capital suppliers, resource and raw materials suppliers, customers, regulators, business partners, other outside constituents, and client management themselves. Unprecedented innovations within information technology present the possibility of rendering obsolete any job, business, or market whose primary function is information intermediation. On the flip side, opportunities abound for business organizations with the foresight and agility to adapt effectively in this new environment. The accounting profession is not immune to the radical changes currently impacting the global business environment. KPMG has developed a new audit approach, called the Business Measurement Process (BMP), as the first phase of its long term strategy to adapt to this changing business environment.

BMP shifts the risk assessment focus from a bottom up transactions risk orientation to a top down business risk orientation. The new process requires the auditor to make judgments about the potential impacts of rapid changes in technology, competition, and regulations on the client's current and prospective performance and whether these impacts affect key assertions contained in the financial statements.

We believe a top down risk assessment focus will improve the auditor's judgment and decision making ability. Under the old transactions risk orientation, risk assessments were anchored to a preliminary version of the very assertions being audited — the account balances. Research in audit judgment and decision making has documented the potential for bias in the direction of cognitive anchors. Under the new business risk orientation, auditors anchor to a fundamental understanding of the business; its strategy; business risks that threaten the achievement of its business objectives; the efficiency, effectiveness, and proper alignment of its core business processes; and financial and non-financial indicators of current process and business-wide performance. Financial statement assertions are evaluated against well-conceived expectations of overall business performance and business process performance formed from knowledge of productive capacity; current industry trends; potential technology impacts; the probability of product, service, and process obsolescence; measures of customer satisfaction; and other key performance indicators. Transactions-based auditing procedures are applied principally to non-routine transactions and non-routine and highly judgmental accounting estimates.

BMP requires the application of five monitoring and measurement principles. Each principle guides the auditor's evaluation of the client's business risks and related audit risks. The five principles are: (1) strategic analysis, (2) business process analysis, (3) risk assessment, (4) business measurement, and (5) continuous improvement. The five principles, and their interrelationships, are depicted in the accompanying illustration.



Using BMP, risk assessment begins with a strategic analysis of the client. The auditor analyzes the industry within which the client is operating, the client's strategy to achieve a sustainable competitive advantage within this industry context, the business risks that threaten the success of this strategy, and the client's responses to these risks. During strategic analysis the auditor makes judgments about whether the client has a comparative advantage for occupying its current niche, whether external forces threaten the sustainability of this niche, and whether accounting choices are appropriate in light of the client's strategic choices.

The 1990's has seen a surge in efforts to redesign core business processes and outsource non-core processes as organizations attempt to achieve "process advantage." Management has traditionally focused on business inputs and outputs, leaving the detailed operations of core business processes to lower level operations personnel. Today, we see a shift toward process-driven competition, and top management have turned their attention to creating process advantage. Similar to species in living nature, organizations that achieve process advantage are in a position to survive and prosper, whereas organizations stuck at lower levels of process performance risk extinction. In this regard, Keen and Knapp [1996, p. 4] state the following:

> Study after study reveals far more differences in firms' economic performance as measured by long-term return on assets *within* an industry than across industries and relates those differences directly to business processes.

BMP requires the auditor to analyze the core business processes of the client organization in order to develop an understanding of how these processes work, the significant process risks and how are they being controlled, and the critical performance-related issues confronting the client. Measurements of process performance are taken in the business measurement phase of BMP to identify performance gaps between client processes and analogous processes of direct competitors demonstrating consistent process advantage.

Having obtained an understanding of the client's strategy and the workings of its core business processes, the auditor is in a position to begin the risk assessment phase of audit planning. During this phase, the auditor observes the client's own risk management process to understand the extent to which the client is monitoring external and internal risks[6] that threaten the achievement of its overall business objectives and its business process objectives. If the client's risk management process is adequate, the auditor can rely on its outputs to form a preliminary list of high priority business risks.

An adequate risk management process will include sub-processes at the strategic level and the business process level, with an effective management control process to integrate and coordinate the monitoring and control activities occurring at both levels. Strategic business risks threaten the overall success of the entity's business strategy, while process business risks threaten the achievement of specific process objectives. The primary role of management control is to ensure that risk monitoring and control activities are aligned properly with overall strategic objectives.

Once the auditor gains an understanding of management's process for identifying and controlling business risks, and management's perceptions, assumptions, and judgments about business risks, he can then assess the business risk implications, both for the client's business and for the audit approach. Particular attention is paid to the adequacy of the risk management process and includes considerations such as whether the list of identified business risks is complete, business risks have been prioritized accurately, existing controls reduce these risks to acceptable levels, and accounting choices and financial disclosures properly reflect uncontrolled risks.

During the business measurement phase of the BMP audit, the auditor measures the processes and variables that have the greatest impact on the business. He also analyzes interrelated performance measures (financial and non-financial) both over time and relative to those of similar organizations. Transactions-based auditing procedures are applied to non-routine transactions and non-routine and highly judgmental accounting estimates. Computer assisted auditing techniques might also be applied to populations of routine transactions to filter those that are unusual in nature.[7] Additional audit test work is performed when interrelated financial and non-financial performance measures are inconsistent, and when key financial statement assertions are not consistent with the auditor's understanding of the organization's strategy and process performance.

The BMP audit positions the auditor to provide assurance not just to outside capital suppliers, but also to inside process owners, board members, and top management. During the continuous improvement phase of the audit, the auditor prepares and reports process performance and financial performance gap analyses using measures from competitors demonstrating consistent process advantage. In addition, the auditor identifies and reports on the process areas that can be addressed to generate improvement opportunities and achieve the "process advantages" the client seeks. These new types of diagnostic business assurance are designed to deliver more value to the client than the outdated management letter whose contents, historically, have been limited to issues dealing with the quality of accounting systems.

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[6] *External risks*, including operational, financial, and compliance risks, arise from the complex relationships between the organization and its external environment. *Internal risks* arise from characteristics of the organization's management, strategy, structure, culture, and business processes.

[7] Transactions that fail to pass through screening filters are subjected to further testing. Client analyses and internal audit results are relied upon where appropriate.

Summary

F&G separate accounting populations into classes of transactions with differing propensities for material misstatement based on differing degrees of underlying control system effectiveness over the recording of the transactions. Their transactions-based risk assessment approach provides useful guidance to auditors about what to audit and why, and, in my opinion, auditors would be well served by thinking through the nature of these subclasses of transactions and their inherent vulnerabilities to misstatement. The current trend within the auditing profession is to assess client and auditor business risk from a more holistic business orientation. I have provided a description of KPMG's Business Measurement Process as an example of one firm's efforts to infuse its audit process with holistic business risk assessment methods and procedures. Competitive pressures within the auditing profession continue to intensify, and clients expect auditors to understand the workings of their businesses and business processes better than they have in the past, and to provide more informative and valuable feedback about relative process performance and performance improvement opportunities. KPMG believes that an audit planning model that couples the holistic BMP business risk assessment approach with a fundamental understanding of the vulnerability of classes of transactions to misstatements will result in an efficient and effective audit and will at the same time empower auditors to provide more valuable business diagnoses to their clients.

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