

Intrepreneurs and Innovation

Here's a new approach to the adoption of continuous monitoring.

By Lawrence Chui, CPA, and Mary B. Curtis, CPA, CISA

Every business person is familiar with the term “entrepreneur.” It’s someone who organizes a business venture and assumes the risk for it. But an “intrepreneur” (also spelled “intrapreneur”) is a relatively new concept. In short, it describes someone who pursues entrepreneurial activities within a large corporation. He or she isn’t the owner yet assumes both the responsibility and risk for innovative new ideas. Management accountants who are also intrepreneurs can have a big impact on their organizations’ continuous monitoring (CM) efforts.

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For background, in 2009 the Committee of Sponsoring Organizations of the Treadway Commission (COSO) released *Guidance on Monitoring Internal Control Systems* to help organizations achieve greater efficiency and cost savings from their ongoing internal control processes. The guidance was designed specifically to address the monitoring component of their original 1992 *Internal Control—Integrated Framework* (which ultimately resulted in Statement on Auditing Standards (SAS) No. 78, “Consideration of Internal Control in a Financial Statement Audit.”)

The report begins by identifying the benefits of monitoring internal controls, including identification and correction of internal control problems on a timely basis, more accurate and reliable information for decision making, more accurate and timely financial statements, and the ability to provide periodic certifications or assertions about the effectiveness of internal control. COSO says that, over time, “effective monitoring can lead to organizational efficiencies and reduced costs associated with public reporting on internal control because problems are identified and addressed in a proactive, rather than reactive, manner.” Further, the report suggests that organizations may select from a wide variety of monitoring procedures, including continuous monitoring programs built into information systems.

CM is a methodology that provides for the electronic observation of organizational activities online and in real time. It can support and enhance the key activities of management accountants: decision support, planning, and control. When academics and practitioners such as Miklos A. Vasarhelyi, Fern B. Halper, and Alexander Kogan first began discussing CM in the 1990s, there were expectations that it would become a major trend in the near future. But adoption has been slower than expected. Indeed, while the need is greater than ever for the performance measurement and controls assurance that CM can provide, discussion appears to have declined.

Continuous Monitoring and Management Accountants

Internal control monitoring is relevant to management accountants for two reasons:

- ◆ First, they shoulder the responsibility to supply

management with information for operational and strategic decision making. The integrity of data is essential to managerial decision making, and CM can help in that regard.

- ◆ Second, the Sarbanes-Oxley Act of 2002 (SOX) requires CEOs and CFOs to attest to the appropriateness and sufficiency of their firms’ internal controls, and, as “owners” of much of this information, management accountants are often responsible for supporting these attestations.

But the advantages of CM don’t stop with controls monitoring. Another benefit is the performance measurement provided through enhanced management control systems.

Dynamic activities, such as flexible machines, Just-in-Time (JIT) inventories, and production to

order, require metrics and measures outside the regular financial accounting system. Dashboards and similar technology can enhance performance measurement by providing online, real-time alerts when functions become misaligned. With these systems, key performance indicators (KPIs) and other business metrics enable monitoring and rapid communication across the organization. Dashboard uses include strategic and operational activities, such as corporate performance reporting, balanced scorecards, business performance monitoring, and business activity monitoring, as well as monitoring of inventory and warehousing, monitoring current levels of production, identifying cost leaks such as excess inventory, double billing by vendors, lost volume discounts, and many more activities. Other demands for continuous monitoring are driven by strategic investments in JIT manufacturing, radio frequency identification (RFID), business-to-business electronic commerce, and increasing dependencies on upstream/downstream supply chain partners.

Intrepreneurship and CM Innovation

We consider the adoption of continuous monitoring to be a form of organizational innovation. Many innovation opportunities come about through the creative and innovative activities of employees, not through the push down from above. This is a much more difficult path because these employees must possess the individual characteristics necessary to pursue nontraditional job activities, they must find themselves within an organiza-

tion that at the least doesn't suppress individual initiative, and the innovation itself must be of a nature that would warrant the attention and resources of the employee as well as management.

The nature and complexity of CM lead us to believe that its adoption in most organizations must begin at the grassroots level—through the support of a management accountant who recognizes an opportunity and champions its use upward through the corporate hierarchy. Since knowledge of CM's capabilities and possibilities resides with those at technical (rather than executive) levels and with administrative or staff (rather than line) personnel, it's doubtful that CM adoption will follow the traditional top-down path of organizational innovation. Additionally, with the mellowing of SOX demand after the passage of Auditing Standard (AS) No. 5, "An Audit of Internal Control Over Financial Reporting That Is Integrated with An Audit of Financial Statements," it's doubtful that CM adoption could be driven by purely audit arguments without justification through its strategic contributions. Management accountants are the ones who can make the justification for such contributions. Thus, if CM is to be adopted by an organization, its innovation will likely need to be a bottom-up process, initially championed by management accountant entrepreneurs. These innovators, who are willing to move beyond received wisdom to approach problems from new angles, are in the position to understand CM's potential benefits and to sell that potential up the corporate ladder to management. This process will not only benefit the organization as a whole, but it also should recognize management accountants who take on this role.

What We Found

With this in mind, and with the help of the IMA® Foundation for Applied Research (FAR), we designed and executed a study of management accountant entrepreneurship with regard to the adoption of continuous monitoring. The research was designed to examine the decision process whereby an individual management accountant would choose to become an innovator in promoting CM to his or her organization.

Expanding on research in a number of domains, including political science, product development, geography, healthcare, linguistics, and IT, we developed a model of the theoretical determinants of management accountants' intention to champion innovation and then a survey to test the model. To guide the development of a survey instrument that fully describes a management

accountant's decision processes regarding whether to champion the adoption of CM, we began with the traditional theories employed in accounting and MIS: the Theory of Planned Behavior (TPB), described by Icek Ajzen in 1991, and the Technology Acceptance Model, which Fred D. Davis described in 1989. We then added components suggested in other literature. For this purpose, we scoured the management and industrial/organizational psychology literature on innovation to discover additional attributes relevant to this type of decision.

We implemented the resulting survey online. IMA members were invited via e-mail to participate through a clickable Web link to the survey, and 312 accepted our invitation. The survey began by describing the CM system that participants should consider in their responses, and we varied this description so that it presented either a fairly complex, powerful system or a less complex, slightly less powerful system. This was followed by questions eliciting their intention to recommend the adoption of the system to their organization if such an opportunity were available. Finally, a large number of questions addressed characteristics of the technology and social influence, as well as characteristics related to the individuals completing the survey and their organizations.

We proposed and found that management accountants' willingness to champion innovation within their organizations is dependent on:

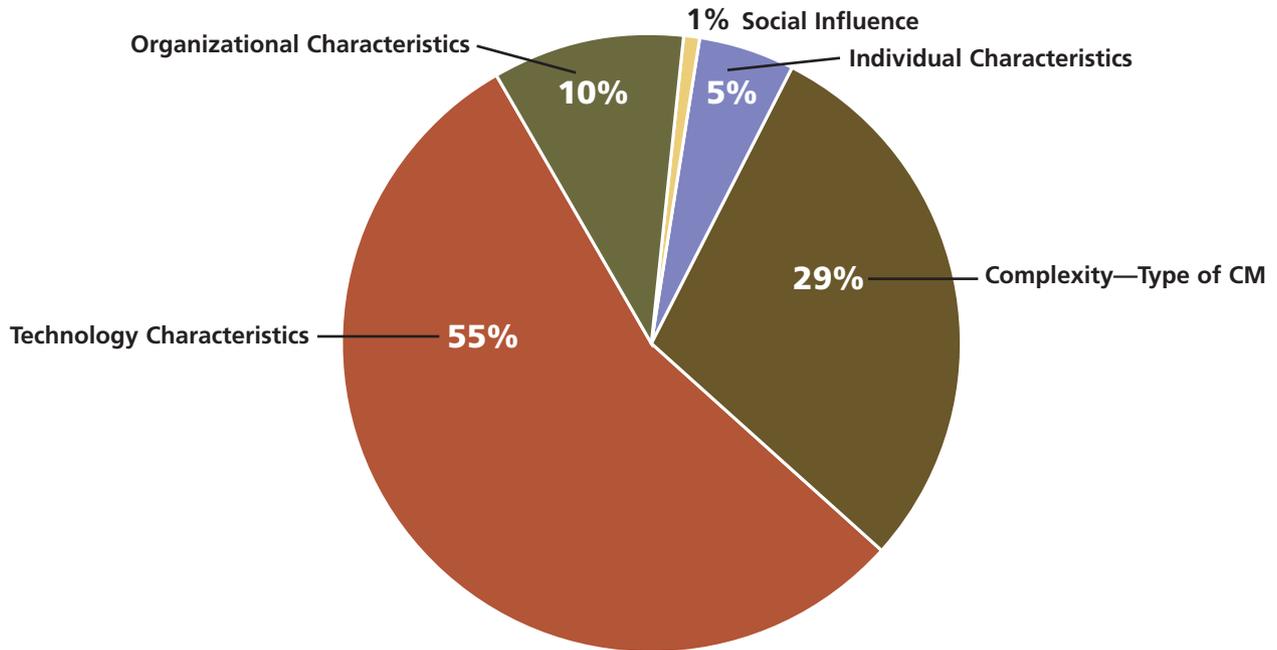
1. The complexity of the CM technology described in the survey;
2. The characteristics of the technology, including such attributes as perceived usefulness and system reliability;
3. The organization's orientation toward innovation in general; and
4. The individual's inclination toward innovation.

The technology factors were, by far, the characteristics most influential over participants' intention to recommend the adoption of CM software. Also, social influence wasn't a significant determinant of an inclination to innovate (see Figure 1).

The management accountants who completed the survey considered a wide range of characteristics of the technology important (see Figure 2). Six factors were significant determinants of intention to innovate. In order of importance, they are:

1. Compatibility of the technology with the goals of the organization and the work approaches of the individual,
2. Impact of software adoption on the image of the organization and the individual,
3. Ability to try out the software and test its potential

Figure 1: Relative Influence of Proposed Factors on Intention to Innovate



prior to commitment,

4. Availability of clear and apparent results demonstrated from using the technology,
5. Visibility of results of other organizations' adoption of similar technology, and
6. The perceived usefulness of the technology to the organization and the individual.

All these factors were considered important to the intention to innovate, as was the complexity of the software (less complex was preferred).

Of particular interest to us were the organizational characteristics that influence entrepreneurial innovation. We considered diverse influences originating from the organization, including attitude perceptions such as the immediate supervisor's mind-set, organizational innovativeness, and top-management support for innovation, as well as capability perceptions such as specialization and functional differentiation, available slack resources and available technical expertise, and degree of organizational centralization. Top-management support for innovation was the most important organizational characteristic selected by those who completed our survey.

Finally, we also considered the impact of a wide variety of individual characteristics on the entrepreneurial attitudes of management accountants. These characteristics include comfort with risk taking, action orientation,

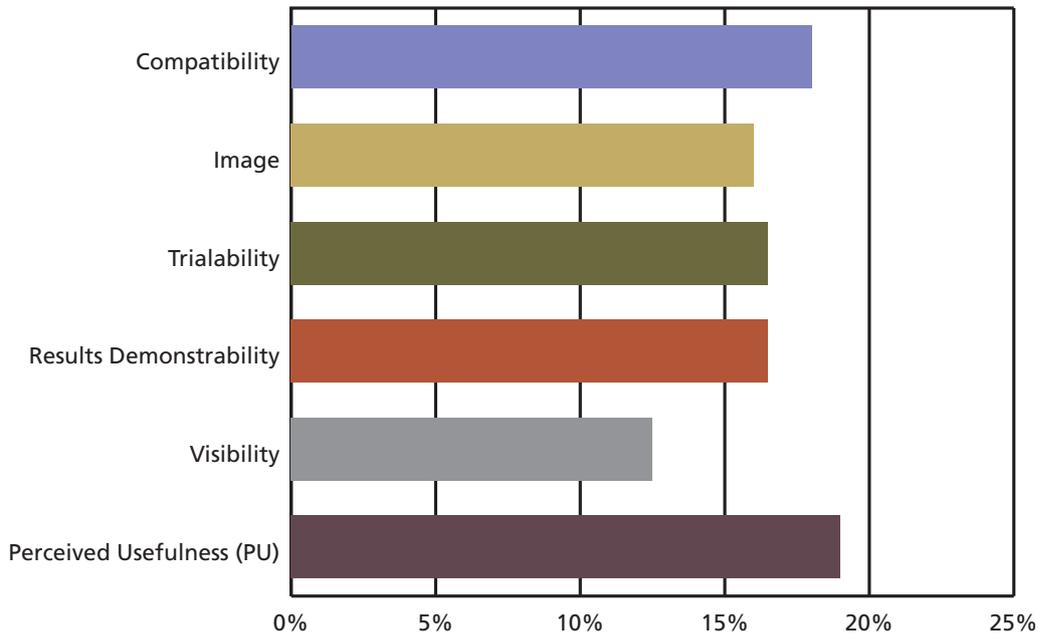
innovativeness, and experience with IT (see Figure 3). Personal innovativeness is the strongest influence, and risk-taking attitude has the least influence over intention to innovate.

Bottom-Up Innovation

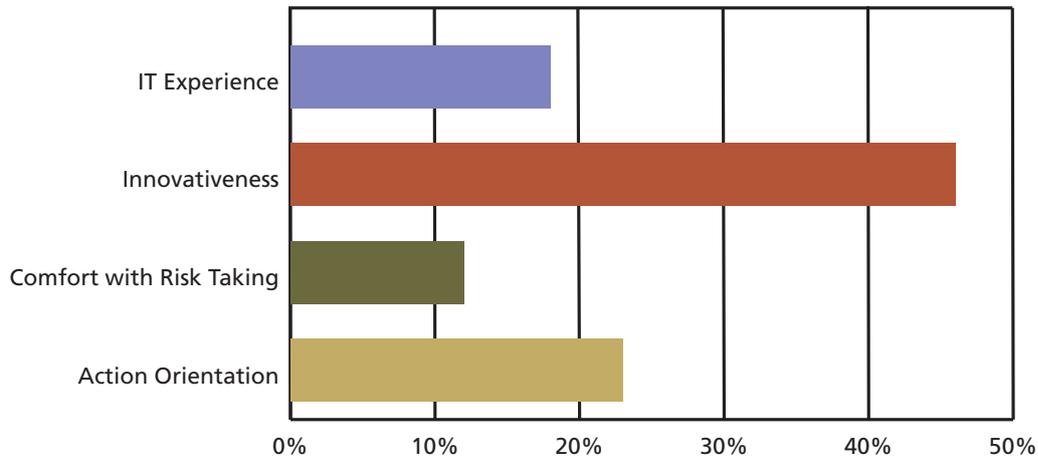
There are many strategic advantages to be gained from continuous monitoring, and the issuance of COSO's 2009 guidance on the monitoring of internal control makes this technology more relevant than ever before. Yet entrepreneurial activities by management accountants may be necessary for these advantages to be realized within organizations. We found that entrepreneurship is impacted most strongly by the technology under consideration, but also by the characteristics and attitudes of the organization as well as characteristics and prior experiences of the individual management accountant who serves as the entrepreneur.

Our assertion that entrepreneurship is a bottom-up innovative activity doesn't remove the organization's ability, or responsibility, to influence such activities. Indeed, one of our goals was to inform organizations as to why and how to encourage bottom-up innovation. Organizations can create processes and cultures that encourage and reward the creative and innovative activities of their employees. They can also create facilitating conditions,

**Figure 2: Technology Characteristics—
Relative Importance of Components**



**Figure 3: Individual Characteristics—
Relative Importance of Components**



including the provision of resources, to allow employees the freedom to pursue creative activities. Additionally, not only does innovation through entrepreneurship aid the organization, but there’s also evidence that those who have opportunities to manipulate their work environments and to be creative at work are more satisfied and are higher performers in other areas of work than those who don’t or can’t. Thus, organizations that encourage the entrepreneurial activities of their employees have many potential ways to gain. **SF**

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For more information on the COSO guidelines, visit www.coso.org/GuidanceonMonitoring.htm.