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Angela Lockridge, CMA, vice-president, human resources and organizational planning, Georgian College

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A time for change

Value creation is essential for the survival of any organization. A key factor in measuring value creation is the capability of competently managing performance; that is to measure what is important and to make decisions that will lead to improved performance. Performance measurement supports the management of performance towards achieving strategic, operational, and financial objectives. Maurice Gosselin, FCMA, joins *CMA Management* this month was his companion article to the MANAGEMENT ACCOUNTING GUIDELINE (MAG)® *Designing and implementing a performance measurement system*.

Gosselin provides a framework to help managers select performance measures. The starting point in this framework is the assessment by the organization of the external environment in which it operates, and of its internal strengths and weaknesses. This analysis is part of the strategic planning measures that lead to strategic decisions in terms of financing, pricing, investment, and cost management. Under the framework, decisions are made to improve several performance drivers such as quality, speed, learning, and costs. The impact of these decisions on the performance drivers is measured by a set of performance measures that may be different, depending on the levels of the managers in the hierarchy. Lastly, the influence of the decisions on the performance drivers will affect the creation of economic and social value.

As 2011 quickly approaches, organizations may look to the benefits of performance measurement because it plays a key role in the deployment of strategy, the achievement of organizational goals, and the creation of value. The concepts of key success factors, performance drivers, performance measures, balanced scorecards, and strategy maps have improved managers' understanding of how developing and using a set of comprehensive performance measures can help them to better manage their organization's performance.

The start of a new year is often associated with change, a fresh start and a new beginning. This is the last issue of *CMA Management* for 2010, and my last issue as your editor-in-chief. Over the past few months, the team at *CMA Management* and I have been working hard to make some exciting changes to the magazine. You will receive your next issue in early February 2011. Be sure to keep an eye out for an improved publication; one with a new visual look and feel, timely editorial and a new editor. I will still be with CMA Canada, but in a different role as the research editor — working on a new research-based section of the magazine, along with managing the editorial process for MAGs and MAPs and looking for new ways of delivering the research to our membership and other professional accountants in business. I would like to extend my thanks to the staff at *CMA Management* and to you, our readers, for your support during my three years as your editor-in-chief.

Andrea Civichino
Editor-in-Chief

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Publisher Suzanne K. Godbehere
Vice-President, Marketing & Communications
(905) 949-3106
sgodbehere@cma-canada.org

Editor-in-Chief Andrea Civichino
(905) 949-3109
acivichino@cma-canada.org

Art Director Sean O'Rourke
(905) 949-3132
sorourke@cma-canada.org

Translation and Co-ordination Joanne Beauchamp, Ruth Samson
Hélène Arseneault
(514) 878-1105

Advertising

National Advertising Sales Dovetail Communications Inc.
30 East Beaver Creek Road
Ste. 202
Richmond Hill, ON
L4B 1J2
Phone: (905) 886-6640
Fax: (905) 886-6615
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President Susan A. Browne
sbrowne@dvtail.com

Sales Manager Beth Kukkonen
bkukkonen@dvtail.com

Account Manager Jacquie Rankin
jrankin@dvtail.com

Insertion orders and advertising materials are to be sent to: Joanna Forbes jforbes@dvtail.com Dovetail Communications Inc., 30 East Beaver Creek Road Ste. 202, Richmond Hill, ON L4B 1J2, Fax: (905) 886-6640

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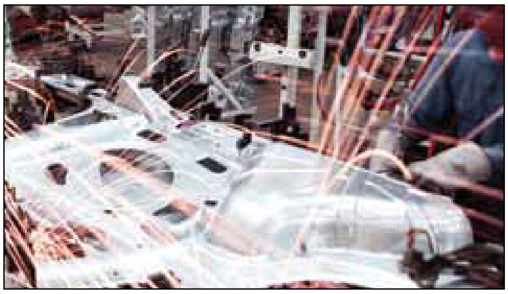
Features



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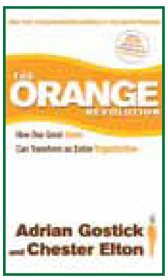
Columns

Departments

Transforming an organization

The Orange Revolution



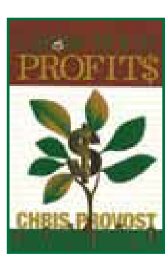
What makes a team of competent supporting players "breakthrough" and achieve stellar business results? From their in-depth studies of teamwork at Pepsi Bottling Group, Madison Square Garden, American Express and among many other diverse organizations, authors Adrian Gostick and Chester Elton uncover a consistent pattern of characteristics. Members of breakthrough teams dream truly ambitious goals; believe in each other and what they can accomplish together; take calculated risks, but closely measure their results; persevere despite problems or conflicts; and have a charming habit of telling stories that capture what they are trying to accomplish.

The Orange Revolution offers insights into how breakthrough teams interact on the job (and off) and what keeps them focused. The book presents proven strategies and practical advice on building, managing, and motivating a top-performing team.

Want to start applying the principles of *The Orange Revolution* in your workplace? The authors say a good place to start is by engaging your team in defining your common cause. Start by defining what you want to be world-class at, start arguing and having honest discussions and start looking out for each other. They also suggest cheering for each other. This alone is the most powerful contributor to creating a team that will be cohesive and productive.

Adrian Gostick and Chester Elton. Free Press. ISBN: 978:1:4391-8245-1

Grow Your Profits



Trade regulations, retail and consumer demand for low-priced products are driving North America to a three-tier economy of the poor, cash poor, middle class and the super wealthy. Retailers and businesses are driving suppliers to lower costs resulting in outsourcing overseas while banks still sell increased credit.

In his book, *Grow Your Profits*, author Chris Provost introduces the VBridge Model — a strategic operations model for increasing product innovations, streamlining processes and employee efficiency, and transparency throughout operational systems. The focus of the VBridge Model is increased profits, increased employment, and respecting the environment by implementing sustainable processes.

Grow Your Profits is about seeing the future, planning for alternatives and increasing a company's strategic and ecological intelligence to achieve a profitable, sustainable, social and environmental footprint. The book also contains a summary of the broad threats and future trends world organizations and small and large businesses face. It also presents alternative business and government models to aide in achieving profitable innovations, sustainable growth and higher margins.

Chris Provost. iUniverse.com. ISBN: 978-1450244190

News and views

New and noteworthy information you can use

CFOs taking strategic leadership role in carbon management programs

Faced with increased regulatory reporting, companies are making investments in greenhouse gas reduction and creating business units that specialize in environmental strategy and programs. *Carbon Management: Critical Issues For Strategic Finance*, the most recent study by the Canadian Financial Executives Research Foundation (CFERF), shows that nearly half (46 per cent) of heavy-carbon emitting firms reported their CFO is assuming greater responsibility in the strategic development of carbon management programs. This new role for the CFO is also true of smaller public and private companies that are not heavy emitters.

"As environmental concerns grow, companies, particularly heavy-carbon emitters, are realizing the importance of strategic carbon management," said Michael Conway, chief executive and national president, FEI Canada. "Forty-seven percent of heavy-carbon emitting companies are already implementing these programs for the purpose of public reporting. This is a significant step in overall carbon management in Canada."

Fifty-six percent of heavy-carbon emitting firms and 72 per cent of low-carbon emitters said they did not previously report emissions publicly. However, 34 per cent of all heavy-carbon emitters report through corporate sustainability reports and 19 per cent report specifically to shareholders. In comparison, 13 per cent of low-carbon emitters report through the sustainability reports, with nine per cent reporting directly to shareholders.

In addition to CFO leadership, the study also revealed increased board participation in carbon management and reporting. The level of board involvement is reportedly higher in heavy-carbon emitting companies, where 25 per cent reported that board involvement resulted in the development of a structured emissions management and reporting plan. Only 15 per cent of low-emitting companies reported having this result. Similarly, 19 per cent of heavy-carbon emitting companies indicated board involvement resulted in emissions management to be assigned to an executive sponsor within their organization, more often than not, the CFO.

To review the full study, please visit http://www.feicanada.org/cferf/cferf_research_papers.html or www.energyadvantage.com.

Survey shows signs of optimism in global financial hiring

Financial executives are more optimistic today than they were this time last year, according to the annual *Robert Half Global Financial Employment Monitor*. The vast majority (83 per cent) of financial leaders surveyed worldwide are at least somewhat confident in their companies' growth prospects, including 30 per cent who are very confident. Respondents also reported challenges locating skilled professionals for certain jobs.

But while a healthier business environment and rising recruiting difficulties suggest the job market in accounting and finance may be improving, employers today seem less concerned about keeping top performers than they were one year ago. Forty-five per cent of those surveyed said they are at least somewhat worried about their ability to retain staff in the coming year, down from 53 per cent in 2009.

Financial leaders are optimistic about the outlook at their firms. Eighty-three per cent of those surveyed said they have confidence in their organization's growth prospects. Employers reported difficulty finding skilled candidates for specific functional areas. Respondents cited particular challenges filling finance, accounting and operational support positions. The most active hiring is expected to take place at the entry and staff levels. Retention concerns have subsided. Forty-five per cent of respondents said they are worried about their ability to keep top performers, down from 53 per cent in 2009.

"While an air of caution remains, there are signs pointing to an improved hiring outlook," said Max Messmer, chairman and CEO of Robert Half International. "Business confidence and, in some cases, demand are rising, and firms will need highly skilled accounting and finance teams to sustain their momentum and support growth initiatives."

For the full report, visit www.roberthalf.com/GFEM.

I enjoyed reading *A world of opportunity* (*CMA Management*, June/July 2010) about Rob Harding's impressive career experiences and his rise to the post of vice-president and CFO at Athabasca Oil Sands Corp. CMAs indeed have unique opportunities to influence corporate strategic directions. It is interesting that the same issue of the magazine contained a review of *The Sustainable MBA* — promoting ways for companies to achieve a balance in their "triple bottom line," e.g. profits, social equity and environmental protection and also a timely scholarly article on measuring environmental costs. The products and production methods of oil sands extraction have an incredibly negative impact on our planet's environment. Athabasca Oil Sands Corp. would have to be an organization with plenty of opportunities for a CMA to guide the corporation "onto the path of ecological sustainability."

Peter Hlavats, MBA, CMA

I do not think that defined-benefit pension plans are the best vehicle (*Defined-benefit pension plans — How much cash is enough? CMA Management*, August/September 2010). The concept is based on two assumptions: 1) future growth 2) stable medium employee age. I have witnessed the demise of the defined-benefit pension plan when I was the accounting manager at the Brantford foundry of Massey-Ferguson. The labour force shrank from 500 employees in 1979 to 90 in 1986, before the foundry ceased operations. And because of the reduced workforce, the people with the least number of years were laid off, and the medium age of the workforce increased considerably. The pension cost per hour increased from 15 per cent of the hourly direct labour rate to 100 per cent of the hourly direct labour rate, due to the fact that we had a reduced number of employees and an older workforce, having to still fund the unfunded liability and a high current liability. During financial slowdowns, many companies with defined-benefit pension plans, with huge unfunded liabilities, suffer. The defined contribution is better for the employer as well as the employee.

Hank Jager, CMA

How to implement e-learning in smaller companies

Cost effective, low-tech designed learning systems are within reach.

By Arupa L. Tesolin

While the promise of e-learning in larger companies has fallen short of fulfilling the dream of low cost online training due to difficulties and cost of integrating technology, quite the opposite is true in smaller companies. According to a Canadian Federation of Independent Business survey, nearly two-thirds of smaller companies have not yet implemented e-learning.

Smaller companies do not need to struggle because cost effective, low-tech designed learning systems are within their grasp. They do need to recognize the links between better business performance and training and have the know-how to implement e-learning successfully.

Most training costs are recoverable through increased performance. For that reason, training should be considered an investment, not an expense. Industry reports show the average ROI for classroom training is 45 per cent. With e-learning, many companies have experienced a 50-75 per cent reduction in training costs over classroom training.

Companies of all sizes agree that e-learning provides an effective classroom alternative to increase employee knowledge and skills. This settles the debate about whether people and technology can work together to produce a good learning environment. Industry experience shows both methods produce favourable learning results.

There are other benefits to providing training. Managers, employees and businesses all benefit when they are provided with training opportunities. Not only can a company expect a performance benefit, they can expect to have a better relationship with their employees too.

Some of the best programs for smaller businesses available on the market today offer an array of 30 or more bundled courses for less than $1 per day per employee, with specialized content for managers priced just a little higher. Other courses can be purchased on a module by module basis with prices ranging from $60-150 each or more, higher for specialized or technology training programs. Contrast this with an average day of classroom training which costs anywhere from $300-600 for an in-house program or median range public seminar covering one topic.

Some courses are basic, giving great content that relates to day-to-day business realities. Other content adds graphics, video and more bells and whistles. Costs increase as e-learning gets more sophisticated. Also bandwidth can be a problem as higher-end systems often require high-speed Internet connections to reduce downloading times, which not all businesses have.

The best systems also include value-added features like tracking systems and performance management systems that ask employees to set performance goals resulting from training This assures both good learning transfer and the likelihood that the employee will be performing at a higher

level directly as a result of training.

Here are some guidelines to help you successfully implement e-learning in your company.

1. The first question a business needs to ask before implementing e-learning is to establish training priorities linked with business results. What capabilities in business do we fulfill really well? If we did this better, how would it impact our business? What things can we improve that would most increase our earnings or the way we define success?
2. Translate these into a few clear training priorities which define skills, knowledge, performance practices and business results. Determine the workforce, managers, departments, and individuals who would benefit from the training. Then develop a clear corporate training plan with specific goals and completion dates. Also define how the company will measure the results.
3. Develop a communication plan for your e-learning system. Don't expect that you will purchase a system and all your employees will magically use it. Expect to lead the communication of business goals, direct the training, and monitor and manage the completion process. Clearly identify how time will be provided for training activities, work locations where training will be completed (if all staff don't have access to a computer terminal with Internet access).
4. Consider whether your workplace is large enough to require a pilot program. Pilots are a smaller implementation program to allow your company to work through any implementation issues before expanding it to the complete workforce. Ensure your pilot team of six to 12 people is carefully selected with process leaders from different levels and positions in the company.
5. Set a date and time for a classroom orientation program showing everyone the system features and how to use them. Even for simple systems this step goes a long way towards ensuring employees can and will use your e-learning system.
6. Assign a system monitor or administrator to have access to the non-confidential aspects of training, e.g. to track completion of training as per company learning plans and to communicate any shortfalls to a designated manager for follow-up.
7. As some e-learning systems provide self-assessments that allow learning curriculum to be tailored to their individual training needs, this provides a good basis to develop career plans, job assignment and developmental opportunities and have a formal or informal arrangement to discuss these with management.
8. Consider establishing a company training team to communicate and resolve on-going issues with training, measure use and business results, set new goals, and continue the development of your workforce.
9. Determine whether some business needs require developing more advanced interpersonal training through "blended training." This is classroom training that builds on the basics or extends e-learning into specialized classroom training programs.

In short, e-learning can enable you to have a virtual training department with content that rivals blue chip industrial clients at a fraction of the cost. Think it might be worth pursuing in your business? ■

Arupa Tesolin is a speaker, trainer and innovation consultant with Intuita and the Canadian partner for Learning Paths International.

One of the primary objectives of managers of any organization from the private or the public sectors is to create value for stakeholders such as shareholders, creditors, members, or citizens.

Designing and implementing a performance measurement system

By Maurice Gosselin

After the major crisis that the world economy went through in 2008 and 2009, organizations strongly need to have efficient performance measurement systems. Performance measurement plays a key role in the deployment of strategy, the achievement of organizational goals and the creation of value. The concepts of key success factors, performance drivers, performance indicators, balanced scorecards and strategy maps have enabled managers to better understand how developing and using a set of comprehensive performance indicators allow managers at all levels in an organization to better manage their organization's performance. Managers have now understood that they need to focus on leading indicators instead of relying only on financial and outcome measures.

Value creation, key success factors, performance drivers and performance indicators

One of the primary objectives of managers of any organization from the private or the public sectors is to create value for stakeholders such as shareholders, creditors, members, or citizens. Two dimensions of value creation are often considered as shown in Table 1. The first dimension is the economic value creation dimension and the second, the social or public value creation dimension.

Table 1: Types of value creation[1]

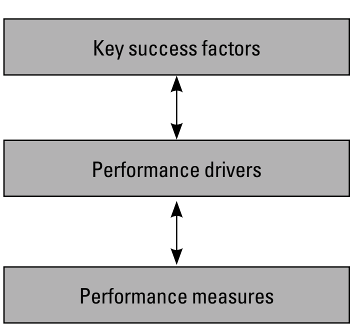
	Internal value creation	External value creation
Economic value creation	Internationalization, merger, restructuring, entrepreneurial posture, innovation, venturing	Financial performance: stock market returns, asset turnover, return on equity, return on investment, sales growth
Social value creation	Employee well-being, workplace safety, workplace ethics, sustainable development	Corporate social performance: customer satisfaction, job creation, environmental sustainability

Economic value creation is considered since the industrial revolution as the main type of value creation. This dimension of value creation can be considered from an internal and an external perspective. Financial performance measured by financial indicators is considered as an external view of value creation. Social value creation is now considered as another dimension of value creation. Boards of public and private corporations are more concerned about social performance.

Value creation is an emerging concept that plays an important role in the management of today's organizations. Performance indicators are important devices used by modern organizations to assess the extent to which an organization creates economic and social value.

Value creation relies on the ability of management to identify key success factors and adapt the organizational processes to emphasize these key success factors. Performance drivers are characteristics that will determine and influence the future outcome of key success factors. Performance indicators are proxies that are used to measure the improvement or the deterioration of the performance drivers. The relationship between the three concepts is depicted in Figure 1.

Figure 1: Key success factors, performance drivers and performance measures



For example, flexibility is a key success factor in the management of many organizations. There are different performance drivers for flexibility. Set-up time is a performance driver. For example, if an organization in the plastic business improves set-up time, it will be able to reduce the size of batches and inventory costs. The time it takes to change the molds is an indicator of the performance of the organization in the set-up time area. The percentage of equipment changed over in x minutes or less could be the indicator for this performance driver. For each performance driver, as shown in Table 2, there may be one or several performance indicators.

Table 2: Key success factors, performance drivers and performance measures

Performance drivers	Performance measures
Set-up time	Percentage of equipment changed over in *x* minutes or less
Vendor lead time	Percentage that can be obtained in *x* days or less
Cycle time	Make time divided by total time in system

Adapted from Cox (1989) and Neely et al. (1995).

Flexibility is one example of a key success factor that may create value in some organizations. Management may choose the performance drivers and the relevant indicators when there is a need for improvement. A performance target will also be determined. Once the level of improvement is achieved, the need to follow-up the performance indicator may no longer be necessary.

Hierarchical level and performance measurement

The focus of the performance measurement system depends on the hierarchical levels of the managers in the organization. Dixon, Nanni and Vollmann[2] have demonstrated that the percentage of usage of financial measures is lower at the operational level and is higher at the strategic level. As shown in Table 2, at the executive level, the focus is on strategy deployment and financial outcomes. Thus, senior managers will focus on key success factors and conventional financial measures. Business unit level managers have an operation focus; they should put more emphasis on performance drivers knowing that if the drivers improve the measures should follow. At the operating unit level, managers focus on the different tasks that must be performed. Performance indicators will enable managers to determine if the tasks are executed in accordance with the expectations. For example, in a large grocer corporation such as Metro-Richelieu, executive managers are focusing on key success factors such as the investment in new stores or the renewal of older stores and are, of course, keeping an eye on sales and profits. Business unit level managers in charge of departments such as meat, grocery, fruit and vegetables focus on operations such as purchases, processing and transportation. Quality and time are examples of drivers that they will monitor. Store managers can be considered as operating unit level managers. They will follow up key performance indicators such as sales in the various departments, number of items bought by each customer, average waiting time at the cashier and will keep track of these performance indicators.

Table 3: Hierarchical level and performance measurement

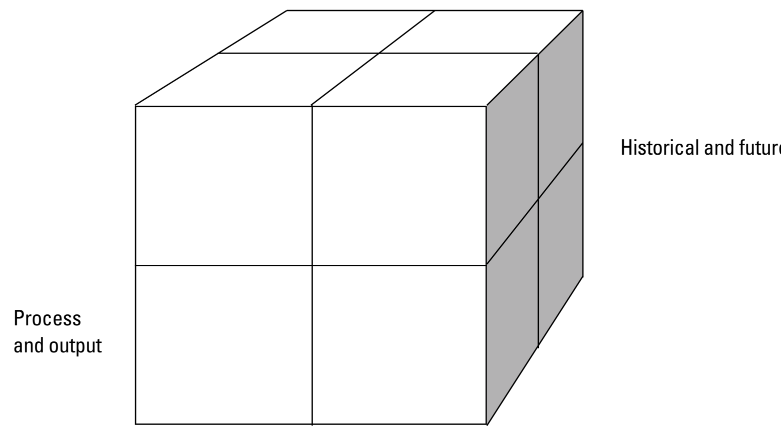
Level	Focus	Performance measurement system
Executive	Strategic	Key success factors
	Financial outcomes	Financial measures
Business unit level	Operations	Performance drivers
Operating unit level	Tasks	Performance measures

Types of performance indicators

Performance indicators are the metrics that enable management to assess to which extent key success factors and performance drivers are well managed. There are three major categories of performance measures: financial and nonfinancial, process and output, and historical and future. They usually overlap. For instance, conventional financial indicators are historical, financial and outcome measures. Managers should take this into consideration when they choose and use these performance indicators. Figure 2 includes the different categories of performance measures.

Figure 2 suggests the dimensions of a broad-based performance measurement system. The cube's dimensions are based on the types of measures (financial and nonfinancial), the focus (process and output) and the time orientation (historical and future). An indicator may be based on a financial measure, focus on outputs and have a historical orientation. Net profit is a good example of this type of indicator. In today's environment, the performance indicator process must be both forward-looking as well as historical, must focus on output as well as processes, and must track leading non-financial and financial measures.

Figure 2: Types of measures



A framework for the design of a performance measurement system

The most important goal of an organization is to create value by transforming natural resources and employing human resources to manufacture a product or render a service. The design of the performance measurement system is based on the analysis of the external environment in which the organization operates (threats and opportunities) and of the internal environment (strengths and weaknesses). This analysis influences the strategy and the decisions that management will make, the drivers that will affect performance and the performance indicators that will be used to assess to which extent the actions undertaken are enabling the firm to meet its goals and objectives. Figure 3 shows one possible relationship between the external environment and the internal business processes, management decisions, performance drivers, performance indicators and value creation.

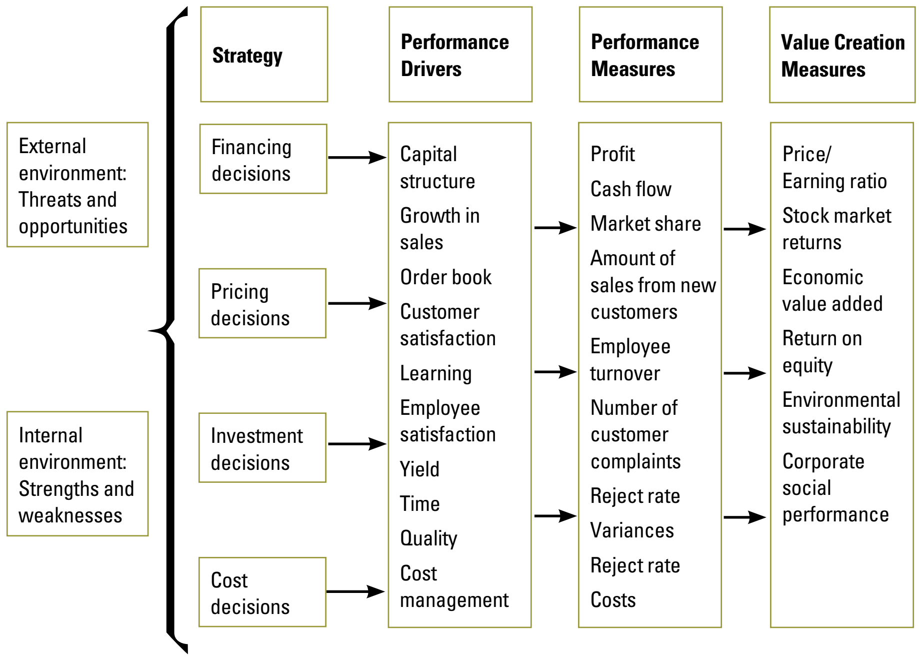
In the framework for performance indicators shown in Figure 3, one of the two foundations, is the internal environment of the firm which includes the strengths and weaknesses of the firm as well as the processes and the activities. An organization can consist of a number of underlying processes and activities. These processes and activities include market development, product development, operations, purchasing, distribution, sales, and service, supported by a set of underlying administrative processes. They are the core of the organization; and these processes and activities influence and are influenced by the management decisions that are made.

The external environment is the second foundation in the framework. Organizations have to create value within a political and economic context on which they do not have much control unless they evolve in a monopolistic setting or in a regulated industry. The market is also another important element of the external environment. Organizations have also a variety of stakeholders such as shareholders, customers, employees, creditors, members and the community at large. The external environment includes the threats and the opportunities that the firm is considering.

Figure 3 suggests that one way of thinking about a business is in terms of the external relationships, internal processes, and strategic decisions that management is making. Generally speaking, managers make decisions that affect financing, revenues, investments and costs. Management will have to determine how the firm's assets are financed and what the level of the leverage is. This is especially true for capital-intense or highly leveraged businesses, respectively, although it applies to all businesses. A firm also has to make decisions about pricing, promotion, product emphasis, and new product introductions. These decisions will influence sales and revenue generation and certain related costs, such as commissions, sales and distribution, and service expenses. In addition to the internal business processes that most directly affect costs in the short run, investment is also critically important.

All these decisions influence the organizational performance drivers such as capital structure, firm growth, learning, customer satisfaction,

Figure 3: A framework for performance measures



employee satisfaction, yield, time, and quality. As a reminder, performance drivers are elements that create value within an organization. The effects of management's decisions on the performance drivers are measured with performance measures. The usefulness of performance drivers and performance measures is to provide management with useful information. In today's customer-oriented, competitive, quickly changing environment, that means more information regarding the external environment, customers, and competitors, as well as information on internal business processes.

Ultimately, the context in which the firm operates, its strengths and weaknesses, the decision that are made and their impact on performance drivers influence the organization's economic value creation, measured in terms of the price to earnings ratio for public firms, stock market returns for public firms, economic value added and return on investment and equity and social value creation, measured in term of environmental sustainability, social performance and job creation.

Performance indicators must provide different kinds of feedback at different levels of management[3]. At the top level of management, indicators should lead to corrections and adjustments in goals and strategies. For example, deteriorating return on investment against a constant asset base may signal the need to change strategies to meet the needs of the market. The resulting change may involve the decision to pursue a time-based competitive thrust, getting custom products out the door to the customer on demand. Such changes in strategy should then cascade through the subsequent levels of management. Middle management may select the tactic of just in time production as a potential solution. Performance measures for these middle managers may focus on on-time delivery, conversion rates, and inventory levels. The tactics chosen at the middle level define specific operational goals for the lower levels of management. Lower-level managers may be measured against operational indicators such as rejection rates, cycle time, and in-process inventory.

As a reminder, performance drivers are elements that create value within an organization. The effects of management's decisions on the performance drivers are measured with performance measures.

Designing and implementing a performance measurement system requires:

- Assessing the context of the organizations and its strengths and weaknesses;
- Identifying the organization's goals, strategies, objectives and key success factors;
- Tracing the performance drivers that enable management to create value for the stakeholders;
- Getting senior management's strong support and commitment;
- Developing an implementation team;
- Linking the performance indicators with the reward system;
- Focusing on a limited number of performance indicators at each levels of the organization. ■

[1] Adapted from Huse M. (2007). *Boards, Governance and Value creation*. Cambridge University Press: Cambridge.

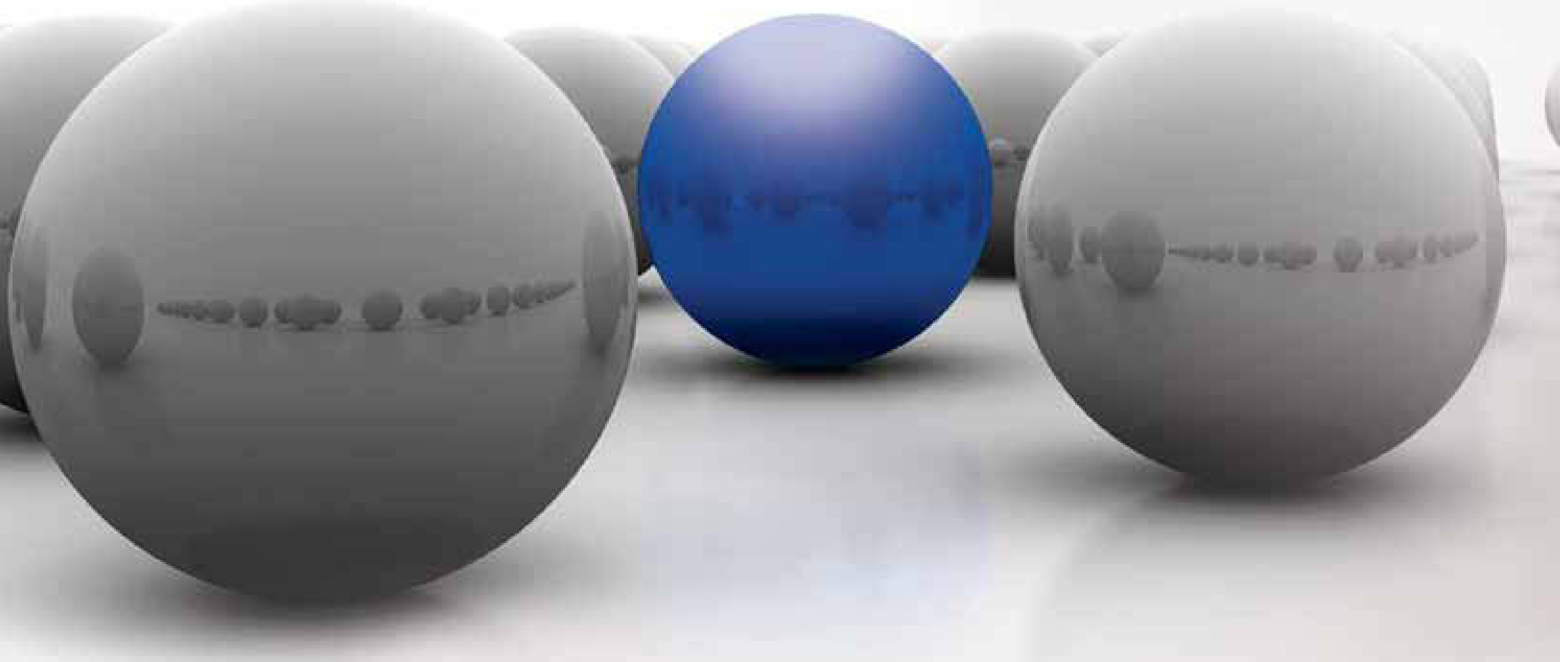
[2] Nanni A.J., J.R. Dixon and T.E. Vollmann (1992), "Integrated Performance Measurement: Management Accounting to Support the New Manufacturing Realities," *Journal of Management Accounting Research*, Vol. 4, Fall 1992, pp. 1-19.

[3] Dixon J. R., A.J. Nanni and T.E. Vollmann (1990), The New Performance Challenge: Measuring Operations for World Class Competition. Dow-Jones Irwin, Homewood, Illinois.

This article is adapted from the MANAGEMENT ACCOUNTING GUIDELINE (MAG)®: Designing and implementing a performance measurement system published in August 2010.

Maurice Gosselin, FCMA, is a professor of management accounting in the School of Accountancy at Université Laval in Quebec City.

Award of excellence for comptrollership in the public sector™



Call for nominations for the third annual *Award of Excellence for Comptrollership in the Public Sector*

Take this opportunity to recognize the success of federal public servants who have made significant contributions to financial management and/or comptrollership within the Government of Canada. In its third year, the *Award of Excellence for Comptrollership in the Public Sector* includes two award categories involving (1) Innovation and (2) Financial Leadership (CFO). In addition, consideration forms may be submitted for a Lifetime Achievement Award recipient.

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Managing manufacturing cost and product gross margin

Many organizations avoid activity-based costing (ABC) because of its complexity.

By Rajkumar Haldar, CMA

In recent years, due to the globalization of business and intense price competition, many manufacturing companies are either moving their manufacturing facilities to strategic locations or implementing cost savings initiatives in order to reduce their manufacturing cost. The best way to measure and realize the cost savings is through the product costing. Precise product cost information help make better strategic decisions especially in product pricing which is one of the most important levers for increasing profitability. Product gross margin (sales — cost of goods sold of a product) is one of the important measures of product profitability. On decision to retire a product, a comparative analysis of product gross margin together with other strategic factors is used. Often, time decision to make or buy a product depends on the manufacturing cost of the product.

Manufacturing cost of a product is divided into two major categories: direct material cost and conversion cost. Conversion cost consists of direct labour and overhead. Overhead is the indirect manufacturing cost which is allocated to an individual product using various costing methods. Activity-based costing is one of the best methods used to allocate indirect manufacturing overhead to an individual product. A traditional cost allocation method often uses a single plant-wide cost driver (e.g. direct labour hour or machine hour) to allocate overhead to product which may result in an incorrect product cost because the resource consumption and measure of activities for each cost centers are different. A cost driver can be defined as a quantitative measure of activities performed by a resource in order to complete a task which has direct or indirect relationship with the cost object (product). Activity-based-costing method analyses activities of each cost centre identifies appropriate cost drivers and then allocates overhead to product by using multiple cost drivers. Activity-based costing

Table 1: Production Plan

Product Family	Product Line	Annual Sales Forecast (Qty)	Expected On Hand at Current Year End	Average Safety Stock	Annual Production Plan (Qty)
		a	b	c	a-b+c
Electronic Display	ED 40	15,000	3,000	850	12,850
	ED 60	65,000	7,000	4,000	62,000
	ED 80	355,000	20,000	20,000	355,000
	ED 90	25,000	5,000	1,000	21,000
Electronic Display	**Sub Total**	**460,000**	**35,000**	**25,850**	**450,850**
Digital display	DD 65	3,200	150	250	3,300
	DD 75	2,600	200	200	2,600
	DD 85	1,250	120	100	1,230
Digital Display	**Sub Total**	**7,050**	**470**	**550**	**7,130**
Podium Display	PD 10	65,000	6,000	4,000	63,000
	PD 15	20,000	2,500	1,200	18,700
	PD 20	7,500	1,200	750	7,050
Podium Display	**Sub Total**	**92,500**	**9,700**	**5,950**	**88,750**
	Grand Total	**559,550**	**45,170**	**32,350**	**546,730**

Table 2: Product Mix

Product Family	Product Line	Direct Labour Hour per Unit	Production Plan (Qty)	Total Direct Labour Hours	Product Family Mix (Direct Labour Hour %)
		a	b	x=a*b	x sub total/x grand total
Electronic Display	ED 40	1.1	12,850	14,135	
	ED 60	1.2	62,000	74,400	
	ED 80	1.2	355,000	426,000	
	ED 90	1.4	21,000	29,400	
Electronic Display	**Sub Total**		**450,850**	**543,935**	**85%**
Digital Display	DD 65	3.5	3,300	11,550	
	DD 75	3.6	2,600	9,360	
	DD 85	3.75	1,230	4,613	
Digital Display	**Sub Total**		**7,130**	**25,523**	**4%**
Podium Display	PD 10	0.75	63,000	47,250	
	PD 15	0.8	18,700	14,960	
	PD 20	0.9	7,050	6,345	
Podium Display	**Sub Total**		**88,750**	**68,555**	**11%**
	Grand Total		**546,730**	**638,013**	**100.00%**

allocates overhead to product by using multiple cost drivers. It provides precise product cost information than plant-wide allocation systems. Implementing activity-based costing can also help a company understand the true cost of producing a product; which contributes to accurate pricing and increased profits.

However, many organizations avoid implementing activity-based costing because of its complexity and difficulties in implementation. The following case study demonstrates an easy to use activity-based costing model and provides a less costly alternative to product costing. The case study is based on a high-tech manufacturing company. (An overview of the model is shown in Figure 1 on p.g. 26).

Case study

Digital Electronics Inc. is a high-tech manufacturing company that produces three types of display products: electronic display, digital display and podium display. The technology contents and manufacturing process of each of these product types are different.

Prior to implementing an activity-based costing system, the company allocated overhead to its products using a single plant-wide cost driver, percentage of direct material cost. Because of the static nature of this cost driver and the lack of direct relationship with manufacturing activities, the cost saving initiatives through process improvement on a specific product line had no reflection on the product profitability analysis. This had a negative impact on product pricing, product retiring and buying decision.

SALES FORECAST

Getting the annual sales forecast from the marketing department is the first step of developing this activity-based costing model. The annual sales forecast is used to develop a detailed production plan by product line and family. The product family is selected based on product type, technology contents and manufacturing process.

PRODUCTION PLAN

A production plan is developed by the planning department based on the annual sales forecast, existing stock inventory and safety stock. The annual production plan quantity is then used to develop a manufacturing product mix.

Cost driver is a quantitative measure of activities performed by a resource in order to complete a task which has direct or indirect relationship with the cost object (product).

PRODUCT MIX

The product mix is developed based on the production plan quantity and direct labour hours. Direct labour hour for a product is normally developed by the process engineering team through time and motion study at product introduction stage. The purpose of the product mix is to develop a cost driver, direct labour hours' value by product family which will then be used to the allocation model.

Table 3: Annual Overhead Budget

No	Production & Manufacturing Service Departments (Cost Centers)	Manufacturing Overhead ($)
1	Production	1,100,000
2	Production Management	500,000
3	Receiving & Warehousing	1,200,000
4	Inventory Control	1,560,000
5	Shipping	980,000
6	Procurement	625,000
7	Production Planning	526,000
8	Engineering & Maintenance	2,260,000
9	Quality Assurance	862,000
10	Facilities	3,680,000
	Grand Total	**13,293,000**

Table 4: Cost Drivers' Value

Number of Purchase Orders:

Product Family	Number of Purchase Orders	%
Electronic Display	5,024	72%
Digital Display	746	11%
Podium Display	1,251	18%
Grand Total	**7,021**	**100%**

Purchase Order Quantity:

Product Family	Purchase Order Qty	%
Electronic Display	20,012,074	88%
Digital Display	689,851	3%
Podium Display	2,051,192	9%
Grand Total	**22,753,117**	**100%**

Sales Order Issue Quantity:

Product Family	Sales Order Issue Qty	%
Electronic Display	388,523	83%
Digital Display	6,412	1%
Podium Display	72,526	16%
Grand Total	**467,461**	**100%**

Number of Work Orders:

Product Family	Number of Work Orders	%
Electronic Display	2,628	66%
Digital Display	664	17%
Podium Display	708	18%
Grand Total	**4,000**	**34%**

Facility Square Footage:

Product Family	Square Footage	%
Electronic Display	100,766	75%
Digital Display	18,647	14%
Podium Display	15,587	12%
Grand Total	**135,000**	**100%**

Number of Non Conformance:

Product Family	Number of Non Conformance	%
Electronic Display	490	89%
Digital Display	17	3%
Podium Display	41	7%
Grand Total	**548**	**100%**

Table 5: Allocation Model

No	Production & Manufacturing Service Dept (Cost Centers)	Cost Driver	Manufacturing Overhead Budget ($)	Cost Driver's Value (%)			
				Electronic Display	Digital Display	Podium Display	Sub Total
			a	b	c	d	
1	Production	Direct Labour Hour	1,100,000	85%	4%	11%	100%
2	Production Management	Direct Labour Hour	500,000	85%	4%	11%	100%
3	Receiving & Warehousing	Purchase Order Qty	1,200,000	88%	3%	9%	100%
4	Inventory Control	Direct Labour Hour	1,560,000	85%	4%	11%	100%
5	Shipping	Sales Order Issue Qty	980,000	83%	1%	16%	100%
6	Procurement	Number of Purchase Order	625,000	72%	11%	18%	100%
7	Production Planning	Number of Work Order	526,000	66%	17%	18%	100%
8	Engineering & Maintenance	Direct Labour Hour	2,260,000	85%	4%	11%	100%
9	Quality Assurance	Number of Non Conformance	862,000	89%	3%	7%	100%
10	Facilities	Square Footage	3,680,000	75%	14%	12%	100%
	Allocated Overhead		**13,293,000**				
	Total Direct Labour Hour		638,013				
	Overhead Rate / Direct Labour Hour		**20.84**				
	% of Overhead by Product Family						

OVERHEAD BUDGET

The annual manufacturing overhead budget is a key component of the activity-based-costing model. The annual budget is developed by the production and manufacturing service departments based on the annual production plan and other priorities. The manufacturing overhead budget of Digital Electronics Inc. is about 13 million dollars which is about 60 per cent of total conversion cost.

COST DRIVER

Cost driver is a quantitative measure of activities performed by a resource in order to complete a task which has direct or indirect relationship with the cost object (product). In the activity-based costing model, multiple cost drivers are used to allocate the overhead to product. During activity-based costing system implementation at Digital Electronics Inc., a brainstorming session was performed with concerned departments in order to identify the most appropriate cost driver for each of the manufacturing service departments. There were seven cost drivers selected against 10 cost centers and used in the allocation model. Based on the last fiscal year data analysis of selected cost drivers, Table 4 shows a summary of the cost drivers' value per cent by product family, which is being used in the allocation model to allocate the overhead among the product families.

ALLOCATION MODEL

In the allocation model, the pre-defined cost driver's percentages by product family are applied to the production and manufacturing service departments' overhead budget in order to allocate the overhead to each of the product families. The overhead rate per direct labour hour for each product

Allocated Overhead Amount ($)			
Electronic Display	Digital Display	Podium Display	Sub Total
a*b	a*c	a*d	
937,801	44,003	118,196	1,100,000
426,273	20,002	53,725	500,000
1,055,437	36,383	108,180	1,200,000
1,329,972	62,405	167,623	1,560,000
814,512	13,442	152,046	980,000
447,230	66,408	111,362	625,000
345,582	87,316	93,102	526,000
1,926,754	90,407	242,839	2,260,000
770,766	26,741	64,493	862,000
2,746,814	508,296	424,890	3,680,000
10,801,141	**955,403**	**1,536,456**	**13,293,000**
543,935	25,523	68,555	638,013
	19.86	**37.43**	**22.41 20.84**
81%	7%	12%	100%

Activity-based costing system is one the best methods to allocate indirect manufacturing overhead to the product.

family is then calculated by dividing the total allocated overhead with total direct labour hours. Table 5 is an example of the allocation model.

STANDARD OVERHEAD COST

Standard overhead cost of a product is one of the elements of product cost. The standard overhead cost is calculated by multiplying overhead rate with the direct labour hour. Most manufacturing companies use an enterprise resource planning (ERP) system to manage their inventories and manufacturing flow. A bill of materials and routings are established in the system for each manufactured product at product introduction stage. Direct labour hour is assigned to the routings for the operations required to assemble the product based on the bill of materials. Overhead rate and direct labour rate is then assigned and associated with the routings. The standard cost of all elements (e.g. material, direct labour, and overhead) of the product is rolled-up from the bill of materials and becomes the standard cost of the product which is used to value the inventory.

When a product is built and routed through the manufacturing system, the standard overhead cost is charged and gets absorbed to the financial system which is then compared against actual overhead incurred through clearing journal entry at period-end in order to determine the overhead variance. Ideally, if the same quantities of products are built as planned, there should be no overhead volume variance. To illustrate this concept, Table 6 is an example of standard overhead cost and overhead absorption.

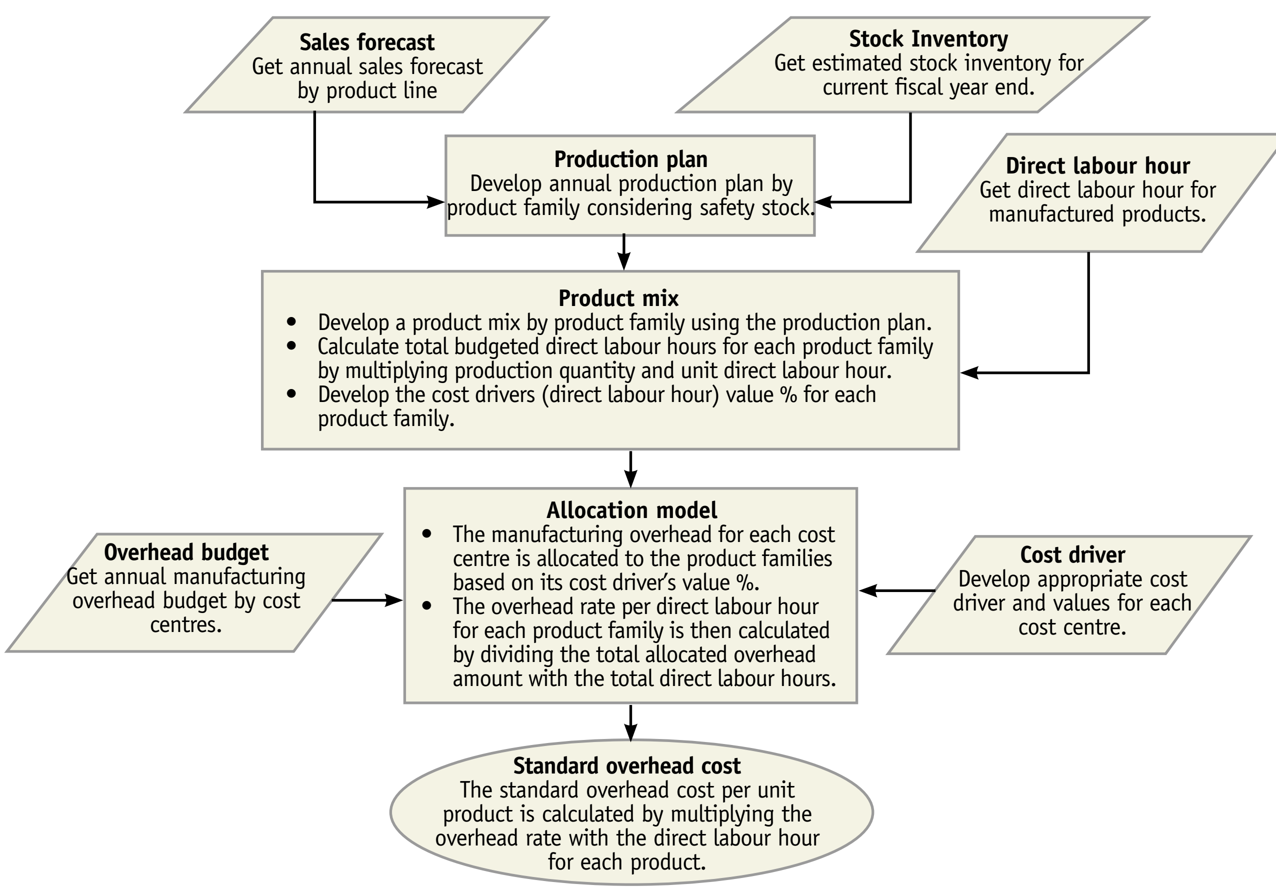
The proportion of indirect manufacturing costs increased with the automation of manufacturing processes, which required an efficient and more accurate allocation method to allocate overhead to the product. Activity-based costing system is one the best methods to allocate indirect manufacturing overhead to the product. The above activity-based costing model provides an easy to implement alternative to product costing, which results in an increase in visibility and confidence on product profitability and leads to better strategic decision making. ■

Rajkumar Haldar, MBA, CMA, is a cost accountant with SMART Technologies. He has developed and implemented a manufacturing overhead allocation model using an activity-based costing concept.

Table 6: Standard Overhead Cost and Overhead Absorption

Product Family	Product Line	Direct Labour Hour per Unit	Overhead Rate/ Labour HR	Std Overhead Cost ($/unit)	Production Qty as Planned	Overhead Absorption ($)
		a	b	x = a*b	c	x*c
Electronic Display	ED 40	1.1	19.86	21.84	12,850	280,685
	ED 60	1.2	19.86	23.83	62,000	1,477,391
	ED 80	1.2	19.86	23.83	355,000	8,459,257
	ED 90	1.4	19.86	27.80	21,000	583,808
Electronic Display	**Sub Total**				**450,850**	**10,801,141**
Digital Display	DD 65	3.5	37.43	131.02	3,300	432,360
	DD 75	3.6	37.43	134.76	2,600	350,380
	DD 85	3.75	37.43	140.38	1,230	172,663
Digital Display	**Sub Total**				**7,130**	**955,403**
Podium Display	PD 10	0.75	22.41	16.81	63,000	1,058,968
	PD 15	0.8	22.41	17.93	18,700	335,284
	PD 20	0.9	22.41	20.17	7,050	142,204
Podium Display	**Sub Total**				**88,750**	**1,536,456**
	Grand Total				**546,730**	**13,293,000**
Annual Overhead Budget						13,293,000
Volume Variance						0

Figure 1: Manufacturing overhead allocation model flowchart



Investing in higher learning

By Arda Ocal

Management accounting wasn't initially on Angela Lockridge's radar screen.

"When I was completing my undergraduate degree in business administration at Wilfrid Laurier University, my focus was in marketing," Lockridge says. "I started my career in sales and marketing (at General Motors) but decided I was ready for a change so I relocated to North Bay when my husband returned to university to obtain his teacher's certificate. At the time, I obtained a position as an internal auditor with the Ministry of Correctional Services which was in the process of moving to North Bay. Although as a quality assurance auditor at General Motors I had conducted business assessments within our parts supplier community, I had not conducted financial audits. One of the conditions of the job offer was that I had to take an accounting course. While I took this course, I explored the career opportunities in the internal audit department and realized I needed to secure a designation to move into a leadership role."

Although Lockridge was provided a financial incentive through Nipissing University to pursue a different accounting designation, after discussing her options with her husband, she elected to take a leave of absence to return to Wilfrid Laurier University and obtain the accounting courses needed to write the entrance examination for the CMA program.

"The CMA had a broader focus with a heavy emphasis on management decision making, strategic planning, performance measurement and accountability," she says. "I wanted to have a sound financial foundation that I could utilize throughout my career while broadening my perspective to enable me to move into leadership roles beyond the audit/financial community."

The idea of deliberating any sort of accounting designation initially came as a surprise to Lockridge, as she had never contemplated moving into a financial role until she moved into the audit function.

Advancing student access and success is one of our core strategic priorities. We are operating in an increasingly complex and rapidly changing environment. To meet the growing needs of our students and communities, we need to ensure we invest our limited resources wisely.

"I enjoyed marketing, economics and law in high school, but had actually dropped 'introductory accounting' after attending a few classes," she says. "My interest in these business courses is what led me to Wilfrid Laurier University. Had I not moved into the auditing field and been mentored by a manager with an accounting designation, I would not have thought of pursuing a financial designation. In retrospect this was a great decision — it has opened a number of doors for me over the course of my career."

After obtaining the CMA designation with distinction in 1993, Lockridge continued working in various roles in Ontario public service, including audit manager, and audit director; director of the business and financial services bureau and chief financial officer for the Ontario Provincial Police; and assistant deputy minister within the Ontario Provincial Police; ServiceOntario and the Family Responsibility Office. These roles have varied in terms of scope and complexity, but all have required a strong understanding of fiscal management frameworks, performance measurement and monitoring systems, process improvement and cost reduction strategies and the ability to work as part of an executive team to move the organization forward in a sustainable manner towards its long-term vision. More recently, she accepted a position in post-secondary education at Georgian College in Barrie, Ont., as vice-president of human resources and organizational planning.

As a senior executive, Lockridge certainly sees the benefit of the CMA designation for anyone at this level. "My current role is not providing fiscal oversight for the organization; however, in the current environment, senior executives must understand financial metrics and how to achieve more by doing things differently," she says. "Senior executives need to have a holistic view of the business, be able to identify risks associated with the organization's strategic direction and ensure the appropriate measures are in place to track and measure the desired results."

Although Lockridge's past roles at the ADM level have included a strong focus on fiscal management, they have also included the key elements within her current portfolio — strategic and operational planning, change management, human resources planning and organizational development. Since obtaining the CMA designation, she has continued to invest in her professional development through executive development courses such as the Certificate in Change Management and Certificate in Human Resources Management through the Rotman School of Business.

She was attracted to her current role at Georgian College because she saw it as an opportunity to be part of a progressive institution that is experiencing significant growth with a very exciting vision for the future. Her CMA designation, continued professional development and leadership experience continue to provide her with the competencies to make a contribution as part of the executive team at Georgian College.

"At Georgian College, our mission is to inspire innovation, transform lives and connect communities through the power of education," she says. "Advancing student access and success is one of our core strategic priorities. We are operating in an increasingly complex and rapidly changing environment. To meet the growing needs of our students and communities, we need to ensure we invest our limited resources wisely. This means attracting, developing and inspiring the most talented workforce, building our leadership capabilities and innovating our business practices. By working strategically, we can continue to position Georgian College as a leading institution focused on student success."

Lockridge has worked in the public service for the past 20 years because she wanted to make a difference in the lives of Ontarians. She says she finds her personal values are very much aligned with those of the public service.

"I have intentionally focused my career in front line service delivery organizations such as the Ministry of Correctional Services, the Ontario Provincial Police, ServiceOntario and the Family Responsibility Office so I

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could draw a direct connection between my contributions and the positive impacts on our clients — the citizens of this province," she says.

Lockridge's financial know-how became an essential driver when she worked with the OPP as the director of the financial services bureau and CFO.

"I provided oversight to a bureau that included 160 staff and a budget of $100 million," she says. " In addition to the day-to-day management of my budget, I was responsible for the fiscal management framework and accountability systems over an organizational budget of $850 million with a complement of 8,300 staff," she says. "My area was responsible for regular financial reporting regarding our use of taxpayers' funds and the development of submissions for the Treasury Board to ensure we had the funding required to ensure the front line officers were well equipped to serve the public. The CMA program focused on a number of factors that were critical to my success in this role — business case development, risk assessment, performance measurement, tracking and accountability."

Her move to Georgian College is giving her the opportunity to continue her career in the broader public service — a sector that is of critical importance to the economic future of the province of Ontario — in a very positive environment where she will continue to have a significant impact on students and their futures. ■

Arda Ocal is a Mississauga, Ont.-based writer and on-air personality with The Score Television Network.

Warming up to government intervention

Business leaders show signs of thawing their once cold stance towards Canada's regulatory environment.

By Amin Mawani, FCMA, Alan Middleton and Dave Scholz

The Canadian business landscape has changed significantly in some areas over the last few years. Faced with accounting scandals, international competition, the social media explosion and most recently, the meltdown of the global financial system, Canadian business leaders have adapted to their changing business environment. This evolution may have made business executives more tolerant of some types of government intervention.

As a marked departure from familiar complaints that Canadian governments are too intrusive, introduce overbearing regulation and overtax businesses, the 2010 Survey of Corporate Canada conducted by Leger Marketing for the Schulich Executive Education Centre suggests that senior management of corporate Canada are less concerned now about government intervention than they were at the beginning of the decade. In 2010, only 16 per cent of business leaders felt that regulation and taxation posed a threat to their business. This is down considerably from 28 per cent in 2007 and from over 50 per cent in 2004. A recent example is Calgary-based Talisman Energy Inc. urging New York state government to impose higher drilling fees on the industry to finance a more effective regulatory system.

A renewed emphasis on good governance has been complemented by increased support for regulation.

There are several explanations for this trend. It could be that Canadian business leaders are facing more pressure from new and more intense competition and new and changing technology, thereby making their traditional concerns for taxation and regulation less acute. Canadian governments may also have arguably reduced their involvement in the economy over the past six years, making taxation and regulation less of a concern to business leaders.

A competing explanation for this trend is that senior management could be taking a more pragmatic approach to regulation and less concerned about intervention that may possibly help to increase shareholder value. In other words, government intervention is not always considered harmful to the business environment, and can be beneficial in the right circumstances.

These explanations offer insight into the attitudinal shift among Canadian business decision makers. Executives seem to be shifting away from the view that taxation and regulation are a threat to their businesses. This change in attitude may be partly influenced by the changing nature and perception of competitiveness, corporate governance and environmental stewardship.

Government intervention and competitiveness: No longer mutually exclusive

Senior management of corporate Canada increasingly believes that Canada is very competitive in the global economy. From 2007 to

2010, the percentage of business leaders who responded that Canadian businesses can compete globally increased by 92 per cent. Over the same time period, decision makers were less likely to agree with the long held view that Canadian economy is far more regulated compared to the United States.

The Schulich Survey suggests that Canada's improved competitiveness may be less influenced by any reduction in government regulation and intervention. Instead, it may be driven by an attitudinal shift that businesses can compete despite regulation and taxation. Canadian business leaders appear to have acquired a newfound appreciation for the role of regulation in helping Canada's banking system and businesses withstand the worst of the recent financial crisis.

Despite the co-existence of competition and regulation, 49 per cent of business leaders agree that taxation continues to hinder Canada's competitiveness. However, an increasing number of executives disagree with the statement that taxation hinders the competitiveness of Canadian companies, escalating from four per cent in 2007 to 24 per cent in 2010. This could reflect growing tolerance among business leaders towards taxation, attributed in part to the gradual decline in Canadian corporate tax rates over the same time period. While still perceived to be the main contributor to Canada's 'overregulation' relative to the United States, improved attitudes towards taxation can explain why government intervention is better received now than it has been for most of the decade.

Government in the boardroom

More survey respondents in 2010 agreed that boards of directors should have a greater role in senior management decisions. Thirty-eight per cent of executives and senior business officials preferred an interventionist board in 2010 compared to 14 per cent in 2007. In 2004, a similar 39 per cent of respondents approved an interventionist board during the midst of accounting scandals that saw the demise of Enron and WorldCom at the beginning of the decade.

A renewed emphasis on good governance has been complemented by increased support for regulation. Canadian executives are more than twice as likely to support new laws to strengthen corporate governance and protect shareholders. In 2007, only 25 per cent of business leaders felt corporate governance regulation was warranted. In 2010, more than 50 per cent supported shareholder-focused regulation. Canadian decision makers seem to be implying that relying on governments to promote active boards was not necessarily onerous regulation.

Such attitudes have not arisen from any major corporate governance scandals in Canada. Sixty-one per cent of business leaders maintain that Canadian companies demonstrate high standards of corporate governance, up from 44 per cent in 2007. Canadian executives seemed to have welcomed some form of oversight by shareholders, perhaps recognizing it as necessary for shareholder value maximization. This may be driven in part by the increasing alignment between executive compensation and shareholder value.

Hesitance towards regulated corporate social responsibility

Canadian business leaders claim to prefer managing environmental matters without government involvement. While pursuing green marketing, senior management increasingly opposes the regulation of greenhouse gas emission, especially when doing so would make some industries less competitive in the short term. Instead, more corporate executives claim that their organizations take into account the social and environmental impacts of business decisions regardless of the regulatory requirements.

As an alternative to emission regulation, Canadian executives seem to favour strong corporate governance laws that encourage private boards to take on environmental stewardship and consider environmental issues in all board decisions.

A dislike for environmental regulation seems to be inconsistent with the business community's accommodation for other forms of government regulation. The survey found that corporate leaders feel that the regulation of greenhouse emissions is unrelated to their conviction that Canada is overregulated relative to the United States. The Harper government's reluctance to impose increased greenhouse gas regulation seems to be aligned with the preferences of the business community, and may reflect lobbying efforts by relevant sectors.

As an alternative to emission regulation, Canadian executives seem to favour strong corporate governance laws that encourage private boards to take on environmental stewardship and consider environmental issues in all board decisions.

The survey suggests that several attitudes about the role of government and the relationship between business and government are changing. It seems that corporate Canada is seeing government intervention in a new and positive light. ■

Amin Mawani, FCMA, is an associate professor of taxation at the Schulich School of Business at York University in Toronto; Alan Middleton is the executive director of the Schulich Executive Education Centre and Dave Scholz is the vice-president of Leger Marketing.

‘Risk buck’ stops with CFO — Understanding the complexity in risk management

Navigating through the risks of operating a business in today’s turbulent commercial climate has become a number one priority for many of today’s organizations.

By Stephen Mallory

While boards and audit committees are now charged with overseeing risk at a high level, CFOs typically have a broad overriding responsibility to manage risk on behalf of the executive team. Much of the information that the audit committee digests comes from the CFO, hence, the CFO is tied directly to risk related decision making both at the board and operational level. This means that the risk buck usually stops on their desk. But is it reasonable to expect CFO’s to be fully informed on all the issues inherent in the “dual” risk role that they’ve inherited? Many CFOs feel overwhelmed trying to stay on top of this complex subject.

The largest organizations in Canada and abroad are often staffed with chief risk officers (CRO) and Risk Managers who usually report through to the CFO or CEO, and such individuals provide much needed guidance on best practices and current issues. In small and medium enterprises (SMEs), such staff positions generally do not exist. In either case, whether in large organizations or SMEs, the landscape of risk is changing so rapidly and the task is so complex, that CFOs feel that they need more knowledge and resources to confidently understand and manage all the issues.

CFO’s action:

1. Ensure that you understand your risk mandate, particularly that from the board and audit committee. Read your audit committee charter to see what they need from you.
2. Seek guidance from internal or external risk experts to measure where you are.
3. Access sources of good information about ERM and understand best practices.

One important development that is putting clarity into risk management is of enterprise risk management (ERM). This management discipline helps organizations of all sizes, public or private, better meet goals through aligning the key objectives with principle business risks. An increasingly popular, internationally recognized ERM standard is the newly revised ISO 31000 and it’s supporting implementation guides and definitions documents. The Canadianized version, CAN/CSA ISO 31000, is a simple guide and can be purchased through the CSA (www.csa.ca) or internationally at the ISO site.

In research appearing in the *Journal of Applied Finance*, ERM authorities John R.S. Fraser, Karen Schoening-Thiessen and Betty J. Simkins, explore the sources of reading materials accessed by many of North America’s top experts in risk. In *Who Reads What Most Often? A Survey of Enterprise Risk Management Literature Read by Risk Executives* the authors answer the question on many CFO’s minds: “What available research can I read to learn about this methodology or to increase my knowledge base?”

Another helpful source of information is academic research. One school that is leading the charge in this discipline is North Carolina State University’s College of Management. This institution believes in making its research available to the public, and has built a robust website (http://mgt.ncsu.edu/erm/) which houses articles, webinars, books, and information about conferences and ERM round tables. At last look, the site posted 43 articles on the subject of ERM tools and techniques and 45 articles on boards, audit committees and ERM.

For CFOs who want to become active in ERM, the Conference Board of Canada’s Strategic Risk Management Counsil is an association of risk and financial people who meet regularly and exchange ideas and best practices on managing risk.

As the world of commerce becomes more complicated, the learning curve on risk management becomes much steeper. Understanding that the risk buck stops with them, those in financial roles are finding that delegating education on this subject leaves them vulnerable, and that accessing a stream of quality information from credible sources is vital to their ongoing responsibilities. ■

Stephen Mallory (steve.mallory@directorsglobal.com) leads Directors Global, a professional services firm which advises on enterprise risk, and places commercial P&C insurance.

Reporting tools — Moving beyond spreadsheets

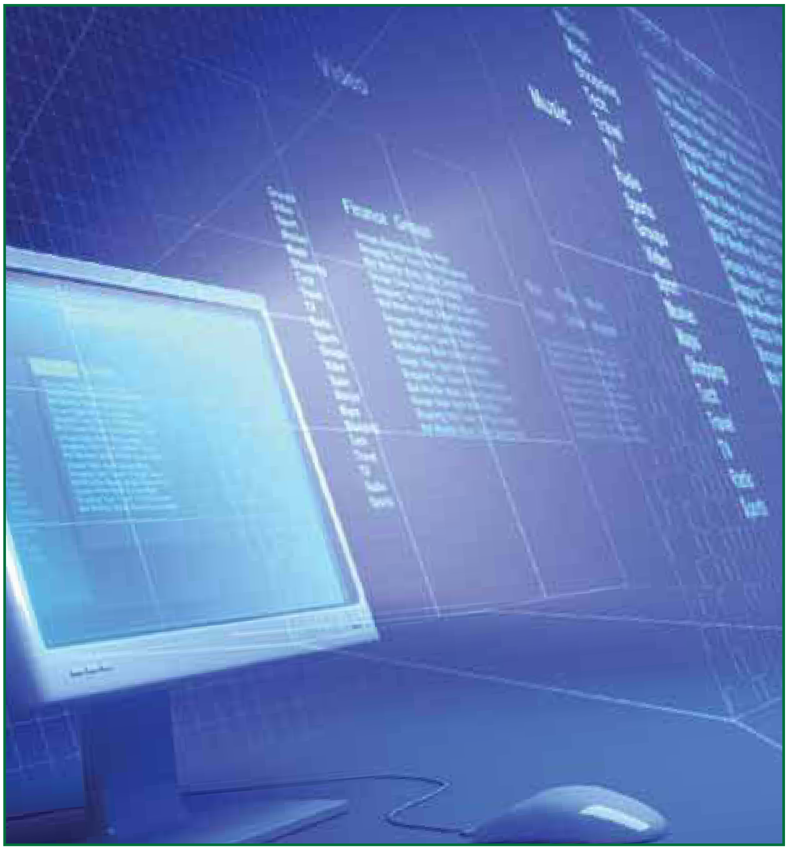
In a business world driven by KPIs, data visualization is becoming a core competency.

By Jacob Stoller

The spreadsheet has become the virtual "slide rule" for CMAs. It's used for everything from preliminary strategic plans to financial statements. As with any familiar method, it finds its way into numerous situations where better alternatives are available, most significantly in its widespread use as a de facto reporting tool.

The appeal of the spreadsheet as the quickest way to get a report out is not hard to appreciate. "Excel is probably the most comfortable environment for a lot of financial professionals," Alok Ajmera, vice-president, professional services with Mississauga, Ont.-based Prophix Software, says. "There's a very little learning curve, you can effectively do whatever you want with the data, and it works fairly well in smaller organizations."

Periodic and complex reporting in processes like revenue management or cost management, however, is where the spreadsheet model really starts to break down.



If anything, it could be argued that the spreadsheet is a little too user-friendly. "Once you actually put data into Excel, it's free-form, and it can be manipulated and modified, either consciously or by accident," Ajmera adds. "Most financial professionals have tight deadlines, they have to close the books, they have to get the reports out, and during that process, if it's all relatively manual, you open yourself up to human error."

Periodic and complex reporting in processes like revenue management or cost management, however, is where the spreadsheet model really starts to break down. "Excel does allow you to poll real-time data using things like pivot tables for instance, but it can be a little bit cumbersome," says Grant Perreault, application consultant for Edmonton-based IT solution provider SSI Solutions, "especially to re-visualize data that you want to see repeatedly, or once you need advanced capabilities that you can no longer see and present."

Reporting tools, on the other hand, are designed for accessing multiple live databases. They automate the data access process, resulting in less work once the standard report has been set-up. They prevent headaches such as broken links, and provide protection against errors. As well, they provide a professional looking presentation with minimum effort.

The real advantage of reporting tools, however, is the added power that they give companies when it comes to visualizing their data. "We live in a database-centric world — all of our data is in databases at this point," Perreault says. "We have so much data coming in from various systems that reporting tools are becoming essential to analyze that data — it's the only way to visualize it. And being able to visualize your data, I think, is a good first step to becoming a successful analyst."

The growing use of formal KPIs to measure performance has also put new pressures on analysts' ability to visualize data.

SSI's business model is an interesting case when it comes to applying these capabilities. As a provider of hosted IT services, the company allocates a number of shared resources — servers, monitoring infrastructure, and staff — to respective clients. "We're undertaking a new initiative here to organize the organization into discrete cost centres," says Mark Morpurgo, FCMA, SSI's CFO, "and so, a big piece here is that we need to allocate those costs from cost centres to operating departments. So the question is, 'on what basis are we going to allocate those costs?' The answer will be some form of usage. So we have to come up with some type of measurement that says, 'here's our capacity, and here's how those servers are being utilized according to that capacity.' "

Like many companies, SSI uses SAP's Crystal Reports for reporting, and typically, they do so with the assistance of IT. "Some people will say Crystal Reports is easy to use, but it's not that easy," Morpurgo says, "so we have two people who do that. It's critical, actually. I don't think we could run our businesses effectively otherwise."

The growing use of formal KPIs to measure performance has also put new pressures on analysts' ability to visualize data. "I think the competency necessary to utilize these tools is higher than it used to be," Morpurgo says, "and I think we're moving away from inputting data to extracting data — instead of creating databases, we need to be able to understand how to get in and extract the data from an existing database."

A lot of this is about understanding how databases are organized. "Everything deals with the tables and the relationships between those tables, and how data is interrelated," Perreault says, "and so it's very important to know how your data is being laid out in the database, so it may require some more intimate knowledge if you're connecting with a back-end system, an internal system, for instance. That I think is probably the biggest stumbling block — knowing the layout of your systems."

For companies that don't have the IT resources to help with these tasks, some other options are emerging. "What's happening with companies like Prophix," says Ajmera, "is we're building applications that are meant to be maintained and owned by non-technical finance people. A tool like Prophix is really geared toward helping the transition for the finance people from a comfortable Excel environment to something that's very similar in look and feel, but more structured … giving them that ability without having to learn things from an IT perspective."

Regardless of the tool, however, there will still be data issues. Polling large amounts of data can slow down databases and impact users. There could be security concerns as well — because dynamic reports involve live data, this means that the recipients of the reports are effectively given access to the source databases. "If the information is for invoicing data, it's fine to analyze that data between multiple sets by internal users at least, but once you start dealing with very sensitive topics, like payroll, you need to be careful," Perreault says. "You may need to work with your IT department to ensure you have the proper permissions."

The ability of analysts to design will become more critical as they use tools to generate more sophisticated reports. "The key before creating a report is to sit down and ask, 'What are we missing? What are the gaps in our performance? And what data is missing to help us determine to make a decision to make us resolve that issue?' After that, we can produce a focused report,' " Morpurgo says.

Ultimately, reports have no purpose unless they get read. "We could potentially have all these reports, and we could crank them out every month," Morpurgo says, "but are the right people looking at them? Did they just gloss over them? Are they using them to make the right decisions? And six months or a year after a report was generated, has anybody taken a step back and asked 'Is this still valid?' " ■

Jacob Stoller (jacob@stollerstrategies.com) is a Toronto-based independent writer and researcher.

Marketplace

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The writing on the wall?

Literacy skills save lives — and money — in the workplace.

By John Cooper

How literate is your workplace and how does literacy factor into employee safety and corporate budgets?

That's a question a recent Conference Board of Canada report seeks to answer. In *What You Don't Know Can Hurt You: Literacy's Impact on Workplace Health and Safety*, researcher Alison Campbell outlines the importance of literacy as a key health and safety component. Safer workplaces have lower accident rates. When workers are assisted in raising their literacy skills they can better react to workplace safety issues in accordance with established health and safety measures, making the workplace safer. Addressing literacy skills reduces costs, from health and safety assessment rates to Workers' Compensation Board premiums and fines.

When workers are assisted in raising their literacy skills they can better react to workplace safety issues in accordance with established health and safety measures, making the workplace safer.

Literacy is defined as an ability to read, write, understand instructions, use numbers for various tasks and acquire, develop and actively use life and workplace skills. According to Statistics Canada, despite the fact that 43 per cent of Canadians have successfully completed post-secondary education, four out of 10 Canadian adults lack the literacy skills necessary to be fully competent in most jobs in today's economy. Worldwide, the United Nations Educational, Scientific and Cultural Organization (UNESCO) reports that more than one billion adults cannot read or write, and up to two billion are affected if numeracy is included.

The Conference Board report looked at 10 Canadian workplace literacy and training programs to gauge their effect on the workplace. A survey of employers found that, while corporations clearly value literacy skills, training for those skills was not always available through the workplace and cost, accessibility to training, and the social stigma of illiteracy can be roadblocks.

Low literacy carries risks and many employers are unaware of — or underestimate — just how literate their workers are; this can be problematic for something as straightforward as reading a safety manual. As well, many workers may not realize that low literacy skills may put them or their colleagues at risk, potentially resulting in critical injuries and costly equipment and property damage.

"The biggest surprise was that employers expressed higher levels of confidence in employees' ability to read and understand health and safety information than did employees or labour representatives," Campbell says. "If employers feel confident in their workers' literacy levels, they are less likely to see the need for training to upgrade employees' knowledge and understanding of health and safety practices." Without question, the private sector recognizes the need for workplace training — occupational health and safety accounts for eight per cent of training, learning and development (TLD) expenditures in Canadian organizations, and TLD expenditures represent 1.5 per cent of payroll. Yet there were almost a million accident claims made in 2006 alone and the number of workplace deaths rose from 758 in 1993 to 1,097 in 2005. Time-loss injury compensation claims between 2003 and 2005 stood at more than 134,000 in the manufacturing, construction and transportation and storage sectors. One way to reduce accidents is to raise literacy levels, Campbell says, and "many employers are unaware of the impact of low literacy skills in the workplace. However, health and safety risks and incidents that can be attributed to low literacy skills represent real costs to employers that they can mitigate through literacy training."

Responding to the literacy issue are organizations like New Brunswick's Atlantic Health Sciences Corporation (AHSC), which operates 12 hospitals and health centres and implemented a successful training program. Serving more than 3,000 customers a day in seven cafeterias, AHSC's department of nutrition and food services, following a major change in food preparation processes, was faced with a need to deliver new worker orientation, skills training and performance expectations. In the past, performance-management measures had lapsed and performance was poor. The solution: introduce a performance management system using competency-based training, linking the organization's values to performance expectations. Food-safety issues were addressed through training and accountability through documentation and staff members were educated in the importance of food safety and monitoring the preparation process.

At De Beers Canada in Yellowknife, which operates the Snap Lake diamond mine 220 kilometres northeast of the Northwest Territories capital, health and safety was a factor in all aspects of the company's operations, and the company focused on ensuring that employees were aware and capable of meeting safety standards. A multi-faceted approach was developed to address issues of literacy, both at work and in the community.

De Beers Canada has been operating for eight years and actively mining since 2007. Six hundred employees and contractors are divided between the Yellowknife head office and the mine site. Kelly Arychuk, manager of human resources and administration, said De Beers, one of three NWT diamond mines, is also the youngest, and "we learned from other diamond mines with respect to training programs. We had the opportunity to start from the ground up."

The company, a major employer of Aboriginal workers through an agreement with local Aboriginal communities, "hired workplace instructors who are committed to literacy and adult learning and built a learning centre that operates seven days a week," Arychuk says. De Beers changed the trainers' titles from "educators" to "workplace instructors" in order "to remove the stigma of going to a learning centre or the overtones of literacy issues. We make it an exciting and fun place. We have big bulletin boards outside the learning centre and the facility itself is bright and airy."

Seven steps to incorporate literacy into your company's health and safety plans:

- Review past incidents through a "literacy lens" — was low literacy a factor?
- Review organizational health and safety policies and practices.
- Examine policies and practices from the perspective of an individual with lower literacy levels.
- Brainstorm solutions to help users understand health and safety documents.
- Measure and track health and safety incidents and improvements.
- Recognize outcomes — look at literacy training as a win-win situation.
- Reward efforts to improve literacy skills.

There are always five or more employees involved in literacy programs at any one time, and with a full-time workplace instructor and manager in place, accessibility to learning is guaranteed — a big plus, because literacy needs continuous practice to be effective.

Although 43 per cent of Canadians have successfully completed post-secondary education, four out of 10 Canadian adults lack the literacy skills necessary to be fully competent in most jobs in today's economy.

English is not always the first language for many De Beers Canada workers; the ability to respond to instructions in an emergency situation or even read manuals or pamphlets can be compromised and this can be exacerbated by a reluctance to self identify as having low literacy skills. In addition to the learning centre, De Beers offers equal paid time off for learning activities; internal communications keep workers apprised of training opportunities and there are interpretation services for those whose first language is not English. English-language training is always available, particularly as it applies to health and safety training modules. One-on-one instruction is provided to those who need it and training is customized to the learner's specific goals and needs.

"There is a lot of safety training available via e-learning, which you can do visually and vocally, and you can go at your own pace," Arychuk says, adding that while there are still some components that haven't moved to e-learning, these are handled with one-on-one instruction. "We employ a multitude of ways to approach learning and have tried to pick the best methods."

The program's benefits have been twofold. Within the company there is a greater awareness of health and safety issues; outside, the local community has embraced heath and safety. Additionally, DeBeers is working with other companies to develop and implement effective programs.

"We're big on partnerships," Arychuk says. "With the three mines up here we can pool our money and do greater things than we could do individually." That includes a "Books in the Home" program that delivers books to remote communities (often underserved by libraries or Internet services), and getting learning centre graduates out into the community as role models. ■

John Cooper is a Whitby, Ont.-based freelance writer.