Shingo Blog

HOSHIN KANRI: POLICY DEPLOYMENT CYCLE

Hoshin Kanri: Translating "Big Vision" from Strategy to Execution

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Part 1: Hoshin Kanri – Concept Origins

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Prior to World War II, the U.S. share of the world export market was approxi-

mately 30%. In the aftermath of World War II that share grew to more than 70% – a result of a generally healthy and educated workforce, as well as a U.S. infrastructure that remained largely untouched by the war. In contrast, many European and Asian nations were left to deal with infrastructure devastation and human tragedy alike, often with less educated workforces using antiquated equipment.

Given that context, American manufacturers were generally able to sell all that they were able to manufacture, whether that produced was of superior, average, or inferior quality. It is simple, but inaccurate to assume – especially when basking in the afterglow of World War II victory – that American superiority was responsible for this growth in market share and consequent relative prosperity.

Relatively unnoticed was the role played by instruction in and active spread of quality control methods in American industry during World War II by such luminaries as W. Edwards Deming and Joseph M. Juran, as well as other, usually uncredited individuals. Those methods proved fundamental to, for example, production of superior quality military equipment such as tanks. This is not, of course, intended to imply that quality control methods were solely responsible for allied victory in World War II, but only that these were an important factor.

After World War II, many of those Americans trained in quality control methods (women) left the workforce and returned to the home. Over the next decades, many of the lessons learned were lost. This was one of at least two things happening concurrently with the other being that the same "quality gurus" largely responsible for teaching quality methods to approximately 30,000 members of America's World War II workforce began out of empathy for the plight of the Japanese people to teach those same methods in Japan, with the belief that those methods could significantly aid the long climb Japan would need to make from the devastation of World War II.

What Deming, Juran and others found in Japan was a highly talented, highly motivated collection of business and engineering leaders who embraced these methods with near "tent revival" zeal, and who not only widely and expertly adapted and deployed these methods, but who added new and highly pragmatic approaches. This was done with the sort of efficiency that extreme resource scarcity can motivate, augmented by the effectiveness that dedication to precision births. Just as Deming, Juran, Armand Feigenbaum, Philip Crosby, H. James Harrington, Walter Shewhart and other American quality luminaries wielded

significant influence, a new constellation of Japanese "quality stars" arose, the names and developments of whom have been and remain integral to contemporary expressions of quality in its many forms that include, but are not limited to, lean enterprise methods and six sigma – individuals such as Shigeo Shingo and single minute exchange of die (SMED or quick changeover); Taiichi Ohno and the Toyota Production System (TPS) that resides at the heart of the lean manufacturing movement; Masaaki Imai and kaizen (continuous improvement); Kauro Ishikawa and cause-and-effect diagrams; Yoji Akao and quality function deployment; Genichi Taguchi and robust product design; Noriaki Kano and the customer needs model; and hoshin kanri – the development of which is not attributed to any single individual, but rather the first use of the term appears to have originated at Japan's Bridgestone Tire company in 1965 (Watson, 2003).

This combination of zeal, expertise, methodological innovation and application, and relentless pursuit of perfection began to have an effect on the American share of the world export market – one that was scarcely noticed until American manufacturers surrendered consumer electronics and automotive markets to Japanese manufacturers – victims not only of Japanese drive and ingenuity, but of their own arrogance and a sense that it was "impossible" for anyone else to out-perform, out-create, or out-innovate American enterprises. The result of this was that by 1990 the U.S. share of the world export market had fallen to its pre-World War II level of about 30%. Today that share ranges between 10% and 15%, and the U.S. has become the world's greatest debtor nation.

Much has been and continues to be written about the "Japanese miracle," though some of the sheen has dimmed as Japan's economy – like many others – has struggled in recent years. Still, books such as *World Class Manufacturing* by Schonberger (1986), *Kaizen* by Imai (1986), *The Machine that Changed the World* by Jones, Womack and Roos (1990), and numerous others have had significant impact on the way many global enterprises do business. This is especially so in select sectors such as the automotive industry that have embraced lean philosophies and methodologies. Increasingly this is also seen in such sectors as healthcare and banking.

While each of the strategies and methods cited provide value to enterprises using them, we will focus primarily on hoshin kanri, which is essentially an organizing framework that directs enterprise-wide attention to corporate purpose, aligns priorities with local plans, integrates these into daily management and activities, and facilitates enterprise learning and enculturation through routine

review (Witcher and Butterworth, 2000).

Part 2: Hoshin Kanri – A Valuable Concept

Roots of *Hoshin Kanri* may be traced to – at least – *A Book of Five Rings* written in 1645 by Miyamoto Musashi (Harris, 1982). This book, the essence of which is captured by the word *heiho* or *strategy*, was a resource intended to provide instruction to samurai warriors, including instruction in what is perhaps the quintessential samurai skill – *kendo*, or precision swordsmanship. Relative to *kendo*, *A Book of Five Rings*, asserts that those thoroughly conversant with strategy will recognize the intentions of their enemies and through preparation and recognition will have many opportunities to cultivate and execute strategies capable of thwarting the objectives of their adversaries and positioning themselves to be victorious.

Like *heiho*, the word *hoshin* is comprised of two Chinese characters: *ho* – which means method or form, and *shin*, which is often translated as "shiny metal – the glint from the spear that leads the way" (Lee and Dale, 1998) or, in a more contemporary form, an aim. When assembled, the word *hoshin* and can be taken to mean "a methodology for strategic direction setting". The word *kanri* is commonly interpreted as "management" so that *hoshin kanri* becomes "management of the strategic direction setting process". Given this interpretation, in the West, *hoshin kanri* is commonly referred to as either *policy deployment* or *strategy deployment* or – often – by the East / West hybrid term that we will henceforth use: *hoshin planning*.

Generally speaking, a given *hoshin* is mission and vision critical to an enterprise and is stated in terms of a goal or objective – that is, a policy or a strategy – that is intended to elevate associated business processes and outcomes to a target performance level. The underlying structure of *hoshin planning* implies that it can be applied at essentially any level of the enterprise, ranging from senior executive level to the day-to-day operational level.

Often, a high level (senior executive) *hoshin* is of such foundational importance to the enterprise that failure to attain or fulfill it within an appropriate timeframe will place the organization at risk. As such, a high level *hoshin* can be thought of as representing "big (enterprise) vision". Organizations that practice enterprise level *hoshin planning* ordinarily have a limited number of *hoshins* – typically three to five – that must be realized within a specified time span that, in the West, will ordinarily range from one to five years, with specified mile-

posts and periodic stage gate reviews along the way.

Those of us in the northern hemisphere can relate to a *hoshin* as an organizational north star or "true north", whereas those of us in the southern hemisphere may think of a *hoshin* in relation to the Southern Cross: *hoshins* are intended to aid enterprise navigation and alignment by riveting collective enterprise focus on their attainment.

At the enterprise level, *hoshin planning* begins with "big vision" that is progressively unfolded by cascading the various *hoshins* from one level of the enterprise to the next to the next and so on – beginning with the executive level and ending with the operational level. Thus, from one level to the next to the next until the bottom of the waterfall an increasingly detailed scheme emerges. In this way *hoshin planning* begins with strategy or policy, is progressively transformed into plan, that is progressively executed, leading to full strategy / policy implementation. *Hoshin planning* beginning at the operations level is executed in like manner, but with generally less far-reaching strategic implications and nearer-term fulfillment needs. In its high-level incarnation hoshin planning is highly strategic and focused on breakthrough improvement (Witcher, 2003) whereas at the operations level it is ordinarily on more incremental, continuous improvement (Hutchins, 2008).

We can conclude that a key benefit of *hoshin planning* is its ability to create consensus (Watson, 2003) and facilitate enterprise alignment through significant workforce participation (Kondo, 1998) that requires extensive communication that is both lateral and multi-level in nature. Such communication assures that each individual involved in the *hoshin planning* process is conversant with the "big goals and objectives" or *hoshins* of those both immediately before them (their direct supervisor) and immediately following them (their direct reports) as well – usually – with those of their immediate colleagues. This occurs because their own *hoshins* and related activities are driven by *hoshins* received from their direct supervisor and in turn inform the *hoshins* and related activities of their direct reports so that all involved in the process are familiar with three or more levels. This communication process is fundamentally a negotiated dialogue that is often referred to as "*catchball*" (Tennant and Roberts, 2001) and "connects the planners and the doers" (Sussland, 2002). Successful *hoshin planning* implementation is often associated with complementary and skilled use of effective performance management and measurement approaches such as the balanced scorecard (Kaplan and Norton, 1996; Witcher and Chau, 2007). Together these approaches provide an exceptional means of rationally applying

management of objectives as developed by the father of modern strategic management – Peter Drucker (Greenwood, 1981).

The value of *hoshin planning*, as with most approaches, is bounded by the value and timeliness of the strategy or policy being deployed, not to mention the quality of the "plan" as it unfolds through the organization. Figure 1 provides a view of the larger context within which *hoshin planning* typically occurs. Although *hoshin planning* may begin at any level of an organization and cascade downward through relevant other levels until sufficient execution is attained, we will provide the high level view that emerges by beginning at the senior executive level (CEO) of the enterprise.

To explain Figure 1 we use the increasingly common scenario wherein organizations must produce not only acceptable financial performance and impacts to satisfy key stakeholders, but also socially equitable and environmentally sensitive performance and impacts are demanded by citizens and regulatory agencies if not – indeed – by our own consciences. Prior to examining Figure 1 we note that it is naïve to expect such positive "end of the pipe" *triple bottom line* (Elkington, 1997) performance and impacts without formulation of relevant "into the pipe" *triple top line* strategy (McDonough and Braungart, 2002).

Figure 1. *Hoshin planning* from an enterprise perspective.

Examining Figure 1 from left-to-right we see that most enterprises have clearly defined purpose, mission and vision. The function of enterprise strategy and governance is to serve this purpose, vision and mission. Contemporary enterprises increasingly strive to be economically sound, socially equitable, and ecologically sensitive and hence formulate their strategy accordingly, with many organizations also needing to incorporate other context driven strategy elements such as being aggressively innovative in order to compete or to remain or become relevant in the marketplace. Although a typical organization will have numerous strategies, the *Pareto Principle* (Juran, 2005) of separating the "vital few" (strategies) from the "trivial many" suggests that a few of these will be primary – that is – *hoshins* that populate the vital few, while the others will be relatively less important and will constitute the trivial many. Given the growth of triple top line approaches, and the importance of innovation, many

organizations may have one or two *hoshins* that emerge from each of these categories.

Once executive level *hoshins* are determined, those executives will communicate these "*what to*" priorities on to the subsequent organizational level. Those responsible at the next level are provided with these *hoshins* or *what's* – generally with little to no guidance as to "*how to*" fulfill these: determination of *how* is up to those at that level as is the selection of *which hoshins* are relevant to their span of influence. Those responsible at this next level will then determine the relevant *how to* elements and these become the *hoshins* or *whats* that are cascaded to the following level.

This process continues, with the *hoshins* or *whats* at one level translated into *hows* at the next level until the plan is fully elaborated, transforming in the process from "big vision" to "execution". Relative to Figure 1, this process begins with strategy at the executive level seen on the left side of the Figure, and is unfolded through various levels – with people doing the unfolding through progressive translation of *whats* into *hows* into *whats* into *hows* ... as represented by the center portion of Figure 1, ultimately delivering performance and impacts along the way as seen in the rightmost box of Figure 1. The mechanisms of the transformation are portrayed in the center portion of Figure 1: people, processes, partnerships, principles, practices, policies, and whatever other resources might be deployed / applied.

It is important to note that this is a living or cyclical process in that performance and impacts resulting from *hoshin* implementation are intended to provide both *insight* into recent enterprise performance and *foresight* into future enterprise priorities. Of course it is also important for the organization to be externally aware so that future priorities might be influenced by new, pending or likely legislation; by technological changes; by economic cycles; by emerging megatrends; or by other things not herein cited, but yet highly relevant to the enterprise's competitive landscape.

Seen in this context, *hoshin planning* can be regarded as analogous to application of Deming's Plan-Do-Study-Act (PDSA) Cycle at the enterprise level or, indeed, at whatever level *hoshin planning* is practiced (Moen and Norman, 2010).

Part 3: Hoshin Planning Applied

Illuminating examples of hoshin planning use by Western enterprises are abundant and readily available. For that reason, they are only briefly mentioned herein accompanied by references where implementation details can be found. It would be erroneous to presume that hoshin planning is equally well imple-

mented in all areas of a given enterprise, nevertheless, those cited are ones that have made fortuitous use of the method. In such instances, it is clear that enterprise-wide transparency has been a critical success factor: when the workforce understands corporate mission, vision and purpose they can better manage their own priorities and activities and appropriately adjust in order to better align these with enterprise goals – especially enterprise-level hoshins (Witcher and Chau, 2007).

Perhaps best known for use of hoshin planning among Western organizations are Xerox Corporation (Witcher and Butterworth, 1999) and Hewlett-Packard (Witcher and Butterworth, 2000). Of course, hoshin planning use has around the globe, with the initial apostles of hoshin planning commonly being global enterprises that have first experienced positive domestic results. As but a single example among many, we point to Nissan Corporation and successful use of hoshin planning in their South African plant (Witcher, Chau and Harding, 2008). Numerous early examples of transfer of hoshin planning and other significant Japanese management innovations can be found in, e.g., Kano (1993) and Lillrank (1995).

Climbing the Hoshin Planning Ladder: Nuts and Bolts Facilitation

Figure 1 presents a contextual view of hoshin planning's fit in the larger enterprise perspective, but does little to aid implementation, and it is to implementation that we now turn. Although implementation can and usually is challenging, it can be fruitfully approached through a relatively concrete, almost algorithmic means. Given that the primary consumers of this contribution will have little or no experience with hoshin planning, our focus is on providing such an algorithmic, step-by-step approach. We begin by examining Figure 2 which provides an adaptation of a commonly used depiction of the hoshin planning process.

Figure 2. The *hoshin planning* process.

We see in Figure 2 that executive/senior leadership and management is responsible for the formation and communication of "big" vision and objectives to the following management tier, mid-level management, which in turn explicitly translates these into their strategy while also identifying and developing requisite resources that will be needed for deployment. This communication, represented by the red two-way arrow connecting vision and objectives to strategy and resources is a negotiated dialogue wherein explicit goals are set. In turn, mid-level management communicates their strategy and distributes resources to hoshin implementation teams that are responsible for determining precisely how and in what time horizon execution will take place. Negotiated dialogue or catchball between mid-level management and the implementation teams – represented by the red two-way arrow between strategy and resources and activities and execution horizon identifies and agrees upon the measures by which success or failure of a hoshin implementation is assessed. Similarly, executive/senior leadership and management review implementation team proposals

to determine whether these are sufficiently aligned with vision and objectives and, of course, are sufficiently aggressive to meet strategic/competition critical needs.

As a final note on Figure 2, the red arrowheads of varying size positioned on the hoshin planning cycle (that is, the outer circle of Figure 2) are intended to indicate two things: that hoshin planning is in fact cyclical, and – further – that the time horizons generally differ. The large red arrowhead on the right of Figure 2 indicates that executive/senior leadership and management often address longer horizons of three to five years, middle managers address shorter horizons of one to three years as indicated by the medium red arrowhead at the base of Figure 2, and implementation teams routinely attend to activities with horizons of one year or less as signified by the small red arrowhead on the left side of Figure 2.

Figure 3 provides a commonly used *hoshin planning* tool that is referred to as an X-matrix.
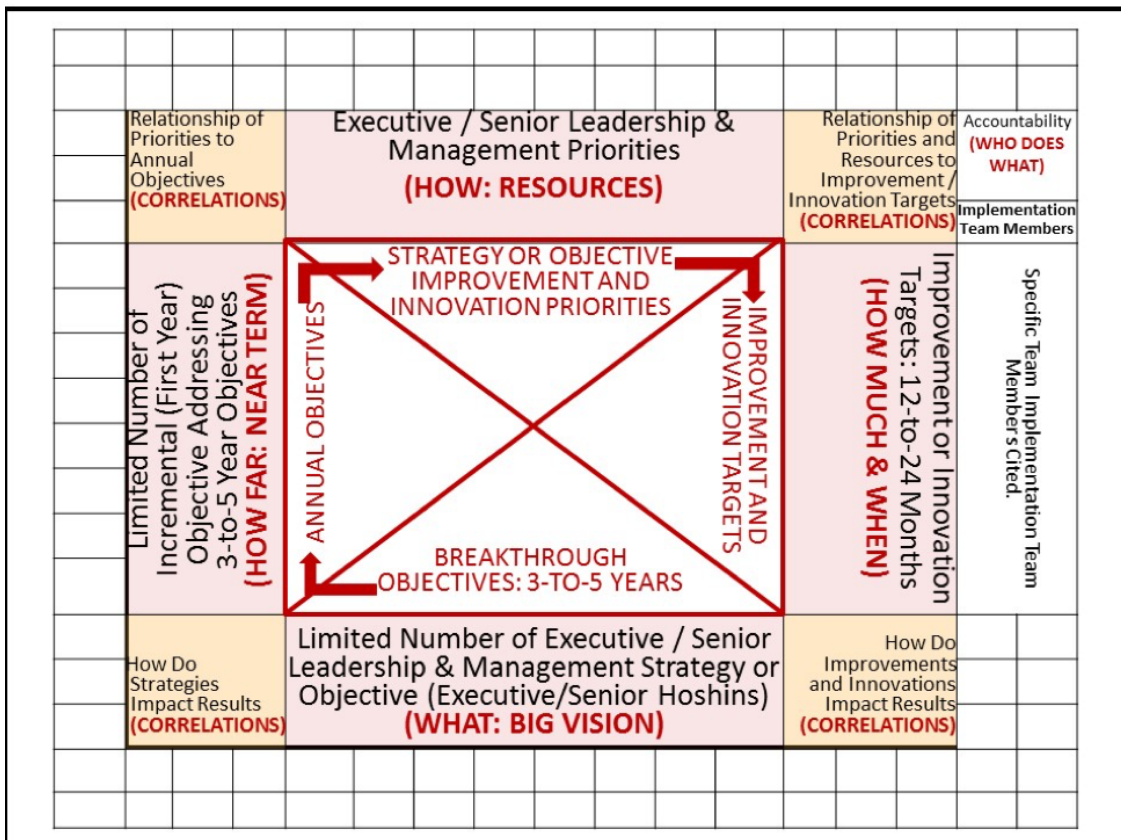

Figure 3. Hoshin planning X-matrix.

Revealed in Figure 3 are executive/senior leadership and management break-through objectives (hoshins) at the bottom of the X-matrix, in relation to which are nearer-term objectives on the left side of the graph, with the relative strength of the relationships in the lower right hand corner of the graph. Near-term objectives are in turn related to executive and senior leadership and management priorities that are reflected by dedicated resources as revealed at the top of the X-matrix, with the strength of relationships between the two provided in the upper-left corner of the X-matrix. Associated with dedicated resources are specific targeted outcomes that form the right side of the "X" where the relationships between priorities and targeted improvements and innovations are depicted in the upper-right corner of the X-matrix. Finally, we see on the extreme right side of the X-matrix specific efforts associated with specific implementation teams and team members. The relationships (correlations) cited in the four corners of the X-matrix are often symbolized as being strong, moderate, weak, or – in some instances – as an empty cell indicating no relationship between specific elements. Other context-driven elements may be added to the X-matrix as needed.

As a second useful aid in hoshin planning implementation we cite the A3 tool (Chakravorty, 2009) where A3 refers to the size of paper commonly used, that is, 11 inches by 17 inches or twice the size of standard US-letter format paper. A3 document content is often populated by steps associated with the plan-do-study-act or PDSA cycle, though we here recommend a modified PDSA cycle similar to the one provided in Figure 4 that is subsequently described.
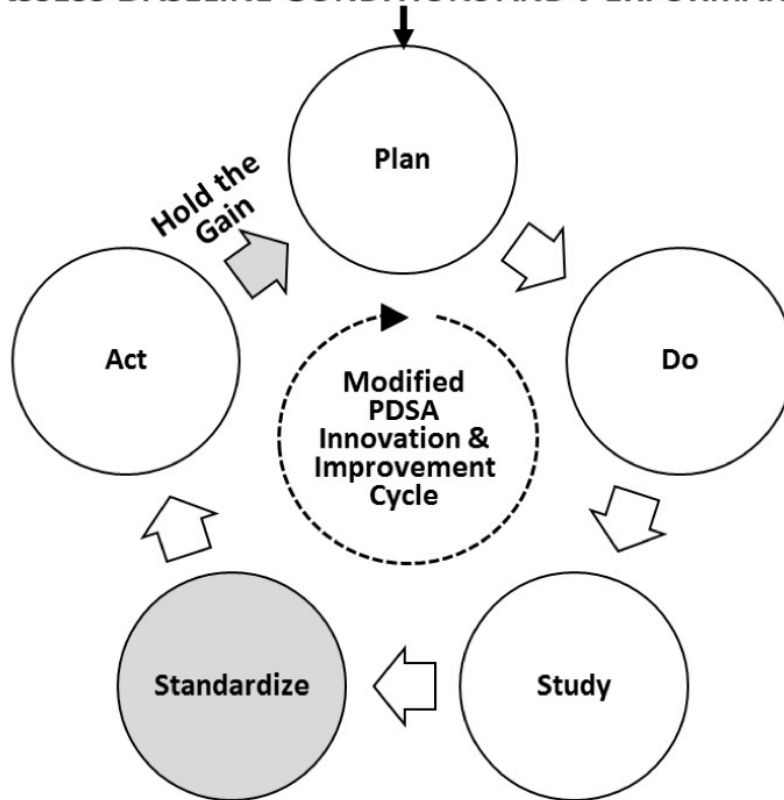
Figure 4. Plan-Do-Study-Act (PDSA) Cycle modified to include standardization and gain-holding.

Due to Walter A. Shewhart and popularized by Dr. W. Edwards Deming, the PDSA cycle is also referred to as the Deming Wheel or, more commonly, as the PDCA cycle where the word "check" rather than "study" was used by Dr. Deming until later in his life. Toyota and many other companies make routine use of the PDSA cycle relative not only to hoshin planning, but as a general use problem-solving tool, including – often – in an A3 format (Shook, 2009).

Whether provided in an A3 or other format, the (modified) PDSA cycle of Figure 4 may be described as follows:

As with any journey on which one embarks, it is prudent to fully understand where the journey originates, that is, to *assess the current or baseline conditions*, including current performance levels and the root causes of inadequate performance (Doggett, 2005). Use of PDSA implies there is a gap between current and aspirational performance and – generally – the decision has been made to pursue an incremental approach to improvement. Relevant to hoshin

planning, it is appropriate to note that while executive and senior leadership and management hoshins correspond to "big vision," as hoshin planning cascades strategy through the enterprise, that at each successive level strategy transforms more and more into tactics which these increasingly corresponding to incremental change: PDSA cycles – in whatever format – are useful for anyone, at all levels.

Once the current situation has been assessed the individual or team preparing the PDSA/A3 will *identify planned beneficial changes that address* to the process or system under consideration as well as the goal or target performance level resulting from those changes. This is followed by "doing" (*implementing*) *the planned changes* – potentially on a limited or pilot scale since changes may not prove sufficiently beneficial to warrant full-scale implementation. The status of the changed process or system will then be *assessed or studied* (that is, "checked") to document its new performance capability and whether the gap between prior performance and the goal or targeted performance has been adequately addressed. If the gap has been adequately addressed, the changes will be *standardized and fully documented* with the purpose of making the solution resulting from the changes a more portable one, at which point the solution will be fully implemented and process control established that ensure that benefits of the changes are maintained.

In noting that use of PDSA is typically cyclical, the individual or team responsible for the specific PDSA will likely engage in another round of planning, *ad infinitum* until the performance of the process or system in question is sufficient. We further note that while PDSA ordinarily pursues a series of incremental improvement that, collectively, yield large-scale improvement, use of PDSA does not preclude attainment of breakthrough improvement on any given iteration.

Summary

Hoshin kanri is known by many names, including policy deployment, strategy deployment, and hoshin planning. Originating in Japan, the primary intention of hoshin planning is to translate strategy into actions that ultimately yield relevant performance and impacts. A number of tools and methods are available to support this process, but it is critical not to place undue focus on the tools, numerous variations and adaptations of which can be found. Equally, it is important not to "fall in love" with a given strategy and to recognize that there is no perfect strategy – only better and worse ones; relevant, less relevant, and irrelevant ones.

Hoshin planning has been successfully used in many organizations, among

them Bridgestone Tire – where hoshin planning originated – Toyota, Nissan, Hewlett-Packard, and Xerox. Although it is a highly structured strategic planning and deployment process, hoshin planning is versatile and can be of value to organizations in any business sector, including yours.

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