

VOLUME 5, NUMBER 3

Reflections

The SoL Journal
on Knowledge, Learning, and Change



Emerging Knowledge Forum

Leveraging Global Culture in Our Journey Toward Global Leadership Development

By M. J. Jamal and Nora Hughes

The dilemma for companies like Intel is how to build a business with global reach while maintaining consistency of purpose and at the same time capitalizing on the differences that enhance local presence. This dilemma applies to both products and people. This article describes the leadership development process and principles that one Intel division uses to build on its global culture and embed distributed leadership in its business while managing the following important dynamics: enterprise vs. site needs; succession planning for key positions vs. deepening the entire bench and creating robust leadership for the future well-being of the organization.

Published by The Society for Organizational Learning

► reflections.solonline.org

ISSN 1524-1734

Leveraging Global Culture in Our Journey Toward Global Leadership Development

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“Globalization is the next major factor. The scarcest resource will be qualified leaders. Leaders will need to be able to source and develop human capital globally.”

— Noel Tichy, *Director of the Global Business Partnership at the University of Michigan Business School, coauthor of Building the Leadership Engine*

Sharifah in Penang, Malaysia, is calling from home in her pajamas while drinking tea tarik before bed; Joe in Arizona, reaching the plant on the run after grabbing a bagel and coffee on the way in, punches in the numbers on his cell phone; Sean in Ireland is nearly ready to pack up for this day as he calls with his afternoon cup of tea in his hand; while Boaz in Israel has already had dinner with his family and is savoring a dish of ice cream with the sun setting over Jerusalem as he makes the call. As they join together in the call, they quickly catch up on the events of each day and move into the business of the meeting.

Each of these leaders is part of Intel’s Technology Manufacturing Group. Sharifah in Malaysia and Joe in Arizona are with the company’s Assembly and Test (A/T) operations (or ATM); Sean in Ireland and Boaz in Israel are with Fabrication Sort Manufacturing (FSM). Not only do they face the intricacy of the most complicated production processes in the world; they also face the challenges of running an operation that spans the globe. ATM, a division of approximately 30,000 people, takes the wafers produced by FSM, cuts them into individual chips, assembles them into products—perhaps for your computer, perhaps for your cell phone or PDA, perhaps a different product altogether—then tests the quality of the products before sending them out for shipping. ATM operates in six locations in five different countries, spanning 16 time zones: Chandler, Arizona, in the United States; Penang in Malaysia; Shanghai (and soon Chengdu) in the People’s Republic of China; Cavite in the Philippines; and at a plant outside San José, Costa Rica. These sites operate in conjunction with one another in what is termed the “virtual factory.” Additionally, they must coordinate with Intel business partners, such as FSM, to be able to provide product to Intel’s customers.

Operating a virtual factory allows ATM the flexibility to assemble and test a specific product in several places to meet demand. And here lies the challenge: the ability to run multiple factories in multiple countries around the world in an efficient and effective manner. The reality of the situation drives Intel to develop more leaders around the world in order to have a distributed leadership fully qualified to make decisions 24 hours a day.

ATM's Architecture

Thirty years ago Intel began moving from being a wholly U.S. assembly and test company to a worldwide organization with A/T facilities lodged in five different cultures, across 16 time zones. This required not only being willing to taking risks, but learning how to learn. Today Intel's assembly test factories are bound together into "platforms" that assemble and test the same types of products across different sites. That requires distributed leadership at all levels. It wasn't set up that way in the beginning, but along the way Intel began to innovate in how it was organized. According to S. H. Wong, vice president of ATM, "As the business complexities grew in this Internet age, we realized the need to restructure in order to meet rapidly changing customer demands, which required distributed leadership across the globe."

F. J. Barrett (1995) looks at how organizations create learning cultures which can both adapt to current problems and move into the future by learning how to learn. He quotes Peter Senge as defining two kinds of learning: adaptive and generative. *Adaptive learning* focuses on responding to and coping with environmental demands in an attempt to make incremental improvements to existing services, products, and markets. It is similar to what Chris Argyris calls "single loop learning." *Generative learning*, which is required for innovation and emphasizes continuous experimentation, involves systemic rather than fragmented thinking and the willingness to think outside the accepted limitations of a problem. Both kinds of learning have been required as part of Intel's journey along the path of becoming a global organization. What today may seem merely adaptive was often generative when it was conceived.

Business Model

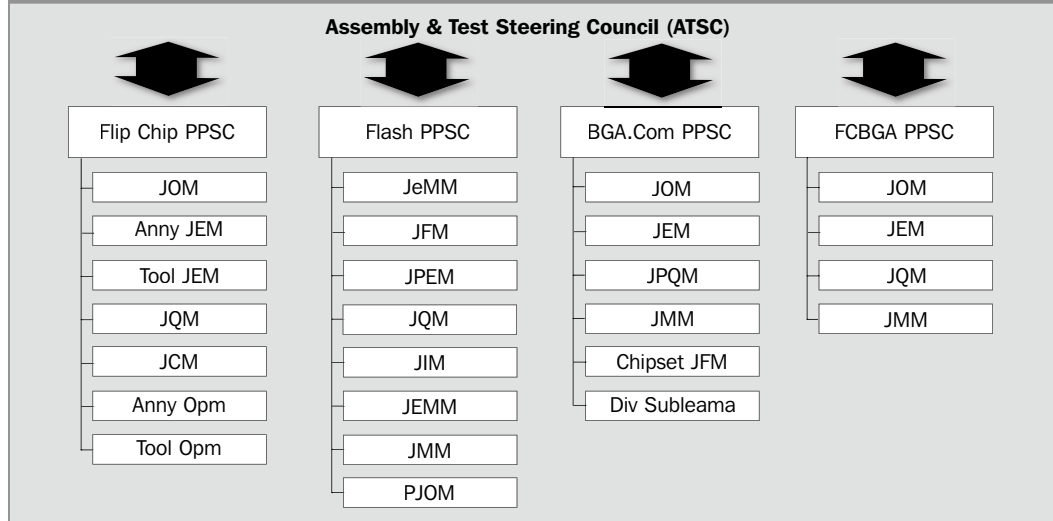
In managing a geographically dispersed business, one key coordinating process is that of managing knowledge. Knowledge must be distributed and managed, yet it is often impossible for any one business unit within an organization to have a full view of all the knowledge in the system.

Day and Wendler (2000) hold that knowledge management allows a company to take advantage of opportunities, thus creating a strategic advantage. However, just managing knowledge is not enough for success. It must be coupled with initiative from leaders who are willing to use the knowledge to take risks and make decisions. Knowledge must be used to make good decisions that are successfully communicated to stakeholders to create broader knowledge, which then feeds back into decisionmaking

Jeong and Leon (2002) advocate that since the knowledge is too vast and complex to be known everywhere in the system at once, multiple decision-making bodies, termed "coupling agents," are required to guide decision-making. These coupling agents each make decisions within the constraints of their own portfolios and distribute that knowledge back into the system to inform decision-making.. ATM currently manages its business under these principles using the business model of Package Platform Steering Committees (PPSCs) and Joint X Management teams (JXMs), [which could be Joint Operations Management{JOM}, or Joint Engineering Management {JEM}, etc.].

Each PPSC consists of a chaired team of factory managers who work together with key partners across Intel to manage knowledge in the supply chain, and to make the business decisions necessary to optimize factory operations across the platform. In addition, there are other forums that facilitate effective communication with divisions and partners such as FSM or technology development groups. See Table 1 for an outline of the JXM structures.

Table 1: ATM PPSC / JXM Structure



The JXM structure employs a distributed leadership model that allows young leaders an opportunity to be on a team that has real decision-making responsibility. According to Henry Mintzberg, Cleghorn Professor of Management Studies at McGill University, webs and networks -- not hierarchical structures -- are conducive to developing the required leadership competencies. Portfolio methods are applied in the JXM structure to create clarity for communication and provide complete coverage of all business requirements, including ones that may not fall into the scope of individual jobs. As Table 1 reflects, the various teams look at areas of responsibility such as operations, engineering, quality, cost/finance, industrial engineering, and materials. This portfolio method ensures that all the components of the business are considered in a holistic way.

These teams operate across geographies, giving young leaders the opportunity to work with their counterparts in other countries. Learning to work across cultures is part of the job. The JXM teams provide business coverage 24/7. In the meeting we described at the beginning of this article, each person was at a different place in her or his day. Often it is impossible to find that “sweet spot” when everyone can meet. In that case, one team member will cover for another. ATM also uses the “share the pain” concept, moving meeting times around to be convenient for one geography or another, so that the same person’s evenings are not always disrupted, for example. Operating globally means that individual country’s holidays must be taken into account, and the JXM teams work this consideration into their practices.

Distributing Leadership

ATM utilizes several other distributed leadership processes in its architecture. While the first consideration for initiating these structural solutions was in service of business strategy they have turned out to be cutting edge leadership development strategies.

Built into Intel’s culture and leadership structures from the beginning was the “two-in-a-box” configuration, wherein two people hold one position or box in the organization chart. It could be said that the founders of Intel, Noyce, Grove, and Moore were the first “three-in-a-box” leaders in Intel.

ATM is headed by two-in-a-box leaders S. H. Wong and Gulzar Mohd Ali. They both cut their Intel teeth in their home country of Malaysia. Their headquarters is essentially in Asia, where the critical mass of operations resides; but in order to leverage presence more effectively in two critical geographies, Ali lives and works in Chandler, Arizona, while Wong lives and works in Malaysia. They divide the work along operational lines as well as business processes to reduce overlaps or gaps and keep communication clear. Simple communication protocols keep both leaders informed but eliminate double decision making.

Other two-in-a-box situations may develop a junior leader by having him or her work with a senior leader. ATM also purposely rotates key senior management or content experts across the network to reduce dependency on just a few top senior managers. Job rotation is also a means to groom potential future leaders.

In this section, we wanted to outline the structures that ATM uses in service of its business requirements. To develop global leaders ATM has found it is better to work from the business requirements not set up a leadership development program that isn't reflective of the business requirements. When an organization looks at its business requirement for leadership and sets up processes to support the business requirements it reinforces leadership development. When artificial leadership development processes are devised in an organization, they become a drain on the organization's finances without returning the type of leadership the business requires. In ATM we are very mindful of developing leaders, and we utilize our structure to create the opportunities for young leaders to grow.

Leadership Development

Success in a global economy is not as simple as selling US-based products and services worldwide. The most significant success factor for a company's globalization strategy is human capital, especially leadership.

— *Andy Talkington, Heidrick & Struggles*

The dilemma for companies like Intel is how to build a business with global reach while maintaining consistency of purpose and at the same time capitalizing on the differences that enhance local presence. Companies can no longer have a one-size-fits-all governance mentality. Sales growth in local cultures requires a local look and feel. What's the difference between a Pentium IV chip produced in China and one produced in Costa Rica, for instance? The difference may not be in the product but in its production—in the development of a local face for the company, with local leadership. 2001 study for the American Chemistry Council, Talkington interviewed 200 CEOs and found that surviving and prospering in the increasingly global business environment demands that companies develop and sustain a new kind of leader. Roughly 80 percent of the executive leadership teams in the study came from the countries or regions in which they worked. Local leaders are required to properly interact with local governments and communities. Consumers respect, and purchase from, companies that in turn respect their local differences.

ATM has been present outside the US for 30 years. In the beginning, the leaders all came from the US. However, as the business grew and the understanding of various geographies and cultures grew, leadership began to come from outside the US. Currently only one of ATM's site managers is American, the rest coming from other Asian countries. Among ATM's factory managers, 91 percent are non-US.

We at ATM maintain a thoughtful rotation process to develop leaders and inject diversity at various sites to strengthen our competitive advantage in managing the global enterprise.

Leadership Development Processes

ATM's leadership processes revolve around a model of

1. Business assessment
2. Individual assessment
3. Succession planning
4. Development of high potentials through such methods as on-the-job experience, rotations, action learning, coaching, and formal classroom training and development
5. Group leadership development through strategic methods
6. Holistic development of the entire management pipeline for deeper bench strength

Within that model some important dynamics must be managed: enterprise vs. site; succession planning vs. deepening the entire bench and creating robust leadership for the future well-being of the organization.

The enterprise and the need to comprehend local culture

Whereas an organization looks for consistency in leadership across the enterprise, a local site looks for diversity to fit its situation. Although at ATM we have not yet perfected this mix, we are moving toward a greater comprehension of ways to accomplish it. Gulzar Mohd Ali, co-vice president of ATM with S. H. Wong, reinforces the point that “while ATM operates in various countries using Intel Values as the guiding principle, there is also a need to incorporate local culture and to create an environment where all diverse groups are valued and challenged with equal opportunities. The ability to leverage these differences drives the success of ATM's global organization.”

ATM's leadership development processes are embedded in a strategic assessment of the leadership requirements of a growing business as well as the technical requirements of a rapidly changing high tech industry. While uncertainty is the rule in the rapidly changing semiconductor business, some conclusions may be drawn about the attributes that future leaders will most likely need.

The model currently in use was developed from the vision of leadership set out by Intel's COO, Paul Otellini, which has four main themes:

1. *Business and Strategic Acumen* involves a leader's ability to understand the business, including developing and articulating a strategic vision for the organization.
2. *Managing Internal and External Stakeholders* involves a leader's ability to influence stakeholders and customers. The emphasis is on external stakeholder management (i.e., customers, Wall Street, external companies, etc.) as well as internal focus (influencing employees, direct reports, peers, and other executives).
3. *Building Strong and Vital Organizations and Setting the Pace and Execute* involves a leader's ability to put the right people, processes, and structures in place to execute the business strategy successfully.
4. *Leading with Integrity* involves a leader's ability to provide strong leadership to the organization or group. It includes identifying and evolving one's own leadership style and the strengths that the leader brings to the organization, as well as personal mastery.

Personal mastery means the capacity not only to produce results, but also to “master” the principles underlying the way results are produced. According to Peter Senge, “The central practice of personal mastery involves learning to keep both a personal vision and a clear picture of current reality before us.”

With those four themes as a guide, Intel has designed assessment procedures to evaluate how leaders fare in exhibiting the attributes set forth in the model. The 360 assessment was designed and managed by the Booth Company to provide statistical rigor as well as to maintain confidentiality for the respondents and participants.

By participating in this process, ATM gains not only leadership assessment tools but also methodology to compare leadership skills across Intel. ATM has similar methods for developing middle and frontline managers, to ensure a rich pipeline of leaders for the future.

In any technical company, there are people who do not want to move away from their technical expertise into functional management/leadership positions. And it is in ATM’s best interest that these people maintain and grow their technical expertise. To that end, ATM is expanding and deepening its technical pipeline with the same level of rigor it gives to the leadership pipeline.

Leadership development in ATM is not a program or a series of classes, even though training and development is a part of the process; it is a holistic, thoughtful, and deliberate method of development of human potential. While there is a centralizing factor which sets direction and creates executive sponsorship, there is local autonomy in how leadership development is delivered. Each ATM site has leadership development teams for senior, middle, and frontline leaders. Procedures are in place which enable those leaders to take advantage of customized training, job rotations, or action learning assignments. How this is done depends on the maturity of the site and the growth requirements for local leaders, as well as the local culture. For instance, in China where growth is rapid, the need for leaders is accelerated, requiring specialized Accelerated Leadership Development processes. Intel-specific training and development has been designed in partnership with a university to accelerate the leadership growth of managers with high potential.

Succession Planning

Arie de Geus, in a recent talk at the SoL Liaison’s meeting, stated that there is no “middle management”; instead, there is “being in the middle of the management pipeline.” The implication is that we must develop leaders at all levels in the organization. De Geus stated that we most often look at leadership development as an individual, static activity, not understanding that it is a dynamic process executed in a changing world among a community of people. While succession planning often looks at individuals in isolation, to be effective it must consider the organization as a system and be a process of leadership development which is holistic and dynamic.

ATM, and indeed Intel, is known as a organization that develops its people. That is part of the Intel culture. Across ATM there are clear procedures for succession planning and a leadership pipeline in place. The senior leaders meet together at least twice a year for a session to review the progress of candidates for key positions. During those meetings each high-potential candidate’s progress is presented by his or her managers, and the strategies required to develop the candidate’s potential are discussed. It is a conversation not simply about making a promotion decision, but about the strategic assessment of the candidate’s potential. For instance,

in a recent meeting, one non-US candidate for factory manager—a woman—was discussed, and plans were set in place to rotate her first into a divisional job to give her breadth, and then into the factory manager position to enhance that breadth with depth. Each candidate in the pipeline has an Individual Development Plan, or IDP, which is updated quarterly.

A new Leadership Web Portal has been created as the underlying knowledge management structure to provide senior managers with a decision support system to assess where candidates are at any time. It allows the management to see one candidate or a group of candidates. It allows individuals, and their managers, to create plans that include not only training and development, but also job rotations and action learning .

While it is important to have a clear selection and development process for high-potential leaders, it is also important for an organization to have methods processes that will take into account the late bloomer or maverick and give such a person an opportunity to cross the radar screen of the senior leaders. Therefore, even though the initial use of the Web Portal is for succession planning purposes, future usage will encourage any member of ATM to have an IDP which senior managers can view. This will broaden the leadership bench-strength for future growth.

Strategic Processes

Part of leadership development is exposing people to the organization’s strategic thinking. As part of its business processes, ATM uses the techniques of environmental scanning and scenario planning to make business decisions as well as to develop strategic thinking in senior and emerging leaders. The environmental scan is updated twice a year, and is open to a broad spectrum of leaders. The Strategic Systems Development staff does the initial scan and presents it to current leaders. It is then passed down to young emerging leaders in the organization to give them an appreciation of overall business challenges in addition to the operational issues they deal with on a day-to-day basis. It is part of ATM’s leadership journey to provide opportunities that will make emerging leaders more well-rounded.

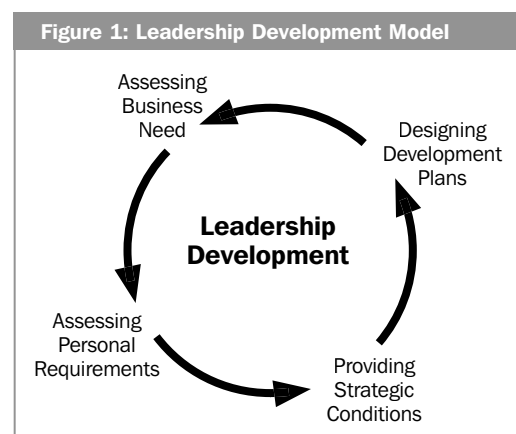
Scenario planning is done at the enterprise level; each site does its own scenario planning to take into account local realities, such as the labor market, country GDP trends, local market data, etc. From this, local scenarios are formulated which inform the site strategies and decision-making

Each site has a strategy formulation procedure which involves emerging leaders as well as the current senior leaders in the planning. Not only does this give visibility to emerging leaders, it is an opportunity for current leaders to share their strategies. It provides broad participation in strategic initiatives.

Tools

The following model broadly outlines the ongoing process of Leadership Development in ATM (see Figure 1).

ATM utilizes all the Intel corporate leadership initiatives and tools as well as designing customized methods applicable to specific business needs, such as rotations, stretch assignments, two-in-a-box, etc., as outlined above. Additionally, each site has its own



leadership tools, such as local opportunities to exhibit leadership; leadership symposiums and workshops.

This section outlines other tools used by ATM, not yet mentioned:

- **Human Dynamics:** One of the tools to help leaders understand their own and others differing ways of approaching life is to utilize Human Dynamics. Human Dynamics looks at three core aspects of learning: physical, mental, and emotional.
- **SoL Core Competencies Course and Executive Champion's Workshop:** ATM sends a consistent flow of leaders to these courses to learn new ways of thinking and to develop a cadre of leaders who can help ATM be a learning organization.
- **Coaching and mentoring:** When a leader desires coaching, whether for performance, legacy, or growth issues, he or she may call upon an experienced team of internal coaches. ATM leaves this as a “pull” rather than a “push”, since the leader must feel it is a need in order for coaching to be effective.
- **Leadership transition:** Some job transitions are particularly large steps, for instance, from factory manager to site manager. A factory manager directly manages people and operations with clear, measurable outcomes. The site manager has few direct reports and must lead people by influence. Such transitions require specialized support structures. The Organization Development group generally provides transition management to the entire team during the transition time, as well as individual coaching.

Conclusion

As ATM grows and business is expanded worldwide, there is definitely a need to develop more leaders to match the growth. ATM is now racing against time in order to produce world-class leaders to lead the growth in emerging markets.

This is a journey. ATM has done significant work, but as the environment changes, ATM is required to change. There is much more to do. Risks will need to be taken to put people into jobs that are stretch assignments, job rotations; people will need to make time to mentor and coach upcoming leaders. Developing leaders is not just sending people to classes; it requires that the organization engage itself fully, committing precious resources to the task.

Some time ago S. H. Wong saw the following quotation on a wall mural in a school in the US and has used it to reinforce his vision for leadership in ATM: “Accomplishment is born of risk, the courage to step beyond what is comfortable.”

References

- Barrett, F. J. 1995. Creating appreciative learning cultures. *Organizational Dynamics* 24:36–49.
- Day, J. D., and J. C. Wendler 2000. Success by design. *Executive Excellence* 17 (7): 6–7.
- Jeong, I. J., and V. J. Leon. 2002. Decision-making and cooperative intersection via coupling agents in organizationally distributed systems. *IIE Transactions* (September 2002): 789–802.
- Talkington, A. 2001. Global leadership: What chemical industry CEOs think about managing the global enterprise. *Chemical Market Reporter* 260:3.

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The SoL Journal

on Knowledge, Learning, and Change

Volume 5, Number 3

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The Emerging Knowledge Forum serves our community of reflective practitioners, researchers and consultants who are interested in the real-world dynamics of organizational life, and the application of the theories, methods and tools of Organizational Learning in their work. We are particularly interested in publishing work-in-progress that will benefit from reader input. The Forum is designed as a space for sharing ideas, opinions, theoretical models and research results that illuminate the processes and dilemmas of learning and change at the individual, group, organizational and cross-organizational level. Articles posted should pose particular questions or issues for discussion.

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ISSN 1524-1734

EISSN 1536-0148

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Design & Production: DG Communications (NonprofitDesign.com)
Design Concept: OHO (OHOCreative.com)

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Reflections: The SoL Journal is published 10 times per year in electronic format and once per year as a hard copy compilation by the Society for Organizational Learning, Cambridge, Massachusetts 02139, USA. Inquiries regarding subscriptions and address changes, back issues, reprints, and permission requests should be directed to:

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