LEVERAGING INTELLECT IN A SMALL BUSINESS: DESIGNING AN INFRASTRUCTURE TO SUPPORT TODAY'S KNOWLEDGE WORKER

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ABSTRACT

The intensity of competition and pace with which knowledge becomes obsolete are heralding an era where leadership, structure and control systems must increasingly focus on management of knowledge and skills. Such an environment requires management to systematically design an infrastructure that is tailored to the needs of an increasingly mobile knowledge worker and supports organizational learning in areas of strategic concern. Small businesses face a unique challenge in this environment as they often do not have the time or a sufficient "mass" of employees to sustain sophisticated recruiting, development or performance management programs. In the following article, the authors argue the real world imperative of crafting an infrastructure that supports organizational learning from the very inception of a business, and provide some manageable approaches to this task for any small business.

INTRODUCTION

Many management theorists have paid tribute to today's knowledge worker and the dramatic paradigm shift that managing such an employee has brought to our society (Crawford, 1991; Naisbitt & Aburdene, 1990; and Toffler, 1990). As well articulated by Peter Drucker (1993), we are entering a "knowledge society" where knowledge is quickly eclipsing traditional factors of production such as labor, capital and land. Nowhere is this more true than in high end knowledge work sectors such as professional services, software development, financial services and technical product development -- areas where an organization's ability to tap the intangibles of employee judgment and creativity are critical. To thrive and grow in today's dynamic business environment, it is increasingly important that small businesses in such knowledge intensive industries organize to leverage the collective intellect and creativity of its entire employee base.

Yet organizing in such an environment poses unique problems for small business leaders. As Charles Handy and James Brian Quinn have recognized, today's knowledge workers are truly volunteers, presenting numerous challenges to managers who grew up in the

"command and control" environment of the Mass Production Age. Further, the management of intellect as a source of strategic advantage requires new approaches to planning, organization and performance measurement. In a Mass Production environment, employees were interchangeable and could often be managed as little more than inventory. Today's knowledge worker, by contrast, must exhibit judgment, creativity, technical expertise, and interpersonal skills that promote knowledge creation--intangibles that often cannot be "forced" like a labor standard on an assembly line (Nonaka & Takeuchi, 1995).

A knowledge based organization creates value on the intangibles of employee judgment and creativity, which often are only maximized when employees are actively engaged in their work. In such an environment, conditions of safety and a personal sense of return for effort expended (Kahn, 1990) in tandem with challenging goals and deadlines can facilitate engagement; however, coercion, which can occur in many forms, will often result in employee disengagement from the task at hand. While it is often easy to assess how an assembly line's going down impacts organizational productivity; it is a fundamentally different management challenge to recognize when and why the intangibles of judgment and creativity are not being properly or fully applied. Further, the creation of organizational knowledge requires unique cognitive and social skills as it is often both an individual and interpersonal act (Fiol and Lyles, 1985). For small business leaders in knowledge-based sectors, the management challenge is creating an environment conducive to non-defensive interaction among knowledge specialists, who by virtue of personality, education and prior career success are often highly individualistic.

While much has been written about the importance of leadership style and culture in crafting a learning environment, we find that there is less emphasis in practice or in the literature on development of organizational infrastructure to support knowledge creation and sharing -- especially for small business operations. Discussion in the small business literature is often restricted to large scale assessments of strategic fit between strategy, leadership approach, technology and structure (see for example: Randolph, et. al., 1991; Bates, 1990; Nwachukwu & Tsalikis, 1990-91; Fombrun & Wally, 1989 and Miller & Toulouse, 1986). However, the bulk of such studies provide little useful guidance in aspects of infrastructure design important for emerging knowledge sector organizations. We argue that infrastructure can not be overlooked, as any successful small company quickly outstrips the oversight ability of even the most charismatic leader. Besides, as systems theory indicates, management style alone is not the answer (Senge, 1990). Behavior within an organization is the product of a whole host of influencing factors, only part of which is related to leadership style. Leveraging employee knowledge as a source of competitive advantage is a strategic decision that must be made at the highest levels of an organization and then consistently worked into its architecture (Pfeffer, 1994; Collins and Porras, 1994).
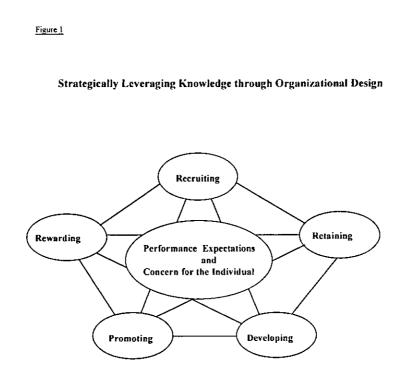
Often, leaders of small organizations clearly recognize the importance of meeting the objectives of financial stakeholders -- an emphasis that is then driven home to the rest of the organization through budgeting and planning processes. While financial stakeholders are vital to the success of any organization, attention to these constituents alone does not guarantee success. Companies maintaining viability over a longer timeframe have been shown to create cultures (Kotter & Heskett, 1992) and control systems (Simons, 1995) that value three

important constituents: customers, employees and financial stakeholders. We argue that companies in knowledge sectors would be well advised to position the development of their employees at a level of at least equal importance to financial stakeholders and customers. The leadership imperative is making the time early on to develop a vision of organizational design elements that are well integrated, and also reflective of leadership values (Miles and Snow, 1994; Nadler, 1992; and Galbraith, 1995). Mismatch between design elements or between infrastructure and leadership intent results in little more than dissipated organizational energy. As a result, it is important that small business leaders begin considering how to leverage effective organizational design from the very inception of an enterprise.

The focus on attracting, developing and retaining the right people in a knowledge-based business is critical. Unfortunately, the hectic demands of day-to-day survival and the lack of management sophistication at many entrepreneurial firms often result in the neglect of organizational design considerations. Paradoxically, not establishing an infrastructure that helps employees plan and coordinate their own activities and concerns soon results in management finding its time increasingly consumed by employee grievances. The result is that leadership has even less time to commit to crucial activities such as negotiating supplier relationships, securing necessary financing or locating additional sources of revenue. Further, without structures in place to help guide behavior, employee output and creativity will often falter. As leaders increasingly withdraw from the day to day operation of a small business, mechanisms need to be established that allow employees to understand and revitalize a sense of direction and mission to which their work is contributing.

Ultimately, successful knowledge-based environments seem to develop a culture combining rigorous performance expectations with a concern for the individual (Von Glinlow, 1985). Maintaining the balance of these two objectives can be an important guide in organizational design for any small business. Rigorous performance expectations can serve to create a positive source of goal related tension that facilitates employee output and engagement in work. A concern for the individual, be it shown in material or non-material forms, helps align employee and organizational interests, and also often serves to allow higher levels of goal-related tension to be employed than in organizations where a concern clearly does not exist. In the following sections, the authors have outlined how a fledgling company can support its knowledge objectives by **holistically and systematically** advancing the recruiting, retaining, developing, promoting, and rewarding objectives of the enterprise -- using rigorous performance expectations and a concern for the individual as guiding values.

Quite often in small business operations, very important human resource processes are overlooked given the hectic day to day demands of survival. We propose the following model in an effort to orient small business leaders on these human resource issues holistically and in an integrated fashion when considering organizational design. Our main objective is developing strategic consistency and integration of several important processes that are often discussed in isolation in the literature and in practice. Further, we will also offer several tools to facilitate many of these processes that require minimal effort to develop and have proven effective in small business environments. Such tools and approaches require little additional effort on the part of personnel, but can be very effective structures in ensuring consistency in such processes as recruiting and performance management.

The discussion that follows will serve to elaborate on each component of the model and provide practical tools based on findings from our analysis of eight small business operations ranging in size from 24 to 117 full time equivalent employees (FTEs). Our sample of business operations reviewed includes two regional investment banking firms, three software development firms, one engineering firm, one technical consulting firm and two high technology firms. Data was collected by interviews and review of archival data.

Figure 1

Strategically Leveraging Knowledge through Organizational Design

RECRUITING

The recruiting process is where it all starts. Knowledge-based businesses will live or die by their ability to recognize and attract individuals with the right mixture of technical and interpersonal skills. Bringing in people with poor technical or mismatched interpersonal skills has enormous costs for a knowledge-based business' productivity through the overall intellectual drain that can occur when having to conduct remedial training or smooth over conflicts. However, in a start up or small company environment, the recruiting process is most often handled by the founders, head of HR or one or two other favorites of senior management. Quite often, the assessment of a recruit comes down to factors of personality rather than technical and interpersonal fit with the "ranks" -- the people who the new hire must actually work with. Some relatively simple practices and tools can help bring more objectivity and structure into this process.

Standardize Recruit Evaluation

A standardized recruit evaluation process should be established early, as it yields two significant benefits. First, it forces management to identify the capabilities crucial to the organization's future success -- a clarification process that not only helps recruiting efforts but also strategic resource allocation (Schoemaker, 1992 and Hammel & Prahalad, 1994). Second, an agreed on standardized approach allows interviewers to capture consistent information during the interview process on a series of items strategically important to the organization. For example, the small (59 FTEs) engineering services firm that we reviewed adopted the following format to ensure consistency in its recruiting process. The firm employed this tool to focus interviewers on attributes of each candidate that were of strategic importance to the business. This was particularly important for this specific organization as it was attempting to move to a more participatory environment and increasingly involving front line employees in the interviewing process.

Standardized Recruiting Process

A standardized approach to each recruiting visit allows an organization to structure the interview process from the candidate's perspective. Requiring each interviewer to ask specific types of questions and sell specific points of the company to the recruit avoids unwarranted repetition. At least two significant benefits can be derived from standardizing each recruiting visit: 1) the organization obtains a consistent and well rounded view of each candidate's abilities; and 2) a non-duplicative and professional image is portrayed to the recruit. The second point can not be overemphasized for a small firm, as the office visit is usually the most salient of points that a recruit uses to evaluate an offer of employment. Quite often, high caliber employees have competing offers from more established institutions. While the appeal of a small firm lies in the entrepreneurial spirit, disorganization may unnecessarily lead to questions of ongoing operational viability. The same engineering firm found the following interviewing process effective in ensuring that a professional image was portrayed to the recruit. As the firm was making a participatory effort to involve more people in the interviewing process, this tool became important in ensuring consistency.

While there are a number of sophisticated tools that can be introduced in the recruiting process, down to psychological tests or behavioral interviewing, these are often overkill for the needs of a small business. The above tools are fairly simple to develop and serve to quickly provide focus and consistency in a process that is of key importance to the organization. In addition, some of the questions that a start up should attempt to address over time include:

- Does the company have a clearly defined core group of recruiters?
- Does the company ensure that all recruiters are trained in and practice effective recruiting techniques?
- Does the company ensure that all recruiters are trained to comply with recruiting and hiring regulations?

Figure 2
Recruit Evaluation Form

Name of Applicant   _____

Current Employer   _____

Specialty Area   _____

	Outstanding	Above Average	Average	Below Average	Does not meet Requirements
1. PERSONAL QUALIFICATIONS					
A. Personality 'Fit'					
B. Verbal Communication Skills					
C. Interpersonal/Teamwork Skills					
D. Judgment, Business & Common Sense					
E. Professional Demeanor					
F. Organizational Skills					

2. PROFESSIONAL QUALIFICATIONS

	Outstanding	Above Average	Average	Below Average	Does not meet Requirements
A. Technical Expertise					
B. Industry Knowledge					
C. Managerial/Leadership Potential					
D. Project Management Skills					
E. Understanding of Services Lines					
F. Overall "Fit" with Company					
G. Growth Potential with Company					

	Outstanding	Above Average	Average	Below Average	Does not meet Requirements
3. INTEREST IN CAREER WITH OUR COMPANY					

Comments: (strengths, weaknesses, general observations):

_____

_____

_____

_____

At what level do you believe this candidate should be hired?   _____

OVERALL EVALUATION:

	Above		Below	Does Not Meet Re-
Outstanding	Average	Average	Average	quirements

Interviewer: _____

Figure 3
Recruiting Process Form

Name	Date
Interviewer 1	**GREETING - Administration** Objective: to make each recruit feel at ease, and to provide a consistent forum to answer all administrative questions. • Explain interview schedule to recruit • Explain history of the company - current status • Explain benefits Complete and take evaluation form to final interviewer
Interviewer 2	**FIRST INTERVIEW - Behavior Interview** Objective: to identify and verify relevant behaviors exhibited in past work or educational experiences. • Focus on 3 past relevant experiences the recruit wants to highlight Complete and take evaluation form to final interviewer.
Interviewer 3	**SECOND INTERVIEW - Technical Interview** Objective: to verify technical skills in the area of interest. • Use pre-established technical questions relevant to area of interest Complete and give evaluation to final interviewer.
Peer(s) of recruit	**LUNCH** Objective: give both the recruit and the people he/she will be working with an opportunity to evaluate how the recruit would fit in with the work team. • Recruit is given opportunity to talk to peers about what it is really like to work at the company After lunch, peer(s) takes evaluation form to final interviewer
Final Interviewer (senior member of management)	**THIRD INTERVIEW** Objective: identify and follow up on open issues or concerns from prior evaluations. • Sell the company and vision Complete evaluation and schedule other interviewers for round table meeting.

RETAINING

Once in the door, it is increasingly the company's job to retain highly skilled employees. Never before have knowledge workers had the breadth of opportunities to switch employment than they currently enjoy. While turnover always represents a cost to an organization's productivity as well as a drain of intellectual capital, this can be crippling to a small or start up firm. Some things that a small knowledge-based enterprise can do to help ensure retention include:

Provide Intellectual Challenge

Quite often, the draw for a knowledge worker lies in the intrinsic satisfaction of challenging or thought provoking work and the ability to be around others with similar tastes (Leonard-Barton, 1995). Opportunities to work with, or at least have access to, challenging work in a selected field can be a strong motivational factor. To provide this opportunity, some of the companies that we spoke with were experimenting with a structural element called by various names (i.e., competence center, center of excellence, knowledge labs, etc.) to help generate organizational knowledge as well as provide an opportunity for employees to work, for at least a part of their time, on tasks of interest to them.

The competence center concept can be a means both to ensure that new knowledge is being generated in areas critical to the organization and to help employees develop professionally in areas of particular interest to them. Obviously, smaller companies can not afford to dedicate groups of people to solely sit around and "think big thoughts." However, an effective competence center can be built if approached pragmatically. Initially, individuals assigned competence center responsibility may spend only 10 to 20 percent of their time developing and sharing knowledge in the area of interest. The responsibilities in this role could involve such things as providing technical guidance to others in the organization, monitoring an electronic discussion data base and advising senior management on key trends in their area of specialization. The amount of time allocated to these activities could increase for a given competence center, if and when a specific area grows in strategic importance to the organization.

In general, the competence center concept allows the start-up, with limited investment, to explore potential areas of interest and technical advancements when they are in formation. The center also allows the organization to establish clear accountability for developing specialized knowledge and sharing it with the rest of the organization, so that this very important task does not get lost among the many day-to-day crises. Finally, the center can provide a source of non-traditional reward to employees.

Provide Mechanisms for Employee Suggestions

Establishing suggestion systems and using interactive forums during periodic meetings are effective ways to gather input from employees. These mechanisms help maintain a "small company feel" by ensuring that employees have a voice and an opportunity to make a difference in the success of the firm. Suggestion systems (i.e. an E-Mail box, an old fashioned

suggestion box, etc.) can build on a small company's culture of openness and free-thinking attitudes. Some problems that can hamper suggestion systems include lack of urgency from employees involved in the process, lack of incentive to participate, too much time between the offering of the suggestion and the giving of feedback (or simply giving no feedback at all), and lack of action regarding suggestions. The cardinal rules with a suggestion system are: *1) Do not implement one if you do not have the ability to respond in a timely manner or if you cannot commit to take action when necessary, and 2) Answer all suggestions and pay particular to justifying why a suggestion is not accepted.* Creation of such a process raises employee expectation of action, and management should be prepared for "nit-picking" suggestions in the beginning, as employees test the system for authenticity.

Utilize Task Forces to Create or Modify HR Policies

Establishing task forces to develop Human Resource policies is another means of enabling employees to provide valuable input to the future direction of any small business organization. Further, transitioning such responsibilities to employees removes a large time burden from management, providing more opportunity to focus on important boundary management tasks. Finally, the use of cross-functional task forces can also dramatically speed the acceptance of new policies and procedures as they are not simply pushed down from above. Management teams in small businesses are often reluctant to give autonomy of decision making to task forces based on fear of a poor decision (which often translates into a more fundamental issue of not wanting to give up control). Paradoxically, if such an event does take place, the organizational problem of incompetent employees should far outweigh any concerns with a poor human resource policy. Provided with sufficient vision and one or two check points, most employees will craft procedures that serve the needs of the organization, and, in the process, gain an improved perspective on the difficulty of crafting and implementing administrative procedures that often seem so patently obvious from an employee perspective.

DEVELOPING

With the evolution of skill and competence-based pay schemes has come literature declaring the necessity of recognizing and measuring an increasingly wide body of supposedly core skills. Of course, many of these models are based on experiences of Fortune 500 companies and are often insupportable and unnecessary in a small business environment. We are increasingly convinced that a knowledge-based firm should focus on developing skill sets along three critical dimensions: technical/job specific, business, and interpersonal skill sets. It is this balanced combination of skills and perspectives that helps to build a flexible and integrative organization over time. While Frederick Taylor's idea of narrowing task specialization worked in a Mass Production society, it is the reverse focus that will provide flexibility and learning in a highly dynamic and fast moving information age. The nature of skills identified to fit into each of these three categories **must** be tailored to the specific core competencies of an organization (Tovey, 1993); however, these three categories can provide a valuable framework for linking employee and organizational skill development.

Personal Development Plans

Personal development plans allow employees to introduce their own goals and aspirations into the development process as well as work on improving skills integral to the organization's strategy. Many studies indicate the power of "goal setting" in improving task performance (Latham and Locke, 1979). We are only suggesting that the use of personal development plans begin to focus employees on knowledge acquisition as a task they are held accountable for. To ensure ownership and take the burden off the organization, development plans should become the employees' responsibility to implement, the results of which are assessed in the annual review process.

Figure 4
Personal Development Plan

GOALS	ACTION STEPS	KEY DATES	SUCCESS CRITERIA
Demonstrate expanded consulting skills	Take ownership of recommendation creation on next assignment Identify follow-on opportunity and work with project manager to sell an additional engagement	12/9X for both	Reduce time required by project manager by 50% Sell 2 follow-on engagements
Learn Microsoft Access	Take 1 company sponsored training class Use Access on 1 project	4/9X 12/9X	Course Completion Appropriate application of Access on project
Continue to develop expertise in cost management	Work on two projects involving cost management	12/9X	Complete two projects involving cost management

Development items that we have seen in small organizations have ranged from working for a week with a competence center leader, to publishing a white paper on a potential strategic direction for an organization, to a short rotation through another department or project. These ideas, in addition to meeting employee needs, place minimal burden on the company and can serve to help create valuable organizational knowledge from both a strategic and a process coordination perspective. For example, the technical services consulting firm (44 FTEs) that we reviewed provided complex systems consulting services in the NEXT programming

language to a fairly small universe of sophisticated buyers. Given the tenuous future of this programming language, management needed a development process that could serve to broaden skills across languages (i.e. JAVA) as well as service line offerings (i.e. training services) and adopted the following plan template to ensure a balanced approach to skill development among its employees. This firm used the personal development plan as part of an annual goal setting process, and ensured that these plans became salient to employees by making achievement of these goals part of BOTH the employee's and their supervisor's evaluations.

However, it is very important that a personal development process be tied to organizational objectives, otherwise a company will begin to evolve to a form of liberal arts education. One approach to developing personal development plans is first to identify five to ten core "skill sets" that are needed by the company to meet its business objectives. Then, each employee should:

1. Conduct a self-assessment for each of the core skills by using annual performance appraisals, project manager appraisals or team member evaluations as appropriate.
2. Select two or three skills to improve in the next twelve months.
3. Fill out a "Goals/Action Steps/Key Dates/Success Criteria/" matrix for each targeted skill area. Action steps might include self-study, company-sponsored training or self-initiated projects.
4. Schedule a mid year follow-up meeting with a senior adviser to discuss progress on the plan.

Performance Evaluation

Performance evaluations based on dimensions of strategic importance provide a consistent means of identifying, tracking, and ultimately recognizing superior performance. Effective evaluation processes are usually put on a timeline that provides feedback to employees more frequently than the typical annual review cycle -- thereby providing more opportunities for corrective action. The important point here is to identify key dimensions of performance that are tied to the organization's strategic objectives and then communicate these objectives very clearly to an employee base prior to the evaluation period. This approach helps to reduce the inherent subjectivity of the performance evaluation process in that employees know what they are being evaluated on. Attached is a composite of dimensions measured in five small knowledge-based enterprises; however, here more than in any other element of organizational design, it is critical that management determine the correct dimensions of measurement for their specific business[1]. The axiom: "you get what you measure" has enormous power.

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[1] These competencies were drawn from five of the firms in our sample (two software development firms, one of the regional investment banking firms, the technical consulting firm and one technical products firm). We took the competencies (or critical success factors as two firms called them) that could be applied to a wide range of small business operations and offer them as a potential starting point for other small business leaders to consider.

Figure 5
Common Performance Dimensions Relevant to Small Business

Customer Service
- Accepts personal responsibility for customer service
- Develops an understanding of the customer's industry
- Gains confidence of customer personnel
- Suggests ways for the project team to be innovative in serving the customer

Communication Skills
- Applies effective listening skills
- Maintains confidentiality
- Demonstrates good written communication skills
- Demonstrates good verbal communication skills

Facilitating Teamwork
- Exhibits positive attitude
- Volunteers for more work when possible
- Works well with other members of the team
- Leads team efforts to achieve shared objectives

Technical Competence
- Develops realistic timelines and budgets
- Demonstrates the ability to analyze and define project requirements
- Leads project implementation
- Contributes to overall knowledge of the organization

Self-Development
- Takes responsibility for improving own business and technical skills
- Continues to develop verbal and written communication skills
- Seeks specific feedback on performance and acts on it

Organizational Skills
- Manages own time effectively
- Delivers quality products and services on time
- Uses resources effectively and efficiently

Peer feedback processes, despite potential shortcomings (DeNisi and Mitchell, 1978), can often be very effective means of providing informal performance feedback (see for example: Fedor & Bettenhausen, 1989; McEvoy and Buller, 1987). While a full discussion of peer feedback design and implementation is beyond the scope of this article, the successful practices that we have seen tend to: 1) be relatively non-complicated; 2) not be a part of the formal evaluation or incentive process (at least initially); 3) be crafted with input from employees and 4) be focused on interpersonal skills often overlooked in traditional supervisor performance evaluations. In addition to its strength of credibility in shaping behavior, peer

feedback helps employees improve "soft" teamwork skills such as active listening—skills that are often overlooked but that have tremendous impact on productivity in knowledge-based settings. Following are items created by the employees of one of the small regional investment banking firms we reviewed (24 FTEs). According to interviews with employees of the firm, these simple items have been used very effectively to help the firm's "deal" teams, which temporarily and continuously form and disband, work successfully together.

- The individual exhibits a positive attitude for work assignments and team discussions.
- The individual completes assignments as agreed.
- The individual exhibits a respect for other people's ideas and opinions that is conducive to an open discussion.
- The individual is able to clearly communicate ideas and exhibits an appropriate blend of the skills of inquiry and advocacy.
- The individual comes forward as a "leader" at the appropriate times, but is also willing to take a "follower" role at the appropriate junctures.

PROMOTING

The organizational structure employed by a small business often dictates how management thinks about promotion. However, the notion of promotion as a lockstep climb up a hierarchy is not sustainable in small business environments or even in larger organizations given the de-layering currently taking place. A flatter hierarchy is a necessity today as it provides such advantages as: 1) quicker organizational response to a dynamic environment; 2) increased accountability for results (not simply action) among lower levels in the organization; and 3) there is some evidence that structures diffusing decision processes promote greater organizational learning (Meyer, 1982).

A streamlined approach to hierarchy has a well known disadvantage in that it reduces the potential for career advancement in the traditional sense of the word. However, it is here where alternative structural mechanisms such as a competence center or personal development plan can serve to keep a career engaging from an employee's perspective. For example, one of the small (36 FTEs) software development firms in our sample used the competence center idea to provide high performing employees with an opportunity to investigate specific internet applications and share the results with the company. For example, one of the projects involved investigation into the potential of providing updated releases of their software directly over the Internet. This project provided at least three benefits to the organization: 1) the report advanced the organizations knowledge of potential market opportunities and threats; 2) it provided an opportunity for high-performing employees to work on matters of personal interest -- an opportunity that the employees did not believe they would get in other similar small start up environments; and 3) the sharing of these results with the organization provided a form of informal recognition of these employees' skills.

REWARDING

Clearly, any organization must provide adequate compensation to induce an employee to not only stay with the organization, but also to engage mentally and physically in their work.

However, we also argue that management of a small firm should become adept at identifying and leveraging the unique inducements they have to offer beyond simply salary and benefits. We do not mean to suggest that parity with the market in terms of compensation can be ignored. Rather, that small business owners take the time to recognize that there are many non-compensation-based reasons that people come to work each day, and that quite often these reasons provide an alternative means for management to influence employee commitment. Frequently, there are innovative ways that small organizations can work with employees on more of a partnership basis than is feasible in large companies where standardization is demanded to manage complexity. For example, providing employees an opportunity to explore an area of technical interest or providing flexible work arrangements as long as certain performance targets are met can be very effective sources of inducement for valued knowledge workers.

In small business environments there are also myriad opportunities to institute incentive pay and bonus schemes (see for example: Pederson & Lidgerding, 1995). However, in practice, the change management and administrative burdens of such systems rarely seems fully appreciated prior to implementation. Additionally, aside from the calculation, distribution and communication issues that always present challenges with organization-wide incentive schemes, there are at least two inherent difficulties with administering bonus pay. First, to be effective, employees must believe that their performance can feasibly have an impact on attaining the incentive. As a result, some small organizations have introduced bonuses by division or service line which has the effect of creating enormous dissatisfaction when one area gets a payout due to good fortune while another does not despite putting in the same amount of effort. In addition to behavioral problems, research has illustrated the difficulty, cost and political battles that often accompany internal transfer pricing and overhead allocation models required to calculate bonus payments for different departments (Eccles, 1985). Second, monetary rewards often have a backlash effect in that each payout sets the baseline for the next one. Employee expectations are raised, and anything less than the previous payout is often deemed as a failure.

COMMUNICATION -- THE KEY TO
PUTTING IT ALL TOGETHER

While we hate to overuse a sticky analogy, communication truly is the glue that holds an organization together. However, leadership teams often fail to recognize the power and importance of communication in mobilizing the energy and commitment of the employee base. Often, the problem is that communication is never an issue in the genesis of a start up -- usually a group of founders talk daily and use a variety of informal channels to ensure agreement on what needs to be done and where the organization is going. At some point, during rapid growth, this informal mode of communication does not work anymore. The difficulty for entrepreneurial leaders is to identify exactly where that point is. The analogy of a small company as moving from a speedboat (i.e. very maneuverable and able to respond quickly) to a cruise liner (i.e. more sluggish in maneuverability, but more powerful once momentum is built in any given direction) is often very effective in illustrating the power of communication and shared vision as a steering mechanism.

Improving communication to maintain a "small company" feel is very important to employees as a small company or start-up expands. Often, it was the small company environment that attracted employees to the organization to begin with. It is important that leaders take the time to develop a communication strategy with numerous channels of information to which various *audience segments* within the organization can turn. The design and continuous updating of a communication strategy serves to support many objectives: 1) supporting day-to-day communication; 2) communication of special issues; and 3) periodic interactive meeting forums to discuss results and vision. For example, the other small software development firm that we reviewed (48 FTEs) had several key development efforts working concurrently and was finding it increasingly difficult to keep all employees informed. With teams of developers working on new releases and others on an entirely new offering at the same time that management was attempting to diversify into offering consulting services and relocate to a more suitable environment there was often a great deal of confusion on the part of the employees. The firm adopted the following strategy in an attempt to maintain a small company feel while at the same time keeping all employees informed.

CONCLUSION

This article has taken a holistic approach to considering an employee base as the fundamental source of strategic advantage in knowledge-based work. We believe the importance of considering organizational design holistically can not be overstated. Very often, we found that small business leaders would isolate a current human resource crisis as "only" a recruiting or development problem when in fact the two issues were intricately interrelated. For example, one of the companies in our sample was having trouble promoting teamwork amongst its software developers. Their specific remedy was to emphasize the importance of teams in every forum possible and to look for ways to measure and reward for demonstrated team performance. However, they never considered the fact that their interviewing process was based exclusively on technical merit, and so they were bringing people into the firm without screening for either a desire to develop or proven ability at team skills.

While different tools and processes have been introduced to stimulate thinking, it is important that each organization put the thought and effort into developing potential tools that meet their unique circumstances. Each organizational design element should be addressed in some fashion with guiding principles of:

Rigorous performance expectations -- put in place through mechanisms such as: (1) a performance evaluation program with feedback from peers and superiors on a balanced range of objectives, (2) development plans focused on linking company and personal goals, (3) an organizational structure focused on developing technical excellence through a competence center approach and (4) recruiting based on strategically important performance metrics.

Concern for the individual is demonstrated -- put in place, in addition to values-based leadership, through mechanisms such as: (1) improved communication, (2) seeking input from employees on topics of importance to them (e.g., suggestion systems, cross-functional task forces to define important HR policies, interactive sessions in quarterly meetings); (3) using personal development plans to help employees build expertise based on their own interests and

Figure 6
Communication Strategy Matrix

Audience	Media	Communication Intent	Feedback	Frequency
All Employees	groups on Technical Issues, Current Customers or Prospects and New product development	Technical groups capture threads on various technical issues, Customer database captures call reports and new service line ideas.	Suggestion system/Periodic review by database moderator Usage (i.e. # hits)	On Going
All Employees		to allow people to get together periodically.	Attendance	other month, meet at 3 PM
All Employees	group on Company XX Rumors	Captures happenings within Company XX. Celebrates victories and captures personal items.	Usage (i.e. # hits)	
All Employees		future strategic direction and company happenings	Facilitated sessions during meetings and questionnaire feedback on effectiveness	Quarterly
All Employees		sections on technical issues from each of the competence centers and a passage from the President	Suggestion system	

(4) looking for unique ways to "partner" with each employee and attempt to identify alternative reward opportunities.

In a knowledge-based enterprise, the employees are the business. In today's market, technical skills seemingly become obsolete almost every year, and the labor force is becoming more and more transient. Employees are demanding more control over what they do and how they do it. An integrated approach to organizational design, balancing rigorous performance expectations with a concern for the individual, establishes a strong foundation that can align the any small business' human resource processes with its strategy.

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