MEASURING THE LEVEL OF

INTEGRATION WITHIN AN ORGANIZATION

Submitted to

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Honors Capstone

MEMO

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SUBJECT: Sandra A. King
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I hereby certify that the enclosed is an approved copy of the Honors Capstone prepared by Sandra A. King and presented to me on May 10, 1996. Please update your records to certify that she is accredited with honors recognition.

Thank you.

INTRODUCTION

Today's volatile business environment highlights the growing need for higher and higher levels of integration within the organization. The trend toward globalization has forced issues of integration to the surface. In fact, organizations such as Ford are working to diminish the national barriers to become a truly global organization (Byrne, 1994). Many businesses have changed the way they operate to deal with this global trend through restructuring, reorganization, redefining strategic goals, and the implementation of quality programs. These changes highlight the need for integrated efforts amongst the employees to ensure future business success. The challenge is determining whether efforts to integrate have actually succeeded.

DEFINING INTEGRATION

The term "integration" is somewhat difficult to define as it takes on several dimensions. Lawrence and Lorsch (1967) defined integration as "the quality of the state of collaboration that exists among departments that are required to achieve unity of effort by the demands of the environment." They included the means to achieve integration as well. This point is well taken as we must look at how we achieve integration. Their model basically acknowledged integration as the force that pulls the organization back together from the separation created by differentiation.

Integration may best be defined by the means of achieving integration. For the purposes of this paper, means of achieving integration within the organization are communication, structural components, reward systems, job design, and training and development. This information was manipulated into a model of integration for the organization.

IMPORTANCE OF INTEGRATION TO ORGANIZATIONS

Integration plays a key role in today's organizations. The use of teams in the organization has been one effort towards integration. Cross-functional teams are becoming increasingly important to organizations. For example, in the service industry, teamwork is being utilized to help offset the burnout that can arise from dealing with surly customers, the grueling mental requirements, and the sometimes physically draining challenges of service work (Berry, Parasuraman, & Zeithaml, 1994). Such teams can provide moral support to one another and provide an opportunity for venting frustrations.

Teams are also an integral part of a Total Quality Management (TQM) program. In fact, "team building is the primary way employee participation is arranged in a TQM program" (Redmon, 1992). The heart of the TQM program begins with the steering committee, which is the team of top management who are responsible for communicating the vision and objectives of the program as well as the proper implementation (Goetsch & Davis, 1995). In addition,

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project teams, such as quality action improvement teams, work to solve quality problems within the organization.

Teams can be used as a means to integrate customers and suppliers into the organization. Customer partnerships and supplier partnerships are commonly utilized by organizations with a TQM program. Cross-functional sourcing teams combine the efforts of individuals from at least three functional areas who are involved in material procurement or purchasing (Trent & Monczka, 1994). The benefits that are derived from these teams are the cost savings by combining material orders, as well as the increased knowledge the team members gain from sharing information about their individual functional areas.

Organizations that utilize a just-in-time production (JIT) system may also utilize teams as an integrating method. Characteristics of JIT systems that lead to the use of teams for integration purposes are: streamlined production systems, lack of buffer stock reduces control over work pacing, increased autonomy on behalf of workers, rotation of jobs to reduce overstaffing, and a flattening of the organizational structure (Jenkins, 1994).

Benchmarking is another area in which teams are used as a means of integration. Representatives from various cross-functional areas can be utilized to benchmark products or processes. In addition, teams from a single functional area, but from various geographic locations, can be brought together for benchmarking a specific function (Spendolini, 1993).

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These examples highlight the importance of integration to the organization. Coordinated efforts can lead to greater success. Organization members gain valuable insights from working together with the other functional areas.

MEASURING INTEGRATION

One of the problems that exists is the lack of a measurement tool that enables management to determine the level or degree of integration in an organization. In their original survey, Lawrence and Lorsch (1971) attempted to determine the degree of integration by asking the participants to complete a grid that had manufacturing, the integrating unit, applied research, and fundamental research on one side of the grid and sales, manufacturing, the integrating unit, and applied research on the other side. The participants were asked to rank their relations between these units from "sound--full unity of effort is achieved" to "relations are not required".

Additional methods of measurement are needed to assist today's managers in evaluating their integration efforts. Managers need a means of measuring whether integration efforts have been successful, and how successful have they been. If not successful, they need a means of determining the areas of weakness. Organizations are placing large financial investments in these programs. A measurement device would enable management to report progress in the area of integration to stockholders.

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A means of measuring integration would also provide the organization with a diagnostic tool. It would enable them to look at their current integrative efforts and determine whether they should be implementing additional programs. For example, a firm that is considering self-directed work teams would be interested in knowing the success rate of their current teams. This information would be beneficial in helping them decide whether such a program had a good chance of succeeding. Or, if their current programs were highly successful, perhaps further integrative efforts would not be necessary at the present time.

Measurement devices would provide organizations with a comparative tool as well. Management could use this device periodically to get a picture of their progress toward integration over a period of time. This would be especially useful as it would be unrealistic to expect the implementation of an integrative program to be 100 percent successful immediately. However, such a tool would enable the organization to determine whether the integrative measure was increasing in value to the organization. If not, management might want to consider other integrative measures.

In addition, a measuring device would provide useful insights to the academic community. This device would open up a whole new avenue of research in the area of integration. Organizations with specific structural components could be studied to determine if there is a correlation between structure and the degree of integration. Comparisons could be made on

organizations within certain industries to look at potential relationships between industry and degree of integration. The various components of the measuring device could be studied to determine if any one of them provides more integrative rewards than another. These are but a few examples of the areas that could be studied if such a measurement device existed.

LITERATURE REVIEW

EFFORTS AT INTEGRATION

Matrix Organization

The matrix organization structure is a good example of management's efforts to utilize structure to enhance cross-functional integration. The matrix organizational structure has its roots in the aerospace industry utilizing the functional-project matrix (Galbraith, 1971). This design enables the organization to keep a healthy balance between the demands of the functional areas as well as to attempt to gain a competitive advantage with greater speed in the development of new products and the time to market.

One of the reasons an organization would want to implement a matrix structure is due to the trend toward globalization. An example of a matrix structure that attempts to capitalize on this trend toward globalization is the product-geographic matrix. ABB Boveri is one example of a company that

utilizes this matrix structure. Benefits include the ability to respond locally to various geographic markets while maintaining the efficiencies and economies of scale associated with the larger organization (Taylor, 1991).

While the matrix structure has its advantages in that the structure itself creates cross-functional teams, it does have a major disadvantage in the conflict that is created for the individual working under the matrix structure. Perhaps the greatest source of conflict within the matrix structure is the dual authority issue. This conflict arises from the individual reporting to two bosses created by the matrix structure.

Reengineering

According to Hammer and Champy (1993), reengineering is defined as "the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical, contemporary measures of performance, such as cost, quality, service, and speed." Reengineering involves questioning all of the assumptions regarding business procedures and processes. It is a process that should only be considered when the company is either in serious decline or heading in that direction.

Should a company decide reengineering is the solution, integrative measures that are taken include the flattening of the organizational and cross-functional teams are created to help realign the processes and procedures of the organization. The flattened structure enables decisions to be made at the

lowest level possible. This enhances customer satisfaction because they are satisfied faster and creates a team of empowered employees. The cross-functional teams work to determine which procedures can be changed or realigned.

One company that has undergone a radical change is AT&T. After the government imposed break-up of Ma Bell on January 1, 1984, AT&T had to undergo some serious changes. One integrative measure utilized as a part of the reorganization was the "cross business unit teams" (Clark, 1993). These teams brought organizational members from various product areas together to discuss future products.

Another organization that went through reengineering was Hyatt Corporation (Arnott, 1993). Reengineering processes in the tradition-laden hotel industry was a risky move for Hyatt. Cross-functional teams were at the heart of this program. The dividends of this program have been positive including increased revenues, greater innovation, and other rewards associated with the efforts of the cross-functional teams. This program highlights the positive rewards associated with the integrative efforts of reengineering.

Total Quality Management

Integrative efforts are at the heart of a Total Quality Management (TQM) program. Focusing on efforts to maintain employee commitment and participation should be the mission of the human resource department

(Caudron, 1993).   Employee perceptions of the quality program are contingent

upon the degree of support the program receives from top management

(Jones, Glaman, Johnson, & Steele, 1993).   However, these efforts must be

balanced against the primary purpose of a quality program -- that is, to

increase customer satisfaction with the products that are being produced.   The

benefits of a TQM program are gaining attention as a recent study shows that

revenues of companies that implemented a TQM program for an average of 6

1/2 years a total of 54.7 percent, or 8.3 percent annually (Kendrick, 1993).

Learning Organization

The team is the integrative force in the learning organization.   According

to Peter Senge's <u>The Fifth Discipline</u> (1990), "team learning" is an important

concept for which there is not a great deal of understanding.   It involves the

alignment of goals, the development of synergies, and shared learning with

other members of the organization.   These elements combine to give this

organization a competitive advantage.

CONSTRUCTS OF INTEGRATION

COMMUNICATION

Communication is an important part of an integrative effort.   Without

communication, integrative programs will not succeed.   With the advances that

have been made in technology, communication can be highly efficient today.

However, the technology used in the information system must be properly

aligned with the goals of the organization for either of them to be successful (Williams & Cooke, 1994).

STRUCTURAL COMPONENTS

As mentioned earlier, the matrix organization design is a structure that automatically creates cross-functional teams. In addition, organizations are increasingly making efforts to decentralize their decision-making processes to the lowest possible level in an effort to improve efficiency and customer satisfaction.

JOB DESIGN

Job design is significant to the integrative effort. One important factor is whether recognition is given to team or group efforts, and whether the job design itself encourages cross-functional integration. Due to the more chaotic business environment, individuals are going to be required to be skilled in more than one area (Kaeter, 1993). Cross-training employees is one means of achieving this result. Another means is through job rotation, which is the lateral transfer of employees between jobs. Job rotation has been found to enhance the transfer of business knowledge between individuals (Stites-Doe, 1996).

Employee empowerment is another facet of job design. The goal of an empowerment program is to create a sense of alignment of the individual's goals to those of the organization (Betof & Harwood, 1992). The individual

then feels a sense of ownerships that encourages their efforts on behalf of the organization.

REWARD SYSTEMS

Probably the most integrative means of rewarding employees is through the use of a gainsharing plans. The following are the three most commonly utilized plans (Welbourne, Balkin, & Gomez-Mejia, 1995):

1.   Scanlon::   Has a focus on labor cost savings

2.   Rucker: Utilizes a value-added formula, and

3.   Improshare: Focuses on productivity.

These gainsharing plans, when properly implemented, share the financial gains achieved from employee suggestions and increased productivity.

Other integrating measures within reward systems include performance evaluations. Efforts that include some measure of performance based on team participation are more integrative. Some organizations allow team members to appraise one another. In addition, the 360∘ feedback system provides the employee with input from their own self-evaluation, team member evaluations, and supervisory evaluations.

MODEL OF INTEGRATION

Structure	**Communication**
-Matrix	-Local area networks
-Flattened	-E-Mail
-Decentralized	-Fax
-Large span of control	-Cross-functional teams
-Self-directed work teams	-Customer partnerships
-Large span of control	-Supplier partnerships
-Self-directed work teams	

Reward Systems	**Job Design**	**Training/Development**
-Performance evaluations incorporate team performance	-Job Rotation	-Plant tour included
	-Cross-functional interactions	-Team training
-Gainsharing plans	-Empowerment	-Communication of organizational goals
-Team Bonus plans		-Cross-training
-Appraisal by team members		
-360° feedback systems		

The model of integration as shown above highlights the components of integration and the elements that would be found in organizations with a higher level of integration.

Structural Components

The following are the structural elements that would be expected in an organization with a higher level of integration:

1. MATRIX STRUCTURE

   Because the matrix structure by its very nature creates cross-functional teams, this structure would indicate a higher level of integration.

2. FLATTENED STRUCTURE

   The organization would be expected to have a flatter structure. There would be fewer levels in the hierarchy. The levels between the lowest level and the highest level would be fewer.

3. DECENTRALIZATION

   The decision-making processes within the organization would be pushed down to the lowest possible level. Therefore, those employees who deal directly with the customers can solve problems. This creates a higher level of satisfaction for the customer and benefits the organization as well.

4. LARGER SPAN OF CONTROL

   Because of the flattened structure, supervisors would be expected to have a larger span of control. This means supervisors would be responsible for a greater number of employees. As a result, employees would be more responsible and have more autonomy.

5. SELF-DIRECTED WORK TEAMS

   Organizations that utilize self-directed work teams would display a higher level of integration. Self-directed work teams must work

together to make a product or perform a service. They also take on the administrative and managerial duties and responsibilities.

Communication

1.   <u>USE OF TECHNOLOGY</u>

Those organizations with a higher level of integration would be expected to make greater use of the enhanced technologies available today. The use of local area networks to connect various functions and geographic locations would be used.

E-Mail would be used by these organizations as a source of communication with organizational members. This enables the employee to interact with members in various functions more freely than face-to-face communication in the event of possible conflicts. E-Mail can also be used to allow organizational members more flexibility such as working out of their home office.

The use of fax technology would also be used by the organization with a higher level of integration. The need to fax information to other organizational members in remote locations as well as integrating customers and suppliers through this technology.

2. <u>CROSS-FUNCTIONAL TEAMS</u>

The use of cross-functional teams is a key component of the organization with a higher degree of integration. Focusing on the structure of these teams could serve as a measuring device. In addition, the extent to which the decisions made within these teams is relied upon could indicate a degree of integration.

3. <u>CUSTOMER PARTNERSHIPS</u>

Integration of the customer into the design processes of the organization would indicate a higher level of integration. JIT inventory control for a customer would signify a higher level of integration. Involving the customer in new product ideas would also signal a higher level of integration.

4. <u>SUPPLIER PARTNERSHIPS</u>

Bringing the supplier into the organizational loop would indicate a higher level of integration. Elements to look for would include inventory monitoring, quality monitoring, integrated systems for ordering, and integrated systems for invoice processing.

Reward Systems

1. <u>PERFORMANCE EVALUATIONS</u>

In the organization with a higher degree of integration, employee performance evaluations will be based on team performance

measures in addition to individual performance measures. The highly integrated organization may base performance evaluations on team performance only.

2.   GAINSHARING PLANS

Gainsharing plans reward employees for cooperative efforts and contributing to the overall success of the organization. Organizations that have implemented gainsharing plans show a higher degree of integration as this is a reward for group effort.

3.   TEAM BONUS PLANS

Bonus plans that reward team performance would reflect a highly integrated organization. These bonus plans can also serve as a means of encouraging a certain degree of competition within the team environment in an organization.

4.   APPRAISALS BY TEAM MEMBERS

Organizations that incorporate the feedback from team members into the performance appraisal show a higher level of integration. This allows group members to recognize those members that have provided a higher level of contribution.

5.   360∘ FEEDBACK SYSTEM

This system is a three-tiered system of feedback for the organizational member. They are evaluated by their peers, their supervisor, and they evaluate themselves. This information is

combined and relayed back to the employee in some form of feedback tool. This is most often used for development purposes rather than as performance appraisals. An organization that utilizes this tool would show a higher degree of integration.

Job Design

1. ## JOB ROTATION

    Organizations that rotate their employees to different jobs would indicate a higher level of integration. By rotating their employees to different positions, this enhances the employees understanding of how their job fits into the big picture. It also allows the individual to work with other departments and perhaps functional areas.

2. ## CROSS-FUNCTIONAL INTERACTIONS

    The degree to which cross-functional interactions are encouraged through job design signifies the level of integration in the organization. If jobs are designed such that members are required to interact with other functional areas, this would indicate that the organization is supportive of these cross-functional efforts and would indicate an organization with a higher degree of integration.

3. <u>EMPOWERMENT</u>

The degree to which employees are empowered to make decisions on the job correlates to the degree of integration within the organization. Empowered employees must have a greater awareness of organizational goals and objectives to enable them to make decisions that affect the organization.

Training/Development

1. <u>PLANT TOUR</u>

Providing a plant tour for new employees serves as a high-quality integrative measure. In addition, if there are other divisions within close proximity, a tour of these facilities provides valuable insights into the overall operations of the organization. It provides the employees with an enhanced perspective of the big picture.

2. <u>TEAM TRAINING</u>

Training on being part of a team is an important part of any team program that is implemented. Without this training, the employees do not gain the insights necessary to participate in teams. In addition, they learn conflict resolution techniques that are necessary. Organizations that provide this training show a greater degree of integration.

3. COMMUNICATION OF ORGANIZATIONAL GOALS

The organization that communicates the goals and objectives to all employees, as well as informing them of progress made toward meeting these goals and objectives shows a higher degree of integration. If this information is communicated through the training and development process, it ensures that all employees have the opportunity to obtain this information.

4. CROSS-TRAINING

Cross-training employees to do several jobs within a job group shows a higher degree of integration. Cross-training provides the employee with insights as to how the individual jobs fit together. It also enables employees to work together to get the job done in the event that an employee is missing.

DISCUSSION

The integrative efforts described above will serve as indicators as to the degree of integration within an organization. It seems somewhat logical that specific elements of our integrative efforts would serve as measures as to whether the integrative efforts have been successful. A measuring device would be useful in protecting some of these integrative efforts. Some implementation efforts may be in danger due to the lack of a measuring device. Employers who implement these integrative programs look for the

quick return and fail to consider the long range benefits. If such a measure were in place to show the benefits of these programs over time, then perhaps employers would look upon these efforts more favorably.

The elements within the constructs of integration could be manipulated into a question format to form a survey that could be distributed to various employers. This survey could provide employees with a set of questions that indicates to what degree they see each of the integrative measures being used. Those organization that utilize a higher number of integrative measures could be considered a highly integrated organization. An organization that has a number of interventions, but some that are prevalent and others that aren't so prevalent would rank low on the integrative continuum.

This information could provide useful insights to organizations looking to expand current programs as well. They could use this information to determine which of the efforts are working. Those efforts that are not working would provide the organization with information that would enable them to better determine problem areas that need adjustments or perhaps need to be discontinued.

Another benefit to this instrument is that the measuring device could be administered over a period of time to determine whether the degree of integration is improving due to integration efforts. This is important for organizations to be able to provide feedback to both the employees and shareholders as to the benefits of integrative efforts. There is a significant cost

involved in implementing these programs, and many times these efforts do not provide a quick fix, but instead a gradual improvement over time.

This measuring device would serve as a valuable tool for the academic world as well. A measurement device would provide them the opportunity to test relationships between organizational characteristics and integration.

Future efforts should be focused on developing a survey instrument. Another area to be developed would be the constructs and elements of integration. These should be challenged to determine if they do indeed correlate to integrative efforts.

BIBLIOGRAPHY

Arnott, N. (1993), "Saved By the Bellman?" <u>Sales & Marketing Management</u>, 145(15), 68-73.

Berry, L.L., Parasuraman, A., and Zeithaml, V.A., (1994), "Improving Service Quality in America: Lessons Learned," <u>The Academy of Management Executive</u>, 8(2), 32-45.

Betof, E, and Harwood, F. (1992), "Raising Personal Empowerment," <u>Training & Development</u>, 46(9), 31-34.

Byrne, J., Cortese, A., Dwyer, P., Kerwin, K., (1994), "Borderless Management," <u>Business Week</u>, 3373, 24.

Caudron, S., (1994), "HR Revamps Career," <u>Personnel Journal</u>, 73(4), 64B-64P.

Clark, T., (1993), "AT&T Listens To Customer Signals," <u>Business Marketing</u>, 78(11), 22-24.

Galbraith, J.R., (1971), "Matrix Organization Designs," <u>Business Horizons</u>, 14(1), 29-40.

Goetsch, D.L., and Davis, S., (1995), <u>Implementing Total Quality</u>, Englewood Cliffs, NJ: Prentice-Hall.

Hammer, M. and Champy, J., (1993), <u>Reengineering the Corporation: A Manifesto for Business Revolution</u>, New York: HarperCollins.

Jenkins, A., (1994), "Just-In-Time, 'Regimes" and Reductionism," <u>Sociology</u>, 28, 21-30.

Jones, A.P., Glaman, J.M., Johnson, D.S., (1993), "Perceptions of a Quality Program and Relationships with Work Perceptions and Job Attitudes," <u>Psychological Reports</u>, 72, 619-624.

Kaeter, M. (1993), "The Age of the Specialized Generalist", <u>Training</u>, 30(12), 48-53.

Kendrick, J.J., (1993), "TQM Ups Revenues, Productivity, Studies Show", <u>Quality</u>, 32(12), 17.

Lavallee, W. (1993), "Modicon's Quest for Quality", <u>Quality</u>, 32(10), 54-56.

Lawrence, P.R., and Lorsch, J.W. (1967), <u>Organization and Environment:</u> <u>Managing Differentiation and Integration</u>, Cambridge, MA: Harvard University Press.

Redmon, W.K., (1992), "Opportunities for Applied Behavior Analysis in the Total Quality Movement," <u>Journal of Applied Behavior Analysis</u>, 25, 545-550.

Senge, P., (1990), <u>The Fifth Discipline: The Art and Practice of the Learning Organization</u>, New York: Currency Doubleday.

Spendolini, M.J., (1993), "How to Build a Benchmarking Team," <u>Journal of Business Strategy</u>, 14(2), 53-57.

Stites-Doe, S. (1996), "The New Story About Job Rotation," <u>The Academy of Management Executive</u>, 10(1), 86-87.

Taylor, W., (1991), "The Logic of Global Business," <u>Harvard Business Review</u>, 69(2), 90-105.

Trent, R.J., Monczka, R.M., (1994), "Effective Cross-Functional Sourcing Teams: Critical Success Factors", <u>International Journal of Purchasing & Materials</u>, 30(4), 3-11.

Welbourne, T.M., Balkin, D.B., and Gomez-Mejia, L.R., (1995), "Gainsharing and Mutual Monitoring: A Combined Agency-Organizational Justice Interpretation," <u>Academy of Management Journal</u>, 38(3), 881-899.

Williams, D., and Cooke, D., (1994), "Aligning Technology with Business Goals," <u>Best's Review</u>, 95(5), 86-89.