

Intranets as an Empowerment Tool

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Abstract: The intranet can be used to provide highly visual and understandable feedback by keeping employees focused on what is really critical; it can be used to empower an organization. It can do this by combining intranet's feedback with data visualization technology so you can quickly summarize where you stand so all can see what is going on. Spreadsheets cannot do that, but visual displays and graphs used in conjunction with the intranet can be used to help the organization's efforts and, in the process, reduces and refines data so it can be better used.

Intranet-supporting software makes it easier to implement strategy. Good software combined with good objective setting, data collection, and the intranet's ability to provide real-time feedback, makes it far easier to create teamwork and empower employees. Intranets used this way can make maximum use of performance measures and human resources. Today, intranets are mostly an electronic library designed to share information, but their potential extends far beyond that. They can be the agent for implementing employee empowerment and for creating a more effective and connected workplace.

Today, intranets can become tomorrow's tool for reshaping organizations.

Introduction

Imagine how it could change your decision making if you could monitor your critical concerns using only a single desktop computer screen. Systems could be set up so everyone within your organization could also monitor and display only those things relevant to just them.

Collecting data and measuring results is a waste of time if the information is never acted upon.

Your computer desktop screens can be designed to track and graphically display an organization's critical performance measures. Some of them worth measuring might include employee decision making, as well as their attitudes, efforts, and capabilities.

According to the report, which collects data from ASTD's Benchmarking Forum (BMF)—a consortium of private and public sector organizations—and the ASTD BEST Award winners, companies are making substantial investments in employee learning and development. Companies are using dashboards and other business measurement tools to

gauge the efficiency and effectiveness of their learning functions, and they are aligning learning with performance goals (Ketter, 2006). They are also increasing their use of e-learning—for the seventh consecutive year—and steadily increasing the hours of learning each employee receives. The number of senior level executives who publicly support learning is increasing. Nearly 90 percent of BEST companies report that their top executives made public statements in support of this type of technology (Ketter, 2006). But wait till they hear what it's really capable of doing.

Imagine how it could change your decision making if you could monitor your critical concerns using only a single desktop computer screen. Systems could be set up so everyone within your organization could also monitor and display only those things relevant to just them. All of this is possible today using the same corporate intranet that mostly today serves as a corporate library.

IT as an Empowerment Tool

People who are using intranet tools don't care about the languages or other technologies that are used to create, store, and transfer the information. "They don't want to know how SAS works," as David Butler, vice president of product strategy and marketing for software maker Spotfire, told me recently. "They want to access the information." Workers concentrate on the data and information they are manipulating rather than on how they are manipulating the data and information (Zipperer, 2001).

Empowerment, the process of enabling and encouraging employees to accept more responsibility for their job, is a concept that has been discussed for many years but has been difficult to achieve. Specifically, empowerment involves pushing decision making downward in the organizational hierarchy to the lowest level where the necessary information and expertise is available. Successful implementation of empowerment has been chiefly dependent upon radical changes in management attitudes and behavior. Now, because of the access to shared information available through intranets, the long sought goal of improving employee empowerment may be within reach. Researchers have suggested that access to company information and opportunity for expanded cross-functional communication can enable managers to more effectively share power with employees, thus achieving improvements in employee empowerment.

There are information technology systems available today in conjunction with the intranet to help us better track, analyze, integrate and display your essential information so decision making and delegation is easier. In real-time and at the click of a mouse, executives can see what is going on with their critical concerns like profitability or service concerns. Intranets are able to do this by integrating information through a series of computer screens that help anyone visually understand what's going on, where they are headed, and how they are doing. Information technology can add context and help busy executives and their employees keep a "big picture" mentality about what is going on rather than having a piecemeal mentality.

In particular, the intranet's capability to collect and rapidly display key information means managers can deal with reality. It cannot only give executives a clearer picture of what is going on but also can be used to cross-reference and display competitive benchmarks so you and your employees can compare these numbers to strategic objectives.

Empowerment and Feedback

Research, in fact, has consistently shown that team commitment and agreement with team goals is an essential to success. So good feedback should relate to those goals and it is no different for the intranet. Management researchers have known for a long time that frequent feedback generally improves performance. Specific performance measurables should be attainable. Personal objectives work better than vague platitudes and broad goals. We know it is best if you do not try to do too much, simply state three to five high-level goals related to all areas of the company's sales, production, human resources, etc. When possible, make them quantifiable.

Make sure your performance measures relate to these goals and objectives. Closely related to the need for common goals is the need for evaluating performance and providing real-time feedback. Researchers like Neubert (1998) have demonstrated that performance using both feedback and goals far exceeds performance benefits of using goals alone. Goals show you where to go, but it takes relevant feedback to inform you how you are doing. It is easy to talk about the need to cooperate and work as a team. It is quite another matter to get specific, descriptive feedback in real time on actual performance.

Empowerment will always be difficult to achieve unless there is a systematic way of analyzing and providing feedback on performance. Performance measures should be based on critical empowerment issues or outcomes. All measures should flow from critical team results or outcomes which the team has control of. Define a specific employee empowerment yardstick and decide which data to collect, which sources to use, whether to sample or collect all the data and determine when to collect it and by who.

Good goal setting seems so "traditional" and passé in such an ever-changing world. Some things though not only remain the same but also can grow in importance. Group cohesiveness, perceived participation, and team commitment are all correlated with each other, and they are positively associated with team performance (Scott, 1994).

Tracking an individual's or group's commitment to a goal is not only a valuable productivity tool, but also an essential to empowerment and teambuilding. Research has shown that goal commitment is positively associated with a group's cohesiveness and team commitment. These studies demonstrate that teams that have traditionally reported high disagreement with their goal were found to be lower performers and less likely to report high group cohesion or team commitment (Scott, 1994). Good empowerment and teamwork performance measures are often directly related to employee job satisfaction and to the degree that they feel their opinion and effort is valuable to the team.

Your computer desktop screens can be designed to track and graphically display an organization's critical performance measures. Some of them worth measuring might include employee decision making, as well as their attitudes, efforts, and capabilities. Tracking and displaying issues related to empowerment concerns gives you the chance to proactively manage them rather than simply react to after-the-fact data. The intranet can give management a chance to intervene before bad relations, effort, or capability becomes an after-the-fact statistic. Turnover, sick leave, absenteeism and poor labor relations are outcomes that have processes. The intranet can give us tools that can track important process and provide feedback to both managers and employees.

Today's intranet technology has a potential far beyond simply being used to store information. It can also help encourage coordinated actions and thinking because organizational members can continually see on their own desktop, at a glance, where the

group's performance is at and knows what is needed to reach an objective. The intranet can be used to continually track what is going on and provide real-time feedback on the status of mission critical objectives.

Real-time feedback is essential to teambuilding and empowerment and that concept fits intranets to a tee. Managerial vision will not stay on track unless continuous feedback is applied. Employees can only act in a coherent and coordinated way if they have a continuing flow of information about where they are at and constantly know whether or not they are meeting expectations. Consistent action only occurs when everyone on the team understands what is going on and the intranet can be that feedback tool. The aim of companies' intranets should not simply be only sharing information, but rather to provide this relevant and rapid feedback so group members stay focused on the big picture.

An organization's intranet has the potential to put critical information directly in front of group members and can help encourage coordinated actions. It holds the promise of letting organizational members continually see, at a glance, where the group's performance is at and know what is needed to reach an objective. The intranet, when combined with data visualization software, can be used to continually track what is going on and provide relatively real-time feedback. They can be used to help team members see the vision and how to implement it and even help empower people, because it lets them take control over the feedback. The intranet can be used as a feedback system that helps group members see connections between their individual activities, attitudes, choices, and formal strategic objectives.

The intranet, when combined with appropriate software, can display critical information accessible to all. It is these capabilities, using data visualization software, to collect a variety of data, merge, and then display it in an easy-to-understand format that holds the promise of a powerful new management tool. The company intranet and available software give you the capability to identify, track, and display a graphical pattern of interactions between critical outcomes, like good customer relations, and processes that lead to those outcomes. Knowing this makes it easier to identify potential areas of improvement.

Technology and Strategy

As work becomes more knowledge intensive, new ways of communicating this *essential* information becomes paramount to our ability to make decisions, build cooperation among group members, and coordinate unified actions. Finding easier ways to formulate and implement managerial strategies within a group, department, or organization will be critical. Intranet-supporting software can make it easier to implement strategy. Such software, when combined with good objective setting, data collection, and the intranet's ability to provide real-time feedback, makes it far easier to manage individual or organizational work. Employees, using their own personal desktop, can be greeted every day with critical information relevant. Such feedback makes it far easier to implement strategies critical to the organization. It can be used to better focus effort around critical strategic issues, and can be used to help you adjust resources to meet strategic objectives.

Saroja Giresankar reports that an intranet at 20th Century Fox was constructed to track the millions of records associated with box-office receipts. It provides a good example of the capabilities of the intranet waiting to be unleashed. An essential component is that it highlights critical information that might require action. The intranet payoff for Fox's

managers is collection of real-time information they get that lets the studio spot regional and competitive trends and act quickly enough to exploit them. They are able to implement changes on the fly. Justin Yaros, CIO and senior vice president at Fox notes, "This application allows us to manage our business more intelligently by giving us actual information on what's happening in the theaters, whereas before, we relied on intuition and gut feeling."

Before their intranet, it would have been impossible to make strategic changes because they did not have the real-time information to make informed decisions. "Our executives and branch managers would call me or another person in IT, and we had to query box-office returns at different theaters one at a time." Now they are able to put the information at their manager's fingertips so they can understand what is going on and make changes as is needed. Such information is long overdue. "This kind of aggregation of internal and external information to make executive decisions affecting the business is a good idea and, if anything, it moves the movie industry out of 1900s technology," said analyst Joe Butt of Forrester Research. Fox's intranet application also sets the stage for the future so they can match supply and demand on a daily basis (Giresankar, 1999).

Using this type of information means films could be selectively extended in markets or individual theaters where they are doing well. Strategies can be formulated in real time and films could also be pulled from theaters where they are slumping to cut losses. Fox officials also have the capability of instantly measuring the impact of promotional dollars spent on new films and adjust their campaigns accordingly. Such accessibility and aggregation of information also makes it possible to make better decisions. Changes in promotional dollars or campaigns can be immediately assessed to see how expectations compare to actual results.

Rick Whiting reports that Federal Express Corp. also is using a business-intelligence extranet that lets shipping companies using FedEx service in countries outside the United States gain access to reports about revenue, shipping volumes, transit-time analysis, and other performance data. Making queries such as "How many packages have arrived in Vietnam after 5 p.m.?" will be possible (Whiting, 2002).

Federal Express uses its internal intranet to improve the big picture view within their organization. Their system collects focused information in real time to help company executives make up-to-the-minute decisions about where it should locate the service centers and drop boxes that customers use every day. Gaining a big picture of what is going on, FedEx officials say, will be better customer service and lower operating costs. "We want to be located where our customers are, and now we think we have a better way of doing that," says Ron Houston, manager of systems and support with FedEx's retail division.

"The old system took too long, and it didn't allow analysts to ask follow-up questions," Houston says. "It just didn't support quick decision making." So FedEx decided to give analysts direct access to information. It allows 120 analysts to tap directly into up-to-the-minute drop site usage data from any PC equipped with Netscape Communications Corp.'s Navigator browser.

Jeff Moad also reported on the benefits of intranet for FedEx. "Using the intranet, analysts can now get specific information on their screens in a matter of seconds rather than having to wait weeks," Houston says. "With that information, we will be able to begin more actively managing the location of our service centers and drop points as populations shift and customer habits change." In addition to more accurately tracking drop point usage, FedEx analysts will be able to get relevant information on the profitability of each service

center and drop box. It will be easier for the company to get a more complete picture of population shifts and other customer trends (Moad, 1998).

Routing Critical Information

Michael Hammer, author and consultant who helped create the reengineering movement of the 1990s, doesn't worry about creating more great managers. He'd be happy just having a lot fewer bad ones. He emphasizes, "I'd like to turn the bad managers into adequate managers." Companies have used quality programs and data-intensive process management to improve such areas as procurement and order fulfillment. Now Hammer says it's time to turn that attention to the management process, relying on metrics and data in decision making through what he calls "analytic performance management." Hammer believes information systems in the past have been too passive, built by technologists who focused on providing access to information in customer-management or financial systems. "There's a presumption that a businessperson knows what they want to ask. That's a fiction," he says. Managers need information pushed to them and decision making guidance (Whiting, 2002).

Samuel Greengard reports that at MindSpring Enterprises Inc., an Atlanta-based Internet service provider, the 1,900-employee company used to conduct surveys manually by tabulating responses and importing them into a spreadsheet. It was a costly and time-consuming process, says Cindy Buell, director of leadership and organization development. The HR department began using software to gain feedback about core values. After drafting the questions, the software converted the survey into HTML, and it was placed on the firm's intranet. "The software has renovated the entire survey process. It has allowed us to do the job faster, cheaper, and better," Buell explains.

This whole process of converting manual surveys to intranet ones has also helped the company to conduct 360-degree assessments and design more effective packages and more quickly understand what their workers want. They have also found that by tracking answers to survey questions over time they are able to measure organizational change (Greengard, 1999).

Interactive intranet technology can be a good vehicle not only to test employee comprehension of policies and procedures but also of critical objectives and expectations. It can help group members grasp a truer picture in real time of what is really going on both inside and outside their group. It has the potential to greatly enhance group collaboration, reduce information overload, track change, and improve performance by continually providing visual feedback on what is going on within critical areas.

Shardin Gaudin reported that Middlesex Health System Inc. needed a way to share real-time patient information, improve care, and stay competitive. So Middlesex, which was a stand-alone hospital four years ago, built an intranet-based repository that houses 4.3 million clinical results, including real-time lab work and radiology test results, as well as care summaries and medication listings for 200,000 patients. Cardiologist Dr. Arthur McDowell says, "It's revolutionized the way we take care of patients. Everyone I take care of has another doctor, like a primary care physician. Before, we used to spend hours finding patient records. Now when I walk in to see a new patient, I head straight to my computer and see what doctors they've been seeing, what tests have been done, what the results are, and what medications they're on." Dr. Michael Saxe, chairman of the emergency department, said the system helps him treat patients faster. He said, "I don't have time to

wait for someone to run up to records at 2 a.m. and find someone's history. On an average day, I go into the system every five to fifteen minutes. If I have to wait even six seconds, that's too much time for me" (Gaudin, 1998).

Personalized Information

Intranets can help group members grasp where they really are in terms of performance in a rapid enough manner that they can change directions. It can also be used to track, display, and provide continuous feedback on information critical to your objectives. Web technology can be used to display information so all can more easily grasp where they are at and see what is needed.

Karen Schwartz notes that what Procter & Gamble wanted was to personalize critical information for each employee and then provide very rapid feedback about changes in that information. Dan Gerbus is the project manager for the personalized portal project in the Cincinnati company's IT division. He says, "A business manager always needs to track some key pieces of information; we'll build a dashboard for that." Procter & Gamble employees use their dashboard to deliver a preset view into various information sources and find all the up-to-date information they need to make decisions about new products, or other initiatives (Schwartz, 2000).

Using such a system, any group, department, or the entire organization can have quick and easy updates on critical changes. Intranets can improve collaboration and teamwork by building unity within a group or department. Future intranets will pave the way to not only greater cooperation but also to a more focused organization.

Combining the intranet's ability to deliver real-time feedback with software that organizes that information so it is easy to digest makes it easier to monitor and manage organizations. Executive dashboards can be used to monitor essential information that relates to a specific manager or employee. You can monitor this critical information using a series of status lights on your executive dashboard. These lights can change shape and color reflecting different changing conditions within the organization. When unusual changes occur you can then drill down through a series of other graphics to see what has happened. For example, a series of status lights can be set up to monitor morale or attitudes using surveys and more objective data on a variety of topics. The status lights on the dashboard would then alert you whenever a certain statistical trigger had been crossed. If you wanted to know when a customer or employee survey score reached a critical numerical value or your standard deviation or variation in scores had exceeded normal conditions, then the dashboard could be used to communicate those changes to you.

Status lights on an executive dashboard can indicate everything is operating normally or it can show when a measure is below some competitive or historical benchmarks. Such lights could also indicate exceptionally good performance. A series of raw data and historical graphics can be accessed from this screen to help team members see why certain status lights have changed shape and color.

Such a dashboard, which runs on the company's intranet and is displayed on individual desktop screens, can continually and instantly show the status of changes occurring within the organization. Dashboards like those employed by Procter & Gamble can be customized and personalized so everyone can keep updated about changes they specifically want to monitor. It lets every individual within the change process monitor changes within their personal responsibility.

Collecting data and measuring results will be a waste of time if the information is never acted upon. Good management is a communication and feedback issue. Look at your own work and ask, "How do I regularly communicate key concerns to all areas?" Work systems, like our groups and organizations, face the continual challenge of keeping on track and not getting distracted by all these details and all that information. Having a strategy or vision is not enough. Atrophy within an organization or group will occur unless there is continual communication and feedback about where we are at and how we are doing. Getting feedback on what happened that is three months or even a year old should not be thought of as really feedback.

The intranet, when combined with the proper groundwork, makes it easy for group members to see the results of their work and compare that to where they want to go. Rapid feedback, which the intranet can deliver, encourages a flexible control that is the ideal for self-directed and empowered work. The intranet is a new tool that can provide continual updates and feedback so it is important to make sure you provide the right kind of feedback.

Mark Baven documents a case at Compumotor Division of Parker Hannifin in Rohnert Park, California where the intranet was used to get information quickly into the hands of decision makers. The company is a manufacturer of circuit boards using robotic motion-control systems. The company used their intranet to show the condition of critical issues. David Krauthamer, the information systems manager at Parker Hannifin's, is primarily responsible for deploying the company's intranet. He says it has had the most immediate effect on real-time manufacturing processes. "Our SQL server has a front-end mechanism that captures and reports on manufacturing defects in process. This provides feedback to the floor, where they can respond to the problem immediately. It also helps us notice patterns and make remedial changes -- real-time corrections" (Baven, 1997). Such information makes it easy to understand what you're supposed to be doing and where you're supposed to be headed.

Data Visualization

The intranet, using available data visualization software like Spotfire, etc., is capable of displaying information that can be easily seen and understood. Such data visualization displays can be used to profile a group so you can isolate and challenge incongruent beliefs, attitudes, behavior, decisions, and activities. Profiling your group can become an internal mechanism for team self-management. It can show group members where they are at in terms of customer service (or other concerns) and how it is being affected by the group's efforts, attitudes, and choices.

Intranet supporting software, like Spotfire and Cognos among others, makes it easier to implement strategy by creating an "executive dashboard," which runs on the company's intranet and is displayed on individual desktop screens, showing the status of your critical concerns.

The system administrator for the software chooses appropriate statistical values that will set off the lights and the software automatically calculates, evaluates, and graphs the results. Whenever a critical stage has been reached, the lights change to match appropriate conditions. The system administrator also is the one who decides who will input data into the system, how often, in what format, how results will be graphed, and who will see those results. It is possible for every individual within an organization to have their own unique

desktop screen that is tracking these measures that are most relevant to the organizational strategic concerns.

As numerical data is entered and automatically analyzed and graphed by the software, the intranet makes these results known to whoever needs to see them. If a performance measure is worth investigating, you simply click on the text box near the status light and you can see the **actual results** graphed out. Such software is designed to alert you to changes in current results that exceed pre-defined statistical conditions. Text messages also appear, highlighting some of the important changes occurring in your data. Graphs can be used to compare and contrast any organization's critical concerns to each other and graphically display their interaction. The software also automatically displays key results in the format of text messages appearing at the bottom of each graph.

Data visualization software, combined with good objective setting, data collection, and the intranet's ability to provide real-time feedback, makes it far easier to implement strategy (or teamwork, manage change, employ employees). Employees, using their own desktop, can be greeted every day with visual feedback about what information is important, where they are headed, and how they are doing. It makes it far easier to implement strategy if feedback is continually provided on an organization's critical concerns. It better focuses group effort around critical concerns and issues, and it can give employees a direct connection between what they do and overall corporate strategy. Today, it is possible to integrate the concern for customer satisfaction with other issues involving productivity or the need for greater employee involvement. There is no limit to the critical concerns the intranet and supporting software can integrate and display.

Summary

The intranet can be used to provide highly visual and understandable feedback by keeping employees focused on what is really critical; it can be used to empower an organization. It can do this by combining intranet's feedback with data visualization technology so you can quickly summarize where you stand so all can see what is going on. Spreadsheets cannot do that, but visual displays and graphs used in conjunction with the intranet can be used to help the organization's efforts and, in the process, reduces and refines data so it can be better used.

Intranet-supporting software makes it easier to implement strategy. Good software combined with good objective setting, data collection, and the intranet's ability to provide real-time feedback, makes it far easier to create teamwork and empower employees. Intranets used this way can make maximum use of performance measures and human resources. Today, intranets are mostly an electronic library designed to share information, but their potential extends far beyond that. They can be the agent for implementing employee empowerment and for creating a more effective and connected workplace.

Today, intranets can become tomorrow's tool for reshaping organizations.

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Appendix

Major Data Visualization Vendors as reported by PC Magazine

- Visual Insights (a Lucent spin-off)
- Silicon Graphics Inc.
- Cognos Inc.
- DataView Inc.
- Epiphany Inc.
- Quadstone Ltd.
- MapInfo Corp.
- Environmental Systems Research Institute Inc.
- MathSoft Inc.
- Spotfire Inc. (Deck, 1999)

Lucent Technologies Inc. unit, Cognos Corp. and Spotfire Inc. have features ranging from business mapping to more esoteric graphics such as data constellations and histograms, which chart data values by density.

Advizor software from Visual Insights, a Lucent division in Naperville, Ill., provides users with a way to query and explore the vast amounts of customer, product and market data generated by electronic commerce and customer relationship management, officials said. (Hammond, 1999)

Spotfire's software combines data visualization and querying flexibility. It is known as DecisionSite and installations starts at \$100,000. Spotfire's software lets users do what-if comparisons of data from different sources by moving sliders on a computer screen with a mouse. The results appear as brightly colored bar graphs, pie charts, scatter plots, and even maps. (Brown, 2001)