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The Newsletter of Strategic Quality Management
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WINTER 2000

SLOAN MANAGEMENT REVIEW

Summer 2000

Information Orientation: People, Technology and the Bottom Line

D Marchand, W Kettinger & J Rollins

Excellence at investing and deploying IT isn't sufficient to achieve superior business performance: companies must also excel at collecting, organising and maintaining information, and at getting their people to embrace the right behaviours and values for working with information.

The authors present the results of a two-and-a-half year international study. They discuss the concept of "Information Orientation" which measures a company's capabilities to effectively manage and use information. It is also a predictor of business performance.

Among the guidelines they provide:

- Focus your best IT resources on what makes you distinctive.
- Actively manage all phases of the information life cycle, from identifying new information to processing and maintaining it.
- Managers and employees must develop an explicit, focused view of the information necessary to run the business.
- Do not compromise on information integrity. Everyone must use information in an ethical and appropriate way.

Four Smart Ways to Run Online Communities

R Williams & J Cothrel

Of the many ideas that have entered the business world by way of the Internet, few have proved more potent than the "online community" in which networked groups of people engage in many-to-many interactions. While community is central to the success of many consumer-oriented Web sites, companies in other industry segments are still learning how to best put community to work. The authors studied 15 online communities to determine how to best establish and maintain such communities. They developed a framework that identifies three activities central to the success of every online community: member development, asset

management and community relations.

Continuous member development is required to grow the community and replace members who leave. Communities need clearly defined goals and member demographics to be marketed effectively. Member acquisition and retention is best achieved by using a wide variety of communication tools.

Community assets include content, alliances and infrastructure. Asset managers must create member profiles and topic-specific subcommittees, capture and disseminate useful knowledge, and create processes that facilitate member involvement. Communities must evolve over time to meet the changing needs of their members.

Community relations establishes guidelines for community members and moderators.

While conflict is often welcomed to spur participation, explicit rules help community members police themselves and guide moderators when intervention is required. These moderators must be experienced and rigorously trained.

The authors illustrate these lessons in case studies of online communities including:

- Sun Microsystems who created the Java Centre community to foster thought leadership and knowledge sharing among its most senior Java application developers. The community also serves more than 1,000 systems integrators and Sun customers. Community members post project and design documents, links to source code and to other useful Web sites.
- Ford Motor Company's virtual community encourages engineers to share knowledge, collaborate in work groups, and find knowledge using the company's intranet. Ford's community improves the speed, quality and cost efficiency of new product development. The community provides Ford's engineers access to more than 500,000 engineering documents.

There is a better way for everything
Find it.

Thomas Edison

Some of Our Favourite Websites:

<http://www.scitechdaily.com/>

Scitechdaily is a NZ-run site, a portal into a wide and varied selection of news and views on matters scientific and technical. An amazing portal site that I visit on a daily basis.

www.zigonperf.com

Jack Zigon is a regular contributor of articles and ideas in the field of performance measurement for organisations.

<http://www.stat.sc.edu/rsrch/gasp/>

The "Globally Accessible Statistical Procedures include a number of useful applets for statistical calculations.

<http://www.davidmaister.com>

David Maister, the guru of professional service firm management, has a great deal of useful free material on his site.

www.kcindex.com

A Knowledge Capital site, run by Brian Henshall

HARVARD BUSINESS REVIEW

May-June 2000

Syndication: The Emerging Model for Business in the Internet Era

Kevin Werbach

Syndication has long been a fundamental organising principle in the entertainment world, but it's been rare elsewhere in business. The fixed physical assets and slow-moving information that characterised the industrial economy made it difficult, if not impossible, to create the kinds of fluid networks that are essential for syndication. With the rise of the information economy, flexible business networks are not only becoming possible, they're becoming essential.

Within a syndication network there are three roles that businesses can play. Originators create original content: anything from entertainment programming, to products, to business processes. Syndicators package that content, often integrating it with content from other originators. Distributors deliver the content to consumers. A company can play a single role, or it can play two or three roles simultaneously.

Syndication requires businesses to rethink their strategies and relationships in radical ways. Because a company's success hinges on its connections to other companies, it can no longer view its core capabilities as secrets to protect. Instead, it needs to see them as products to sell. FedEx., for example, is succeeding by distributing its sophisticated package-tracking capability to other companies on the Net.

Syndication promises to change the nature of

business. As this new way of doing business takes hold, companies may look the same as before to their customers, but behind the scenes they will be in constant flux, melding with one another in ever-changing, self-organising networks.

July-August 2000

E-Loyalty: Your secret Weapon on the Web

F Reichheld & P Schefter

Loyalty may not be the first idea that pops into your head when you think about electronic commerce. Chief executives at the cutting edge of e-commerce, however, know that customer loyalty is an economic necessity: acquiring customers on the Internet is very expensive and unless they stick around and make lots of repeat purchases, profits will remain elusive. For the past two years, the authors have studied e-loyalty – analysing the strategies and practices of many leading internet companies and surveying thousands of their customers – with surprising results. Contrary to expectations they found that most of today's on-line consumers are very loyal and Web technologies, if used correctly, reinforce that loyalty.

The authors explain the enormous advantages of retaining on-line buyers. They warn that if companies don't quickly gain the loyalty of their most profitable existing customers and acquire the right new customers, they'll end up catering to the whims of only the most price-sensitive customers.

By encouraging repeat purchases among a core of profitable customers, companies can initiate a spiral of economic advantages. Even if new Web capability does not directly generate more revenue, it can increase the value delivered to customers.

WW Grainger, the largest industrial supply company in the US, has seamlessly integrated its Web channel with its traditional business. Sales to customers who use the Web site have increased at triple the rate for those who use only the physical outlets, and one fourth of orders are taken at times when branches are closed. Grainger does not, however, view the Web channel as a way of bypassing its commissioned sales force. Rather, it pays sales commissions no matter which channel is used. That way, the sales reps will always direct customers to the most convenient channel.

In the end loyalty is not won with technology. It is won through the delivery of a consistently superior customer experience. The internet is a powerful tool for straightening relationships, but the basic laws and rewards of building

loyalty have not changed.

QUALITY PROGRESS

July 2000

Six Sigma, E-Commerce Pose New Challenges

J Kendall & D Fulenwider

This article seemed to me to be full of jargon and not very well structured but it did make some interesting points.

The authors compare today's organisation with the human body. In this analogy the central nervous system in the business organisation is its IT system which should provide the infrastructure to receive data, analyse it into information and support effective decision making. It exists at three levels:

The first level is the hardware and network infrastructure. At the second level are the production and operational systems which carry the flow of data throughout the organisation. The third level is the decision support layer, comprising analytical software and knowledge management systems that support initiatives by monitoring their effectiveness. This level contains the human component – knowledge – to provide the added value for driving decision making. It facilitates the collaboration that enables organisations to standardise and integrate best practices. It is therefore particularly significant for organisations that adopt Six Sigma (see next page).

One of the reasons for the growing popularity of Six Sigma with companies like General Electric is that it positions the company to deal with business issues that are either created or intensified in the world of e-commerce. GE believes that instant access to information, products, and services have changed the way their customers do business. "Today's competitive environment leaves no room for error. We must delight our customers and relentlessly look for new ways to exceed their expectations. This is why Six Sigma quality has become a part of our culture."

Six Sigma is a process, and one popular approach identifies eight phases: recognise, define, measure, analyse, improve, control, standardise and integrate. An organisation that wants to optimise its use of Six Sigma will need an IT structure that supports all eight. Then, to sustain the benefits of Six Sigma, it must be collaborative and connected in using its information infrastructure. Data must be relevant, available and able to be received in a way that simplifies decision making. With the growth of e-commerce, firms are feeling even greater pressure to be in top

shape – flexible, agile and ready to respond to new threats and opportunities. This requires an active and functional central nervous system to receive, organise, disseminate and translate information into effective business decisions.

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STORIES FROM THE QUALITY FRONT

The good *Sunbeam.* A friend bought a new iron with which she was not completely happy. It wasn't faulty, but its performance was not what she'd hoped for. She phoned the company and was told that she was welcome to take it back to the shop she had bought it from and exchange it for something else. Her lack of complete satisfaction was reason enough.

The Athlete's Foot in Newmarket where we went to buy one pair of walking shoes. We left with quite a bit more – the result, I'm sure, of friendly, knowledgeable and very professional service.

The Quest Mansions in Adelaide where we recently rented an apartment for a week. It was central and comfortable rather than luxurious but the staff were very pleasant and the rates reasonable. We'd made a number of phone calls to New Zealand and were expecting the usual inflated hotel bill for calls but no, the charges were amazingly low! What a lovely surprise.

Inland Revenue who, when their phones are busy allow you to leave a message. My response came on a Saturday morning and was friendly and very helpful.

and the not so good....*Inland Revenue* who sent a rather unpleasant form letter to advise us that we hadn't paid our Fringe Benefit Tax for the quarter. We had, in fact, and they'd cashed the cheque. Everyone makes mistakes and I certainly don't mind a reminder but surely they could produce a less threatening letter for these occasions.

Euro, well our waiter at Euro, who was both condescending and arrogant. The best wood-fired oven in the world doesn't make a memorable experience without the service to go with it. The duck was great but otherwise...

St George... the stove continues to plague us. A month or so ago I decided to have some of its many imperfections fixed and have made a new friend as a result. Michael, who is employed by the company unfortunate enough to have the contract for servicing St George, has so far been four times – they just keep supplying him with the wrong parts! At least he's more pleasant to have around than the stove has been (and it's still not fixed!).

LKC

Six Sigma: What's it all about?

Motorola's business driver, "Six-sigma", is experiencing a resurgence of interest, with books being published, seminars run, and organisations training "Six Sigma Black Belts" to help them achieve breakthrough levels of quality and productivity. In their book "Six Sigma", Mikel Harry and Richard Schroeder claim that:

'Products produced at a six sigma level of quality operate virtually defect-free – by definition, with only 3.4 defects per million opportunities.'

Six Sigma Black Belts are trained in the basics of measurement and the application of the quality tools that we have been using for the past fifteen to twenty years, but with a different measurement focus. The great advantage of the Six Sigma approach is to couch all improvement in terms of "Sigma Levels". This common measurement system can then be used for production and manufacture, for internal and external service operations, for sales support and for R&D. How does it work?

The basic idea of "six-sigma capability" has been around for some time: if the variability of the process is very narrow compared to the width of the specifications, then the process will produce very few items outside the specification limits. In fact, if the process is centred exactly half-way between the specification limits, so that the distance from the process mean to the specification limits is six standard deviations ("six sigma"), then the process will produce only about 2 parts per billion out of specification. Where, then, does the figure of 3.4 defects per million come from?

Most real processes, of course, are not exactly centred midway between the specification limits. In fact, the process tends to drift away from the exact centre, and experience has shown that most reasonably well-behaved processes drift by up to 1.5 standard deviations, that is, by 1.5 sigma. When the process is centred 1.5 sigma away from the mid-point of the specification interval, it turns out that 3.4 parts per million will be out of spec. For those of you who are familiar with the Excel statistical functions, you can calculate this by the formula: =1-NORMDIST(6,1.5,1,1)

(Strictly speaking, we should also calculate the proportion that fall below the lower specification limit, but in this case this is too small to have any discernible effect.)

A sigma score can be obtained for any process, by translating the defect rate into a sigma level. The table below gives the correspondence between defect rates and different levels of sigma performance. (Levels lower than 2 sigma aren't really worth considering!)

Sigma Level	Defective parts per million
2	308,537
3	66,807
4	6,210
5	233
6	3.4

A composite score can be obtained for a range of processes by averaging to get an overall sigma level for the organisation. This approach, using the defect levels as proxies for the actual calculations of the standard deviations of the underlying processes, has its drawbacks, but does make this very technical methodology accessible and useful for most organisations, and enables a sensible comparison of performance between very disparate types of organisations. Harry and Schroeder state that an organisation that has progressed from a 3 sigma level to 4 sigma to 4.7 sigma will experience exponential growth in the associated financial benefits. Improvement beyond 4.7 sigma are said to be increasingly difficult, but associated with even more dramatic improvements in financial performance; six sigma companies can expect the cost of quality to be of the order of 1% of sales or less. **PRM**

Pete's new website address: <http://www.stat.auckland.ac.nz/PEOPLE/mullins/pmullins.shtml>

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