Implementing Enterprise 2.0

A practical guide to creating business value inside organizations with web technologies

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For organizations that are seeking a thorough and practical reference on how to create value with Enterprise 2.0 approaches, *Implementing Enterprise 2.0* is the most comprehensive, pragmatic, and cost-effective analysis available on the market.

Implementing Enterprise 2.0 provides detailed coverage of each step on the Enterprise 2.0 journey, assisting executives to understand benefits and risks, take informed action, and implement successful initiatives.

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Chapter 2:

Web 2.0 And The Enterprise

Overview

- A wide variety of definitions for Web 2.0 have been offered, centered around the concept of creating value from participation.

- The Web 2.0 Framework offers a visual representation of how Inputs flow through the Mechanisms of Web 2.0 to create Emergent Outcomes.

- A wide variety of Web 2.0 tools first came into existence in the open web and have since been adapted and applied to create value inside the enterprise.

- Key issues in adapting Web 2.0 tools to the enterprise include scale, IT security, identity, information loss, and auditability.

Web 2.0 Definitions

"Distributed technologies built to integrate, that collectively transform mass participation into valuable emergent outcomes."
Ross Dawson

"The business revolution in the computer industry caused by the move to the internet as platform, and an attempt to understand the rules for success on that new platform. Chief among those rules is this: Build applications that harness network effects to get better the more people use them. (…"harnessing collective intelligence.")"
Tim O'Reilly

"An emerging network-centric platform to support distributed, collaborative and cumulative creation by its users."
John Hagel

"Web 2.0…is about making the Internet useful for computers"
Jeff Bezos

"Don't fight the Internet."
Eric Schmidt

"The participatory Web."
Brad Decrem

"The changing trends in the use of World Wide Web technology and web design that aim to enhance creativity, communications, secure information sharing, collaboration and functionality of the web."
Wikipedia

"The Web as platform"
Richard MacManus

"A collection of technologies - be it VoIP, Digital Media, XML, RSS, Google Maps… whatever …. that leverage the power of always on, high speed connections and treat broadband as a platform, and not just a pipe to connect."
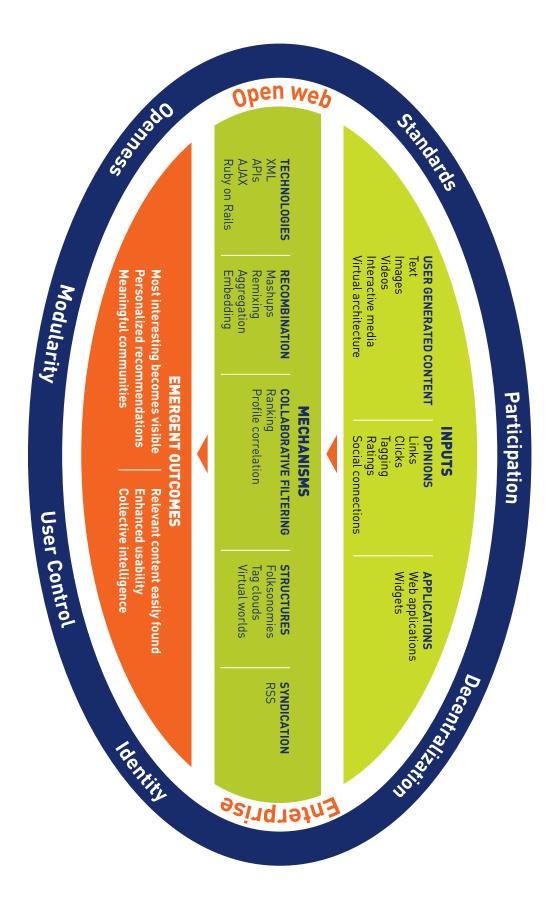***Om Malik***

Understanding Web 2.0

The term "Web 2.0" was coined in 2004 for the name of a conference organized by O'Reilly Media. It soon became a pervasive way of describing the emerging phase of the Internet, epitomized by popular social media tools such as blogs, Wikipedia, MySpace, YouTube, del.icio.us, and tagging.

One of the challenges of the term "Web 2.0" is that it has been used in many different ways, making it hard to explain clearly to those who are not directly involved in the field. However it has been useful in describing the breadth of innovation in how web technologies have been applied over recent years.

Web 2.0 originally described technologies that were primarily used in the open consumer web. However similar tools soon became used by organizations, both internally to increase efficiency and productivity, and externally to communicate with customers and other stakeholders.

Web 2.0 Framework

Openness

Standards

Participation

Decentralization

Identity

User Control

Modularity

Open web

Enterprise

USER GENERATED CONTENT

Text
Images
Videos
Interactive media
Virtual architecture

TECHNOLOGIES

XML
APIs
AJAX
Ruby on Rails

RECOMBINATION

Mashups
Remixing
Aggregation
Embedding

INPUTS

OPINIONS
Links
Clicks
Tagging
Ratings
Social connections

APPLICATIONS
Web applications
Widgets

MECHANISMS

COLLABORATIVE FILTERING
Ranking
Profile correlation

STRUCTURES
Folksonomies
Tag clouds
Virtual worlds

SYNDICATION
RSS

EMERGENT OUTCOMES

Most interesting becomes visible
Personalized recommendations
Meaningful communities

Relevant content easily found
Enhanced usability
Collective intelligence

Key Features Of The Web 2.0 Framework

The Web 2.0 Framework shows how valuable outcomes are created from participation.

Inputs

The inputs to Web 2.0 and Enterprise 2.0 are users' activities and contributions. Most obviously this includes content that they have submitted. However perhaps the most important contribution is people's opinions expressed by their online activities. In an enterprise context this can be extremely valuable as a basis for guiding information access.

Mechanisms

There are a variety of platforms and mechanisms that enable value to be created from the inputs of participation. These include the recombination of different data sources or applications, collaborative filtering to identify what would be of interest to people with a particular profile or set of interests, and syndication to enable the flow of information to where it will be of most use.

Emergent outcomes

What is most valuable will vary depending on the organization. These outcomes are emergent in that they cannot be fully planned, however it is very useful for executives to consider what will specifically be the most valuable, particularly in providing staff with better access to information and resources that will help them in their work.

> For definitions of the technologies and terms mentioned in the framework, please refer to the Glossary in Appendix A

Key Web 2.0 tools and technologies

Technology	Brief description	Open web examples	Enterprise use
Blog	Simple content publishing system that is easily updated, shows the most recent entry first, and can be subscribed to using RSS.	Blogs are used as an online publishing format by many established and new publishers, ranging from New York Times to Boing Boing. They are also a popular channel for self-expression and self-promotion.	Format is well suited to organizational tasks such as internal communication and project management. Can also be used as an informal external communication channel to customers and stakeholders.
Wiki	Document that can be edited by multiple users, with full audit trail of changes.	The enormous success of Wikipedia, the user-created encyclopedia, has generated many other Wikis on specific subjects.	Wikis are used extensively in organizations for a wide range of applications including collaborative document creation and project management.
Social network	Online community in which people create personal profiles and share information with their friends and contacts.	While Facebook and MySpace are the most popular social networks, there are also many niche social networks on specific topics.	Social networks inside organizations can also be created from staff profiles, which give visibility across the firm to people and their expertise, and facilitate social interaction and trust-building among staff.
Podcast	Audio files that are made available for streaming or download. They are usually part of a regular series that listeners can subscribe to.	There are many regular (audio) podcasts available usually catering to targeted audiences.	Podcasts can provide learning content and internal communications in a format that can be listened to by staff at their convenience e.g. when driving or at the gym.
Video sharing	Making videos available for download, either to anyone on the Internet or a defined audience. Videos are usually short and expectations of production quality are limited.	YouTube and other video sites have become extremely popular ways of sharing videos.	Videos are being frequently used in organizations for internal communication to employees by senior executives. Other applications include content updates, learning programs, and sharing of social activities.

Key Web 2.0 tools and technologies (Cont'd.)

Technology	Brief description	Open web examples	Enterprise use
RSS	Highly popular syndication format that allows users to subscribe to any updates of content or project activities.	Virtually ubiquitous on blogs and most mainstream media websites, Used extensively to keep updated on news.	Fundamental enabler of shift of organizational information flows outside email. Can be used to provide updates on corporate information or team activities. Also useful for assisting clients to access thought leadership content.
Tagging	Adding descriptions to documents to enable easier categorization and retrieval by self and others.	Tags are used extensively on the open web by document creators and viewers. They significantly impact search results.	Tagging inside organizations can facilitate enhanced search and better information sharing within groups.
Social bookmarking	Notation of documents as favorites in a public or semi-public space.	Del.icio.us and other social bookrmarking tools are highly popular, and can significantly impact the visibility of documents.	If broadly adopted, social bookmarking helps staff to find relevant information and reduce duplication of research.
Mashups	Integration of disparate data sources or applications into a single tool.	The most well-known mashups integrate maps with other data sources. Tools such as Yahoo! Pipes allow non-programmers to readily create their own custom applications.	Mashups are being used extensively in some organizations and hold significant promise for enabling end-users to access and manipulate information relevant to their work.
Virtual worlds	Online simulated environments in which people can move around and interact through 'avatars' that they control.	The most popular virtual world, Second Life, has received substantial attention though has not grown substantially over the last two years. Other virtual worlds are rising in popularity.	Virtual worlds are beginning to be commonly used in training and education. They are likely to be used increasingly as an alternative to video-conferencing.
Micro-blogging	Short (usually maximum of 140 character) updates that people can subscribe and respond to, building broad-based conversations.	By far the most popular micro-blogging platform is Twitter, which has grown dramatically since its birth in 2006, however a variety of other systems are also used.	Several vendors are now providing micro-blogging systems for the enterprise. Currently a small number of organizations are experimenting with these tools.

Web 2.0 Characteristics

Participation

Every aspect of Web 2.0 is driven by participation. The transition to Web 2.0 was enabled by the emergence of platforms such as blogging, social networks, and free image and video uploading, that collectively allowed extremely easy content creation and sharing by anyone.

Standards

Standards provide an essential platform for Web 2.0. Common interfaces for accessing content and applications are the glue that allow integration across the many elements of the emergent web.

Decentralization

Web 2.0 is decentralized in its architecture, participation, and usage. Power and flexibility emerges from distributing applications and content over many computers and systems, rather than maintaining them on centralized systems.

Openness

The world of Web 2.0 has only become possible through a spirit of openness whereby developers and companies provide open, transparent access to their applications and content.

Modularity

Web 2.0 is the antithesis of the monolothic. It emerges from many, many components or modules that are designed to link and integrate with others, together building a whole that is greater than the sum of its parts.

User Control

A primary direction of Web 2.0 is for users to control the content they create, the data captured about their web activities, and their identity. This powerful trend is driven by the clear desires of participants.

Identity

Identity is a critical element of both Web 2.0 and the future direction of the internet. We can increasingly choose to represent our identities however we please, across interactions, virtual worlds, and social networks. We can also own and verify our real identities in transactions if we choose.

Adapting Web 2.0 To The Enterprise

There are a number of issues in taking Web 2.0 technologies that have emerged and succeeded in an open web environment and adapting them to the enterprise. Understanding these issues helps to see what needs to be done to take value creation in an open environment into an organizational situation.

These issues impact:

• The software platforms that are used (requiring "enterprise-grade" tools)

• The design and architecture of initiatives

• How tools are implemented

• Staff training and education

Enterprise 2.0 in Action: Accenture

Global professional services firm Accenture has implemented Web 2.0 tools extensively, and has brought these together under the banner of Accenture Collaboration 2.0. Initiatives include an internal social network (People Pages) designed to look like Facebook that was launched in April 2007. This is automatically populated with people's basic profile information, but also allows them to contribute their expertise, who they have worked with, contributions to Accenture's Knowledge Exchange, and also their hobbies and interests. This can be fully searched by anyone in the firm. A media exchange allows staff to upload videos and other material.

Central to the firm's initiatives to make documents easier to find has been an initiative to allow user tagging of internal documents. Instant messaging has been a standard business communication tool for some years, and desktop video is now standard for many users. The firm has recently launched Accenturepedia as firm-wide wiki to share expertise and provide a common reference point. Other initiatives include using virtual worlds for staff training.

Key issues in adapting Web 2.0 tools to the enterprise

1. Scale

Since Web 2.0 is primarily a mechanism for creating value from participation, it makes an enormous difference whether the participants come from the entire universe of now over one billion Internet users, or the far smaller pool within an organization. Some of the same tools and approaches can be used, but they need to be adapted so that value can be created by relatively small groups.

2. IT Security

There are clearly different degrees of tolerance for individuals and organizations in exposing computers to potential IT security threats. In fact there are few additional issues raised by Web 2.0 technologies compared to other Internet technologies, and these should be addressed in any existing IT security policies. However any technology used needs to be assessed on security.

3. Identity

Most Web 2.0 tools allow a large degree of anonymity. In addition it is often fairly easy to pretend to be someone else. In the enterprise there can be situations where you want to enable anonymous comments and contribution. However in most cases you will want to have clear identity and authentication so that contributors are known and validated.

4. Information loss

There can be a real impact for individuals if some of their personal activities are visible on the web, for example by current or potential employers. Similarly, there must be appropriate safeguards on keeping enterprise information protected, both for regulatory and competitive reasons. As enterprise software is usually used by employees only, in most cases this is not an issue. However when tools may be used or visible externally, appropriate boundaries need to be established to keep internal and external information entirely separate.

5. Auditability

Regulations increasingly require organizations to keep an audit trail of communication. This is usually well established in archiving email. However many new communication forms must also be addressed in storing communication records.