Enhancing Productivity through Web Technology

A Social Media Study by
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Overview

Enhancing Productivity through Web Technology

1. Productivity , Web Technology and the Supply Chain
2. Social Networking site survival rates
3. Key Question: Enterprise Social Networking and Sustainability
4. Web History and Lessons Learnt
5. Timeline Snapshot of Social Media History
6. Adoption of social media by business community
7. Business Strategy and the Business Model
8. Community-centred development
9. Twitter Networking Topology Case Study
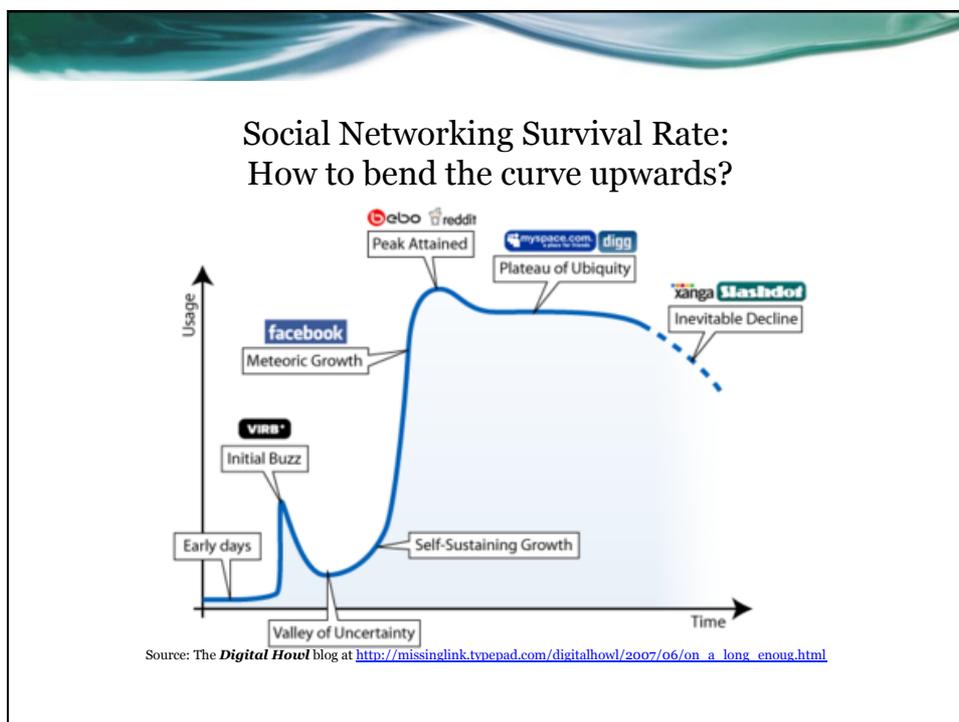10. Discussion Topics

Productivity and Web Technology 1

- **Productivity** is a measure of the efficiency of production, as a ratio of production output to inputs.
- Measured as a total output per one unit of a total input.
- The closer the ratio is to 1.0, the higher the productivity
- **Web technology** has enhanced communication methods and efficiencies in workflow, processes, operations and productivity.
- Web technologies are a broad range of hardware, software, languages, services and concepts that operate together over an internetwork like the Internet.

Examples: VPN; VoIP; RFID; WiFi; XML; HTML5; Mobile devices; Cloud storage

Productivity and Web Technology 2

Web Technology	Productivity Gain
Voice over IP (VoIP)	Low cost telephone and FAX calls
Radio Frequency tagging (RFID)	Efficient product tracking in supply chain.
Virtual Private Network (VPN)	Scalable, cost efficient, ease of use.
HTML5 and Javascript	Improved interaction and new features
Cloud computing	Cost efficient applications and storage
Enterprise Social Networking	**Social CRM and PR; Branding, Marketing and Recruitment**
Wireless Connectivity	Mobile and seamless communications
E-commerce website	Online marketplace and attention
Search engine seeding	Increased Web presence and reputation

Social Networking Survival Rate: How to bend the curve upwards?

Source: The **Digital Howl** blog at http://missinglink.typepad.com/digitalhowl/2007/06/on_a_long_enoug.html

Key Question

Can a social networking topology build and sustain an effective online business community?

Which way ahead? **Enterprise Social Networking and Social Media History**

- Professional or employee based social networks based on career and workplace issues.
- Apple, Google and Microsoft are re-shaping their business cloud computing services by including social networking.
- Two example of services that are experiencing **growth in numbers** are Linkedin and Yammer (recently purchased by Microsoft).
- Steve Ballmer, CEO of Microsoft stated about the deal:
  "Yammer adds a best-in-class enterprise social networking service to Microsoft's growing portfolio of complementary cloud services."
- Microsoft has already bought Skype as part of it's **cloud computing portfolio**.

Web History and Lessons Learnt

- WWW is over 21-years old and Web 2.0 is over 7 years old.
- Lessons to learn from pioneers and other sectors:
- Case Study of free and online "***virtual universities***'
  - Universities and schools operate with a social media mix
  - Social networking quickly renewed online practices
- Influence upon eBusiness and eGovernment productivity.

The social media mix
Source: Charles Sturt University <csu.edu.au> Home Page

Timeline Snapshots from Social Media History

2001
Wikipedia begins collaborative document editing
2003
Second Life as virtual world; **LinkedIn** and **MySpace** communities.
del.icio.us for social bookmarking; **Skype** using VoIP for communication with peers.
2004
Facebook goes mainstream; **Flickr** for photo libraries and **DIGG** begin
Google starts **gmail**; Martin Dougiamas develops **MOODLE** as Open-Source LMS
2006
YouTube (began in 2005) is acquired by Google as video sharing and **Twitter** begins
WikiLeaks begins publishing from anonymous sources
2008
The App store opens via iTunes after first iPhone released in 2007.
Yammer as enterprise social media begins as fee paying service.
[Yammer is now used at both Border Studies and Charles Sturt University as
"***enterprise social networking***"]
2012
Microsoft has Skype (2011) and Yammer (2012) as part of a social media portfolio to
rival Google and Apple as enterprise social computing goes mainstream.

Business strategy and business model for adoption of social media 1

The first step in business uses of social media is to develop a strategy.
Shin (2010) proposed seven steps to developing a successful **social media strategy**:

1. Determine your goals and objectives.
2. Research social media options and identify those avenues that best fit with your target market.
3. Create a digital rolodex of contacts and contents to you know why the players are and what they need.
4. Join conversations to develop relationships.
5. Strengthen relationships with additional online tools.
6. Measure results.
7. Analyse, adapt and improve.

Source: Shin, N. (2010). *7 Steps For a Successful Social Media Strategy* http://www.socialmediaexaminer.com/7-steps-for-a-successful-social-media-strategy.

Business strategy and business model for adoption of social media 2

Analysis by Ndou (2004) of the opportunities on offer from social media in eGovernment, mirrors the business advantage:

1. Cost reduction and efficiency gains
2. Quality of service delivery to businesses and customers
3. Transparency, anticorruption, accountability
4. Increase the capacity of government
5. Network and community creation
6. Improve the quality of decision making
7. Promote use of ICT in other sectors of the society

Source: Ndou, V. (2004). E-government for Developing Countries: Opportunities and Challenges, *The Electronic Journal on Information Systems in Developing Countries, EJISDC* 18, 1, 1-24
<http://www.ejisdc.org>

Business Model and Social Media Strategy

Each business is differs in size, culture, market
Social Media strategy should be part of the business model
Some steps to follow to relate to the strategy to the business model:

1. Defining the business goals that Social Media is to provide
2. Develop/check that Social Media strategy support business goals
3. Define the metrics by which to measure success
4. Define Social Media guidelines on Social Media use
    1. (ethical and professional awareness of staff)
5. Organize the ICT and Web environments and resources to operate the Social Media strategy
6. Identify & implement the tools to help manage & monitor Social Media

Adapted from strategybuilders.eu (2011), Designing next generation organizations: Social media & Enterprise 2.0, Website: http://www.strategybuilders.eu

Community-centred Development

Preece (2000) proposed that community-centred development involves continuous **iterative develop-test cycles** as well as 5 stages containing many **parallel activities**:

1. Community needs assessment and user task analysis (requirements analysis - public and private interaction)
2. Selecting technology and planning sociability (generic technologies or new software with policies and social structure e.g. user roles)
3. Designing, implementing and testing prototypes (schedule with milestones and deliverables)
4. Refining and testing **sociability** and **usability** (user interfaces)
5. Welcoming and nurturing the community (seeding, marketing, leadership, moderators).

Source: Preece, J (2000), *Online communities: designing usability, supporting sociability*, Wiley

Twitter's Networking Topology 1

Doer, Fouz & Friedrich (2012) sought to simulate the **information spreading process** in various network topologies investigated why rumors spread so quickly in social networks and found that:

"a rumor begun at a random node of the Twitter network reaches on average 45.6 million of the total 51.2 million members within only eight rounds of communication"

Source: Doer, Fouz & Friedrich (2012). Why rumors spread so quickly in Social Networks,
***Communications of the ACM**, Vol. 55, No. 5, pp. 70-75.*

Twitter's Networking Topology 2

- Information spreads much faster in the existing and naturally growing social network topologies of Facebook and Twitter and is similar to a mathematically defined "***preferential attachment***" (**PA**) network topology.
- Facebook and Twitter worked in tandem to make communication and **collective action work efficiently** (e.g. recent 2011 "*Arab Spring*" uprising and the earlier London riots).
- The mechanism for the rapid spread of information is based on the efficient interaction between the **few nodes** with **many neighbours** and the **large number of nodes** with only a **few neighbours**.

Discussion Topics

1. Social Media Timeline Social Networking as business model.
   1. Facebook as a company – sustainability?
   2. Your company on Facebook – liability?
2. Cloud computing is still not defined
   1. Microsoft has Skye and Yammer in its Portfolio
   2. Google+ has YouTube, Gmail, Documents etc
   3. Apple has iTunes, iCloud and App store models and the hardware, software supply chain for improving productivity and efficiency in staff training.
3. What about the training?
4. Social Networking with employee and partners
5. Productivity as part of the supply chain.

Thank You
 Questions?