Coevolving Business Models: Open Source and Private Source Offerings

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IBM Canada Ltd. and the Helsinki University of Technology
July 14, 2008, at ISSS 2008, University of Wisconsin - Madison
A. Introduction

B. Cases: Inductive case study of 9 offerings

C. Propositions on licensing and property

D. Propositions on offerings and value

E. Propositions on coevolutionary paths

F. Comparisons with literature

G. Theoretical Saturation

H. Theoretical Saturation

I. Methods
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### Open source ↔ private source in 9+ cases

| 1 Development workbench  | • Envy / VisualAge for Java (OTI / IBM) ➔  
|                         |   Eclipse development framework (Eclipse Consortium) ➔  
|                         |   Eclipse open application framework (Eclipse Foundation)  |
| 2 Instant messaging broadcast  | • IBM Community Tools (IBM internal Webahead team) ➔  
|                             |   Lotus Sametime 7.5 Plug-ins (IBM product architecture)  |
| 3 Wikis  | • JSPWiki (Lesser GPL) ➔ Instawiki (IBM internal) ➔ w3 Wiki Central  
|          |   (IBM internal on Atlassian Confluence) ➔ Lotus Quickr (Qwiki template by SNAPPS)  |
| 4 Blogs  | • Roller (Apache license) ➔ IBM DeveloperWorks (IBM corporate) ➔  
|          |   IBM Blog Central (IBM internal) ➔ w3 Blog Central (IBM internal) ➔  
|          |   Lotus Connections (IBM product)  |
| 5 Digital media sharing  | • Webahead Podcasting Pilot (IBM internal “virtual team”) ➔  
|                          |   w3 Media Library (IBM internal Technology Adoption Program)  |
| 6 Situational mashups | • Enterprise Mash-up Maker (IBM Software Emerging Technologies) ➔  
|                      |   QEDWiki (IBM Alphaworks) ➔ Situational Application Environment  
|                      |   (IBM internal TAP)  |
| 7 Application lifecycle management | • Jazz development platform (Open source version) ➔  
|                                   |   Rational Team Concert Express (IBM product)  |
| 8 Agile dynamic web apps | • Project Zero (Community driven commercial development) ➔  
|                          |   Websphere sMash (IBM Product, Developers Edition)  |
| 9 Office productivity software | • Lotus Symphony: Documents, Spreadsheet, Presentation  
|                               |   (bundled with Lotus Domino 8, free for personal use) ➔  
|                               |   OpenOffice (IBM contribution to open source)  |
Communities, companies, and business ecosystems vary in scale, scope, velocity and acceleration

**Community**
- A social network of individuals
- Smaller scale and/or scope, faster velocity and/or acceleration
- Formal or informal participation and coordination

**Company**
- An incorporated organization
- Larger scale and/or scope, slower velocity and/or acceleration
- Business direction as mission or goals, formalized investment process

**Business Ecosystem**
- A collection of interacting organizations
- Organizations can cooperate and/or compete, as either independent players or in alliances
- Scale, scope, velocity and acceleration in the whole is loosely coupled with the parts
Technology Trajectories (page 1 of 3) ...

(1) Development workbench; (2) IM Broadcast; (3) Wikis;
(4) Blogs; (5) Digital media sharing; (6) Situational mashups;
Technology Trajectories (page 3 of 3)...

(7) Appl lifecycle mgmt; (8) Agile web; (9) Office productivity.
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How are open source and private source differentiated?

Licensing frames the offering ...

<table>
<thead>
<tr>
<th>Private commercial</th>
<th>Free (as in liberty)</th>
<th>Open commercial</th>
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<tbody>
<tr>
<td><strong>IBM IPLA</strong> (International Program License Agreement)</td>
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<td>• Use of IBM systems is restricted to management approved purposes and subject to all applicable IBM policies and guidelines ...</td>
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<td><strong>GNU Lesser GPL</strong></td>
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<td>• ... using the Lesser GPL permits use of the library in proprietary programs; using the ordinary GPL for a library makes it available only for free programs.</td>
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Offerings as a three-dimensional activity package

... it is useful to examine the offering in terms of a three-dimensional activity package ....

- **The physical content** of the offering consists of elements such as the core product, the packaging, the quality and dependability of the good and its material components, the product range, etc.

- **The service content** includes distribution, technical support, product modifications, customer training, on-line advice, troubleshooting, warranties and other trust-supporting insurance aspects, information brochures, brand reputation, complaint handling, invoicing, integrated information systems, etc.

- **The people content** covers issues like long-term partnerships, interpersonal trust, reputation, human resource co-development, etc.

... different customers will emphasize different axes of the offering.

Rafael Ramirez and Johan Wallin. *Prime movers: Define your business or have someone define it against you*, 2000, pp. 58-59.
Offerings as input, and as output

- **Self-service logic** (independence and convenience maximization)
- **Partnership logic** (value co-development)
- **Industrial logic** (production cost reduction)
- **Service logic** (customer satisfaction)

Customer value through transactions → Customer value through relationship

Rafael Ramirez and Johan Wallin. *Prime movers: Define your business or have someone define it against you*, 2000, p. 141
Offering content shifts: Private source  ↔  Open source

<table>
<thead>
<tr>
<th>Offering content</th>
<th>Private source offering: Make or buy assets</th>
<th></th>
<th>Open source offering: Pledge and share resources</th>
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</thead>
<tbody>
<tr>
<td>Physical product content (materials)</td>
<td>Packages of coarse-grained objects, assembled with tightly coupled interfaces between components</td>
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<td>Bundles of fine-grained objects, constructed with loosely coupled interfaces between components</td>
</tr>
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<td>Service and infrastructure content (energies)</td>
<td>Accumulations of organizational expertise with special purpose equipment exercising distinctive talents</td>
<td></td>
<td>Gatherings of interested individuals with commonly available tools applied in predisposed practices</td>
</tr>
<tr>
<td>People / relationship content (social knowledge)</td>
<td>Coordinated activities separable into independent engagements, each producing distinguishable outputs: producer-product</td>
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<td>Cooperative development entwined with interdependent participation, jointly producing shared outputs: coproduction</td>
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A fork leads to an open source or a private source offering; a join or branch-merge leads to solidarity with a community.
### Offering evolution: Private source ↔ open source

<table>
<thead>
<tr>
<th>Offering evolution</th>
<th>Private source offering:</th>
<th>Open source offering:</th>
</tr>
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<tbody>
<tr>
<td>Make or buy assets</td>
<td></td>
<td>Pledge and share resources</td>
</tr>
<tr>
<td>Business ecosystem paths</td>
<td>(1) A fork: from a shared historical trajectory, independent reification of part(s) of a system that results in incompatibilities with community efforts</td>
<td>cumulative innovation (sharing risks in syndication)</td>
</tr>
<tr>
<td></td>
<td>(2) A branch: from a shared historical trajectory, coordinated variation in part(s) of a system that maintains interoperability with community efforts</td>
<td>(1) A join: from an independent historical trajectory, unification of artifacts and efforts towards common interests</td>
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<td>breakthrough innovation (assuming risk independently)</td>
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<td>(2) A merge: from a shared historical trajectory, recombining variations in alternative interoperable branches</td>
</tr>
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</table>
Organic growth is supplemented with acquisitions

Wallop
Rational
Information Lab
SystemCorp
BuildForge
Watchfire
Telelogic

Informix
IW Manager
Trigo
DWL
Tarian
CrossAccess
FileNet

Alphablox
Venetica
SRD
Ascential
Green Pasture
iPhrase
Unicorn

LAS
Princeton Softech
DataMirror
Cognos
Solid

Object Tech. Inter.
Wallop
OpenOrders
CrossWorlds
Holosofx
Gluecode
Data Power
Webify Solutions
AptSoft
InfoDyne

Lotus
Db2
Lotus
Tivoli

Lotus
Databeam
Ubique
ONEstone
Pathware
Net Objects
Aptrix
PureEdge
Bowstreet
WebDialogs
Net Integration

Tivoli
Unison
DBMX
Software Artistry
DASCOM
SANergy
AccessibleSoftware
TrelliSoft
Metamerge
MRO
Vallent
Ensentuate

Access360
Cyanea
Candle
ThinkDynamics
Collation
Isogon
Micromuse
CIMS
Rembo
Dorana
Consul
FilesX
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Business model defined (compatible with offerings)

The business model defines the value-creation priorities of an actor in respect to the utilization of both internal and external resources. It defines how the actor relates with stakeholders, such as actual and potential customers, employees, unions, suppliers, competitors, and other internal groups.

It takes account of situations where the actor's activities may (a) affect the business environment and its own business in ways that create conflicting interests, or impose risks on the actor; or (b) develop new, previously unpredicted ways of creating value.

The business model is in itself subject to continual review as a response to actual and possible changes in perceived business conditions.

Closed and open innovation? Not! (Ideas, paths)

Closed Innovation ... is a view that says successful innovation requires control. Companies must generate their own ideas and then develop them, build them, market them, distribute them, service them, finance them, and support them on their own. This paradigm counsels firms to be strongly self-reliant, because one cannot be sure of the quality, availability, and capability of others’ ideas: “If you want something done right, you’ve got to do it yourself.”

Open Innovation is a paradigm that assumes that firms can and should use external ideas as well as internal ideas, and internal and external paths to market, as the firms look to advance their technology. Open Innovation combines internal and external ideas into architectures and systems whose requirements are defined by a business model.

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Complement to IBM's view on business innovation

**The nature of innovation ...**

<table>
<thead>
<tr>
<th>Strategy</th>
<th>... in the 21st century is ...</th>
</tr>
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<tbody>
<tr>
<td><strong>Open</strong></td>
<td></td>
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<table>
<thead>
<tr>
<th>Structure</th>
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<tbody>
<tr>
<td><strong>Collaborative</strong></td>
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<tr>
<th>Process</th>
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<tbody>
<tr>
<td><strong>Multidisciplinary conversations</strong></td>
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<table>
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<tr>
<th>Economics</th>
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<tr>
<td><strong>Global talent</strong></td>
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</table>
Complement to IBM's view on business innovation

**The nature of innovation ...**

<table>
<thead>
<tr>
<th>Strategy</th>
<th>... in the 20(^{th}) century is ...</th>
<th>... in the 21(^{st}) century is ...</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Private</strong> methods and development enabling autonomous control over designs</td>
<td>+ <strong>Open</strong> standards and interfaces leveraging expedient platforms for advancing designs</td>
<td></td>
</tr>
<tr>
<td><strong>Transactional</strong> production chains linked by inter-organizational contracting</td>
<td>+ <strong>Collaborative</strong> alliances coproducing accelerated learning</td>
<td></td>
</tr>
<tr>
<td><strong>Analytical</strong> problem-solving to divide-and-conquer well-defined business issues</td>
<td>+ <strong>Multidisciplinary conversations</strong> around interests in generative dialogue</td>
<td></td>
</tr>
<tr>
<td><strong>Colonial</strong> trade localizing assets on import/export treaties</td>
<td>+ <strong>Global talent</strong> assigning work where resources are effective</td>
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</table>