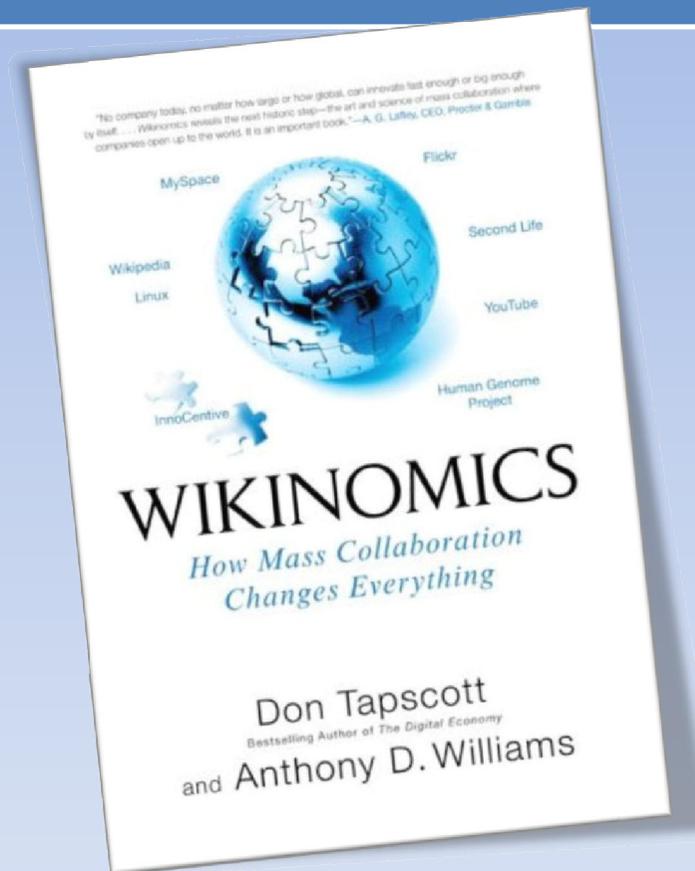# Next generation Internet: Web 2.0

Summary of WIKINOMICS, Tapscott and Williams
By Mark de Weerd, European School of Economics Milan
Specially made for

Envisioning
Management Consulting

2008©

Table of contents

Concept of Wikinomics

(Wiki)pedia

In order to built the best/reliable encyclopedia of the world you need every single expert in the world to create content which is as reliable as possible. Through Wikipedia every user (expert) world-wide has the ability to edit knowledge about a any topic in order provide high quality content. Anybody in the world can be an expert in his/her area of interest and together they are able to create an enormous file of information which is simply impossible to create by 1 person, 10 persons, 100 persons or even a 1000 persons. This can only be done on a world-wide scale.

(Wiki)nomics

In order to produce/serve the best innovation possible, you need to be connected with every single aspect of high quality knowledge that is available in the world. Companies can not rely on their in-house knowledge/experts anymore. Knowledge creation in today's business is produced by consumers, customers, competitors, industries etc... To be the best performing company, companies are forced to look for any form of knowledge out-side the company which can be a potential in terms of added value. For every in-house expert, there are simply 300 elsewhere.

Mass Collaboration is the drive behind both concepts....

Basic principles of Wikinomics

The concept of Wikinomics exists of three main characteristics;

Openness
Mass collaboration can only take place when companies are opening themselves in terms of in-house information sharing to partners, employees, customers, shareholders and other interested participants. Transparency is the growing force in the networked economy.

Peering
Peering is a form of self-organization where products/services are produced in a network of Participants. Peer-to-peer networks do exist of a collaborative network of different backgrounds (expertise) developing/producing a product/service together.

Sharing
Whereas Intellectual Property has always been considered as competitive advantage, nowadays a well developed information network of peer-to-peer sharing is the basis of today's innovation. Information sharing with, customers, suppliers, distributors, competitors is essential to make collaboration possible and at the same time to stimulate innovation.

Wikinomics in todays business
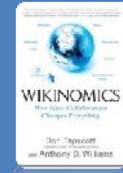
Changes in technology, demographics, businesses, the economy and the world are leading to a participating world as never seen before.

All of these changes have led to new generations of how goods and services are invented, produced, marketed and distributed on a global basis through mass collaboration.

Mass Collaboration is a concept which must be fully understood in today's business world. Companies operating in today's business environment can not rely on their own sources, knowledge, people, equipment in order to be the best performing company in their industry.

The concept of Wikipedia and Wikinomics is a reflection of today's economy where innovation takes place through peering, sharing, and co-creating.

Wikinomics aims to focus on creating innovative products and services through mass collaboration in an integrated network of consumers, customers, companies, competitors, industries etc...

The outcome of a changing environment drives Wikinomics
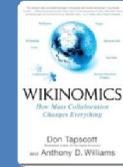
Passive consumer ➔ Active consumer

As consumer I do not only consume, but I would like to prosume (Producing my own goods and services).

Static organizations ➔ Highly flexible organizations

Adapting quickly to market changes, customer preferences, suppliers, distributors to meet market demand.

Value chain ➔ Value network

Value is not created throughout a horizontal line of processes, but rather gained

Through a network of partners....

(focusing on core competences is what really matters here)

The outcome of a changing environment drives Wikinomics

Product driven → Consumer/market driven approach
Innovation derives from consumer/market demand and not from technical
engineer experiments/improving existing products.

Company thinking → Consumer thinking
R&D, Logistics, Distribution, CRM, Sales, ERP vs. Desires, Hopes, Lifestyle,
Aspirations, Education, Needs, Socialization etc..

I know what the customer prefers→ What does the customer prefer?
I think I know what the customer might like as next generation of products
vs. Which requirements/features/abilities are preferred by you (consumer)?

What makes WEB 2.0 different

WEB 1.0

250.000 sites

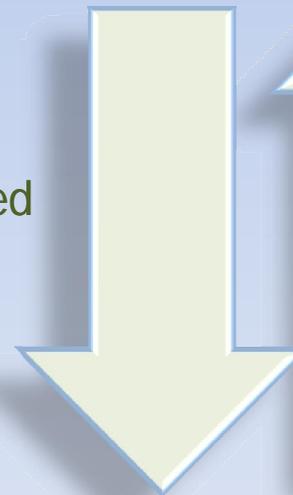Published content

User generated content

45 Million global users

1996

WEB 2.0

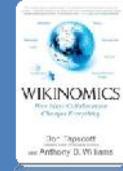> 80.000.000 sites

Published content

User generated content

> 1 Billion global users

2008

What makes WEB 2.0 different

The New Web

The New web must be seen as a global platform for participation and interaction, rather than a passively platform for solely receiving information. Think about E-commerce, it can only work when you allow full interaction with your customers, suppliers, distributors…just as in the real world.

Static → flexible

Think of a newspaper in web 1.0 where the reader could only open its pages and observe its information. Whereas in web 2.0 the reader can add to the news and communicate with authors.

Web 2.0 & mass collaboration

Web 2.0 is the new web variant that suits mass collaboration. Online interaction between company and customer is possible within web 2.0 applications. Mass Collaboration can only take place when two parties exchange information through interacting with each other.

Whereas in web 1.0 the interaction level is almost 0%, which makes it impossible to gain knowledge from customers and companies through the web.

That's why web 1.0 has led to many failures in dot-com businesses. Interaction/communication is namely a fundamental key issue in business (off-line & on-line)

WEB 2.0 is more than a library

Strategic positioning of Web 2.0

The web as platform (Reading/writing/developing).

User positioning of Web 2.0

Controlling your own data. Constant interaction between platform (website) and user

Core Competences Web 2.0

- Exploitation of data by collaboration
- Co-creating by web users
- Collective intelligence
- Customer self-service
- Multi-purpose
- Lightweight user interfaces, development models, and business models

Examples of WEB 2.0

Peer to Peer production principles

Wikipedia, Linux, Innocentive, and Del.icio.us are all best practices of how peer-production works. A new way of products goods and services through mass collaboration. Peer –production mixes elements of hierarchy, and self organization where the most skilled and experienced members of communities provide leadership and help integrate contributions from the community to co develop new products and services.

Characteristics of peering networks
- The object of production is information or culture, which keeps costs of participation low for contributors
- Tasks can be divided into small pieces that individuals can contribute on by themselves.
- The costs of integrating pieces into a finished end product are aimed to be low.
- Activities are mostly accomplished through voluntary and non-monetary commitments.
- Loose lines of communications. Nobody is forced to post an article on Wikipedia.

Real life examples

Wikipedia
Encyclopedia which is set up through a large number of individuals who each make a small contribution to an enormous online global encyclopedia.

Linux
Linux open platform is another example of peer-production where companies/individuals together work on new software development through the use of an open platform.

InnoCentive
A virtual marketplace where companies can publish issues which can not be solved by themselves. Companies and individuals world-wide can tap into this marketplace and support each other by offering solutions/information of interest.

Peer-production allows companies to interact/collaborate on a basis of shared interest. Peer production can take place between companies in the same industry/different industries/competitors/individuals etc..

Motivation behind Peer to Peer
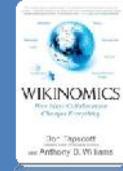
Its inside the human being

For many engineers there is nothing more excited than solving technical problems. It gives them a special feeling of having accomplished their mission "problem solving". They are extremely passionate about their field of expertise and it provides them a certain kick to do better or even create something new.

Experience, exposure, connection, and status

Peer-production enables people to gain experience, exposure, connection and if well done they earn status within their community. It generates a sort of social status among others. There are no serious restrictions or obligations for people which leads to a certain feeling of freedom of creating whatever I want and I think suits in the best way to the solution of a certain case study.

As a regular job

Intel and IBM are the two biggest suppliers of people/knowledge who are contributing to Linux's open platform and a larger amount of them gets paid for their commitment.

Pros and cons of Peer to Peer

Pros of peer-production

- New way of collaboration with beneficial rewards
- Gaining external talent
- Keeping up with users (constantly updated by market demand)
- Reducing R&D costs
- Shifting the boundaries of competition
- Developing social capital

Cons of peer-production

- Communities need systems of peer review and leaders who can help guide and manage interactions and help integrate the disparate contributions.
- Design rules for cooperation, dealing with free-riders, motivating and coordinating collective actions over longer time of period are usually seen as obstacles to over come in peer-production.

The Concept of Ideagoras

Innovation nowadays comes rarely from ideas inside the company, a growing number of innovations is coming from out-side the company. Companies realize that it is simply impossible having all expertise in-house to invent ideas which keep than ahead of competition.

Nowadays companies can tap into emerging global marketplaces to find uniquely qualified minds and discover and develop new products and sources faster and more efficiently than ever before. These marketplaces are called "Ideagoras" . These are networks like InnoCentive where they make ideas, inventions, and specific expertise around the planet accessible to highly innovating companies. This network exists of expertise from more than 90.000 scientists of 175 countries that are contributing to problem solving issues deriving from companies like Boeing, Dow, DuPont, Procter & Gamble etc.

Companies still need internal research capabilities to ensure that they can add value to external ideas. But, by exposing problems to the world they can engage and co create the most uniquely qualified minds to solve them.

The Concept of Ideagoras

Ideagoras come in two types: solutions in search of questions and questions in need of solutions.

Solutions in search of questions are those 70 to 90 percent of ideas inventions that will stay unutilized.

Questions in need of solutions are those that are often utilized by companies, because they are important issues connected to new innovation which are already in the R&D process.

Ideagoras marketplaces like InnoCentive are a growing force in the new landscape of innovation and competition. By no means, however, they offer the only path to open innovation. Smart companies are having a mix portfolio of approaches ranging from corporate ventures to customer co creation to peer production in open communities to developing innovations with networks of suppliers and partners.

Ideagoras must be seen as an additional form of input to the company of external knowledge which can help them on the way to new innovations.

The Concept of Ideagoras

Ideagoras and Procter & Gamble

P&G uses its connect & develop initiative to help to tap vast reservoirs of talent, the idea wasn't to replace their nine thousand in-house researchers, but to better leverage them to drive growth and innovation. P&G is planning to source 50 percent of their new products and service ideas from outside the company by 2010.

Through connect and develop, for example P&G collaborates with organizations and individuals around the world. It sources the globe for proven products and technologies that it can improve, scale up, and market, either on its own or with its businesses web. When the company finds those good ideas, it brings them inside, and combine them with internal sources and capabilities which have to lead to new innovative products and services. P&G has developed products as Olay Regenerist, Swiffer Dusters, and the Crest SpinBush by the use of ideagoras.

On the other hand it also uses Ideagoras to further extend innovative ideas. For example it has used Ideagoras to explore how to print figures on Pringles chips. Usually it would dedicated internal resources to figuring out, and perhaps even partnered with a printer company that could devise a workable process. But in an ideagora, P&G had acquired the technology and quickly adapted it to its requirements in less than a year, and for much less than it would have otherwise costs.

The Concept of Ideagoras

case **P&G**

Results of external knowledge creation for P&G

- More than 35% of new products in the market have elements that originated from outside Procter & Gamble.

- 45% of the initiatives in P&G's development portfolio uses resources that were discovered externally.

- Through P&G's connect and develop program, they have improved in aspects of innovation related to product costs, design, and marketing.

- R&D productivity has increased by nearly 60%

- The innovation success rate has more than doubled, while costs of innovation has dropped.

- R&D investments as a percentage of sales is down to 4.8% in 2000 to 3.2% in 2006.

Prosumer: Net Generation consumer

Net Generation
The Net Generation are pro-active consumers who satisfy their desire for choices, convenience, customization, and control by designing, producing, distributing products themselves. The time era of solely consuming is over, the net generation wants to have a stake in new upcoming Products/services.

Characteristics of the Net Generation
Speed, freedom, openness, innovation, mobility, authenticity, and playfulness are typical characteristics of the Net Generation. They are on a quest for newness, open ideas, tend to believe in diversity in all aspects of their lives. For many companies this generation is a major opportunity which can lead to competitive advantages and innovation. The question is " are companies able to adapt to the new demand of N-Geners and are they able to manage this group of consumers in the right way so they can benefit from them.

Software platforms/blogs
Software platforms/blogs are extremely popular under the net generation. Any type of product/service where software is involved (Ipod to Lego), this generation likes to go beyond the original settings/abilities of a product. Together through sharing information online, they are designing, producing and even distributing new software packages which exploits the usability of any standard product.
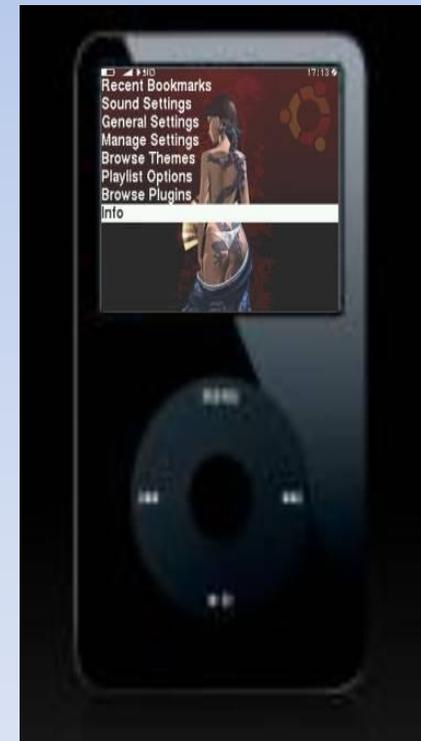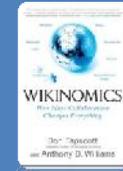
Prosumer: Net Generation consumer

Original IPOD interface

Net Generation Ipod Interface

Prosumer: Co-Creating

Taking software platforms between users one step higher, where users start to interact
with companies on platforms is called co-creating. In this scenario it's the company that provides
information/software tools of existing products and let customers (net generation) play/interact
with the set of tools/information to design/produce new features/concepts/abilities of
products/services according to their preferences. Companies as Linux, BMW and Lego are
extremely successful in establishing .

Co-creating as competitive advantage and innovation tool
As we know that consumers no longer solely consume, but rather prefer to design and produce goods
and services, a company must take the chance of cooperating with their customers in the most
extended way possible. This means involving your customers at the very early stages of the Research &
Development process.

Through Co-creating companies gain the advantages that their customers gain a sort of ownership
feeling with a type of product/service where they have made their own contributions to. The company
is gaining customer information/preferences/knowledge about how to improve previous
models/services. In this scenario, the better you know your customer, the better the customer knows
your company and the more you integrate customer and company into 1, innovation can be generated
in a shorter period of time, for lower amount of costs, by reducing risk of failure, by gaining customer
loyalty, which are all elements that create competitive advantages over companies.

Prosumer: Co-Creating Lego Pinball

Lego® has been one of the first companies in the world that got involved in prosumer communities. Lego started their business off with interlocking plastic bricks, nowadays the company is focusing on high-tech toys which exists of a mix of Lego bricks and software. By using LEGO MINDSTORMS users can build real robots out of bricks with programmable software tools. From two-legged walking machines to pinball-machines can be created. Through mindstorms.lego.com (exchange of information of bricks and software integration) , Lego stimulates the exploitation of Lego products developed by their users. As result, three different pinball machines have been invented by users. The pinball machine in the middle exists of > 20.000 bricks and 13 programmable microchips.

Pros and Cons of Co-Creating
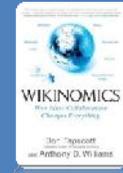
Pros of Co-creating

- Reducing costs
- Reducing the risk of failure
- Reducing time to market
- Gaining market knowledge/customer knowledge
- Gaining customer loyalty/customer commitment
- New tool for creating competitive advantage and innovation

Cons of Co-creating

- Complicated to manage co-creating (how to attract users, how to control platforms, how do I know I have the right customers in house)
- Control vs. hacking (Apple does not offer any forms of co-creating platforms → result...hacking software online through own blogs/platforms of users)

Open Platforms for Participation

Open platform

Open platforms are different from prosumer communities. In prosumer communities a company develops a strategy to co-create products with its customers. Open Platforms do create a broader stage where various partners can build new businesses or simply add value to the platform.

The word "OPEN" platform refers to the fact that everybody with interest and valuable capabilities can make its contribution to the activities taking place within the platform.

Partners can exist of various types including direct business partners such as customers, suppliers, distributors, external consultancies etc. It could also be a set of companies from different industries, or even closer to house "competitors" who have common goals/interest to achieve developments which could add value towards their competition.

Platforms for participation includes products ranging from a video game to a car – virtually anything that runs on software. The purpose of this open platform is the fact that it allows thousands of programmers and nice businesses to create customer applications for any sort of product.

Open Platforms for Participation

Opening up platforms to increase speed, scope and success of innovation. This brings us also back to the concept of Web 2.0 where mass collaboration is now taking actively place in various business Research & Development processes. Web 2.0 is often underestimated by business and do not directly see its purpose/relevance related to their own business activities. Instead the Web 2.0 can almost be applied to every single company who's business is partially/fully integrated with internet activities.

As you see Web 2.0 is the only principle that can be used to create online open platforms where Users gain published content and at the same time do generate content. Most of us act like Web 2.0 is just an upgrade of Web 1.0 and a "hip/trendy" name to call, but in fact it opens/creates more opportunities/possibilities for businesses than ever expected to do so with the Internet as tool to use.

We will show two examples of open platforms and it success. PeopleFinder and Amazon, two platforms are completely different from each other in terms of business objects/goals. As we will see both extremely successful in using open platforms as tool for mass collaboration.

Open Platforms for Participation
case **PeopleFinder**.com

During the hurricane Katrina many people have been reported as being missed. Out of this chaos a powerful story of how an ad hoc team of volunteers across the country came together to construct an information management solution that went far beyond anything the local, state, and federal teams were able to establish in a short period of time.

PeopleFinder as it is called, a website which contains survivor data from all over the Web into a searchable format that made it easy to identify and locate friends and family members.

There was no government aid, official mandates, formal command structures or what so ever.

Instead just a loose group of individuals under effective leadership harnessing Web services technologies to help those in need as quick as possible.

PeopleFinder made it eventually possible to collect all relevant data in various forums and bulletin boards that captures the relevant information for each person, such as name, location, age, and escription and collects it in a central database. The initiator of this project at the time "owner of a non-profit social software outfit" started this project in collaboration of volunteers recruited by himself (technical/website engineers) to help establishing a sufficient database and search engine which could clearly identify all messages posted on the internet related to missing family members and friends.

Maybe the most surprising outcome is that over 1 million searches have been entered shortly after the website was opened in a time period of only 4 days, whereas a government agency might need a year to establish a search engine similar like PeopleFinder.

Open Platforms for Participation
case **B|B|C**

BBC even uses open platforms to stimulate collaborative participation to create new offerings to their news readers.

BBC invites developers to create new prototype services built around BBC content feeds like news, weather, traffic. By harnessing external ideas and energy, the BBC hopes that it can develop innovative offers, like new ways to search and navigate news content, and perhaps even new e commerce tools to extend profit. Specific communities who collaborated on the open platform, after all, are likely to develop custom interfaces to BBC content that its internal developers might never have though about.

Finally prototypes for nearly 100 new services have been posted since the launch of their project in 2005. BBC now is running contests where participants are encouraged to remix the BBC content into new media creations. Participants are after all free to share their inventions with anyone they like. As the more and more users are connecting into an open platform, the more valuable the outcome will be.

Pros & Cons of Open Platforms

Pros of Open Platforms

- Given an open platform with a set of simple tools, ordinary people can create effective new information services. Often even better than bureaucratic channels.

- Knowledge creation. As we all know " 2 contributors know more than 1"

- Highly efficient process of innovation in terms of time and costs.

- Brilliant innovations are invented where nobody internally has ever though about.

Cons of Open Platforms

- Open platforms are only valuable for companies who's business operations are involved by software applications.

- Open platforms can only have an extensive life-time duration by providing adequate incentives and rewards to all participants. Contest by providing prizes to winners can be one of the instrument to be used.

- Managing platforms can be complicated to set all faces of participants in the same direction towards common goals/objectives set by the company.

Platform for Participation

Non-monetary

- Connecting to other people
- Creating an online identity
- Expressing oneself
- Garnering other people's attention
- Curiosity of people

Monetary

- Alternative job which generates any form of income through incentives, rewards, and contests.

People motivated by non-monetary rewards have driven a lot of innovation, just look at Wikipedia, Open Source Software, and Flickr.
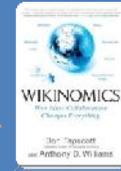
Global Competition and Collaboration

In the last century companies used to compete globally on creating value in closed hierarchical business models. Something which today is impossible to think about. Winning companies have open boundaries and compete by reaching outside their walls to gain external knowledge, resources and capabilities.

In the 21st century companies now are starting to adapt the four principles as discussed earlier; openness, peering, sharing, and acting global. A global plant floor in combination with massive collaboration to design and assemble products/services more efficiently is what really matters in today's global competition. Companies are building globally integrated ecosystems that encompass hundreds, if not thousands, of firms where they massively collaborate with.

Companies are becoming aware of the fact that not everything can be done in-house, like it used to be done in a value chain. In these days value chains are changing into value networks which allow companies to focus strictly on their main core competences and outsource/collaborate with other firms in terms of production, assembling, distribution, marketing etc.

Value chain becomes Value Network

Value Chain ➔ Minimum level of collaboration, 90% is handled in-house

| Inbound Logistics | Operations | Outbound Logistics | Marketing & Sales | Service |

Secondary activities: Finance, Human Resources, IT department etc.

Value Network ➔ mass collaboration with multiple firms, 10 – 30% handled in-house

Inbound Logistics

Production

Ware-housing

Value Chain Integrators*

Suppliers

Buy-side Intermedi.

CORE COMPETENCIES

Fulfillment

Sell-side Intermed.

Value Chain Integrators*

Finance

HR

IT

*Partners:
- Strategic outsourcer
- System integrator
- ISP/WAN provider
- ASP provider
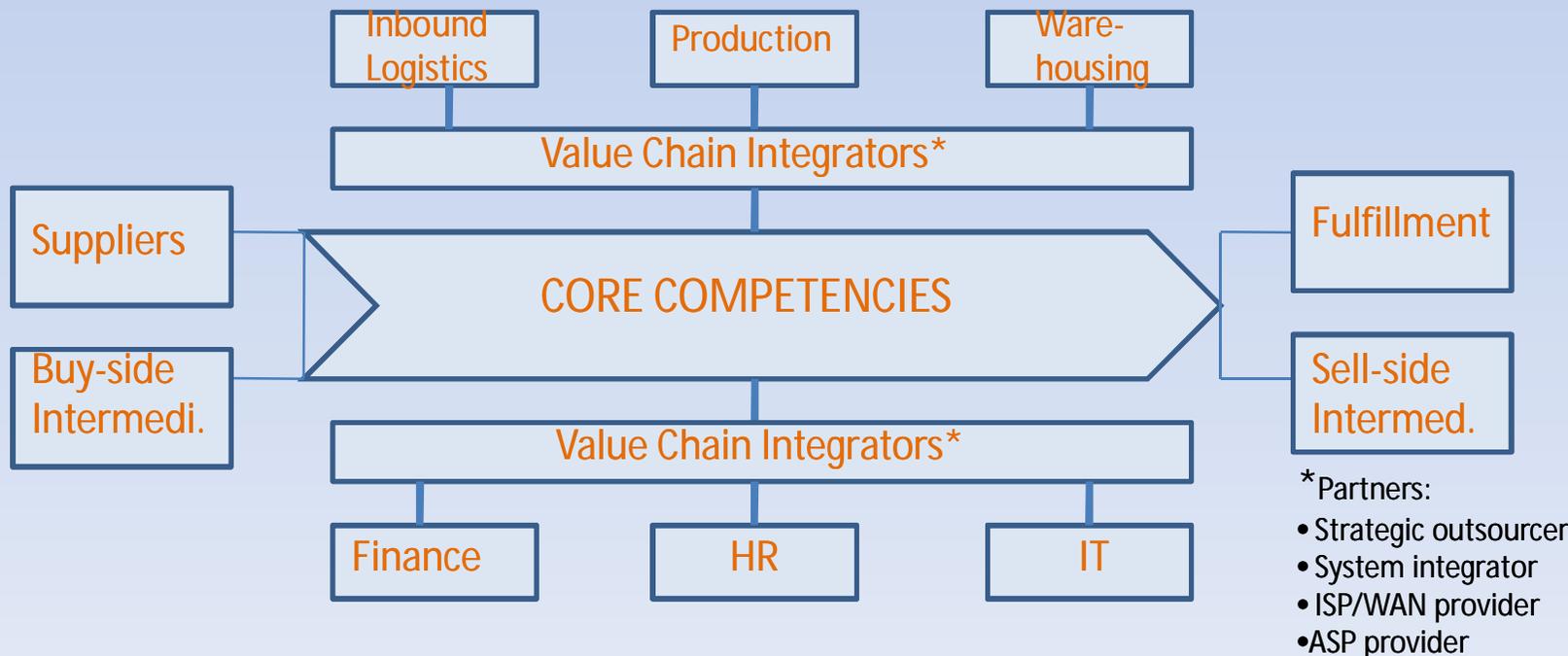
Global Competition
case IPHONE

Within the value network of Apple, it has enabled itself to focus solely on their own core competencies "design of the Iphone" and "the development of Software applications.
Besides that it has full control over its marketing activities.

Every single activity of production, assembling, and distribution is in the hands of partners.
The table shows us that there is a network of companies that is working on different elements of the Iphone.

Apple has carefully selected and collaborated with companies that are specialist in various parts that are integrated in the final assembled Iphone.

Software and design	Apple	USA
Assembly	Foxconn?, Quanta, Unknown	Taiwan
TFT-LCD Screen	Sanyo Epson, Sharp, TMD	Japan
Video processor chip	Samsung	Korea
Touch screen overlay	Balda	Germany
Bluetooth chip	Cambridge Silicon Radio	UK
Chip manufacture	TSMC, UMC	Taiwan
Baseband IC	Infineon Technology	Germany
WIFI Chip	Marvell	USA
Touch screen control chip	Broadcom	USA
CMOS chip	Micron	USA
NOR Flash ICs	Intel, SST	USA
Display Driver chip	National Semi, Novatek	US, TW
Case, Mechanical parts	Catcher, Foxconn Tech	Taiwan
Camera lens	Largan Precision	Taiwan
Camera module	Altus-Tech, Primax, Lite On	Taiwan
Battery Charger	Delta Electronics	Taiwan
Timing Crystal	TXC	Taiwan
Passive components	Cyntec	Taiwan
Connector and cables	Cheng Uei, Entery	Taiwan

Value network: more than Outsourcing

Many will probably say that a value network is similar as outsourcing. This is how it looks like, but the real value within a value network exist of a vast ecosystem of partners that possess complementary skills and capabilities. For firms in charge of pulling the strings in these webs of value creation, innovation is less about inventing and building physical things and more about leading, guiding and coordinating good ideas. New ideas derive nowadays from networks of development expertise from multiple suppliers, partners, and customers in global design and process collaboration.

By organizing into loosely coupled networks of firms who jointly design and develop products for customers, both suppliers and global integrators win. By taking on a larger share of the intellectual property and profits in the final products. Global integrators gain speed and agility and can focus on high-value-added activities. Overall, this approach enables risk sharing and allows the network to tap into diverse skills and resources.

The next step is as we have seen in with prosumerism, that even the market (customers) will be integrated in the value chain network.

Global Competition and Participation

Lessons of global participation systems

- Focus on critical value drivers → today's differentiating competencies can become commodities overnight.

- Add value through orchestration → Companies with the capability to coordinate/manage collaboration on global scale are still very few in number.

- Instill rapid, iterative design process → Wide range of partners whom is motivated to solve problems related to their key area of expertise, can accomplish rapid design and testing.

- Harness modular architectures → Rather than mandating how to produce products, firms must work to create standards and modular architectures that specify product interfaces and leave it up to suppliers to get the job done.

- Create transparent ecosystems → Sharing information with partners through ecosystems builds trust and helps enable networks of partners and suppliers to act as single entity, which can only be accomplished by transparency of information and processes.

- Share the costs and risks → Sharing the risk of large development projects with partners spreads the costs and ensures that everyone is properly motivated.

Collaborative Minds

Throughout this presentation we have seen that within the collaborative economy, there are in fact several new models that companies can use for greater competitiveness and growth;

- Peer-producers: apply open source principles to create products made of bits – from cars, to operating systems, to encyclopedias

- Ideagoras: give companies access to global market places of ideas, innovations, and uniquely qualified minds that they can use in extending their problem solving capabilities.

- Prosumer communities: can be an incredible source of innovation if companies give customers the tools they need to participate in value creation.

- Platforms for participation: create a global stage where large communities of partners can create value through mass collaboration.

- Global plant floors: harness the power of human capital across borders and organizational boundaries to design and assemble physical things.

Collaborative Minds

Wikinomics Principles of today

- Taking cues from your lead users → lead users will shape/shift/innovate business ideas

- Building critical mass → The secret to successful peering is building a critical mass of participants that attract more and more people to platforms/ecosystems.

- Supplying an infrastructure for collaboration → Supply open standards, share Intellectual Property, legal foundations, and collaborative platforms that will support the innovation process

- Take your time to get the structures and governance right → Involving parties, convincing leaders of individual companies to set aside their proprietary efforts to collaborate in an open platform simply goes not overnight.

- Make sure all participants can harvest some value → People who participate in peer-production communities have all kinds of reasons for joining. Overall everybody must harvest value in order to keep long time relations tight. Return on Investment is important for participants (not in terms of money), but in terms of value.

- Let the process evolve → Mass collaboration is often established by trial and error. Give it time and let the process evolve.

- Hone your collaborative mind → Engaging in collaborative communities means ceding some control, sharing responsibilities, embracing transparency, managing conflict, and accepting that successful projects will take on a life of their own.