40. Earning Money with Software

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1. The Entrepreneur
2. Strategies
3. The role of the markets
4. Business models
5. Sales

- ▶ C. Barrow, G. Burke, D. Molian, R. Brown. Enterprise Development: The Challenge of Starting, Growing and Selling Businesses. Thomson Computing 2005

- ▶ R. Leicher. Verkaufen. TaschenGuide. Haufe-Verlag.

- ▶ Hermann Scherer. 40 Minuten für eine gezielte Fragetechnik. Gabal Verlag

- ▶ Accenture Campus Challenge
  - ▶ E.g.,: 2005. Digital Pen and Paper Applications.
  - ▪ Interesting project challenge, running every year in cooperation with TUD.

- ▶ http://www.wirtschaftslexikon24.net Enzyklopädie der wichtigsten Begriffe der Wirtschaftslehre

- ▶ http://unternehmenskick.de contains practical tips

- ▶ http://www.formblitz.de/ has business plan templates

- ▶ Forecasts:
  - ▪ IT-Studie der BITKOM, Jan 2007, www.bitkom.de
  - ▪ James Canton. The Extreme Future. The top trends that will reshape the world in the next 20 years. Plume/Penguin 2007

- Konrad Zuse. Mein Lebenswerk. Springer. A MUST for every student.
- Michael Lewis. The New New Thing. A book about how Jim Clark, Netscape founder, founded Healtheon. Coronet Books, Hodder & Stoughton
- R. Würth. Skript on Entrepreneurship. Interfakultatives Institut für Entrepreneurship. TU Karlsruhe. http://www.iep.uni-karlsruhe.de/260.php
- Klaus Kemper. Heinz Nixdorf. Verlag Moderne Industrie.
  - The Nixdorf foundation donated given 2 chairs to the department (multimedia, computational engineering)
- The Google story.
- Steve Jobs. about Apple. (There are several books available)
- Bill Gates. The Way Ahead. (dtsch. Der Weg nach vorn. Die Zukunft der Informationsgesellschaft) Autobiography. Hoffmann&Campe.
- D. Brandes. Konsequent einfach. Die Aldi Erfolgsstory. Heyne-Verlag.
- David Thielen. Die 12 simplen Erfolgsgeheimnisse von Microsoft. Econ-Verlag
- W. Wiedeking. *Anders ist besser. Ein Versuch über neue Wege in Wirtschaft und Politik.* Piper-Verlag, München 2006.
- D. Tapscott. Wikonomics. 2007

- ► Free business plan: http://www.mbpw.de/fileadmin/Redaktion/Standard_Dateien/e_Handbuch_MBPW.pdf
- ► Freies Softwarepaket zum Gründen: http://www.softwarepaket.de/
- ► www.dresden-exists.de die offizielle Gründeragentur der TU
- ► BMBF exist Stipendium http://www.exist.de/
- ➢ Technologiegründerfonds Sachsen TGFS www.tgfs.de
  - 60 Mio capital; 45 Mio were left in 2010; they have to be spent until 2015
  - Watch the chance!

> **"Nenne einen Markt, der mit 20 bis 70 Prozent waechst, und es ist fast sicher:"** meint Dr. Konrad Seitz: **"Die Deutschen sind nicht dabei."** -

- ➢ Calculating the cost and the price of a product is essential for an engineer
- ➢ While usually other people distribute the products on the markets („Vertrieb"), engineers must give a price for a product!

40.1 THE ENTREPRENEUR

- The difference of entrepreneurship and capitalism is
  - A capitalist wants to earn money
  - An entrepreneur solves problems
- Central question:
  - Which problems can I solve for other people?
  - What do people care about?
  - What do people need?
  - Where is the pain?

An entrepreneur solves problems of people.

"Make things that people need"

- ► Hard work: do you want to spent 5 years in business until your company has survived?

- ► Uncertainty vs longing for freedom: People appear in two classes:
  - ■ Security type: tends to avoid risks. Likes to be told what to do
  - ■ Independence type: loves freedom, independence.

- ► Self discipline

- ► Aims realistic?

► http://www.dwds.de/pages/pages_textba/selbst_out/Selbsteinwechslung.html

Wortform: Selbsteinwechslung

► Unten der rechte Schuh, Größe 47, den Günter Netzer im Pokalfinale 1973 nach seiner berühmten Selbsteinwechslung trug - und auch hier irrt der Katalog, denn es ist eben nicht der Schuh, mit dem er kurz danach das Siegtor für Borussia Mönchengladbach schoß.

► In: o.A., Beidfüßige Lektüre, in: Frankfurter Allgemeine 24.08.2000, S. 46

► Nach: o.A., Beidfüßige Lektüre, in: F.A.Z.-Buchkritik 2000, Frankfurt a.M.: Frankfurter Allgemeine Zeitung GmbH 2000

http://www.goethe.de/ges/spr/prj/tor/fum/kdk/de297603.htm

- ➢ „Die Grameen-Bank ermuntert die Kinder ihrer Kreditnehmer auch zum Schulbesuch. .. Derzeit studieren mehr als 50000 Studentinnen und Studenten mithilfe von Ausbildungskrediten der Grameen-Bank...

- ➢ Wir ermuntern diese jungen Leute, sich fest vorzunehmen, dass sie sich niemals als Arbeitssuchende auf den Arbeitsmarkt begeben werden. Sie sollen später einmal Arbeitsplätze schaffen, nicht sich um Arbeit bewerben. Wir sagen ihnen: Euren Müttern gehört eine große Bank, die Grameen-Bank. Die hat einen Haufen Geld, mit dem sich jedes Unternehmen eurer Wahl auf den Weg bringen lässt. Warum wollt Ihr Zeit mit Arbeitssuche vergeuden, um dann für jemand anderen zu arbeiten? Werdet lieber Arbeitgeber, keine Arbeitnehmer.

- ➢ Die Grameen-Bank ermutigt die Menschen von Bangladesh zur unternehmerischen Selbständigkeit und wirtschaftlichen Unabhängigkeit – weg von der Abhängigkeit.“

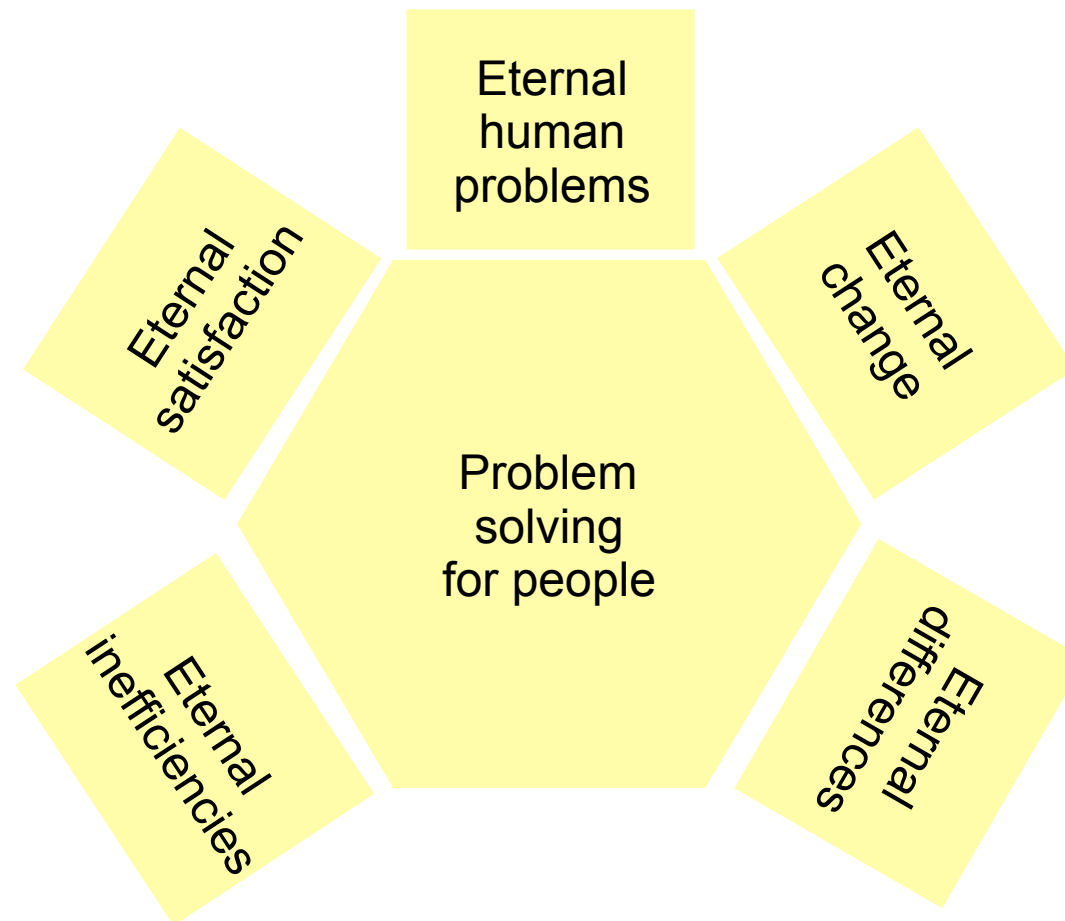- ➢ Mohammad Yunus – Social Business. Von der Vision zur Tat. Hanser 2010.

40.2 STRATEGIES OF COMPANIES

Earning money with software

What you might sell:

► Consultancy: good to sell always

► Service

  - Everybody, IBM

► Individual projects

  - SD&M, Accenture

► Product

► Product line (product family)

► Enterprise landscapes (Anwendungslandschaft)

▶ **Get always good salespeople on board**

- Wirtschaftsinformatiker
- Business Angels
- People that had already a start-up

▶ **Go directly to the product (Hufenbach)**

- Always consider: which unit of my work will others want to sell?
- What can be made to a product?

▶ **The role of the capital**

- Having money at the right time is essential [MathCore]

- When you find inefficiency, you find opportunity" Barrack
- „Make things people need"

Eternal human problems

Eternal satisfaction

Eternal change

Problem solving for people

Eternal inefficiencies

Eternal differences

- ► "Knowing a good problem is half the business"
- ► "Selling drilling machines is not as important as selling holes, but these are completely different businesses" (H. Kagermann, SAP)
- ► Problem analysis of customers
- ► Find out about problems, and you will earn money
- ► Customer satisfaction
  - ▪ IBM: T. Watson, "THINK"
- ► Apply ZOPP to the Problem Area
  - ▪ Find out about the problems of a user group
  - ▪ Find out about their goals
  - ▪ From there, derive the product

► Hunger, Food, Restaurants, ...

► Love, Relationship

► Hobby

► Beauty

► Exhibiting oneself (Flickr, youtube)

► Housing

► Overcoming the Space problem: Car, Flights,...

► Simplifying complex things
  ▪ Overcoming bureaucracy

► Communication (Nokia "Connecting people")

► Being different from others (individualism)

► Lazyness

► Searching knowledge (expert portals)

► Relaxing
  ▪ Tourism, Travel,..

► Events
  ▪ Party, meeting people

► **The markets, the customers, the competitors change.**

- Find out about change, and you will earn money
- Old players do not recognize change, but often are too immutable

► **The stock market principle: "sell when high, buy when low"**

- Investments in a crisis create value

► **Embrace change**

- Use it for your purposes, or change will roll you over.
- Some markets die after some time. Recognize the change, and change your market.

► **Investigate the future**

- By looking at market change forecasts, e.g., [Canton]

- ► **Know-how vs absent know-how**
  - ▪ Consultance
- ► **Differences in knowledge:**
  - ▪ Wikonomics: sharing knowledge in a web community
- ► **Cultural differences**
- ► **Export from one region; import to the other**
  - ▪ Asian restaurants, Gyros, Döner
  - ▪ Teleconferencing

► Dont' loose a customer. Try to please him so that she returns.

- It is much more easy to gain somebody who was customer before than getting a new customer
- Quality and confidence pays off.

- Figures of 2005 in Mrd. Euro [IX Magazine, 3/2006]
  - Products
    - Software licences   2.7 (18% growth)
    - Products incl. maintenance   5.9 (ERP 1.2, CRM 0.6, SRM 0.12)
  - Service
    - Consultancy   2.1
    - Training   0.3
  - Turnaround (Umsatz)   8.5
  - Win (Gewinn vor Steuern)   2.3
  - Win net (Gewinn nach Steuern)   1.5
  - Market size:
    - Currently targeted: 40 Mrd Euro
    - In 2010, with an extended product portfolio: 70 Mrd Euro

- ► **Small companies are a means to create employment**
    - Large ones merge and destroy positions
- ► **Finding a good business idea**
    - What do you want to do? Most entrepreneurs earn money with what they want to do. What is your dream?
    - What is your hobby, skill, experience?
    - Do you have a new invention? [champagne class, Moonpig greeting cards]
    - Apply creativity technologies (brainstorming, ...)
    - Find a big customer
        - ◆ Find a large user group
- ► **Buy a business**
    - Whole or in part (e.g., distribution or the development)
- ► **Management-Buy-Out**
    - Buy a part of a company as a manager

40.3 THE ROLE OF THE MARKETS

Earning money with software

- ▶ **Vision statement**
  - ▪ A simple statement of the vision. What do you want to achieve?
- ▶ **Objectives**
  - ▪ More concrete goals
- ▶ **Market analysis**
  - ▪ Customers: estimate the target group, its size
  - ▪ Competitors: how many? how stable is the market, does it develop?
  - ▪ Product or service
  - ▪ Price
  - ▪ Promotional measures
  - ▪ Sales/distribution channels
  - ▪ Location
  - ▪ Where is my niche? Where can I sell?
- ▶ **Market position:**
  - ▪ Location: Are we the only ones or how many competitors offer at this location? (Autos kauft man auf dem Automarkt, aber man verkauft sie nicht dort)
  - ▪ Time: Can I sell later?

► **Business model: target group.**

- Companies? End customers? [champagne]
- Selling directly or via distributor?

► **Market entry strategy**

- Segmentation of the market?
- Target group?
- Cost leadership?

► **Profit**

- Estimate costs!
- Estimate break-even point!
- Distinguish cash flow and profit

► **Legal form: choose a limited company, limiting the risk**

- British "Limiteds"
- GmbH

► **Taxes: plan to pay taxes right from the beginning, otherwise they will kill you.**

- ▶ Mass market vs high-price products (specialist tools)
- ▶ Product vs service business
  - A product would be good, but a service doesnt need so much capital
  - Start with a service, try to distill a product
  - Start with an application, try to distill a framework
- ▶ Jumping on the next running train (old markets vs new markets)
  - Dont try to enter an old market – it will be very hard
- ▶ Booming markets
  - Which market will boom? which ones are satisfied?
  - Which market will die? (retreat)
  - Which market is satisfied (change the way how to earn money)

- **The early bird finds the corn** (Being first in a market)
    - Once with a share, there is a good share to keep it
- **The second bird also finds a corn**
    - Being second, you must be more enduring, but you can learn from other's mistakes
    - Microsoft:
        - Windows
        - Internet Explorer
- **The "constant improver" will find all corns**
    - Kaizen, a Japanese strategy, intends to improve quality continously
    - [Wiedeking]
- Winning a new customer is 10 times harder than keeping a customer

- ► Base markets vs dependent markets
  - Consultancy
  - Service
  - Product (Application)
  - Framework (Product line) Framework markets (component platforms) are more basic than application markets
  - Platform. Platforms provide run-time environments for all other levels (Ex. operating system, database system, web system, …)
- ► It takes longer to gain a base market,
  - but the other application markets depend on it
- ► Piggipacking:
  - Work in a market that depends on a base market, e.g., in a framework or platform market
- ► Domain-specific markets need domain experts and domain knowledge
  - SAP has always worked in the business software market, a domain-specific market
  - Combined with a component platform

- ▶ RFIDs
  - RFID can store a product memory
  - Identification: RFIDs will replace price tags (Streifencode)
  - RFIDs enable global traceability of goods and all their parts (excellence in logistics)
- ▶ Expert portals
  - Searching knowledge is an expensive business
  - Google is a start
  - Domains: medicine, personal relationships, house construction, financial services, …
- ▶ Personal communication applications
  - SMS
  - Tunes for mobile phones
- ▶ Specialized search engines
- ▶ Digital Pens
  - Automation of workflows on paper and computer in parallel

Wertschöpfung (Added Value) liegt in der Software

▶ In der Wertschöpfungkette liegt die Wertschöpfung heute hauptsächlich in der Software

▶ Beispiel: Handy

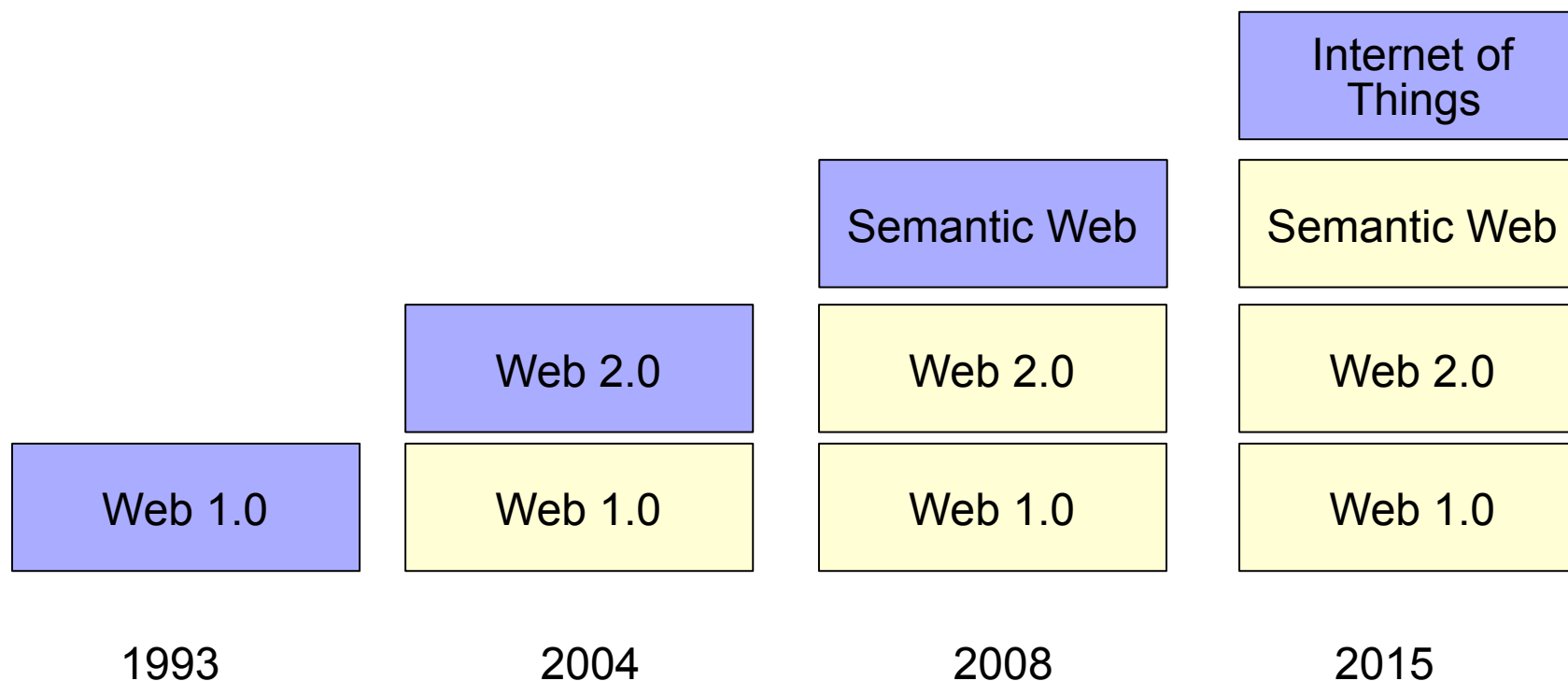Mehrwertdienste
Spezialangebote

Telefonieren

Telefon-Gerät

Betriebssystem
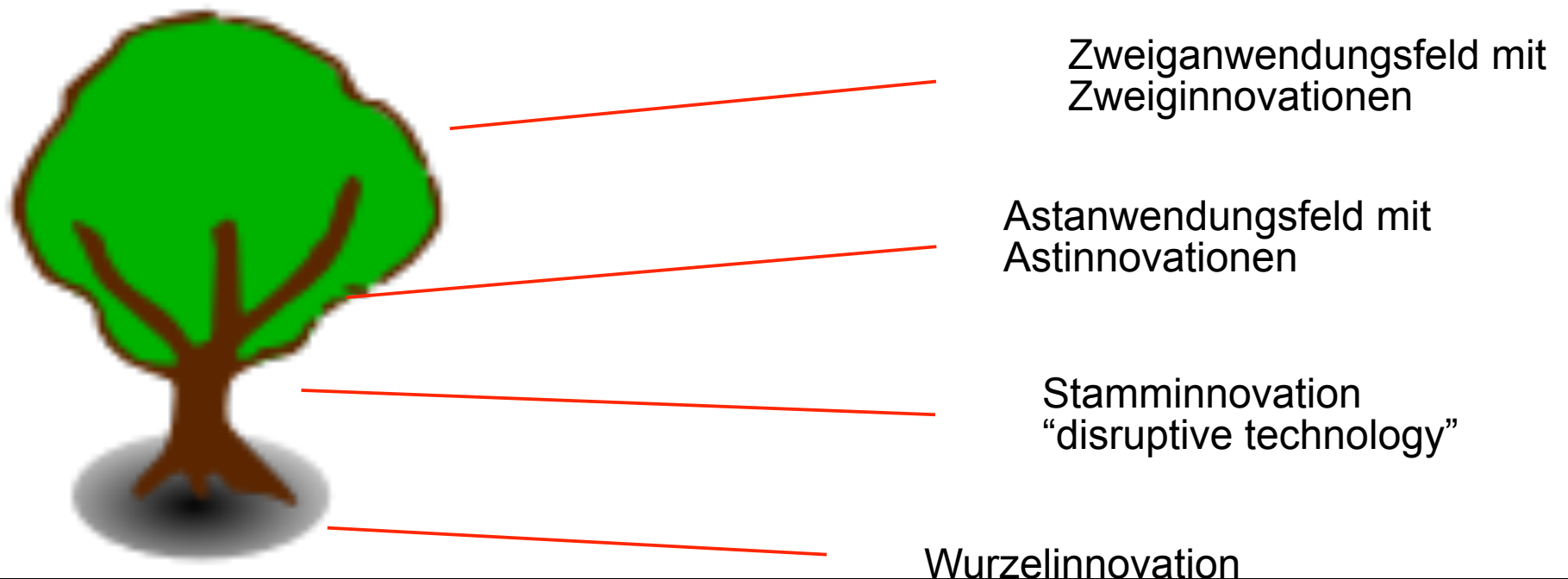
Hardware

Added Value
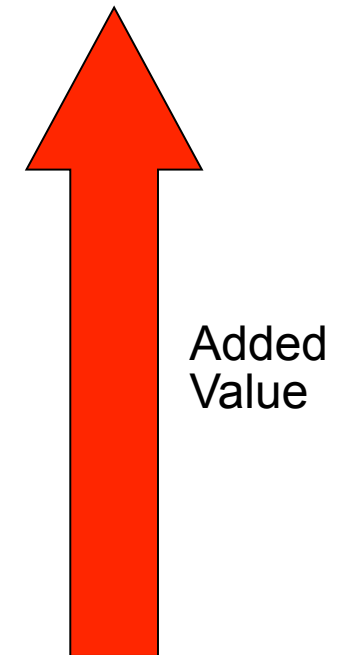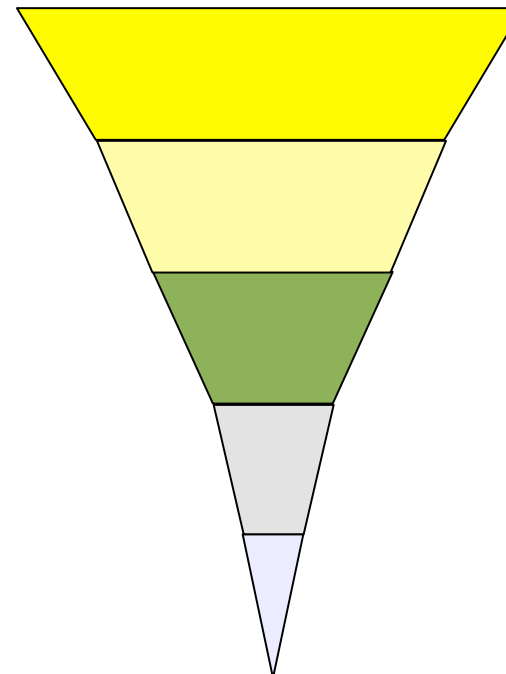
Softwaresysteme sind die **Innovationstreiber** in fast allen Wirtschaftszweigen. Sie bestimmen maßgeblich die **Wertschöpfung** von Produkten, Fertigungs- und Geschäftsprozessen.   [IKT 2020, Abschnitt 4.2.2]

► **Innovations-Wellen** werden durch revolutionäre neue Stamminnovationen ausgelöst
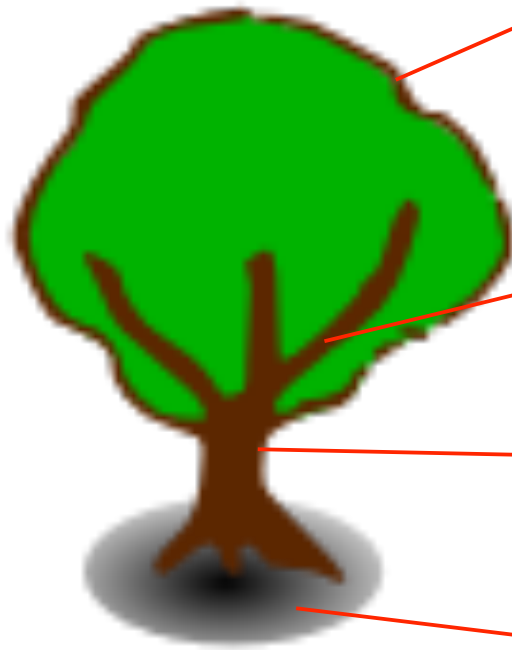
► Explosionsartiges Wachstum

			Internet of Things
		Semantic Web	Semantic Web
	Web 2.0	Web 2.0	Web 2.0
Web 1.0	Web 1.0	Web 1.0	Web 1.0
1993	2004	2008	2015

– Wer wird Player für

– Services im Web 2.0? [Google]

– Services im Internet der Dinge?

► **Grundlegende und abhängige Anwendungsfelder**
  - In den abhängigen Feldern wird der "AddedValue" geschaffen
  - Aber sie existieren nur in Abhängigkeit vom Grundanwendungsfeldern
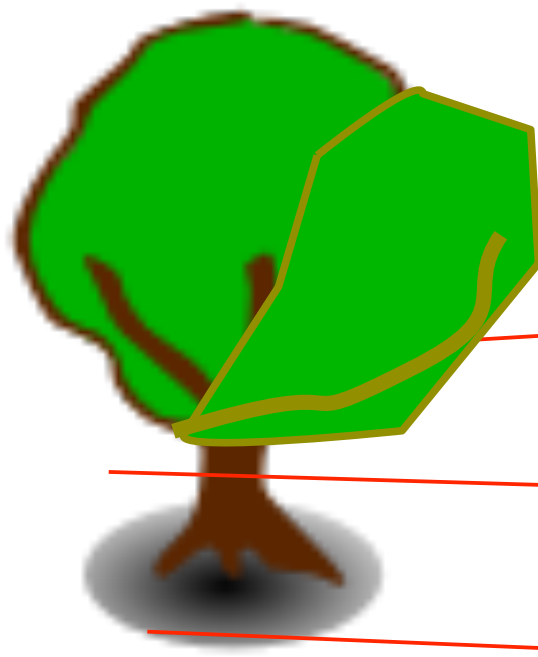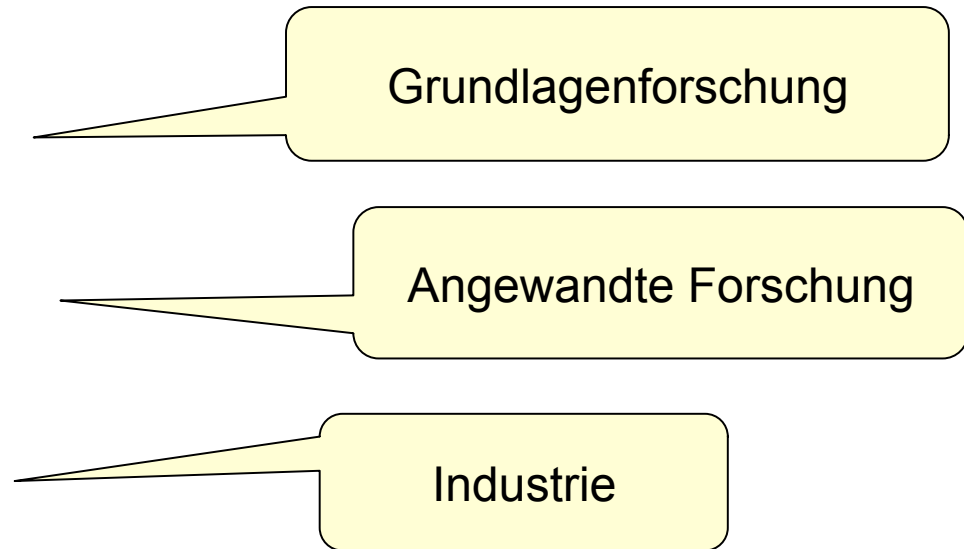
Zweiganwendungsfeld mit Zweiginnovationen

Astanwendungsfeld mit Astinnovationen

Stamminnovation "disruptive technology"

Wurzelinnovation

- Intelligentes Gebäude

Zweiginnovationen:
- Intelligenter Umgang mit Energie (mehr als Passivhaus)
- Life Sciences / assistierendes Gebäude (Wohnen im Alter, Health Care)

Astinnovation: Automatischer Entwurf für neue, branchenübergreifende Anwendungsfunktionen (2007)

Stamminnovation: Integrierte Datenmodelle für ganze, voll vernetzte Gebäude (2000)

Wurzelinnovation: reaktive Datennetze (1990)

- ▶ Wo entstehen neue Stämme?
  - ▪ Mittel- u. langfristige Veränderung
- ▶ Wo entstehen neue Äste?

- ▶ Wo entstehen neue Zweige?

Grundlagenforschung

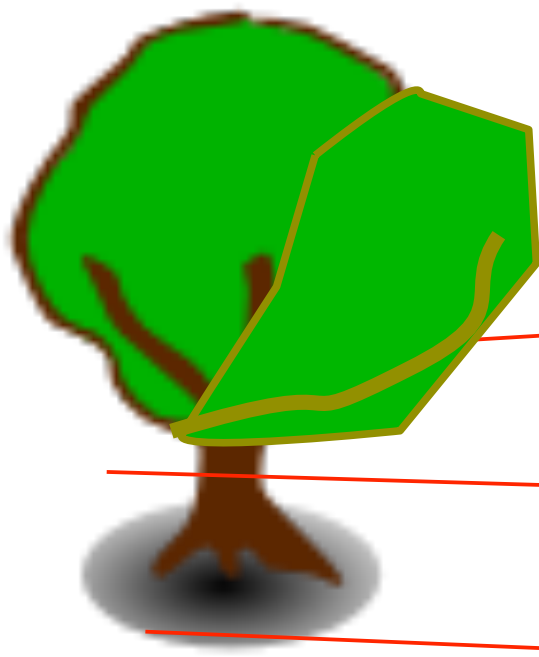Angewandte Forschung

Industrie

Neue Zweiganwendungsfelder

Neue Astanwendungsfelder

Neue Stamminnovation

Wurzelinnovation

➢ Stamminnovation e-Papier von

➢ www.plasticlogic.com (Cambridge, Dresden)

► Wo entstehen neue Software-Äste?

Neue Zweiganwendungsfelder:
Newsreader auf e-paper

Neue Astanwendungsfelder:
e-paper laptop

Neue Stamminnovation: e-paper

Wurzelinnovation: e-ink

➢ Vom Jan. 2007, herunterladbar bei www.bitkom.de

➢ Strategische Wachstumsfelder:

- **Eingebettete Systeme (9% Wachstum/J)**
- Biometrie
- Digitales Rechtemanagement
- **IT Utility Services (SaaS)**
- **Service-orientierte Architekturen (SOA)**
- IPTV/**Mobiles Fernsehen**
- Weitere Themen: Breitbandtechnologien, **RFID** und Telematik.

Eingebettete Software

Multimedia-Systeme, Websysteme

mobile Anwendungen
e-paper-Anwendungen

- *Bündelung* mit Hardware-Forschung für neue Anwendungsfelder
- *Bündelung* mit Silicon Saxony

Web 2.0

Services in the Internet of things

IPTV

- *Bündelung* mit lokaler Industrie
- *Bündelung* mit größtem Studiengang

- *Bündelung* mit Produktionsstätten und Zulieferern der Prozessautomatisierung
- SAP Research „Future Factory"

automatisierende eingebettete Systeme

- *Bündelung* mit lokaler Industrie

enterprise **SOA**

Utility Computing (SaaS)

Geschäfts-Software

Automatisierungs-Software

– „Gleichzeitig sind die Themenschwerpunkte stärker an den identifizierten Innovations- und Wachstumsfeldern auszurichten." [Berger]

40.4 BUSINESS MODELS

Earning money with software

- ▶ A business plan should be made at the beginning, before starting.
  - ▪ It should contain the aforementioned issues (not only vision!)
  - ▪ Market analysis
  - ▪ Cost planning (variant A, B, C)
  - ▪ Turnaround planning
- ▶ Business plans are the basis for getting a venture capitalist involved
- ▶ Decide in the business plan for a business model

- ► Leasing (where others buy)
- ► Rent (where others buy)
- ► Sell advertisements [Opera]
- ► Sell directly, order via internet [Dell]
- ► Sell via auction [ebay]
  - Suspense during selling is a surprising effect
- ► Quality [Tupperware]
- ► Speed [amazon]
- ► Client relationships [Tupperware]

- ► http://en.wikipedia.org/wiki/Open_source
- ► Free product
  - Give the product for free and sell applications or consulting
  - Mould a market with the product
  - Ex. Adobe pdf with Acrobat Reader
- ► Free framework
  - Give the framework for free, create a community, and sell applications
  - Ex. IBM gives Eclipse for free, fosters a community, and many sell
- ► Release Politics
  - with union-fs (overlay)
- ► Micropayment
  - Use micropayment companies for installation or run of a software (PayPal, ..)
  - Use Telecom billing
- ► Choose licences carefully
  - http://creative-commons.org
 - GPL is a virus that infects all extensions
  - LGPL not

- ▶ Free "taster" versions
  - Give out earlier version of the product for free
  - Sell the new version
  - Ex. www.gentleware.com

- ▶ Free "community" versions
  - Give out a stripped version (e.g., only for 1 user, 1 database, ..)
  - Sell full version

- ▶ Free time-restricted versions
  - 1 month

▶ Have a framework in-house.

▶ Know how: instantiate new products with it, that are sold

  ▪ Keep the product line framework as company secret

▶ Examples:

  ▪ SAP, Comarch, many others
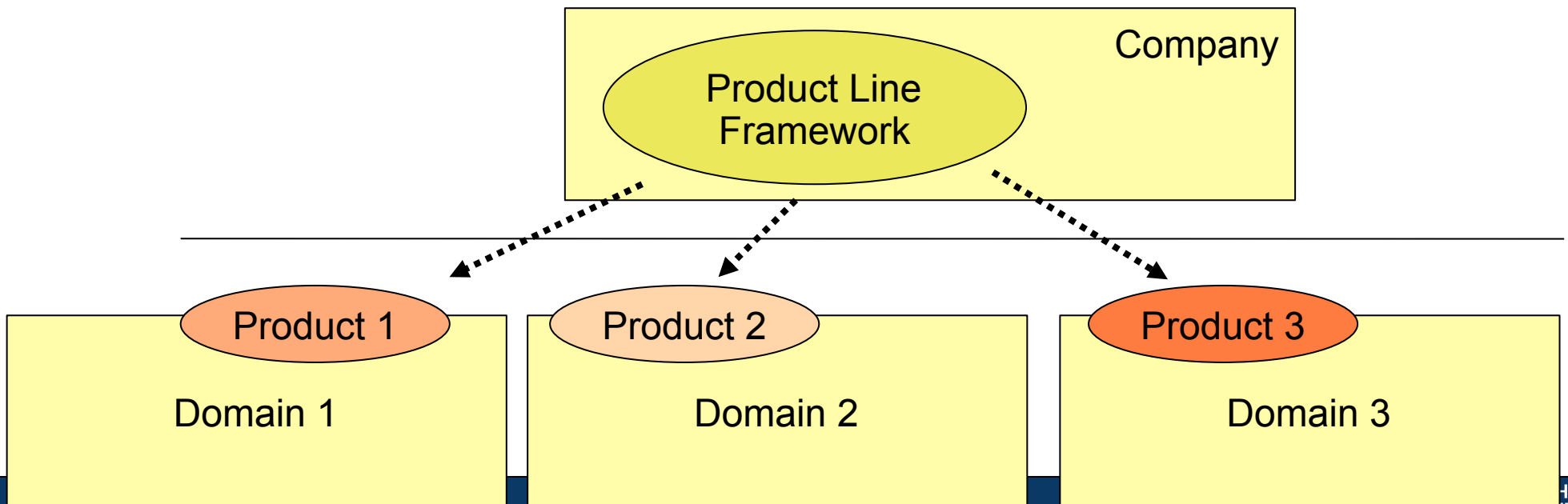
- ► Reifegrad gering: i.W. Dienstleistungen
  - ▪ keine großen Player außer SAP
  - ▪ Viele kleine Firmen
- ► In Sachsen noch weniger; alle sitzen im Westen (SD&M, Accenture, Oracle, SAP, Microsoft, Ericsson, Nokia, ..)
  - ▪ Einige Mittelständler (SAP-SI, T-Systems MMS, Robotron RDS, ComArch, Saxonia)
- ► Folgen:
  - ▪ Begrenzte Innovationskraft von KMU/Dienstleistern
  - ▪ keine vorausschauenden Investitionen
- ➜ Vorlaufforschung nötig

SW-Produktlinien

SW-Produkte

Reifegrad der SW-Industrie Deutschlands/Sachsens

SW-Projekte/Dienstleistung
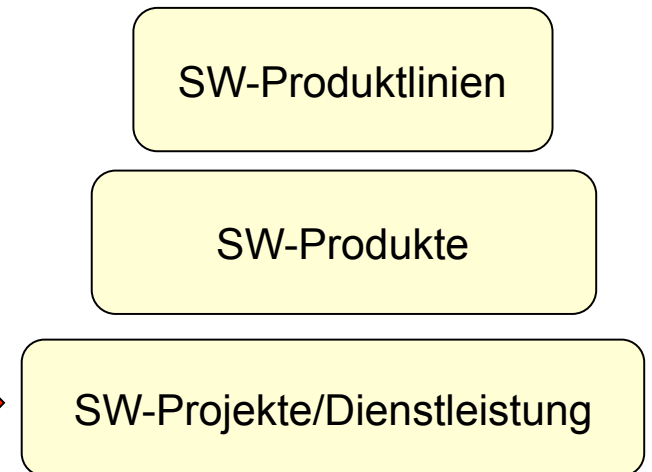
▶ Have a very complicated *Machine Tool* in-house.

▶ Know how to produce products with it, that are sold
  ▪ Do not sell the machine tool
  ▪ Keep the know-how as company secret

▶ Examples:
  ▪ Compiler generators for specific compilers
  ▪ Abstract interpretation generators for program analyses (www.absint.com)
  ▪ Semantic search engines for different domains (www.transinsight.com, www.gopubmed.com)

Company

Machine Tool

Product 1

Product 2

Product 3

Domain 1

Domain 2

Domain 3
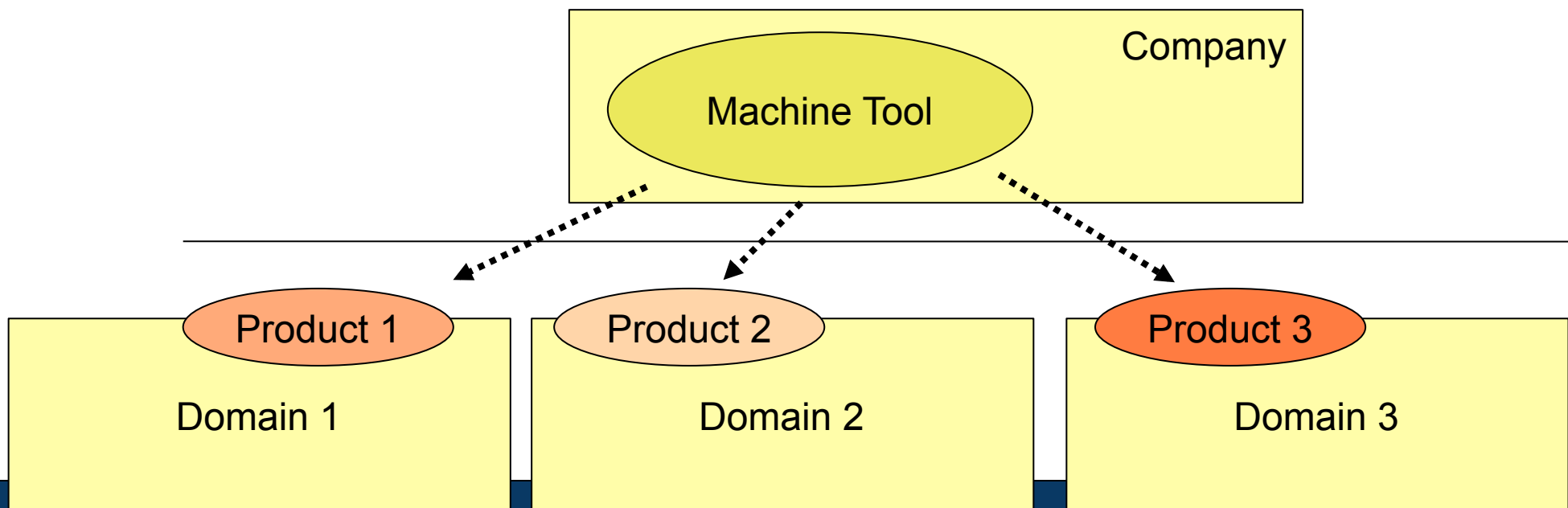
▶ **Language-Universal Tool generates**

- Language-1-specific tool generator
- Language-n-specific tool generator

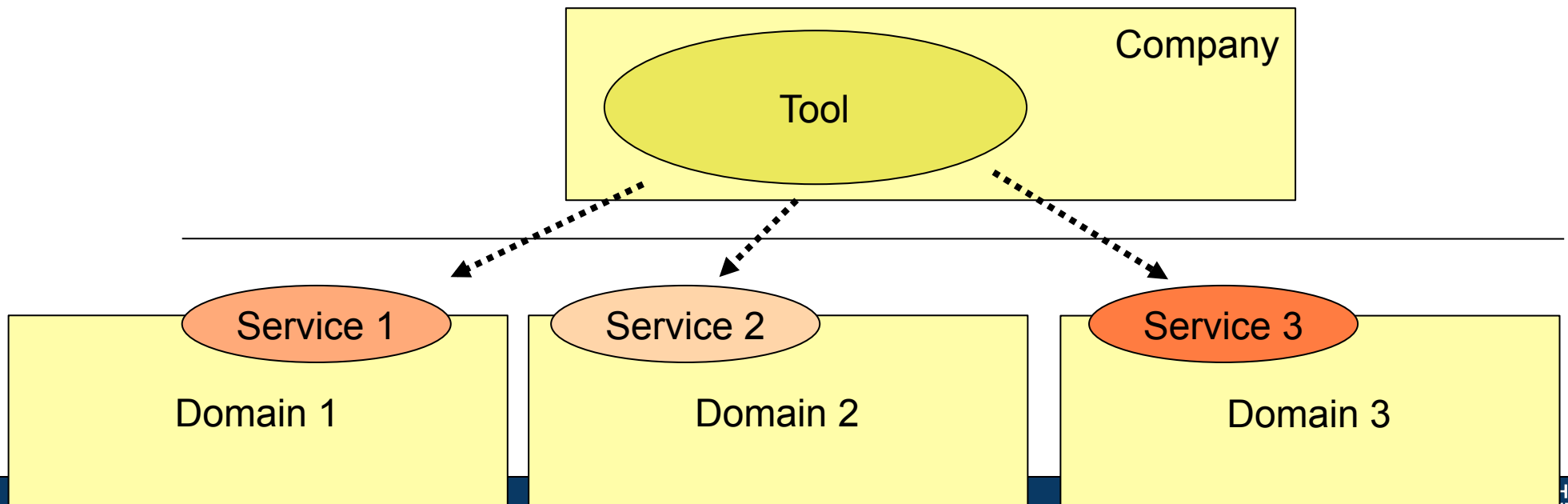▶ **Those machine tools continue to bear grandchildren products**
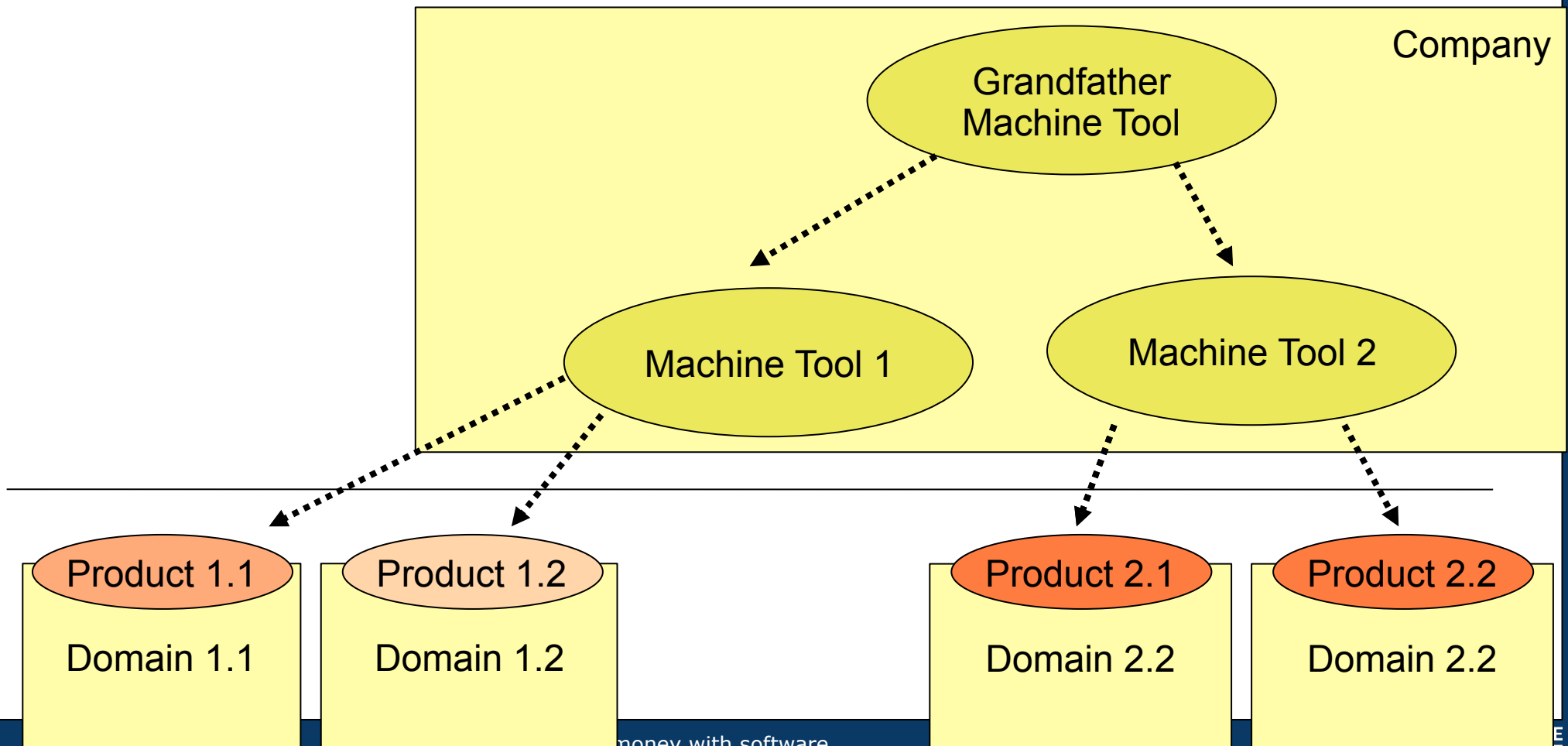
▶ **Workflow-Universal Tool generates**

  ▪ Workflow-1..n

▶ **Those workflows continue to bear grandchildren workflow portals (form-filling portals)**
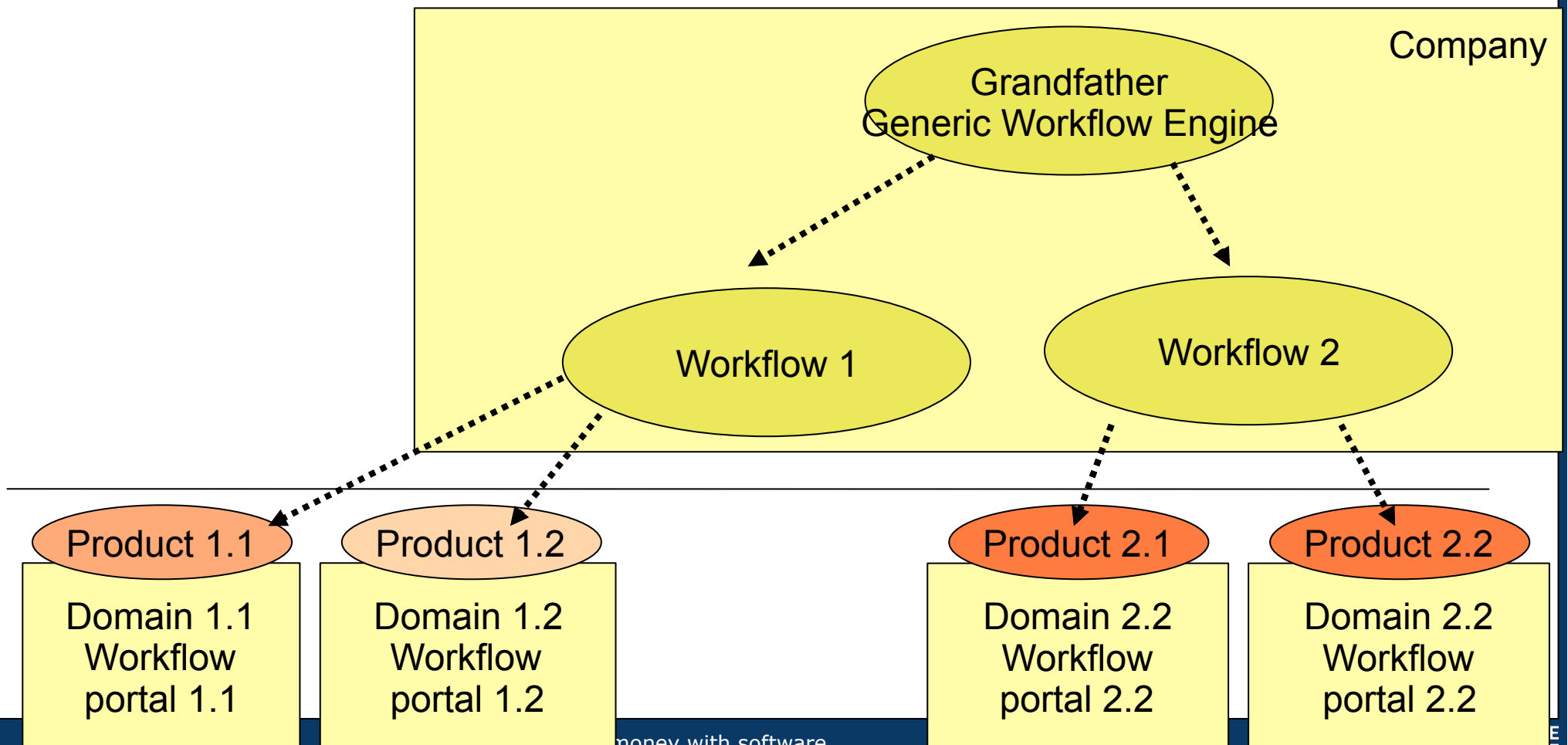
► Have an engine in-house and sell a (web) service
  ■ Use AJAX for incremental processing on the web

► Ex. Google docs

- ▶ Companies can make plugins for OSS tools under dual licensing
  - ▪ Thunderbird, Firefox, OpenOffice, Eclipse, …
- ▶ Example: Quicktext Thunderbird extension
  http://extensions.hesslow.se/
  - ▪ QuickText is free
  - ▪ QuickText Pro is commercial
- ▶ Advantage: Platform has already many users and a large market

40.5 SALES

- ▶ **Prepare a sales meeting**
  - Analysis of client's situation (needs, problems, state of business)
    - State analysis (IST-Zustand)
    - Problem analysis is most important
  - Goal analysis (needs, offers, next contact, alternatives, additional offers)
  - Strategy (introduction, questions, arguments, defending against counterarguments)
  - Control of meeting (achievements, why I failed, further contacts)

- ▶ **Questions are most important**
  - ▶ For analysis of the customer's needs
  - ▶ For giving him ideas
  - ▶ For directing the customer

- ▶ **Phases of the sales meeting: (InIAC)**
  - Introduction
  - Information
  - Argumentation
  - Committment

[Leicher]

- ► Open questions: begin with who, why, when, which...
  - ▪ The customer can talk afterwards... (information phase)
- ► Usefulness questions: which benefit does the customer have
  - ▪ "what do you gain with this method?"
  - ▪ "when will you be able to achieve turnaround with this method"
  - ▪ "what do you think about this simplification?"
- ► Closed questions:
  - ▪ Do you? Don't you?
  - ▪ These questions force decisions (commitment phase)

- ► Alternative question:
  - ▪ "Would you prefer alternative A or B?"
  - ▪ "is a red or blue car better?"
- ► Suggestive questions:
  - ▪ "is it true that you are interested to simplify your production?"
  - ▪ Handle them with care
- ► Positive questions: try to avoid negative questions
  - ▪ "Are there problems?" --> "What happened?"
- ► Transform statements into questions
  - ▪ "Our competitor is too expensive." --> "Do you also feel that our competitor is too expensive?"

- ➤ A **state question** asks the customer about his/her state of affairs
  - • „How can I help you?"
  - • „Which functions are you interested in?"
  - • „With which supplier do you work these days?"
  - • „How large is your budget?"
  - • „How is the decision process?"
- ➤ State questions are asked first, to enter the discussion

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- ➢ A **problem question** analyzes together with the customer his problems. Problem questions
  - clear the mind of the customer
  - Show him the situation more clear
- ➢ Examples
  - „What is disturbing wiht your supplier?"
  - Which functionality is your product lacking?
  - Which problmes do you have with the tool you use these days?

➢ An **effect question** analyzes together with the customer the effect of his problems. Effect questions

- Visualize the effects of the current situation to the customer
- Look into the future
- Highlight trends and developments
- Bring the customer the insight that he must solve his problem

➢ Examples for positive effects

- „What is the significance of this problem with your supplier?"
- Which other problems would this cure?
- What should be changed to increase the effictivity of this tool?
- What does the solution of your problem mean to the win/balance of your company?

➢ Examples for negative effects

- „What is the significance if this problem is not solved?"
- Which other problems would result if this is not solved?
- Supposed you leave it like it is, what would result?

➢ A **summarization question** summarizes the results of the analysis and attempts to get the agreement with the customer about the analysis

➢ A **benefit question** highlights a benefit to the customer.

- „Which additional space could you win buying this new machine?"
- „How would the win of your company rise, given you buy this machine?"