CDTM Elective
Media Economics

Winter Term 2004/05

October 26th, 2004
Session 3: Product Platforms in the Media Industry

Prof. Dr. Thomas Hess

CDTM WIM

Agenda

Product Development as a Key Challenge

Product Platforms and Modularization

Economic Rationale Behind Modularization

Application of the Concept in Media Firms

Lessons (to Be) Learned

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General Situation

- By consuming various media products, recipients satisfy information and/or entertainment needs.

- Due to changing consumption preferences media firms are required to develope new media products.

- The development and production of new media products is expensive and time-intensive in most cases.

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Problem Description

- Difficult situation in the media industry
  - declining revenues (advertising, WTP of recipients)
  - increasing costs (more issues, lower circulation)

- New concepts for product development are needed to increase revenues or/and reduce costs

- Platform concepts successful in other industries
  - automotive
  - Software

- Platform concepts viable in the media industry?

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Platform Concepts as Method of Resolution

Modularized content is already successfully used:

my…-approach (e.g. myYahoo)
online news services (e.g. www.nytimes.com)
Books on Demand (e.g. www.xanedu.com)

Are these approaches platform-based?

How can the media industry successfully employ platform concepts to utilize the advantages of modularization?

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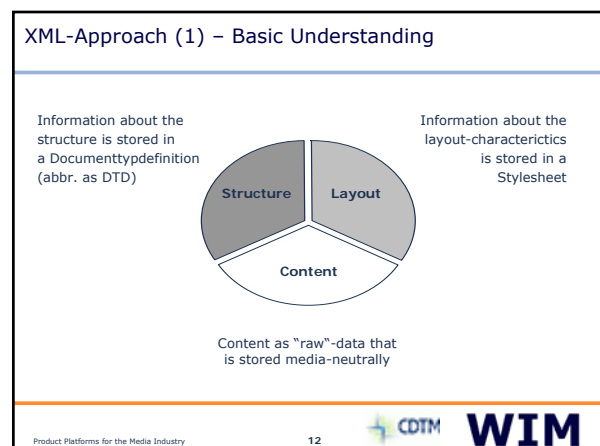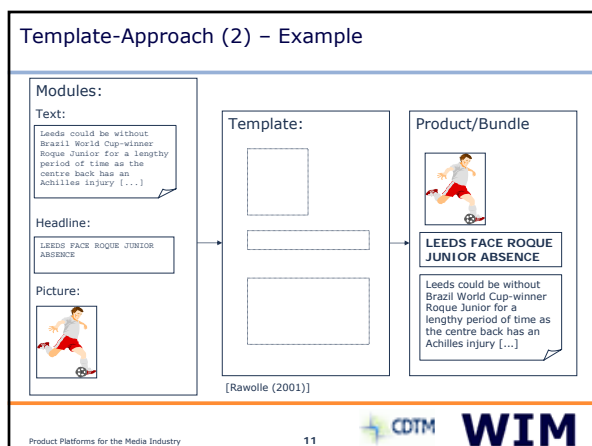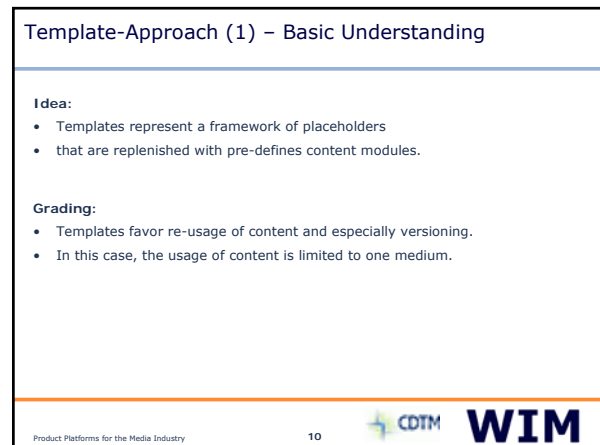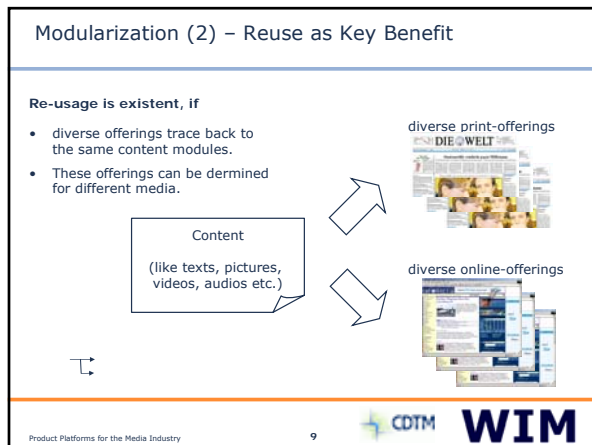
Lessons (to Be) Learned

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Concept of Product Platforms

Derivative products

2 4 6
1 3 5

Process Platform

Product Platform

Internal skills and technologies

The Design Concept
Meeting customer's perceived and latent needs

External skills and technologies

[Meyer/Zack 1996]

Modularization (1) – Basic Understanding

idea:
– one (technological) basis for different products
– Re-use of moduls in different products

products: ...

product platform

production of products

storage / represenation of components

Modularization (2) – Reuse as Key Benefit

Re-usage is existent, if

- diverse offerings trace back to the same content modules.
- These offerings can be dermined for different media.

diverse print-offerings

Content

(like texts, pictures, videos, audios etc.)

diverse online-offerings

Template-Approach (1) – Basic Understanding

Idea:

- Templates represent a framework of placeholders
- that are replenished with pre-defines content modules.

Grading:

- Templates favor re-usage of content and especially versioning.
- In this case, the usage of content is limited to one medium.

Template-Approach (2) – Example

Modules:

Text:
Leeds could be without Brazil World Cup-winner Roque Junior for a lengthy period of time as the centre back has an Achilles injury [...]

Headline:
LEEDS FACE ROQUE JUNIOR ABSENCE

Picture:

Template:

Product/Bundle

LEEDS FACE ROQUE JUNIOR ABSENCE

Leeds could be without Brazil World Cup-winner Roque Junior for a lengthy period of time as the centre back has an Achilles injury [...]

[Rawolle (2001)]

XML-Approach (1) – Basic Understanding

Information about the structure is stored in a Documenttypdefinition (abbr. as DTD)

Information about the layout-characterictics is stored in a Stylesheet

Structure Layout

Content

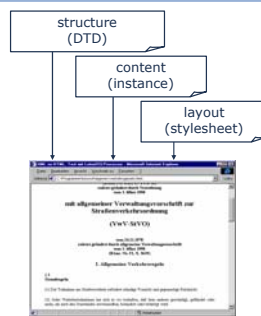Content as "raw"-data that is stored media-neutrally
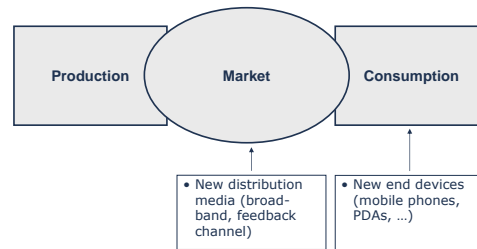
XML-Approach (2) – Example

Documenttypdefinition (DTD)
describes the structure of XML ducuments (elements, hierarchic composition, attributes)

Instance
comprises all Content that is defined by the DTD

Stylesheet
allocates layout characteristics to the XML document

structure (DTD)
content (instance)
layout (stylesheet)

Further Driving Forces

Production   Market   Consumption

- New distribution media (broad-band, feedback channel)
- New end devices (mobile phones, PDAs, …)

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Preliminary Note

Modularization as a condition for the re-usage of content …

… allows to reduce production costs and/or increase the number of products

… leads to increased likeness between the products. Hence, revenues may decrease

What is the overall economic effect?

The Approach

We expect changes in costs and revenues due to modularization:

Cost effect:
- reduced costs due to reduced number of unique content elements (modules)
- Additional costs due to necessary bundling of content modules to content products

Revenue effect:
- Increased revenues due to better individualization of products and higher willingness to pay by recipients
- Increased revenues due to higher willingness to pay by ad customers

Modularization allows cost reduction in the production of media content and increased revenues due to inherently individualized content products.

More in Detail (1) – Cost Effect

- costs **without** modularization
  C = Costs of Production of unique content products + Costs of Reproduction

$$C = \sum_{i=1 \ldots}^{x} c_{P,i} + \sum_{i=1 \ldots}^{x} (c_{R,i} * y_i)$$

x = number of products
c_i = costs of product i
y_i = number of copies of product i
P = Production; R = Reproduction

- costs **with** modularization
  C = Costs of Production of content modules + Costs of Bundling of unique content bundles + Costs of Reproduction of content bundles

$$C = \sum_{i=1 \ldots}^{m} c_{P,i} + \sum_{j=1 \ldots}^{b} c_{B,j} + \sum_{j=1 \ldots}^{b} (c_{R,j} * y_j)$$

m = number of modules
b = number of bundles = $f(m) \leq 2^m - 1 = \alpha * (2^m - 1)$
c_i = costs of content module i
y_j = number of copies of bundle j
P = Production; R = Reproduction; B = Bundling

More in Detail (2) – Revenue Effect

- revenues **without** modularization
  R = Number of copies * (revenues from recipients + revenues from ad customers)

$$R = \sum_{i=1}^{x} y_i * (p_{R,i} + p_{A,i})$$

x = number of products
p_i = price of content product i
y_i = number of copies of product i
R = Recipients; A = Ad customers

- revenues **with** modularization
  R = Number of copies * (revenues from recipients * increase factor + revenues from ad customers * increase factor)

$$R = \sum_{j=1 \dots}^{b} y_j * (p_{R,j} * (1+\lambda_R) + p_{A,j} * (1+\lambda_A))$$

b = number of bundles
p_i = price of content module i
y_j = number of copies of bundle j
λ = increase factor = [0 … 1]
R = Recipients; A = Ad customers

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More in Detail (3) – Outlook

Next steps in research:

- On the model side ?
- On the empirical side α and λ in different markets and depending on technology (XML!)

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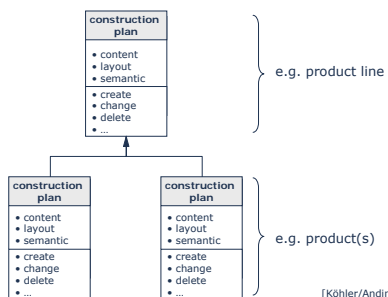

Mayor Questions

Economic View:

- How does the reuse of content affect the overall production costs?
- Does customers' willingness to pay allow to offer new products?
- What is the impact on profits in the short run and in the long run?
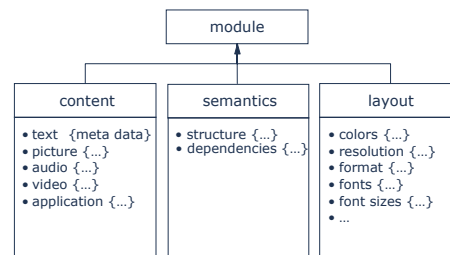
Technical View:

- What type of content are we dealing with (structureness etc.)?
- How does proper construction plans and modules look like?
- What kind of system support is needed for product platforms?

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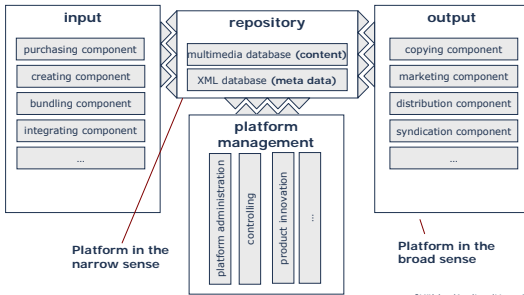

Definition of Construction Plans

[Köhler/Anding/Hess 2003]

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Composition of Modules

[Köhler/Anding/Hess 2003]

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Technical Framework for Product Platforms

[Köhler/Anding/Hess 2003]

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Summary and Outlook

Summary
→ product platforms are applicable in the media industry
→ great potential for an reduction of production costs (due to the re-use of content) and an increase of revenues (due to additional products)

Outlook
→ More detailed view on the XML-representation of meta data and technical realisation necessary
→ Technical specification in progress, prototype planned

Suggested Readings

- Anding, M. / Köhler, L. / Hess, T. (2003): Exploiting the Power of Product Platforms for the Media Industry: a conceptual framework for digital goods and its customization for content syndicators. In: Proceedings of the third IFIP Conference on e-commerce, e-business and e-government 2003. Sao Paulo, S. 303 - 313.

- Hess, T. (2004): Product Platforms for the Media Industry. In: Picard, R. G. (2004, publ.): Media Product Portfolios: Issues in Management of Multiple Products and Services (to be published).