HANDELKOMPETENT
SITUATION AWARE LEARNING IN RETAIL

7th Conference on Learning Factories, April 5th 2017, Darmstadt
Integration of digital learning

S. Steinbuß, B. Holtkamp, S. Opriel
Motivation

Further education in a traditional way, is
• time consuming,
• cost intensive and
• protracted

New methods of learning make use of modern technologies to enhance the learning process

Retail in Germany
€ 482 billion sales volume
3 million staff
300,000 companies
• 1 – 4 staff: 38%
• 5 – 9 staff: 52%
• 20 – 99 staff 9%
• >100 staff 1%

Further education participation vs. company size

Source: IAB Betriebspanel, 2017

References: HDE, trade report retail - retail as employer
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New Types of Learning

Technologies are enabler for new learning methods

- E-Learning
- Serious Gaming
- Mobile Learning
- Blended Learning
Digital Business Engineering
Phases and their Goals

1. Description of the learning process of an employee, that is integrated in the employees working process and integrated with the management of a company.
2. Definition of stakeholders and their relations.
4. Definition of organizational and technical capabilities.
5. Development of a situation- and context model to support context aware learning.

References: B. Otto, R. Bärenfänger, S. Steinbuß
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HANDELkompetent Technical Solution

- Learning content consists of e-learning nuggets (~5 min.)
- Mobile devices gather current context: Noise, time, location (via beacons)
- Recommend fitting contents on basis of
  - context
  - learners competences
- Learning concept is more complex and will now be described

Digital Business Engineering
Consumer Process and Learning Ecosystem

1. Clarify needs for further education in the company
2. Choose and qualify a competence godfather
3. Plan the adoption of competence management in the company
4. Measure the individual competences of an employee
5. Set competence goals and focus learn topics
6. Set up learning tandems
7. Support employee during competence development
8. Document learning progress
9. Measure competences and set up new goals
Digital Business Engineering
Digital Product and Service Design

- **Learner actions**
  - Competence measurement
  - Receive competence development plan
  - Situation-aware learning
  - Reflection of learning

- **Onstage actions**
  - Competence godfather
  - Competence measurement
  - Competence development and schedule
  - Observe the transfer of learned content
  - Review

- **Backstage actions**
  - Definition of company's learning process
  - Competence godfather
  - Competence godfather
  - Tandem partner
  - Competence godfather

- **IT processes**
  - Definition of competences and schedule
  - Choose situation-aware contents
  - Update competence level
  - Documentation

**Lines**
- Line of interaction
- Line of visibility
- Line of internal interaction
Digital Business Engineering
Digital Capabilities Modelling

- Competence godfather
  - Definition of learners needs and guidance to learners’ personal competence development
  - Company’s learning process and setup of company’s competence measurement

- E-learning platform (ILIAS v5.1)
  - Management of learners and learning content
  - Competence modelling, development and measurement (ILIAS v5.2)
  - Situation awareness of learning content
    - Not supported by ILIAS
    - Develop custom situation and context editor
    - Context-aware learning App for tablet
Digital Business Engineering
Data Mapping

Periods
- Start
- Duration
- Recurrence

Competences
- Users
- Learn contents
- User competences
- User curriculums

Environments
- Noise
- Devices
- Internet connection

Learn locations
- Companies
- Building
- Rooms
- Locations (tagged with beacons)
Digital Business Engineering
Digital Technology Architecture Design
Summary

- Digital Business Engineering as a method developed by Fraunhofer ISST
  - 6 phases for a holistic business development
- HANDELkompetent
  - E-Learning system for process integrated informal learning
  - Learning system with different roles: learner, tandem partner, competence godfather, …
  - Context aware recommendation of learning contents
  - Learn nuggets which can be consumed within a couple of minutes
- Next Steps:
  - Pilot application at butcher shop (Karlsruhe) and fashion boutique (Remscheid)
  - Evaluation of pilots
Contact

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Further references


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