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Business Cases for Enterprise Interoperability

Collaborative Demand Capacity Planning (CDCP)

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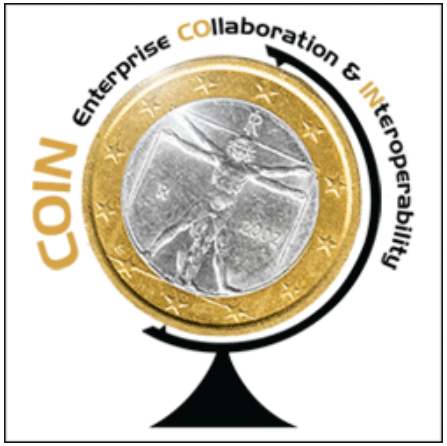

Overview

- **Brief ITA Presentation**
- **Overview of ITA Projects**
- **Business Case CDCP**
  - Changes on Market
  - Challenges
- **CDCP Project**
  - Problems & Challenges
  - Goals
  - Solution Approach
- **CDCP Implementation**
- **Synergies among ITA and COIN**
- **Overcoming the COIN Capital Sins**

ITA - Information Technology for Automotive

http://www.ita-int.org

- **Founded on March 14th, 2000**
- **Aims of ITA**
  - Improving the business processes and the exchange of information between automotive manufacturers and suppliers on the one side, and consulting as well as IT companies and Logistics Service Providers on the other
  - Emphasis on the analysis and improvement of supply chain logistics
- **ITA members are consulting and IT partners and LSPs in the automotive sector (Siemens, SAP, Fraunhofer, BLG ...)**
- **ITA is an associate member of the VDA e. V. (Association of the Automotive Industry) working in a very close cooperation**
  - Identifying and defining important new automotive processes and IT issues
  - Collaborative Development of appropriate solutions
  - In general ensuring that the industry benefits from the application of IT to the greatest possible extent
- **ITA participates in international committees and organizations (e.g. ODETTE, AIAG and OAGi)**
- **One Goal of ITA is to establish and verify common projects with OEMs and n-tier suppliers and prepare recommendations for automotive industry.**

ITA Projects

- **Supply Chain Interoperability (SCI)**
- **Collaborative Demand Capacity Planning (CDCP)**
- **RFID strategies and standards in the Supply Chain**
- **Innovative collaboration models for low cost cars (lean processes, lean solutions, lean IT)**
- **Supply Chain Collaboration in Emerging Markets (Supply Chain Processes, - Models, - Security, - Delivery Models)**

Changes on the Automotive Market

- **Customers' demands – A shift to more energy efficient („green") and social compliant models with individualizations**
  - **OEM's react internally very fast on changes**
    - ⇨ Flexible internal manufacturing devices
  - **OEM's leeway for reaction strongly limited**
    - ⇨ 20% of parts of a car are produced directly by the OEM
    - ⇨ 80% are delivered by suppliers in different tiers
    - ⇨ Usually 6 to 10 tiers in a Supply Chain and
    - ⇨ Approximately 3000 - 5000 partners in the Supply Network
  - **Suppliers lagging behind in producing their sub parts**
    - ⇨ Lack of information and slow processes
- **Customers' requirements – A shift from BTS (Build to Stock) to BTO (Built to Order) up to JIS (Just in Sequence)**
  - **Research in US indicates**
    - ⇨ 74% of consumers would rather specify and order a customer built car and wait
  - **Build-to-order (BTO) customers in Europe**
    - ⇨ Delivery time :48 days (European cars), 63 days (Japanese models)

Source: ITA & ILIPT Intelligent Logistics for Innovative Product Technologies

⇨ **Supply Chain processes have to be more agile as in the past because of fast changes of demand and capacity planning as well.**

CDCP Project / 1
Problems & Challenges

- **Some enterprises have not implemented collaborative agreements concerning capacity and demand.**
  - ⇨ Overcapacity and delivery shortage are at hand
  - ⇨ Only particularly problems are identified by enterprises
- **CDCP approaches are both of big interest within a single company as well as cross-organizational.**
- **Generally suppliers confirm more than 100% of their capacity to their customers.**
  - ⇨ CDCP could visualize this contradiction but would weaken substantially the position of suppliers
- **Actually the time frame of the cycles of planning are about 1 week taking into account 4 tiers.**
  - ⇨ An agreement will last at least 4 weeks.
- **Generally customers demand's deviations are too high.**
  - ⇨ Therefore suppliers have difficulties to respond with the right capacity.

⇨ **CDCP will not visualize this entrepreneurial risk!**

CDCP Project / 2
Goals

- **Odette Recommendation**
  - DCP (Demand Capacity Planning) describes methodologies and models among OEM and tier 1 respectively among tier (n) and tier (n+1)

- **CDCP will provide an approach for the whole Supply Network**
  - Basing on DCP and by means of collaborative services
  - Such collaborative services should enable quasi online planning

CDCP Project / 3
Solution Approach

- **A process for DCDP will be developed**
  - Containing types for messages, protocols, milestones

- **Access via service platforms**
  - Enabling the interface to internal business processes

⇨ **Supporting the mid/long term agreement of capacity and demand**

CDCP Implementation

Combination of innovative approaches enables the breakthrough innovation!

- **EC/EI- Services** (provided by a GSP and applying the emerging SaaS-U paradigm)
  - ⇨ Increase reaction speed in the Supply Networks
- **Serious Gaming**
  - ⇨ Enabling eliciting the requirements concerning EC/EI Services
  - ⇨ Training support for suppliers (applying EC/EI services)
- **ECMM** (as derivate of CMMI)
  - ⇨ Assessment of collaborative behavior of suppliers within the supply network
  - ⇨ Proposition of EC and EI technologies and services that could be useful

Remark to the current situation in the automotive industry

Governments spend millions of euros for hundert thousands employees on short time. Instead such focused assessment and training programmes would make huge sense.

Synergy among ITA and COIN

- **Common Interests of ITA & COIN**
  - ⇨ Supporting Supply Chains and CNO projects with innovative EC / EI concepts and solutions
  - ⇨ Fostering standardization activities
  - ⇨ Deliver state-of-the-art research results, tools, and methodologies to the automotive industries supply networks

- **Goals**
  - ⇨ Evaluation and enhancement of requirements for EC/EI services in automotive domain
  - ⇨ Evaluation of COIN services for end users in automotive Supply Chains
  - ⇨ Enlargement of requested services in COIN
  - ⇨ Transformation into projects together with the European car manufacturers and their suppliers and applying the results in the automotive industry
  - ⇨ Ultimately a dissemination / exploitation activity with a broad spectrum of potentially involved SMEs in the automotive Supply Chains through ITA members (majority of suppliers in automotive)

Overcoming of COIN Capital Sins / 1

Capital Sin #1 “EI value proposition is unclear.”

- **Clear value proposition of EI Services**
  (under these premises supplier will gladly apply EI Services)

  ⇨ **Economic benefits are recognized as the EI Services will be provided as SaaS-U**
  - Supplier have only to pay per usage
  - Services will be available via Web Browsers
  - Cloud computing concepts might help

  ⇨ **Ensuring suppliers staying in business**
  - Tier leader will find portfolio of potential suppliers

  ⇨ **Speed up performance of business processes**
  - Stacks stay small
  - Idle time is reduced
  - Unclear decisions are minimized

Overcoming of COIN Capital Sins / 2

Capital Sin #2 “EI solutions are too complex and specific.”

- **Supply networks are structured in tiers (i.e. tier 0 is an OEM)**
  - Tier leader defines and provides requirements for BP’s
    (in which form BP’s interoperate and by which standards documents are exchanged)
- **Establishment of definitions and regulations**
  - Examples for standardization bodies are Odette, VDA, etc.
  - Examples for modeling languages are ARIS, BPMN, UML, etc.
  - A “light” ontology for BOM can be accomplished.
- **Foster assessments (ECMM) and training (Serious Gaming)**

⇨ **Cross-organizational Business Processes reduce complexity**
- Clear defined and trusted access to private processes

⇨ **SaaS-U provides common / standardized services**

⇨ **EMMI assessments will explore weaknesses**
- So that automatically new EI Services will be deployed
- Goal oriented improvement programmes will be initialized

Conclusions

- **Seamless implementation of CDCP along the supply chain is an urgent problem in the automotive industry**
  - ⇨ **which must be solved very fast especially in the case of the actual situation.**
- **EI Services will be provided on a GSP following the ISU principle combined with SG**
  - ⇨ **substantially improve the acceleration of the implementation and reaction of Supply Chains**
- **CDCP has many stakeholders in the automotive industry that could benefit**
  - ⇨ **CDCP meets their goals**
- **The most important stakeholders are OEM, their suppliers, and ICT providers.**
- **A Serious Game, which enables suppliers in the automotive industry to learn how EI services work**
  - ⇨ **will support meeting the CDCP goals**
    (i.e. on the one hand supplier learn to apply EI services and on the other hand it will help to reveal missing EI services)

Thank you for your attention!

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