Role of the Customer Value
in the Software as a Service Concept:
Empirical Evaluation of the Factors Affecting
the Customer Lock-in of the Online Newspapers

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Outline of the Paper

- Objective of this exploratory paper was to study the Software as a Service (SaaS) concept from the customer point-of-view since
    - Sustainable service requires an effective business model capable to create and maintain the lock-in of customers
    - For SaaS, there is a need for new instruments in order to study the customer benefits and value creation
    - In this paper we evaluated different factors that affect the customer lock-in
- We start by doing an overview of the SaaS concept
- We use Amit and Zott's e-commerce model as our framework
    - Key factors from TAM and Rayport and Sviokla's model are combined in order to study the lock-in of the customers of online services

Outline of the Paper (cont.)

- Our research question:
  - What are the roles of ease of use, usefulness, content, context, and infrastructure in predicting the customer lock-in (loyalty) in the case of online newspapers? Are the general e-commerce based value sources (novelty, efficiency, and complementarities) relevant compared to them?
- We collected data from 251 online newspaper readers and did an exploratory factor analysis and regression analysis
- Based on our analysis, we conclude that new factorial combinations of e.g. usefulness, novelty of the content, complementaries, and context of the service are significant predictors of the customer lock-in

Overview of the SaaS Model

- SaaS services are the "next generation" of ASP services

- The main differences between the SaaS and the "old" ASP model:
  - SaaS applies an e-commerce point-of-view instead of the ASP model's outsourcing view
  - SaaS model emphasizes the capability and need to (mass) customize customer solutions
  - SaaS is a coherent business model concerned with value creation and value appropriation whereas ASP is more of an technical definition

- We define Software as a Service as follows:

  "Software as a Service is time and location independent online access to a remotely managed server application, that permits concurrent utilization of the same application installation by a large number of independent users (customers, subscribers), offers an attractive payment logic compared to the customer value received, and makes a continuous flow of new and innovative software possible"
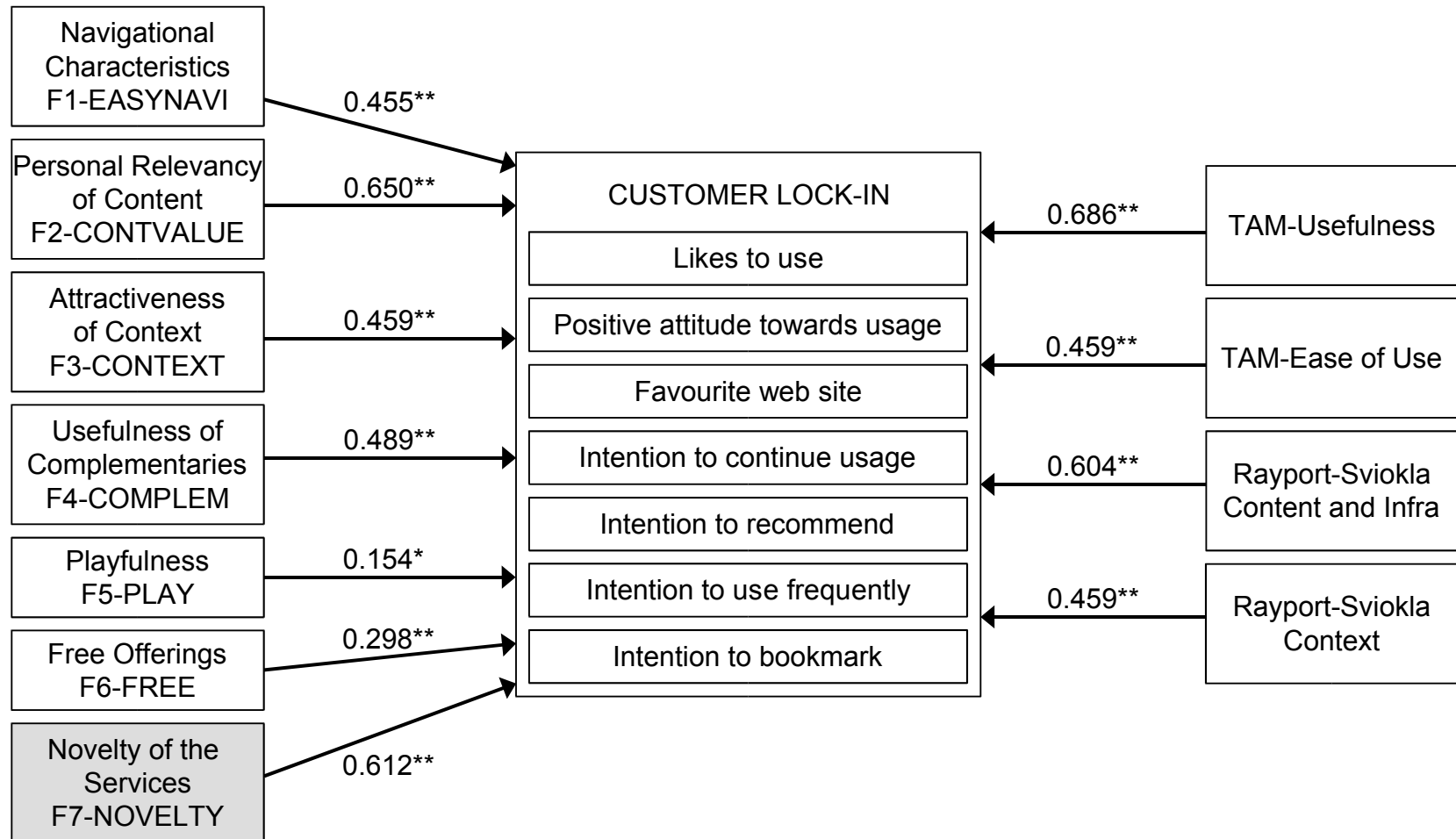
Overview of the SaaS Model **(cont.)**

- The SaaS model moves the focus from owning the software to using the software

- Some issues regarding the Software as a Service model:
  - The increasing demand for services instead of products: companies have noticed the service component's increase in their customer cases (servicization of the products trend)
  - The SaaS model's requirement for the companies to be able to transform their product business into online service business
  - The difficulty of managing the necessary partner network in order to create SaaS service offerings

- The most important challenges of the SaaS model are: 1) how to achieve returns from scale, 2) while holding on to scope economies, and 3) at the same time fulfilling customers' customization requirements

The New Combined Factors and Their Correlation with the Dependent Variable

Navigational Characteristics F1-EASYNAVI	0.455**
Personal Relevancy of Content F2-CONTVALUE	0.650**
Attractiveness of Context F3-CONTEXT	0.459**
Usefulness of Complementaries F4-COMPLEM	0.489**
Playfulness F5-PLAY	0.154*
Free Offerings F6-FREE	0.298**
Novelty of the Services F7-NOVELTY	0.612**

CUSTOMER LOCK-IN
- Likes to use
- Positive attitude towards usage
- Favourite web site
- Intention to continue usage
- Intention to recommend
- Intention to use frequently
- Intention to bookmark

TAM-Usefulness	0.686**
TAM-Ease of Use	0.459**
Rayport-Sviokla Content and Infra	0.604**
Rayport-Sviokla Context	0.459**

** Correlation is significant at the 0.01 level

Correlation Coefficients between the Key Variables

Independent variables	Combined lock-in (Attitude and Behavioral Intention)
F1-EASYNAVI	0.455**
F2-CONTVALUE	0.650**
F3-CONTEXT	0.459**
F4-COMPLEM	0.489**
F5-PLAY	0.154*
F6-FREE	0.298**
(F7 NOVELTY)	(0.612**)
TAM-Usefulness U	0.686**
TAM-Structural EOU (F3)	0.459**
R-S-Content&Infra	0.604**
R-S-Context	0.459**

** Correlation is significant at the 0.01 level
 * Correlation is significant at the 0.05 level

Customer Value and SaaS: Comparison of the Regression Models

Model (dependent in parenthesis)	R^2	Beta	Significance
TAM model (Behavioural Intention, BI)			
Usefulness (U)	41.6%	0.647	0.000
Usefulness (U) + F1-EASYNAVI	43.0%	0.145	0.009
Rayport-Sviokla model (Customer Lock-in)			
Content (CON) + Infra (INF)	36.3%	0.604	0.000
Content + Infra + Context (F3)	38.0%	0.169	0.006
Combined model (Customer Lock-in)			
F2-CONTVALUE	42.4%	0.650	0.000
F2 + F7-NOVELTY	48.0%	0.306	0.000
F2 + F7 + F4-COMPLEM	48.7%	0.118	0.037

Conclusions

- On the basis of our review:
    - Our analysis showed that the predictors of customer lock-in appeared in new factor constructs of navigational characteristics, personal relevancy of content, attractiveness of context, and usefulness of complementarities
    - In the online context customers seem to integrate the effects of infrastructure, content, and usefulness in a new way, and the customer value sources seem to be more complex than in the case of the typical organizational IS
    - Based on the above observations we argue that the evaluation of the SaaS offering could benefit from instruments that combine usability, usefulness, and customer value dimensions:
        - The e-commerce based value drivers of the Amit and Zott's model (2001) seem to be a relevant in building customer value attributes that explain the customer lock-in

- We propose that:
    - Further research and development of new instruments in order to evaluate the customer lock-in in a more reliable way and in different settings
    - SaaS providers should take into account the typical customer life-cycle i.e. experienced and non-experienced users' needs differ:
        - In order to to attract the new readers the online newspapers should concentrate more on novelty and complementarities and on useful and effective content to maintain the lock-in of the existing customers

What next?

- We continue our research:
  - We continue our studies on the SaaS and the servicization of the products issues
  - We conduct empirical studies from different perspectives and in different application domain areas

- Coming up - topics of the next papers:
  - Software as a Service providers' business models
  - New challenges for the system integrators
  - Moving from product-based business to online service business
  - Offering ERP solutions as a service
  - Etc.

Thank you!

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