

NECESSARY STEPS FOR ICT SERVICE PROVIDERS EVOLUTION

Michal Mrajca, Zdeněk Brabec

Department of Telecommunication Engineering, FEE, Czech Technical University in Prague

Technická 2, 166 27 Prague 6 – Dejvice, Czech Republic

tel.: +420 224 352 100, fax: +420 233 339 810, email: mrajcmic@fel.cvut.cz

web: <http://www.comtel.cz>

Abstract

The paper introduces authors' thoughts about the development in area of providing of ICT services. Article describes steps which have to be done to make the service provision more effective and efficient. In the end of paper is described concept of transformation into "new generation service provider".

1 Introduction

For the last ten years played accelerated development in information and communication technologies a pivotal role in the change of orientation of global economics toward service based economics. The commercial environment experienced significant changes. The capitalization of physical resources changed to valorization of information and knowledge.

The ICT segment not only enabled this change but also evolved itself. Due to these changes the relationship between customer and supplier changes to:

- The growth of complexity for introduction of innovations.
- The transformation of value chain into distributed value chain.
- Enhancement of traditional organizations and their strictly defined borders into so called "enhanced organization". It describes the integration of several organizations (partners and suppliers). There evolves the ecosystem based on services.

These facts force ICT service providers to implement fundamental changes to adapt to new operation requirements and management of client expectations. Effective and flexible integration management is the key factor for success.

The innovative potential of the service based economics has completely changed the clients' expectations. They have still higher requirements which are more difficult to predict. There is a big pressure on the individualization of services.

2 Challenges of the New Generation Service Providers

The ICT service providers who want to supply new generation services have to individualize their services and to hide used technologies from eyes of customers. Unfortunately there is a vast number of technologies which has to be integrated and this fact make it difficult to supply such services. The figure 1 shows the main challenges of new generation service providers.

There exist these two basic paradoxes:

- **Invisibility of technologies vs. rapid innovation** – The innovative processes bring number of new technologies with different capabilities. The client can't face the increasing complexity of their integration. New model has to use different technologies as invisible building blocks and has to guarantee loose coupling between provided services and used technological platforms.
- **Service individualization vs. product standardization** – The ability to individualize services is the main distinctive factor. On the other hand the standardization enables the cost effective development of new products. The model of new generation service

providers needs continuous interaction with customers which helps to better understand their needs. This enables to define services and their combinations which are built from standardized components.

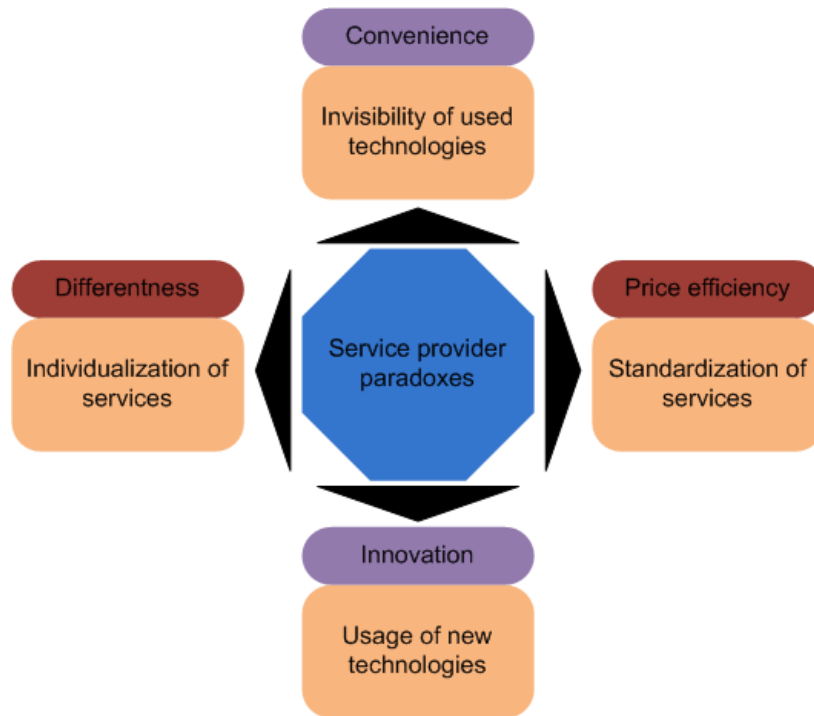


Figure 1: Paradoxes of the ICT Service Providers.

The figure 2 shows position of these paradoxes within the service provider departments: Market, Sales, Products and Production. From this point of view the Products department is the central point of the above mentioned paradoxes.

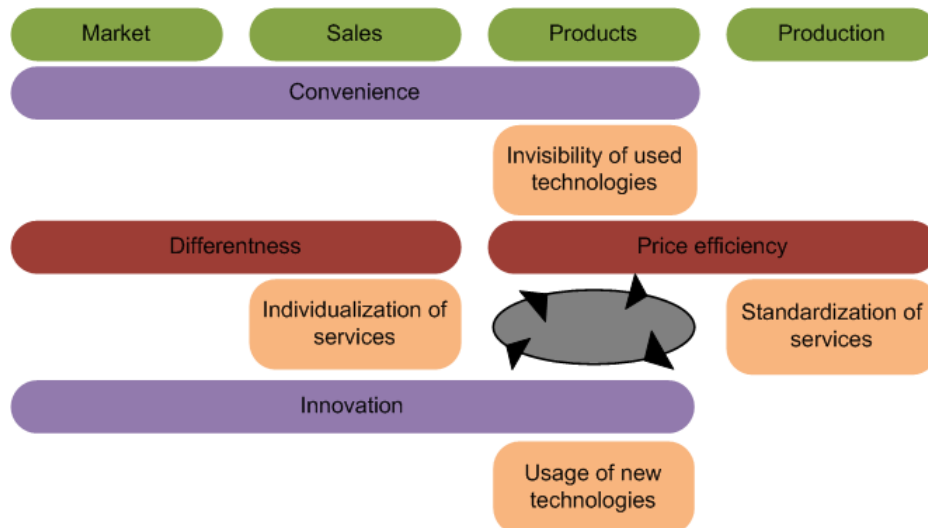


Figure 2: Service provider paradoxes within the organization.

3 Deflection of the Standard Approach

In the ICT service provider environment played key role Operation Support Systems (OSS) and Business Support Systems (BSS) to implement its business model. These systems help to automatize business processes.

The service portfolios were tightly coupled with proprietary technological silos. With development of new technologies there evolved new specialized OSS and BSS which deepened the isolation of each business processes.

Each OSS was proprietary system with own implementation, workflow and information model and was tightened with particular platform. Due to massive development of new technologies, the IT infrastructure became complex constellation of single silos – each with own order, operation, billing process. This is the reason why is the integration of technologies difficult. The technological limitations determined the development of service providers instead of supporting their decisions. This situation is illustrated on figure 3.

The technological silos make the business environment nonflexible and not able to adapt to frequent changes, innovations, market pressure and individualization of services. This model doesn't fulfill requirements claimed on new generation service providers. The required flexibility can be achieved only by freeing from used technological platforms and infrastructures. They have to be used as modular a reusable components. There approach can be achieved with usage of technologies as New Generation Networks, IP Multimedia Subsystem for network technologies and Service Oriented Architecture for IT area.

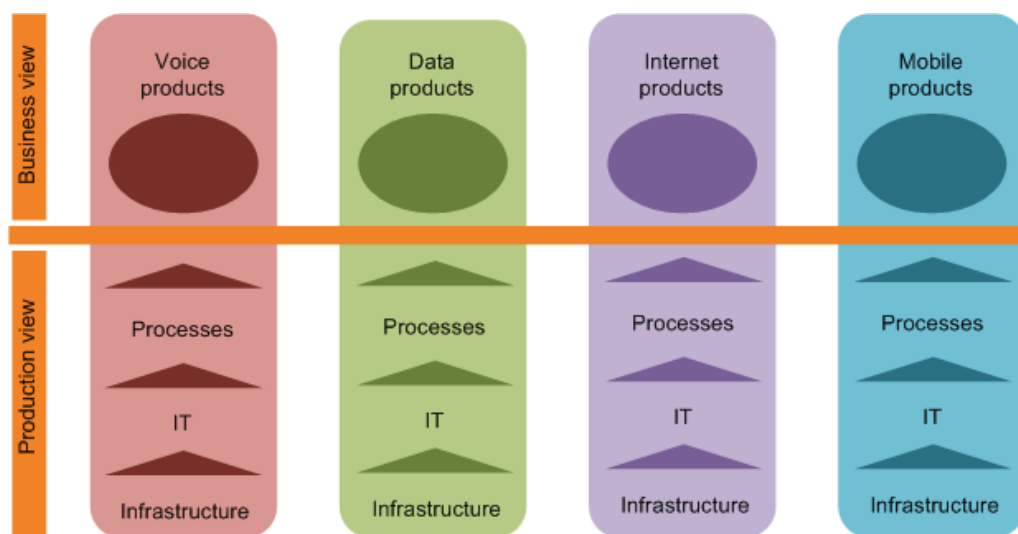


Figure 3: Technological silos.

4 Conclusion – Model of the New Generation Service Provider

Today still evolving environment requires orchestration of shared information and processes. The need of flexibility can be fulfilled with the usage of service oriented and modular approach together with usage of enhanced access to services with full integration of all layers of the organization as:

- Process and information model.
- Products and production (services and resources).
- IT and technological infrastructures.
- People and organization.

The contribution of each pillar (processes, information, applications and technological platforms) can be reorganized to new structure. It allows their integration and combination in “any-to-any” way. It is necessary to create following to be able to provide new generation services based on service oriented paradigm:

- Effective business process and support from ICT resources for meeting of the strategic goals.
- Flexibility in resources combination and adjustment in their development.
- Effective resource management.

It is necessary to achieve such architecture which is free from technological silos and where all business processes and IT infrastructures are under one data model (see figure 4).

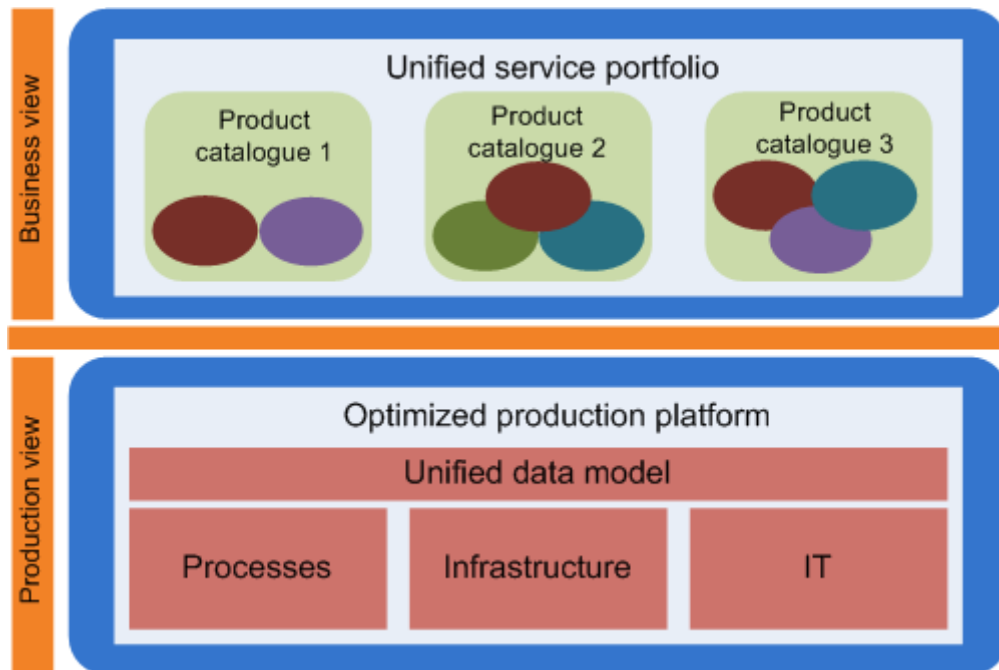


Figure 4: Optimized model of service provider.

Acknowledgement

This work has been supported by the grant 1348F1a/2009 given by the Czech Ministry of Education, Youth and Sports.

References

- [1] GARCIA, Serge, GRAMATIKOFF, Iwan, WILMES, John. *Business Transformation with TM Forum Solution Frameworks and SOA*. 1st ed., TM Forum. 2009. 130 p. ISBN: 0979428122.
- [2] ROSS, Jeanne, WEILL, Peter, ROBERTSON, David. *Enterprise Architecture as Strategy: Creating a Foundation for Business Execution*. Harvard Business Press. 2006. 234 p. ISBN: 1591398398.
- [3] TWENGE, Jean. *Generation Me: Why Today's Young Americans Are More Confident, Assertive, Entitled--and More Miserable Than Ever Before*. Free Press. 2007. 304 p. ISBN: 0743276981.