E-Government meets E-Business:
A Portal Site for Startup Companies in Switzerland

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Abstract

Networked computer technology for business purposes is no longer a domain of companies alone. The Internet has invaded private homes and is becoming a communication interface between private parties (e.g. personal E-Mail), companies (E-Commerce) and the government (E-Government). The pervasion of the "virtual world" triggers government agencies to think about their role in setting a proper social and legal framework and to offer electronic interfaces to citizens and companies alike.
The paper gives a description of the relations between E-Business and E-Government with definitions of the new terms in the E-Business arena. We describe a portal site for the organization of intellectual property rights for startup companies as a representative E-Government scenario. We conclude by summarizing our main findings and stressing the importance of E-Government for a healthy economic and socio-political environment.

1. Introduction

With the unexpected and explosive growth of the Internet, E-Commerce has become a serious issue for the private and public sector alike. Park [10] states that Electronic Commerce can be summarized in three words: paperless, timeless, borderless. The classical limitations of time and space dwindle – thanks to E-Commerce – and competition on a local and international scale is consequently being intensified. E-Commerce in combination with EDI (e.g. XML/EDI) is destined to have a tremendous impact on the competitiveness of firms and the structure of markets and industries as predicted by early E-Commerce authors [8], [2].

The Internet also serves as an interface between citizens and government, providing means for a more direct democracy [4]. The traditional communication relationship is one-to-many (government-to-citizen). The Internet provides the infrastructure for a many-to-many communication, enabling residents to give their stand on politics which is readable by peer citizens, as well as by representatives of the state.

E-Government is often referred to as "the E-Business of the state". The government has a great demand for products and services and is responsible for a large proportion of the gross national product. It is imperative for the government to use electronic media in order to save cost and make procurement processes run smoothly and more transparent. The predecessors of E-Government in public procurement were big EDI-projects e.g. as described in [7] and [6]. These expensive systems could only be used by companies. Web technology brings E-Government into the private home.

2. E-Business and E-Government

2.1. E-Business

Definition 1. E-Business is a business model and focuses on the support of processes and relationships between business partners, employees and customers by means of electronic media. The communication relationships of a company with suppliers, business partners, customers and staff members are defined in the framework of an E-Business strategy. E-Business is the electronic support of business relationships from the perspective of an enterprise (at the center of figure 1). The term E-Business is normally associated with the use of new media or Internet technology. The electronic support of

business relationships has already existed in the past (e.g. EDI, IOS, Videotex telebanking etc.). Because of its many advantages (less expensive, common standards, infrastructure, globally available, interfacing with households, etc.) Internet technology has enabled electronic communication to make the breakthrough. Most (in particular large) companies already have legacy systems which are currently integrated into the new infrastructure (bookkeeping programs, ERP, PPS, special applications e.g. of banks and insurance companies). E-Business encompasses the substrategies for E-Commerce, E-Procurement and E-Organization.

E-Business is focussed on ...

(1) **New media** ... The Internet and its protocols as an inexpensive, global carrier medium. The emerging systems are "electronic business media".

(2) **Relationships** ... The exchange of business documentation, communication and transactions between business partners and staff members.

(3) **Integration** ... The creation of (electronic) interfaces between existing systems (legacy systems) and new, internet-based E-Business applications which are directly accessible for the partners, thereby necessitating coordination of the company-internal processes (Business Process Reengineering - BPR).

(4) **Cooperation** ... The cooperation with partners which in E-Business acts as a leverage effect. Complementary goods which are offered in E-Commerce applications supplement the vendors offering to the maximum benefit of the customer. "Performance systems" emerge [1]. The (sometimes quite necessary) cooperation with competitors is also referred to as "Co-opetition".

Figure 2 shows the relations between E-Government, E-Business and related terms.

Definition 2. E-Commerce is that part of E-Business which is oriented on the arrangement and execution of legally binding business transactions. It encompasses the three transaction phases Information, Arrangement and Execution [11].
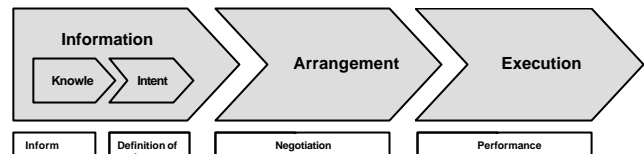

Figure 2: Transaction Phases

In this context distinction is made between the different types of relationships

- Business-to-Business
  Business relationships between companies at various levels of the value chain (e.g. LeShop <-> Post, Derendinger <-> Garages, Amazon.com <-> UPS)
- Business-to-Consumer
  Relationships between companies and end customers; end customers are companies or private households (e.g. Migros Online, Obi Baumarkt, etc.)
- Consumer-to-Consumer
  Relationships between end consumers (e.g. EBay, Classifieds2000)

E-Commerce support systems are also referred to as Customer Relationship Management (CRM) systems. CRM is the sales-oriented component of E-Business (cf. Figure 1) [9].
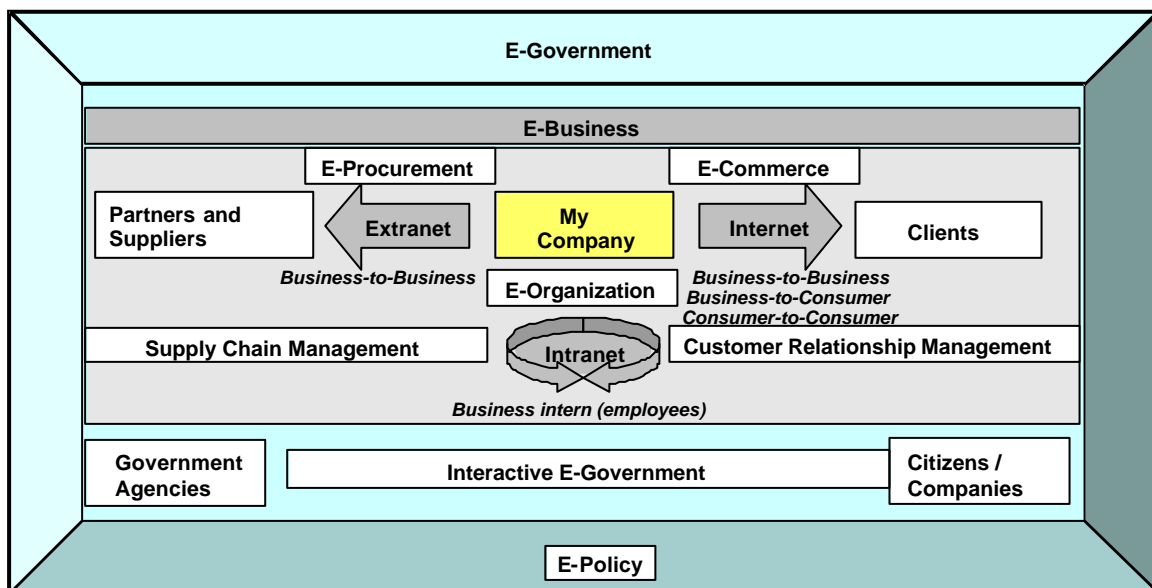

Figure 1: E-Business/E-Government

Definition 3. E-Procurement

E-Procurement is the electronic support of procurement processes (purchasing) of a company via new media. Whereas Enterprise Resource Planning (ERP) systems frequently support the procurement of direct goods, in recent times web technology-based systems which are known as Desktop Purchasing Systems are being launched on the market which support the purchasing of indirect goods. E-Procurement is organized in the scope of Supply Chain Management (SCM) which defines the procurement-oriented measures in the overall E-Business concept of a company (cf. Figure 1) [5].

Definition 4. E-Organization

E-Organization is concentrated on the electronic support of internal communication between the members of the staff of a company with the aid of the new media. The objective is to render the company data available to the employee at the right time in an appropriate form, as well as to image as much know-how and "tacit knowledge" of the staff members in information systems. This internal orientation of E-Business is supported by the use of document management systems, content management systems, groupware and the entire office automation sector. The company tasks in this category fall within the sector of knowledge management.

3. E-Government

The government is confronted by new technologies in two different ways.

(1) E-Policy

It has to define the legal framework for the use of IT in the respective country (e.g. recognition of the digital signature). Furthermore, it must award subsidies or other means of support, e.g. installation of computers in schools, financial assistance for IT startups, etc. This first task we will call E-Policy.

(2) Interactive E-Government

The second task the government has to deal with is defining its role as a market player in the virtual environment. Public information has to be made available to companies and citizens. Services can be offered over the Internet. E-Commerce can be used to support public procurement. These and related questions span the field of E-Government in its purest sense: E-Government as the governmental counterpart to E-Business – the use of IT-infrastructure for procurement, distribution of services and internal organization.

The weighting of interactive (participating) E-Government lies in the rendering of services to the outside. The objective is to render these services oriented on target group, efficiently and in a simple manner via the Internet. The concept E-Government is relatively new and has not yet been anchored in literature. Accordingly, to date there is no generally valid definition. A possible definition which embodies both E-Government aspects presented by us is provided by Bernhard [3]:

"Under the term "E-Government" all measures of public administration institutions are to be understood that have the goal of a primarily external, but also internal performance improvement with regard to the defined task or satisfaction of customer needs. The final objective is the achievement of positive business management and social effects through the optimization and simplification of business process and by means of the use of modern information technology in order to maintain the attractiveness of the operating location for companies, as well as for other elements that play a role in the economy". Whereas the first part of Bernhard's definition, the "fulfillment of customers' needs", relates principally to the part of E-Government referred to by us as "interactive E-Government", in the second part Bernhard also makes reference to increasing the attractiveness of a country as a business location, which relates to the second component, the E-Policy.

Definition 5. E-Government

Our definition of E-Government which includes both aspects – policies and the use of IT – is the following: E-Government includes the governmental task of setting a valid legal framework for the effective use of the electronic media in a society as well as the application of these media for public procurement, services to companies and citizens and the management of the internal organization. E-Government has two dimensions: (1) Endowing the economy with the necessary legal framework ("making E-Business possible") and (2) applying it cost-effectively for governmental tasks. With this definition in mind it becomes clear that a well-planned, modern E-Government strategy will be the key to a competitive economy which attracts companies in an increasingly global marketplace.

4. Starting a business in Switzerland

Let us look at an entrepreneur who wants to found a company in Switzerland. He will have to go through a complicated administrative process which includes interaction with multiple government agencies. In order to found an "Aktiengesellschaft" (a stock corporation) the company has to be registered in the "Handelsregister" (trade register). In order to protect a brand name or product name the company has to submit an application to the "Eidgenössisches Institut für Geistiges Eigentum" (the patent office). The same applies for registering a patent. In order to build up an online presence a domain name has to be registered. The Swiss country code domain can be obtained from Switch (the registration service for .ch domains). An additional .com domain has to be registered using an accredited registrar, e.g. Network Solutions, Inc. (a list of these can be found on the IANA Website). In addition, the company has to pay taxes to the tax authority, and to set up social security for its employees (AHV).

their services on the Internet, this process could be greatly simplified. All these agencies are already present on the Internet even though they do not yet offer their full range of services. Most of them are limited to supplying information to their clients. Interaction possibilities with these websites are scarce.

Due to the federated system in Switzerland concerted action between the different agencies rarely occurs. Almost every local agency is currently developing its own Internet approach. The proposed portal could be the "single point of entry" to multiple services from multiple agencies. This is what modern E-Government should look like.

5. The "immaterial property law" topic-related portal

The following considerations describe the idea of a topic-related portal that deals with the possible services and information needs that have to do with the topics "immaterial property law" and "immaterial property".

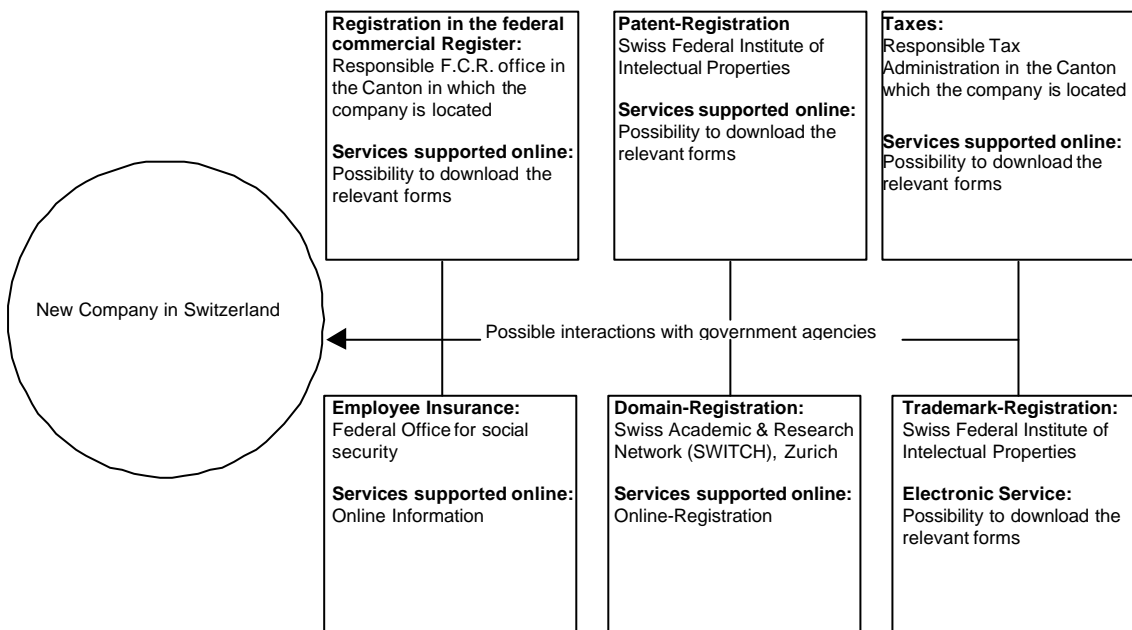Figure 3: Interactions with authorities on the founding of companies

Figure 3 shows the necessary initial contacts with government agencies.

The figure illustrates the long administrative procedure for starting up a new company. If all these agencies offered

5.1. Definition of portal

An Internet Portal is a structured website that provides a point of entry into an array of structured web contents.

The individual contents are grouped together by the portal operator and made available to interested parities. Portals are typically multi-functional and make a multiplicity of various informations and services available at a single location. The basic prerequisite for the success of a portal is the optimum makeup of the contents which is prepared according to various roles (e.g. company founder) or topic fields (e.g. taxes).

5.2. General concept of a possible topic-related portal for immaterial property law

Acting figures

The groups which are entitled to benefit in one way or another from the use of the portal are designated the acting figures. In this context they can assume various roles: vendor, purchaser, advertiser, interested party etc.

Primary acting figures

This entitled group is principally a recipient of the output of a portal. The acting figures are interested in fast and efficient attendance to their needs in the field of immaterial property law. However, the primary acting figures can also act as input suppliers. For examples, as advertisers or vendors in the individual exchanges.

Title	Description	Interests	Provider of	Uses
Trademark attorney	On mandate by third parties searches are made and trademarks registered. Advises companies in the field of trademark law.	General access to information. Quick processing of trademark registrations and searches.	Services (searches and registrations on behalf of third parties) as well as consulting services. Advertising of services.	Information (texts of laws, statutes etc.) and services (electronic trademark registrations, searches etc.) relating to immaterial property law.
Patent attorney	Searches and patent registrations are made on behalf of third parties. Consulting of companies in patent law.	General access to information. Quick processing of patent applications and searches for his/her client.	Services (searches and registrations on behalf of third parties). Advertising of services.	Information (texts of laws, statutes etc.) and services (patent applications, searches) relating to immaterial property law.
Large companies	Companies with in-house R&D departments perform searches and register patents and trademarks.	General access to information. Quick processing of searches and registrations.	Patent and trademark offerings on the patent and trademark exchanges.	Information and services relating to immaterial property law. Registration and searches of patents and trademarks. Offerings on patent and trademark exchanges.
Small and medium-sized companies	Small and medium-sized companies perform searches and registrations of patents and trademarks independently.	General access to information. Quick processing of searches and registrations.	Patent and trademark offerings on the exchanges.	Information and services relating to immaterial property law and other fields.
Universities / universities of applied sciences	In-house R&D departments conduct searches and patent registrations. Knowledge used for purposes of instruction.	General access to information. Quick processing of searches, and search for potential partners.	Patent offerings. Inventions with commercialization potential.	Information and services relating to immaterial property law. Data on potential startups that would be interested in commercialization.

Title	Description	Interests	Provider of	Uses
Startups	Companies in process of being founded	General access to information and information relative to startup in the field of immaterial property law. Fast processing of searches and registrations, search for professional partners and advisers.		Consulting services in the field of trademark and patent law, registrations and searches, mediation of professional partners (venture capital donors, design ateliers, large corporations).
Private parties / inventors	Private parties and inventors conduct searches and patent registrations.	General access to information and information relative to startup. Fast processing of searches and registrations.	Patent and trademark offerings on the exchanges.	Information and services relating to immaterial property law.

Table 1: Primary acting figures

Secondary acting figures

This group represents the expanded circle of parties interested in the topic-related portal. They are principally service and information input suppliers. Acting figures which can be categorized in related areas of immaterial property law are also represented. They also use the platform for advertising for and information on their services because it gives them an optimum medium through which to address their target group.

Title	Description	Interests	Supplies
Commercial registration office	Governmental registration office for companies in Switzerland	Simple and efficient processing of entries in the commercial register.	Information on entries in commercial register, listing of all entered companies
Switch	Registration office for domains	Simple and efficient processing. Wide dissemination of services.	Information on domain registrations, electronic registration of domains.
Federal authorities	Executive / Legislative / Judicial	Publication of information on laws and statutes	Information (laws and statutes) in the field of immaterial property law.

Title	Description	Interests	Supplies
Regions / communes	Location providers for companies and corporations	Publishing of information. Acquisition of companies and corporations for their jurisdictional territory	Information on parties with a potential interest in location, data on tax rates, business promotion etc.
Portal operators	Ensures operation and technical development, responsible for content and banner management, provision of information tools	High utilization of the portal, advertising income.	Communication tools, patent and trademark exchanges, advertising areas, user accounts, prepared content.
Venture capital donor	Provision of risk capital.	Acquisition of potential creditors, search for innovations and inventions with future earnings potential.	Information on services, advertising.
IIP	Institute for Intellectual Property. Administration of trademarks and patents.	Earning of customer loyalty. Simple and efficient processing. Distinction from European registration offices.	Services (searches and registrations) on behalf of third parties. Trademark and patent information, instruction offerings, publications.
Design ateliers	Prototype construction for others	Acquisition of potential customers	Service offering/advertising
Further acting figures BWL	Other acting figures who reach their target group via this portal	Dissemination of information. Advertising. Customer acquisition.	Services and advertising.
Further acting figures in the technical sector	Other acting figures who reach their target group via this portal	Dissemination of information. Advertising. Customer	Services and advertising.

Table 2: Secondary acting figures

5.3 Portal services

In the table below possible services are described which could be offered in the topic-related portal. Further services can be added at any time inasmuch as they fit into one of the user profiles.

Title	Provider	Type of service	Cost
Trademark search	IGE	Independent online search	Free of charge
Patent search	IGE	Independent online search with existing tools (IBM patent server, Espace-Net)	Search free of charge/download subject to charge
Order for trademark search	IGE	Online order for trademark search	Charges according to existing cost structure
Order for patent search	IGE	Online order for patent search	Charges according to existing cost structure
Trademark registration	IGE	Online trademark registration	Charges according to existing cost structure
Patent registration	IGE	Online patent registration	Charges according to existing cost structure
Commercial register search	Commercial register office	Independent online search	Free of charge
Commercial register entry	Commercial register office	Online entry in commercial register	Charges according to existing cost structure
Domain name search and registration	Switch	Independent online search and registration	Charges according to existing cost structure
Patent and trademark exchange	Portal operator	Patent and trademark "bulletin board"	Free of charge
Online forum	Portal operator	Platform for mutual direct contact of the acting figures, structured according to topic	Free of charge
Acting figure- and topic-specific platforms	Portal operator	Platform custom-tailored to suit respective customer group	Free of charge / against fee (according to acting figure)
Information given by authorities	Federal authorities, regions / communes	Information sorted by customer group on laws and statutes (specifically in the field of immaterial property law).	Free of charge
Collection of links	Portal operator	Collection of links matched to the respective customer group (edited and updated).	Free of charge
Advertising platform	Portal operator	Possibility of advertising placement according to customer segment	Subject to charge at cost rate

Table 3: Services

6. Conclusions

With this paper an attempt is being made to bring light into the jungle of the various terms and concepts in the sector of E-Business. In this context, under E-Government we understand more than just "Governmental E-Business". E-Government additionally encompasses the stately mission of providing the possibility of a sound, flourishing electronic trading environment by defining or systematically creating the legal and social framework conditions. It thereby contributes to the rendering of Switzerland as an attractive business location. The government, which with its demands and also with its offerings occupies a monopolistic position in many sectors, is subject to different rules than a company that is in competition with others on the market. This is a possible explanation of why the use of electronic media by governmental authorities has a tendency to progress slower than in private companies. To this is added the characteristic of the federalistic system in Switzerland of delegating competencies down to the lowest hierarchical level which results in a large number of small, isolated E-Business initiatives.

The example of the portal site for startup companies shows that in the governmental sector intermediaries are also able to play the role of a mediator and to generate added value by the functional and topical grouping of E-Business offerings.

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