Purchasing 2.0: An Explorative Study in the Telecom sector on the Potential of Web 2.0 in Purchasing*

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Abstract

Internet technology has had and continues to have major impact on businesses: organizations have changed the way they run their business, and there is an ongoing potential in new ways of leveraging the Internet. Web 2.0 services like Amazon.com and Wikipedia are undeniable, yet particularly present for the consumer market. The applicability of Web 2.0 services within the business-to-business area remains rather undetermined. This paper describes the Web 2.0 potential in the specific business-to-business purchasing process of telecommunication solution providers: a study is performed aiming at the determination of the potential of Web 2.0 to enhance the purchase function. Based on literature and qualitative, explorative interviews a positive view on the potential of Web 2.0 for purchasing is identified. The literature and interview results indicate that Web 2.0 has the most potential within two phases of the purchasing process in the telecom service sector: the phase of ‘determination of specifications’, and the phase of actual ‘order management’. Validation of the potential has been executed through a pluralistic walkthrough. Based on the two purchasing phases of most interest, two usage scenario’s were developed and a software prototype was built. This validation method proved its value by providing, in our case, confirmation of the potential of Web 2.0 services and principles, while placing the participants in the role of a user.

Keywords: purchasing, Web 2.0, business/it-alignment, pluralistic walkthrough.

1. Introduction

General opinion and experience is that the Internet has changed the way organizations operate. Many companies indeed have implemented e.g. e-business solutions. Procurement and sales strategies founded on Internet-based infrastructures are executed upon: new sales channels, purchasing capabilities and interorganizational integration have become manifest. Yet, the penetration of

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e-business still shows opportunities. The European e-Business Report (e-Business W@tch), a European Commission initiated research on European e-business impact and adoption, indicates that ‘basic ICT infrastructure’ has become a commodity, however ‘advanced e-business activity’ still holds competitive advantage. Especially for Small and Medium Enterprises (SMEs) e-business can still be leveraged to improve the organization’s performance (p.9).

Within the business-to-consumer market the rise of Web 2.0 as defined by O’Reilly (2005) can be noticed. The influence and rise of Web 2.0 is clearly visible in, mostly, the Business to Consumer (B2C) and Consumer to Consumer (C2C) market where companies and services as Google, YouTube, eBay, Amazon.com, Flickr and Wikipedia raised. There are indicators though that Web 2.0 could enhance business by sustaining their competitive advantage (Gilchrist, 2007).

Specifically for the telecommunication service sector the growth of products related to the Internet, like Voice over IP (VoIP) and hosted voice, indicate a growing influence of the Internet on this particular sector. Companies in this sector seem, almost by definition, technology visionary. For the purpose of showing the potential of Web 2.0 on the B2B area, we therefor choose the telecom service sector as our focus industry. In this sector, typically Original Equipment Manufacturers (OEMs) of telecom products have their products installed through resellers (telecommunication solution providers). In the telecom service supply chain, between the OEMs and resellers, distributors can add value by normalizing a suitable telecom solution for companies. In terms of Timmers’ (2001) definition of e-business models, distributors act as ‘value chain service providers’, which Timmers classifies as having a high degree of innovation.

SDC Logistics is such an innovative distributor in the supply chain of telecom services in the Netherlands, wanting to improve the support to their customers (resellers) as much as possible. SDC provides a comprehensive portfolio of products and services towards their resellers. Taking the perspective of the resellers, and specifically the collaboration in purchasing between distributor and resellers, we define the context of our explorative research as follows (figure 1):

**Figure 1.** Context of our explorative study

![Figure 1. Context of our explorative study](image)

Specifically we address the following research question:

*What is the potential of Web 2.0 to enhance the maturity of purchasing from resellers to distributor in the telecom service supply chain?*

Note that we specifically look how a distributor (as the value chain service provider) can support the purchasing process of resellers.
From a scientific viewpoint we can position this research in the domain of ‘strategic alignment’ as defined by Henderson and Venkatraman (1993). See figure 2.

**Figure 2.** Positioning of our research in the context of strategic alignment of Henderson and Venkatraman (1993), taking a telecom distributor perspective

Henderson and Venkatraman identify business/IT-alignment as the degree to which there is functional integration between the business and IT dimension, and the degree to which there is a strategic fit between the strategy and operations dimension. In our research we operationalize this by determining an operationalization of Web 2.0 principles (strategic fit perspective), and by verifying to which degree the collaborative purchasing processes are supported by suggested Web 2.0 applications (functional integration perspective).

The rest of the paper is organized as follows. We identify characteristics of both Web 2.0 and the purchasing process separately. Subsequently, we define a framework for a conceptual model in which Web 2.0 principles and services can be mapped onto the purchasing process steps. Explorative interviews with several reseller organizations provide a further operationalization of the conceptual model. The operationalized model provides potential applications of Web 2.0 for the purchasing process between resellers and distributor. The suggested potential of Web 2.0 is subsequently validated using the pluralistic walkthrough method, with participants from SDC, who act as experts on how resellers may collaborate with the distributor. We finally end this paper with conclusions and further research.

### 2. Web 2.0 principles

Although the concepts of effective and smart collaboration, self servicing, leveraging user knowledge, etc. were earlier mentioned in relation to leveraging the Internet, it was O’Reilly (2005) who first mentioned Web 2.0 explicitly by defining its scope in terms of among others these concepts.
Others have taken O'Reilly's definition further, by creating their own interpretations and operationalizations of it for their own situational context (e.g. Anderson, 2007; Knol et al., 2008; Wijaya et al., 2009).

For our purpose we stay close to the principles of O'Reilly (2005), and associate these with examples of available software (see table 1).

Table 1. Web 2.0 principles (with example applications) as used in this research

<table>
<thead>
<tr>
<th>Principle</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Software above level of a single device</td>
<td>• iTunes, Yammer, YouTube</td>
</tr>
<tr>
<td>• Harnessing collective intelligence</td>
<td>• Wikipedia</td>
</tr>
<tr>
<td>• Rich user experiences</td>
<td>• Gmail</td>
</tr>
<tr>
<td>• The Web as a platform</td>
<td>• Google Maps and Gmail</td>
</tr>
<tr>
<td>• Data is next intel inside</td>
<td>• Amazon.com, YouTube</td>
</tr>
<tr>
<td>• Lightweight programming models</td>
<td>• Google Code</td>
</tr>
<tr>
<td>• End of software release-cycle</td>
<td>• Gmail</td>
</tr>
</tbody>
</table>

3. Purchasing process and purchasing maturity

Van Weele (2005) defines the purchase function in an organization as: “The management of the company’s external resources in such a way that the supply of all goods, services, capabilities and knowledge which are necessary for running, maintaining and managing the company’s primary and support activities is secured at the most favorable conditions.” He defines the following steps (see figure 3).

Figure 3. The Purchase Process Model (van Weele, 2005)

Determining specifications. The specifications that result from this phase can be of any kind e.g. technical, functional, costs, etc. These specifications are used to select a product that meets these specifications. In the case of new (possible) suppliers these specifications can be presented to the suppliers and suppliers are asked to offer the product against conditions. When the purchaser already selected a certain product the supplier will be asked to make an offer based on the specific
product. The specifications can be based on one single product, batch sizes, project-based products where several products are required to be compatible and interoperable, etc. Based on the specifications a single supplier or several suppliers will be contacted.

Selecting supplier. A single or set of suppliers will be contacted and asked to create an offer based on the previous determined specifications. This will result in a list of possible suppliers, and there are several options to determine the best supplier. These options are outside the scope of this research and therefore will not be elaborated as we assume that the distributor is already selected.

Contracting. The selected supplier is contacted and an agreement is settled where price, delivery conditions and other related conditions are negotiated.

Ordering. The actual order can be incidental or according to agreements that are made for a longer period. In the first case the selected supplier is contacted and an order is placed and agreed. If the buyer selected a supplier for a long term agreement an agreement is negotiated and the buyer orders the goods against this long term agreement.

Expediting and evaluation. Monitoring the delivery and inspection of the delivered goods to determine damage, incompleteness of the delivery, etc. are performed in this phase.

Follow-up and evaluation. Administration of the delivered goods and internal handling of the received goods are dealt with in this phase.

Collaboration in purchasing and the usage of Web 2.0 should ideally be executed on a rather mature purchasing process. We explore the concept of maturity in purchasing by referring to van Weele et al. (1998). Their purchasing maturity model has 6 maturity stages;

1. Transactional orientation
2. Commercial orientation
3. Purchasing co-ordination
4. Internal integration
5. External integration
6. Value chain integration

The maturity stages are listed in ascending order, from lowest maturity (1) to the highest maturity level (6). Based on their descriptions a short explanation will be given for each maturity level;

Transactional orientation. The first mature stage is characterized by the lack of a purchasing strategy. The only and main goal of the function is to ensure a certain level of incoming goods to prevent provisioning problems.

Commercial orientation. Purchasing is characterized by a focus on low prices. All purchasing related activities are focused on minimizing costs.
Co-ordinated Purchasing. In this stage there is, for the first time, a kind of strategy formulated. Besides prices and costs there is acknowledgement for the importance of quality.

Internal integration; cross-functional purchasing. The purchase function is becoming more process focused. Information systems are internally integrated and the strategic importance of the purchase function is recognized. The internal integration is the key characteristics in this phase. The purchase function is involved within strategic issues and key suppliers are becoming partners and joint problem solvers. The information systems are integrated within the organization, covering other departments, functions and divisions.

External integration; supply-chain management. There is an outspoken sourcing strategy and the purchase function is concentrated on the effects from the supply chain on company resources. Information systems are present where users can place their orders, while these systems are linked with those of major suppliers. The purchase function has become more supply chain management. Information systems are integrated with, besides key supplier, partner suppliers. The purchase function is substantiated by information systems and services like digital catalogues, EDI (electronic data interchange), e-business, etc.

Value chain orientation. The purchasing strategy is end-user focused. The whole supply/value chain is optimized to deliver value for the end-customer. Information systems are linked through the whole chain substantiating an efficient and effective chain.

E.g. Batenburg and Versendaal (2008) have succesfully indicated that the steps as identified by van Weele (1998) are useful, and can be used as a strategy to increase purchasing performance. Therefore, we also use the identified maturity levels, and as Web 2.0 implies external orientation, in our research we specifically look at the transition from maturity level 4 to level 5.

Based on the characteristics as determined by van Weele et al. (1998) a comparison between level four and level five is made, the results are presented in table 2.

Table 2. Level 4 and 5 maturity characteristics derived from van Weele et al. (1998)

<table>
<thead>
<tr>
<th>Level 4: Internal integration</th>
<th>Level 5: External integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Cross-functional problem solving, reducing total system costs</td>
<td>• outspoken sourcing strategy, attention for cooperation with supply partners</td>
</tr>
<tr>
<td>• Information systems are integrated with that of other departments/functions. (but not yet with those of the most important suppliers)</td>
<td>• Information systems are not only internally integrated, but also with those of the partner suppliers.</td>
</tr>
<tr>
<td></td>
<td>• Users order through advanced computers systems to which some major suppliers have been hooked up.</td>
</tr>
</tbody>
</table>
Level 4: Internal integration

- Purchasing is involved in strategic issues like core / non-core questions and make-or-buy decisions
- Improvement actions are aimed at integrating the purchasing process over the different division

Level 5: External integration

- Purchasing works hard to make things simple for their internal customers, by using system contracting, purchasing-cards, Electronic business and catalogues and/or EDI
- Integration with other disciplines, divisions and especially suppliers is in full speed.

4. Framing and operationalization of the conceptual model

In this section the operationalization is described. Explorative interviews have served to make the operationalization. We describe the interview set-up and results subsequently.

4.1. Interview set-up

Based on the identified Web 2.0 principles and purchasing process steps we are able to identify a frame for our conceptual model (see figure 4).

**Figure 4.** Frame of the conceptual model

The data for operationalization is gathered by conducting explorative open interviews amongst resellers; a qualitative research method is chosen as the most appropriate method. Kaplan and Maxwell (2005) defined the qualitative research method as “The goal of qualitative research is understanding issues or particular situations by investigating the perspectives and behavior of the people in these situations and the context within which they act.” This definition is in line with the ideas and reasons behind our research question.

The respondents were selected in consultation with SDC. SDC preferred that they were at least a member of the Partner & Friends program, have a significant turnover and a good personal relation with SDC’s employees. To ensure reliable information and a certain level of knowledge regarding the research area the
respondents should be a member of the organization’s management team, preferably CIO or purchasing manager. In relation with the research question, the organizations were also selected in line with the definition of purchase development level four. This level is characterized by a process oriented purchase function where information systems are (not yet fully) integrated between buyer (reseller) and supplier (distributor).

In total eight resellers from SDC were interviewed according to the following three-phased set-up.

**Introduction and evaluation Purchase Process Model and Maturity Stage 4 and 5**
The Purchase Process Model (van Weele, 2005) was introduced and the respondent was asked if he could identify his own process with this model. Moreover, the maturity levels, internal integration and external integration, as determined by van Weele et al. (1998) were introduced. This was done based on the characteristics as displayed in table 2, where these characteristics were used to explain the differences between maturity level four and five. As the interviews were conducted in an open form, these characteristics were elaborated and the interpretation was left to the respondents.

**Introduction to current organizational knowledge regarding Web 2.0**
This interview phase was meant to establish a certain level of knowledge regarding Web 2.0. Its purpose was to enable the respondent to discuss the potential of Web 2.0 in the following interview phase. As Web 2.0 has become a buzzword within the business world, practical examples based on O'Reilly (2005) like Amazon.com, Google Maps and Mail, Wikipedia, etc. were presented to explain the principles behind web 2.0.

**Perceived potential of Web 2.0 to enhance the purchasing process**
This interview phase was structured around the Purchase Process Model phases. For each phase the potential of Web 2.0 was discussed aiming at the determination of added value to enhance the purchasing process phase. Web 2.0 was explained with the use of examples as presented in the previous interview step. The respondent was asked to elaborate on the added value compared to the current situation.

### 4.2. Interview results
The conceptual model served as a tool to direct and describe the interview results. In the operationalization the corresponding respondent is indicated by his number shown in parentheses (see table 3). The operationalization is described per purchasing process step.

**Determining specifications.** Within this phase the potential of Web 2.0 was recognized by all respondents. In particular the sharing of knowledge by using Web 2.0 applications like Wikipedia was acknowledged. Besides knowledge sharing Web 2.0 could improve the service by making it available at all time and from anywhere, again comparable with Wikipedia and the services provided by Google like Google Mail and Google Maps.
In relation with the maturity growth the involvement of the distributor to improve this phase was obvious, almost all respondents stressed out that the distributor has the responsibility to ensure reliable and qualitative information. The services should also be provided by the distributor and they should ensure a 24/7 availability. Table 3 lists all relevant quotes and remarks from the interviewees on this purchasing process phase.

Table 3. Web 2.0 potential in the Determining specifications phase

<table>
<thead>
<tr>
<th>WEB 2.0</th>
<th>Determining specifications</th>
<th>Maturity characteristic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Software above level of a single device</td>
<td>knowledge base that is accessible from everywhere (4) • accessible by PDA, laptop, iPhone, etc to enable anytime–anywhere availability (2)</td>
<td>Information systems are not only internally integrated, but also with those of the partner suppliers • integration with other disciplines, divisions and especially suppliers is in full speed.</td>
</tr>
<tr>
<td>Harnessing collective intelligence</td>
<td>• wiki’s could provide them with the needed information (2) • continually enhanced with knowledge and information from other TSPs (2) • provides a service with information about product combinations from several manufacturers (3) • Yammer functionalities are already used (3) • information gathered from technicians to improve their purchasing process (3) • Provide knowledge transfer (7)</td>
<td></td>
</tr>
<tr>
<td>Rich user experiences</td>
<td>• all options at all time(1)</td>
<td></td>
</tr>
<tr>
<td>The web as a platform</td>
<td>• access every time, everywhere (1) • accessible by PDA, laptop, iPhone, etc to enable anytime–anywhere availability (2) • Wiki-like service could provide a knowledge base that is accessible from everywhere (4)</td>
<td>Information systems are not only internally integrated, but also with those of the partner suppliers</td>
</tr>
<tr>
<td>Data is next intel inside</td>
<td>• purchasing statistics could be used as a trigger (5) • A Wiki could ... to global(6) • purchasing statistics to determine product combinations could be used as a trigger (7)</td>
<td>Users order through advanced computers systems to which some major suppliers have been hooked up.</td>
</tr>
</tbody>
</table>
Selecting supplier. Within the selecting supplier phase the potential of Web 2.0 was considered minimal. In general if distributors are chosen based on certain requirements, those requirements are delivery time and price. Here the selection procedure could be enhanced by providing the reseller with this information through web interfaces/services and/or coupling distributor and reseller ERPs. These two requirements were mentioned by the majority of the resellers, but they are not exclusive. All respondents emphasized that selection is mostly based on trust, gut feeling, personal experience and relationship between reseller and distributor. These factors are in general decisive, and delivery time and availability are secondary factors.

Contracting. The contracting phase was not recognized as an actual phase within each purchasing process. Within the researched area the resellers often have contracts with suppliers, based on turnover and growth in turnover. Despite the lack of recognition there is a moment, or action, where contracting is present. This moment is where the purchaser orders the selected goods and thus agrees with the terms and prices as provided by the distributor. Here Web 2.0 could improve the service by offering a realtime, up-to-date and continuous availability of information regarding costs and pricing.

Ordering. Within the ordering phase the potential of Web 2.0 was clearly recognized. Especially the coupling of information systems between reseller and distributor was mentioned as useful. This is in line with the coupling of information systems as in the “determining specifications” phase. Although in that phase (determining specifications) the coupling of information systems is aimed at sharing product information and knowledge, in the ordering phase it should enable the reseller to place an order and retrieve the order status at any moment. Here, as mentioned before, a part of the contracting phase is present. When placing an order and submitting it a reseller agrees with the delivery terms and price specifications. Here techniques like Amazon.com uses to provide product combinations and suggestions based on users purchasing statistics where found to be useful as a trigger. The main difference here is that, in common, resellers order at project level. As project configurations differ from each other and each project has its own characteristics and dependencies, purchase statistics cannot easily be used to provide a direct solution, however, they could be useful to act as a trigger to review the order and check why “the others did order that

<table>
<thead>
<tr>
<th>WEB 2.0</th>
<th>Determining specifications</th>
<th>Maturity characteristic</th>
</tr>
</thead>
</table>
| Lightweight programming models | • accessible by PDA, laptop, iPhone, etc to enable anytime-anywhere availability (2)  
• information is fast and easy accessible (3)  
• coupling of the systems provides an advantage (4)  
• linked to the distributor’s ERP to provide realtime product information (7) | • Purchasing works hard to make things simple for their internal customers, by using system contracting, purchasing-cards, Electronic business and catalogues and/or EDI |
| End of software release-cycle | • access every time, everywhere (1) | |
suggestion/combination and I didn’t”. This service should be monitored carefully by the distributor so that suggestions and combinations are reliable. This was stressed out by several respondents, they wanted to have the certainty that the provided suggestions and combinations were valid. This should prevent that purchasing statistics produce a product combination that is incompatible and causes malfunction. Table 4 lists the remarks and comments.

Table 4. Web 2.0 potential in the Ordering phase

<table>
<thead>
<tr>
<th>WEB 2.0</th>
<th>Ordering</th>
<th>Maturity characteristic</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Software above level of a single device</strong></td>
<td>accessible by PDA, laptop, iPhone, etc to enable anytime- anywhere availability (2) • when ad-hoc purchasing occurs (6)</td>
<td>• Information systems are not only internally integrated, but also with those of the partner suppliers</td>
</tr>
<tr>
<td><strong>Harnessing collective intelligence</strong></td>
<td>• consensus of the users based on purchasing behavior (2) • Statistical analysis ... could be used as a trigger to reexamine the offer (6)</td>
<td>• Users order through advanced computers systems to which some major suppliers have been hooked up.</td>
</tr>
<tr>
<td><strong>Rich user experiences</strong></td>
<td>• accessible by PDA, laptop, iPhone, etc to enable anytime- anywhere availability (2) • when ad-hoc purchasing occurs (6)</td>
<td></td>
</tr>
<tr>
<td><strong>The web as a platform</strong></td>
<td>• Information systems are not only internally integrated, but also with those of the partner suppliers</td>
<td></td>
</tr>
<tr>
<td><strong>Data is next intel inside</strong></td>
<td>analyze purchase orders of buyers on consistency and compatibility (1) • the purchasing statistics could be used as a source (7)</td>
<td>Users order through advanced computers systems to which some major suppliers have been hooked up.</td>
</tr>
<tr>
<td><strong>Lightweight programming models</strong></td>
<td>EDI’s (1) • coupling of their own system with their suppliers (3) • coupling of the systems provides an advantage (4) • Here the coupling ... and availability of data (8)</td>
<td>Purchasing works hard to make things simple for their internal customers, by using system contracting, purchasing-cards, Electronic business and catalogues and/or EDI</td>
</tr>
<tr>
<td><strong>End of software release-cycle</strong></td>
<td>ad-hoc en 24/7 ordering functionalities (2)</td>
<td></td>
</tr>
</tbody>
</table>

Expediting and Evaluation. The last two purchasing process phases are combined for analysis. The expediting is a particular operational phase where goods are received, checked and further handled. These actions are all performed within the organization and only affect internal administration. Only when situations, like receiving damaged goods, occur, contact with the distributor is needed by phone or email to ensure a quick reaction and solution. Web 2.0 was not considered
useful for this. Although it seemed logical that services like instant messengers could be helpful, they were not mentioned. The last phase where evaluation of the distributor takes place is done based on experience and relationship between reseller and distributor. None of the respondents base their evaluation on statistics; problems are solved in an ad-hoc manner and if necessary the distributor is contacted directly to consult the problem and accommodate a solution.

**Conclusion.** We analyzed and categorized the interview data in terms of Web 2.0 as defined in chapter two. From this analysis it became clear that Web 2.0 has the most potential within the ‘determining specifications’ and ‘ordering’ phase. Web 2.0 could contribute by enabling knowledge sharing and transfer, coupling of information systems and thus integrating the distributor in business processes. This contribution is in line with the characteristics of purchase maturity levels as defined by van Weele et al. (1998). These findings could be established by using Web 2.0 examples like Wikipedia, Google, Amazon.com, etc. Within the tables presented in this section quotes from the interviews where literally categorized against the Web 2.0 principles. In some cases quotes can be categorized against multiple Web 2.0 principles, this is a consequence as the principles have some overlap and are closely related to each other. Based on the two phases (determining specifications and ordering) a prototype and two scenarios will be developed to validate the results.

### 5. Validation by pluralistic walkthrough

Pluralistic walkthrough (Bias, 1991; Nielsen, 1993) was chosen as the technique to validate the correctness and usefulness of the found Web 2.0 services in the purchasing process. Bias (1991) identified pluralistic walkthrough to determine the usability of software before it is developed. As we wanted to make the identified Web 2.0 services as tangible as possible for our validation participants, we judged the walkthrough, that uses mock-up screens and scenario’s to lead users through a workflow, an appropriate validation method. We defined two walkthrough scenario’s, based on the two purchasing process phases that were considered as most beneficial for Web 2.0 services, as explained in the previous section. We included tangible Web 2.0 applications (services) that could be identified from the explorative interviews, in combination with the example Web 2.0 applications from table 1.

Seven experts confirmed to take part in the walkthrough: all employees from SDC (so the distributor organization). Three persons from the board (walkthrough session group 1), and four other (account) managers (walkthrough session group 2) that had insight in and good contact with the customers (the reseller organizations).

For the walkthrough mock-up screens were developed. During each of the walkthrough sessions the full scenarios were completed, and provided feedback through mutual discussing and thinking aloud, and answering repeatedly the questions: 1) What would you do in this screen, 2) why would you do that, and 3) what do you expect to happen next? (For more details on how to perform usability and pluralistic walkthroughs we refer to Bias (1991) and Nielsen (1993)).
For space limitation we only discuss the scenario on ‘determining specifications’.

5.1. Scenario 1, Determining specifications
In this scenario the participants were asked to play the role of a user and look for some general information regarding Swyx products. The trigger for this scenario is the situation where a customer (SME/end-user) contacts a reseller with a request for a software based telecommunication solution. The reseller is familiar with Swyx, a software based telephony system, but needs some more information regarding this product. The current situation is that the reseller contacts the distributor by telephone or mail or the reseller searches for a user manual. In our scenario the users used Web 2.0 applications to perform their activities. The Web 2.0 services that were used in this scenario, to determine the potential of Web 2.0, were;

- Wiki; the Wiki represents the gathering of user knowledge and information with a service that is web-based and accessible from multiple devices.

- Youtube; providing a service where the users can substantiate their findings with the option of video. This service was extended with videos from suppliers and OEMs.

- Yammer; Yammer provides an instant messenger service, document sharing functionality and discussion groups. This service is organizational oriented: the distributor takes the role of administrator and grants certain rights to users.

- Blog; this service provides the opportunity to share knowledge towards a large number of users. The Blog can be publicly available or only for registered users. Other users, who have access to the Blog, can write comments providing feedback and information. Once a Blog is written other users can not change the Blog, unlike a Wiki.

For a comprehension of the flow of this scenario, figure 5 shows the flow of screens.
5.2. Analysis Scenario 1
The comments made by the participants while performing the walkthrough scenario were in line with the research results, though there were nuances. The major comments are listed below, and normalized towards the different Web 2.0 services/applications (see table 5).

Table 5. Web 2.0 potential in the Ordering phase

<table>
<thead>
<tr>
<th>Web 2.0 service</th>
<th>Comments</th>
</tr>
</thead>
</table>
| • Blog          | • Personal view, could be (too) subjective  
|                 | • Usability and reliability could be improved when distributor grants users to write  
|                 | • Chance to find needed information is small, need to have the luck that a person wrote a blog regarding the subject |
• Wiki
  • Information based on personal experience, could be “colored”
  • Identity source should be known to improve reliability
  • Ensure independent information (manufacturer should not be involved)
  • Distributor should remain not responsible as information is user contributed
  • Risk of user “shouting” and create negative image
  • Provided information could substantiate service
  • 24/7 availability and accessibility to the service

• Youtube
  • More reliable than Wiki
  • Easy to embed and add content
  • Easy to reuse
  • Can be used for technical, commercial, general information
  • Practical
  • Obvious/clear

• Yammer
  • Creates expectations regarding reaction time
  • No added value in comparison to telephone/email
  • Possibility to manage user’s permissions and restrictions contributes to reliability and quality of the service. This should be monitored by the distributor
  • More reliable than wiki, identity of source is more obvious
  • Added value when usable via PDA/iPhone etc.
  • Perceived value based on experience

To determine the potential of Web 2.0 the participants were asked if the Web 2.0 features had an added value compared to the traditional way. This added value was acknowledged, information was found to be accessed easier, and usability and reliability could further be improved by involvement of the distributor.

We conclude that with this scenario the potential of Web 2.0 was identified within the ‘determining specifications phase’. Web 2.0 services (Blog, Wiki, Youtube and Yammer) and consequently principles (‘Software above level of a single device’, ‘Harnessing collective intelligence’ and ‘Data is next Intel inside’) can enhance the purchase maturity (see also table 1).

The second walkthrough confirmed the above found suitable Web 2.0 services and principles; no additional principles and services were validated.

6. Conclusions

This research identified the potential of Web 2.0 to enhance the purchasing process of telecom solution providers. Our research confirms the indication in the European e-Business Report (e-Business W@tch, 2008) that SMEs can still leverage e-business through, in our approach, identifying Web 2.0 services.

In this paper we have also elaborated and instantiated Henderson en Vankatraman’s (1993) Strategic Alignment model by creating an operationalization of Web 2.0 principles in the purchasing process of telecom solution providers. We
have identified Web 2.0 services from Web 2.0 collaboration strategy (implementing ‘strategic fit’), and we have an implementation of ‘functional integration’ by validating the usefulness of our identified Web 2.0 services with the purchasing process of telecom solution providers. The research also confirms the innovativeness of the telecom distributor being a ‘value chain service provider’, as identified by Timmers (2001): the distributor validated the value of Web 2.0 services.

Specifically the purchasing process phases ‘determine specifications’, and ‘ordering’ were found (and validated) to be suitable for Web 2.0 services. Blogs, Wikis, Yammer and Youtube were validated useful, implying that at least ‘Software above level of a single device’, ‘Harnessing collective intelligence’ and ‘Data is next Intel inside’ are explicit suitable Web 2.0 principles. With the interrelation between individual Web 2.0 principles and with the results of the explorative interviews the other four principles as identified by O’Reilly may in addition further support the purchasing process.

These research results should, nevertheless, be retained within the researched area. This area, the inter-organizational boundaries within the telecommunication solution providers sector, is driven by strong customer intimate focused business strategies. This could be of influence regarding the potential of Web 2.0 as the maturity growth is aimed at intensifying the relationship between and involvement of the distributor in their reseller’s business processes.

In general, limitations of our research lie in the fact that more cases can be applied in the telecom solution providing sector. Also other industries could be explored: especially those indistries that seem to be quite mature in their purchasing processes (e.g. Electronics and Automotive).

We conclude by stating that pluralistic walkthroughs are a convenient means for validating innovative ideas and concepts.

References


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