THE ORGANIZING VISION OF MOBILE BUSINESS INTELLIGENCE

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Abstract

Due to the new generation of mobile devices such as smartphones and tablets, users are no longer constrained to their traditional devices such as PCs and laptops in order to access the information they need. This has given rise to a new trend in Business Intelligence (BI) coined mobile BI. This new term reflects an organizing vision, created by a broad community, which is prominent during the comprehension process of this innovation. We examine the mobile BI organizing vision created in terms of interpretation and legitimation. Analyses of published material, e.g. trade press and white papers, and semi-structured interviews were conducted in order to describe the community members’ discourse. The study shows that the discourse has evolved from the emergence to the growth period, where the organizing vision is maturing and mobile BI is found to be in the ascendant phase of its career path. Self-service, power and control, and collaboration are some attributes, which shape the vision of mobile BI. Additionally, any time any place decision making, reduction of decision time especially in critical situation like emergencies, better customer service are benefits expected to be generated from mobile BI usage.

Keywords: Mobile Business Intelligence, Organizing Vision, Innovation
1 Introduction

Imagine: it is early morning and Mr. Brown has just arrived at the airport for another business trip. He gets his morning coffee and switches on his tablet. He logs on to the business intelligence (BI) application and quickly gets an overview of the performance of the organization he is working for (Figure 1). Mr. Brown is the CEO of Alpha company, which produces and sells clothes all over the world. He observes that the sales in Australia are dropping so he promptly sends an email to the responsible manager saying that the manager has to get back to him to discuss the reasons behind the figures and the drop.

![Figure 1. Mobile BI on tablet (Qlikview, 2012)](image1) ![Figure 2. Mobile BI on smartphone (Roambi, 2012)](image2)

Joe is the salesperson in an electronic company, Beta. He starts his working day by attending a meeting with one of his clients to discuss the company’s products. The client was interested in purchasing some radios. Being unsure about the inventory status of the radios, Joe switches on his smartphone and checks in the BI application, after some drill-downs, the stock and the possible price of the actual product (Figure 2). Joe logs out of the BI application and the discussion continues by finalizing the agreement on the purchasing terms.

The two scenarios above illustrate two use cases of mobile BI. Mobile BI has emerged recently as a sub-field of BI, in response to new business needs in terms of updated, real time information anywhere at any time. Mobile BI enables the mobile workforce to attain knowledge by providing access to information assets anytime anywhere. Along these lines mobile BI users are encouraged to take decisions ‘on the move’.

Traditional BI delivers the BI solutions via web-portals or desktop applications, which requires users to have access to their PCs or laptops connected to the organization network. Mobile BI introduces a new way of delivering through the new generation of mobile devices. The mobile industry is experiencing a tremendous growth and a new employee-driven IT revolution is taking place within companies because of the emergence of powerful consumer technologies (Harris et al., 2012). Considering the fast development, mobile device categories are in continuous convergence and overlapping with each other. In terms of mobile workforce support, mobile BI involves mobile devices by which the users can have instant and faster access to the network anytime anywhere via, e.g., smartphones and tablets. Some industry surveys have revealed an increase in the use of these mobile devices for business purposes. It is predicted that by 2014, about 80% of businesses will support a workforce using tablets (Gartner, 2011). Furthermore, the CIO Insight survey showed that 46% of the companies have deployed smartphones as mobile clients and 31% of the companies have their tablets in testing phase (Currier, 2011).

O’Donnell et al. (2012) found that senior executives have already started to implement mobile BI in their companies for a variety of operational purposes. Developing BI on mobile devices is one of the main topics of concern among practitioners.
Information systems (IS) innovations are in general accompanied by “buzzwords”, which become the subject of the discourse of a broad community (Gorgeon and Swanson, 2011). These buzzwords play an important role in creating the organizing vision of an innovation (Swanson and Ramiller, 1997). The organizing vision is very important in understanding how IS innovations are diffused and adopted. It also serves the comprehension process (Swanson and Ramiller, 2004) in terms of its interpretation, potential benefits, strategies and capabilities. Based on the knowledge gained through this process the organizations position themselves as adopters or non-adopters of the specific innovation (Ramiller and Swanson, 2003).

Due to the novelty of mobile BI as a new innovation, very little academic research has been conducted. In this paper we study mobile BI, as a fairly new concept, which is now part of a community discussion where different members like analysts, vendors, journalists, early adopters and consultants are involved. In order to get a deeper understanding about the nature and trends over time, the research question we address is: How is the mobile BI concept envisioned in terms of its interpretation and potential benefits? Given this, we conceptualize mobile BI as an organizing vision with a career (Swanson and Ramiller, 1997) and analyse the community members’ discourse in creating this organizing vision.

The remainder of the paper is organized as follows. A short description of the organizing vision theory, which is adopted throughout the study, is given. Section 3 presents the research approach, followed by the structure of the mobile BI discourse and the formed organizing vision. Conclusions and future research are presented in the final section.

2 Organizing Vision Theory

When a new technology is introduced there are a lot of uncertainties in terms of, for example, likely benefits, likely usability in different contexts, likely use pattern, and in general the potential future for the innovation. The adoption process of a new innovation in an organization starts with comprehension where organizations make efforts to make sense of the new innovation. Based on the knowledge gained during this process, they position themselves as adopters or non-adopters (Swanson and Ramiller, 2004). The comprehension process is tightly related to the organizing vision, which is a “focal community idea for the application of information technology in organizations” (Swanson and Ramiller, 1997 p.460) and influences the potential adopters’ decision making process. The community which consists of vendors, consultants, journalists, academic researchers, early adopters, certain practitioners and executive groups interact in a public discourse which in turn shapes the organizing vision. Each organizing vision is identified by a name by which the community members refer to it and it includes metaphors, scenarios, stories, problems and issues (Swanson and Ramiller, 1997). In order to exploit a new technology, the organizing vision provides interpretation, legitimation and mobilization. Interpretation clarifies the existence and purpose of the technology in order to reduce its uncertainty. Legitimation links the innovation to its benefits and business processes. In mobilization different market forces are coordinated to provide the needed resources for support of adoption and fusion of the innovation.

Vendors and consultants contribute by introducing new concepts, terms, assistance and support in order to position their products and services and to create ‘hot’ organizing visions, which consequently will attract more attention. On the other hand, the journalists try to interpret the future of the innovation and usually they are the most active members of the community. The early adopters reveal their stories and their experiences with the new technology (innovation). The discourse is really important and the contribution of each party fills a role in the creation of the organizing vision. (Swanson and Ramiller, 1997).

An organizing vision has a career, which can be ascendant or descendant, being strongly linked to the level of its discourse (Ramiller and Swanson, 2003). The more attention an organizing vision gets from its community members the more visible it becomes. Its importance will drive it towards the
ascendance career path, which in turn results in adoption. On the other hand, when the community interest of the organizing vision decreases, it becomes less visible and unimportant. Therefore it enters the descendant phase where the discourse around it fades away.

In this study, mobile BI is the name that identifies the organizing vision of this innovation. In order to understand it, we will identify its community members and analyze the discourse being conducted within this community. The analyses will be based on the two main functions of the organizing vision: its interpretation and legitimation. Mobilization will not be addressed here, because we believe that the way different market forces are coordinated in order to provide skills, clues, guidelines, consulting, training, conferences, expositions, journal and trade press publishing (Swanson and Ramiller, 1997) for supporting adoption and fusion is similar for all IS innovations.

3 Research Approach

To understand the organizing vision of mobile BI by different community members and to map its career the method involves a business literature research of published articles (Ramiller and Swanson, 2003, Schultze, 2007) and interviews with main players in the mobile BI industry. The analyses of the industry articles have complemented the knowledge we got from the interviews and thus a wide-ranging view of the subject is generated.

In terms of publication analyses, the searches have been concentrated to two main business literature databases: ABI/Inform’s Global and the Business Source Complete. The keyword used during the search was “mobile business intelligence”, the name, which identifies the organizing vision (Swanson and Ramiller, 1997). ABI/Inform’s Global yielded 43 articles whereas Business Source Complete 20 articles. Most of the practitioners’ publications that were included were trade press, magazines, product reviews. Additionally, a search on the key mobile BI vendors’ websites produced 5 white papers. Of 68 articles from the databases and white papers only 45 articles were further analysed. The excluded articles were omitted because of: 1) duplicates in the databases, 2) referring only to BI, or 3) referring only to mobile applications in general. Articles in scholarly journals were removed as they were very few—mostly referring to mobile BI from an application technical point of view—and we found that it is the practitioners’ discourse that drives the mobile BI publication and its organizing vision.

In addition to the publication analyses, other empirical data were collected through seven interviews with representatives from mobile BI vendor companies and a consultant (see Table 1). These companies were selected as they are main players in the mobile BI industry. The interviewees at the mobile BI vendor companies are persons with adequate knowledge of the area, and the consultant has been working with Mobile BI in different companies for two years.

<table>
<thead>
<tr>
<th>Nr.</th>
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<th>Location</th>
</tr>
</thead>
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<td>San Francisco, US</td>
</tr>
<tr>
<td>2</td>
<td>Qliktech</td>
<td>Product Manager</td>
<td>Lund, Sweden</td>
</tr>
<tr>
<td>3</td>
<td>QNH</td>
<td>Mobile BI Consultant</td>
<td>Amsterdam, Netherlands</td>
</tr>
<tr>
<td>4</td>
<td>Smart eVision</td>
<td>Vice President</td>
<td>Naperville, IL, US</td>
</tr>
<tr>
<td>5</td>
<td>Tableau</td>
<td>Product Management Director</td>
<td>Seattle, WA, US</td>
</tr>
<tr>
<td>6</td>
<td>Transpara</td>
<td>Vice President/Founder</td>
<td>Pleasanton, CA, US</td>
</tr>
<tr>
<td>7</td>
<td>Yellowfin</td>
<td>Strategic Alliances and Technical Account Manager</td>
<td>Melbourne, Australia</td>
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</tbody>
</table>

Table 1. List of interviewees.
The participants were contacted via e-mail. Due to their different locations most of the interviews have been conducted via Skype. The interviews lasted for approximately one hour each. Interviewees’ experiences, perceptions and ideas on mobile BI were the main topics in the used interview guide. Semi-structured interviews were chosen because it made it possible to add or ask the questions in different ordering as the interviews unfolds. The interviews were recorded with the consent of the interviewees. They were transcribed and e-mailed back to the participants for comments or feedback. Once confirmation was obtained, the transcripts were ready to be analysed.

The articles and interviews are analysed based on how mobile BI is interpreted and envisioned by the different community members in attempt to create the organizing vision. The analysis technique used is content analysis, where all the articles and interview transcripts have been read, being attentive to the metaphors, stories, and keywords used to get a rich picture of the discourse in the practitioner community. Following Miles and Huberman (1994), the content was organized into chunks of words, sentences or paragraphs with the same meaning. Based on the meaning, chunks of information representing the same theme were labeled and coded. For example: ‘mobile BI interpretation’, ‘mobile BI versus traditional BI’, ‘benefits of Mobile BI’, ‘future of mobile BI’ are instances of codes. Additionally, during the revision process of the codes (Miles and Huberman, 1994), some sub-codes emerged such as self-service, coordination, power and control.

4 Structure of mobile BI discourse

The publication curve shows that the community started to discuss mobile BI in early 2001 (Figure 3). After 2009 we see an increase in the number of published articles. Analysing the authors of different practitioner literature we identified five different groups--vendors, consultants, early adopters, analysts and journalists--who are active in the mobile BI discourse. Based on Figure 3 and the three stages of innovation evolution discussed by Klepper (1997), the discourse can be divided into two main periods: the emergence period from 2001 to 2009 and the growth period during and after 2010. In terms of number of articles, 27% of the articles correspond to the emergence period, whereas the growth period includes 73% of them. The curve suggests that mobile BI is in the ascendancy stage of its career cycle.

4.1 Emergence Period (2001-2009)

The most active community members in the emergence period are the journalists who are writing about different smartphone mobile BI products. Important are also early adopters’ success stories. For instance, one early adopter, Lesco company, describes its mobile BI experience: ‘[mobile BI] provides its senior management with easy access to information on the road...able to track the company’s daily, and even hourly, performance against budget and against the previous year’s performance’ (Stewart, 2004). In this period most of the discussion is around smartphones and their BI capabilities. Decision making independently of time and place is the main ‘why’ this innovation is important.
However, the form factors of the mobile BI devices such as smartphones’ limited size are highlighted and discussed in many articles: ‘If you want to analyze data and get results, the small screens aren’t very good’ (Babcock, 2005).

The release of the tablets by 2010 seems to have overcome the big problem of smartphones’ small screens. The tablets deliver more BI opportunities and the launch triggered a more intensive discussion (see Figure 3). ‘So, this really started when the iPad came out and customers started using their iPad as their primary device.’ (Interviewee, Tableau) and also, one of the analysts, Sood (2012) considers the tablet as the ‘ideal BI consumption device’. Therefore, the introduction of this new technology, the tablets, caused an abrupt growth in the community discussion about mobile BI after 2009.

4.2 Growth Period (2010 – on going)

In the growth period every community member—vendors, consultants, early adopters, analysts and journalists—contribute in interpreting, legitimizing and mobilizing mobile BI.

In the vendors’ perspective the prominence of mobile BI is highlighted. Business opportunities in the market due to technology advancements are perceived as the main reason in encompassing mobile BI in their overall strategy. ‘It is actually, no longer mobile BI versus other strategies, mobile is part of the overall delivery.’ (Interviewee, Tableau). The vendors saw a customer demand for supplying mobile users—those equipped with mobile devices—with the capabilities to access information whenever they need it. Nearly all the vendors said that mobile BI is going to advance as more and more capabilities are ‘going’ mobile and they need to take advantage in order to secure the long-term profitability for their own companies. Some vendor interviewees go even further and discuss that in the long run, because of all the technology advancements, there will not be mobile BI and traditional BI but instead: ‘This [mobile BI] is going to become the standard. This is going to become BI in a sense’ (Interviewee, YellowFin). In terms of authoring, the vendors predict that mobile BI will get first priority, implying that applications will be designed for mobiles first followed by desktop applications.

Consultants usually follow the vendors in order to align their services with the products, but they seem to be less active in this discourse. However, some of them provide some guidelines and issues to be considered for organizations intending to implement mobile BI.

The analysts are shedding light on the importance of mobile BI by accentuating the capabilities of this innovation together with its promising benefits and impacts. They contribute to the discussion by performing market studies, either on the vendor or consumer side. Based on the results they make predictions about the future of mobile BI. Additionally, they provide guidelines and suggestions on ‘best practice’ implementation and adoption of mobile BI in organizations. Most of the analysts have provided the results of their surveys where mobile BI is considered critically important (DAS, 2011) and they predict a significant growth in the future.

The journalists encourage this new innovation and in many of their articles representatives from early adopters are cited as illustrations. Excitement, enthusiasm and optimism best describe the experience of the early adopters. In general, the idea that this product will have a prominent future is conveyed. Successful use cases of this innovation are presented and they comprise a wide range of applications such as: financial distributors, banks, hospitals, clothing and fashion stores (Briggs, 2011), retail stores (Amato-McCoy, 2012), insurance companies (Golia, 2011), non-profit organization, airports and truckload companies (Watson and Leonard, 2011).

In this period early adopters are telling about their experiences and in most cases also indicating their plans for mobile BI expansion.
5 The organizing vision of mobile BI

In this section we discuss how the community members interpret and legitimize mobile BI and shape the organizing mobile BI vision.

5.1 Interpretation

All the community members say that mobile BI enables ‘decisions on the go’. Mobile users are carrying the mobile devices with them and can access the needed information anytime anywhere in order to solve specific tasks or problems. According to Carlsson and Tona (2012) we argue that mobile BI has great potential to emerge with its users and tasks leading to the creation of an emergent entity where it will be hard to distinguish it from its users, work and processes.

In terms of devices PC/laptops have larger screens than smartphones and tablets. This affects the way information is consumed and how the users interact (Pitt et al., 2011). There exists a difference in how information is presented in traditional BI and mobile BI. As long as the users have access to their PCs and laptops they can view and work with dashboards, basically showing company’s main key performance indicators (KPI). Additionally, users can access nearly all the necessary reports and perform different analyses varying from simple analyses to very complex ones. Even mobile BI users have access to main dashboards, but they have to be restrained, for example, to a limited number of reports and only quite simple analyses can be done. Main causes of the differences are the form factors of the mobile devices for example, smaller screens, electronic keyboards and reduced processing power (Mayer and Weitzel, 2012) and the mobility which limit the user to spend too much time working with the application while ‘on the road’.

Moreover, authoring and consumption of the information are two perspectives, which make a difference between traditional BI and mobile BI. The majority of our interviewees discussed that most of the authoring still happens in the traditional way via the PC, not in the mobile environment: ‘So, today, authoring for example, starting a brand new visualization, we don't do that on the web, so we don't do that on the mobile either. That's something that still requires a desktop product to do.’ (Interviewee, Tableau). This relates to what Gebauer and Shaw (2004) have discussed in their research where mobile technologies have been widely applied in consumer-oriented areas. Therefore, there is an orientation of mobile BI towards the consumers of the information, rather than those who create it.

Gebauer and Shaw (2004) found that the main aim of using applications on the mobile devices is for notifications, alerts and system access. Alerting and notifications are considered important in supporting emergency situation, where time is critical. An example provided by one of our interviewees support the argument of how mobile BI by means of its alerting function can be used to address an emergency.

‘So, for example, in a bio tech company in San Francisco, somebody got an alert on their phone and was able to see the data that one of the batches of the drug was going bad; the temperature has dropped below or something went wrong and they were home as it was weekend or something; they were able to rush in and save the batch and it was around a 500,000 dollars batch. So, one instance... software pays for 10 times over at least and I will say most of our customers do that.’ (Interviewee, Transpara)

This case is consistent with the findings of Yuan et al. (2010) and Gebauer and Shaw (2004) where the use of notifications in real time is correlated to the need for handling emergency situations. For this bio-tech company time is critical and alerting on time empowers the users by giving them access to the essential information at the right time. The users had the necessary ‘weapons’ to take decision about fixing the batch, although they were not in the office; a fast decision which resulted in reduction of decision cost (Holsapple and Sena, 2005).
The importance of being alerted depends upon the type of the organization. The bio-tech company discussed above is an operational company where the data must be up to date 24/7, known as mission critical data. On the other hand there are some financial companies where in most cases you have to wait till the end of the month to make sense out of the data and alerting significance fades away: ‘Financial thinks in months periods, book-keeping periods. Everything that happens in between is like in a time vacuum. Just…not happening until the end of the month. So, you can get real time financial information but it tells you nothing.’ (Interviewee, Consultant).

However, alerting can be two-fold. The alerts, provided by mobile BI, might affect decision-makers’ attention focus. “What information consumes is rather obvious: it consumes the attention of its recipients.” (Simon, 1997). Hence, the use of a mobile BI can affect the attention of decision-makers. Besides the benefits described above, sometimes, the alerts can be interruptive and have a negative impact on the decision-makers focus. For instance, if he is working in an important task and receives an alert, his focus will shift. He will deal with this alert and eventually that will consume some time before he continues with his previous task, although the former might be more important than the latter for which he has been notified. Based on the attention-based view of the firm (Ocasio, 1997), special attention shall be directed on the alerting feature of mobile BI in order to focus and distribute the attention of decision-makers in directions that are “congruent” with the organization’s strengths, weaknesses, opportunities and threats (Carlsson, 2008).

The target user group of mobile BI is large in number and it mostly consists of non-BI and mobile users. In an effort to classify IS mobile users, Dahlbom and Ljungberg (1998) classified them as wanderer, traveller and visitor. In addition to this classification, Andersson (2011) suggested the ranger as a fourth category. Wandering is related to the local mobility within the working environment; a traveller usually travels from one place to another; the visitor spends some time in another location; a ranger is completely detached from the organization and very rarely visits the organization. In terms of mobile BI users three main categories are observed: executives, sales employees and field personnel. We classify executives as travellers since they are usually away on business trips, on the move, e.g. in cars, on trains and planes, or in meetings. The sales employees have a resemblance to the ranger, as they need to go in different locations and meetings with their customers and clients and being away from the office most of the time. Field personnel are rangers who very rarely go to the office and by having access to mobile BI they have all the information they need. Based on Andersson (2011), mobile BI use seems to be complimentary to traditional BI use in the cases of executives (travellers). For sales employees (rangers) and field personnel (rangers) traditional BI is not an option.

To summarize, we conclude that mobile BI is complimentary rather than a substitute to traditional BI. It meets the need of the users who want access on the information when they are not in their offices. Although it doesn’t support large amount of data and complex analytics, it allows the access to information independently of location and time, notifies and alerts a user in real time about urgent or scheduled events, changes to KPIs or other data the user might be interested in. So, by complementing each other, data can be monitored, accessed and decisions can be taken during and after the office hours and in or out of the office.

In an attempt to interpret how the community members envision mobile BI three main common themes emerged in our analysis: self-service, power and control, and collaboration.

Self-service: Due to the capabilities of mobile devices users are enabled to access information faster than on their PC/laptops (Yuan et al., 2010). Vendors and early adopters refer to mobile BI as easy to use and intuitive. No special training is needed for non-experienced users (Lamont, 2012). Besides the fact that the mobile devices are carried by their owners nearly all the time, a significant role is played by the design. The users can change the preferences faster with the touch screen button and get the information in one instant, resulting in fast turnaround.

‘A scenario: if you are on the desktop, you have the opportunity to right click on a point, and get a menu of options, but in a mobile device you can’t. That doesn't exist. So, one of the examples we have
done to adopt to it, that is rather than having a right click, now when you click, you get a menu options of most commonly used features available at your fingertips. So, when people want to filter in a particular point, that used to be a right click operation, and now in the mobile there is one click and the menu option is right there.’ (Interviewee, Tableau)

The main reasons behind the easy to use interface of mobile BI concerns both the mobility and the form factor of the devices. Being mobile limits one’s capabilities to handle difficult and complex interfaces. Additionally, constrained by the form factors of the devices such as small screen and other limited capabilities the design of mobile BI is simplified making BI more accessible to non-BI users. What is missing in this picture are the analysts, the data ‘gurus’. At this point the information flow scenario changes. Previously, the users had to call the analysts and present their needs. The analyst after receiving the request starts the necessary analyses and generates the requested report. However, by the time the report was returned back to the users—ignoring misunderstandings between the parties—most probably the information could be considered to be too ‘old’. Mobile BI removes the intermediates—in this case the analysts--between the data and the decision-makers. The decision-makers no longer will need analysts to perform analyses on their behalf. Hence, they are more independent and can work with the data whenever and wherever based on their needs. Therefore self-service is one feature that mobile BI is promising to instigate, where users can perform analyses and access the information they need to take decision independently of time, place and data analysts. Nevertheless, still knowledge of the source data is a pre-requisite for the users to perform analyses and make sense of the information they access on their mobile devices.

**Power and control:** ‘And now with mobile BI what the CFO can do is to open his iPad in the morning when he is in the back office. He favorites or marks the information that he is going to show that afternoon to the report session, so in that way he is controlling, self-servicing, he feels confident with the system and the information, and when he is presenting it, he is also confident in front of people, the board, the financial people...so it is really important for those guys.’ (Interviewee, Consultant).

The executive in this case is the traveller who usually spends most of his day attending meetings. By means of self-service capabilities mobile BI can empower the executives who will have the data and the responses in the palm of their hand, anytime anywhere. They no longer need to rely on the analysts but they can monitor and take actions based on the information they access and analyse on their own.

The decisional empowerment (Holsapple and Sena, 2005) comprises a wider spectrum of users. The data suggests that C-level employees is one target group for mobile BI. This group has power and the use of mobile BI can strengthen their power—this is similar to what was found when Executive Information Systems were implemented in organizations. Another target group for mobile BI is ‘low level’ employees who by using mobile BI can be empowered to make decisions and take actions out in the field such as to improve the productivity of a specific region or their own productivity in order to meet the target plan. The issue of authority has of course to be addressed. The empowering and authority ‘tension’, if treated cautiously, can be beneficial to a company.

**Collaboration:** Among the community members (see Table 2), enhancing the customer service is continually mentioned as a benefit of mobile BI and this mainly due to the empowerment of the sales employees. For instance one financial distributor early adopter described how sale people can check ‘the latest activities with a customer they are about to visit, such as the amount of revenue historically generated by that customer’(Pickett, 2006) or a salespersons “‘..going to a client site, in a meeting, they use their mobile device to show some products or use some data to their clients or partners” (Interviewee, Smart eVision). In the former the salesperson accesses the large data into his small mobile device and takes the necessary actions based on the customer profile; at the latter we notice a joint collaboration with the customer where they can both take a decision based on the information provided by mobile BI. So, collaboration is emerging not only between the employees in the same organization which basically is expected, but also between the clients and customers. This leads to faster customer care service and higher satisfaction as there is a decision timer reduction.
Therefore, these systems enhance communication among participants who are responsible to the decision making process (Holsapple and Sena, 2005) and one of the interviewees argues that ‘key to our mobile app is collaboration and you can effectively collaborate effortlessly.’ (Interviewee, YellowFin). It relates to the finding of Mayer and Weitzel (2012) where communication is more accentuated in smaller devices and as such this functionality adds value to the usage of mobile BI by enhancing the communication between the decision-makers. Additionally, being mobile increases the need to communicate faster and efficiently in order to be able to take decisions ‘on the move.’

### 5.2 Legitimation

When adopting an IT innovation, a company should ‘know-why’ in order to justify and explicate its decision (Swanson and Wang, 2005). The ‘know-why’ is grounded in the benefits which are expected to derive using this innovation. Table 2 presents a summary of how different community members contribute to this knowledge in an effort to legitimate the new innovation – the second function of the organizing vision.

<table>
<thead>
<tr>
<th>Vendors</th>
<th>Consultants</th>
<th>Analysts</th>
<th>Early adopters</th>
<th>Journalist</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Improve information flow</td>
<td>• Higher efficiency in business processes</td>
<td>• Sales support in the road</td>
<td>• Faster decisions</td>
<td>• Interaction in real time</td>
</tr>
<tr>
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<td>• Employee productivity</td>
<td>• Real-time monitoring</td>
<td>• Impact on sales and revenues</td>
<td>• Better customer service</td>
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<tr>
<td>• Faster and better decisions</td>
<td>• Better customer care</td>
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<td></td>
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<td></td>
<td>• Work flexibility</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>• Better and better decisions</td>
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*Table 2. Summary of ‘know-why’ in the mobile BI discourse.*

In general, providing faster decisions is elaborated by all the community members, which is strongly related to data access needed to take decisions anytime anywhere. Despite the fact that the vendors and consultants tend to drive their products towards a larger target group, the analysts, early adopters and journalists highlight the sales force as the main target group which will have the greatest benefits from mobile BI: ‘…our team of sales force leaders can track everything from prospective leads to production standings anytime anywhere…gives more time to focus on their success’ (Golia, 2011). According to vendors, consultants and analysts mobile BI will enhance the efficiency in business processes. However this benefit lacks in the early adopters’ experiences. This may be due either to the short time the system has been implemented within their respective companies or the non-existence of this benefit after the system is implemented. Enhancement in customer service, discoursed by most of the community members, will derive from the collaboration attribute discussed in the previous section, and as such it may result in higher customer satisfaction. Work flexibility is also discussed as a benefit of mobile BI, because having the information in the palm of the hand will no longer constrain the users to remain bonded to their working desks and PCs but instead will provide more flexibility.

### 6 Conclusion and Future Research

This paper sheds light on the sub-field mobile BI through exploring its envisioned concept in terms of interpretation and legitimation. Given this, mobile BI is conceptualized as an organizing vision with a
career being shaped by the diverse community members such as: analysts, vendors, journalists, early adopters and consultants.

In 2010 the iPad was released, an event, which shifted the organizing vision from the emergence period (2001-2009) to the growth period (2010- on going). Mobile BI is ascendant in its career and the continuous discussion of the community members is influencing the maturity of the organizing vision.

We find that mobile BI is perceived as a compliment to traditional BI rather than as a substitute. Differences exist between them in terms of user profiles, level of analytics and functionalities. Mobile BI is expected to have benefits in terms of efficiency and effectiveness such as: enhanced communication among decision-makers, decision making regardless of place and time, reduction of decision time especially in critical situation like emergencies, better customer service and new flexible ways of working. Additionally, self-service, power and control, and collaboration are the main attributes, which seem to shape the organizing vision of mobile BI.

This study reveals a number of opportunities for future work. We highlighted the organizing vision of mobile BI, which is tightly related to the comprehension process of the innovation. Based on the results of the comprehension process, organizations will decide to adopt, or not adopt mobile BI. If an organization adopts mobile BI it will implement and assimilate it. It will be of interest to study how the organizing vision is serving the above-mentioned processes of the innovation in an organizational context and how the organizations are adopting, implementing and assimilating it in terms of mindfulness and mindlessness (Swanson and Ramiller, 2004). From a practitioner point of view, there is a growing interest to research how mobile BI usage affect decision making processes as well as, for example, other organizational processes, power, and attention. Is mobile BI usage really meeting the expectations and will it bring changes to the organizations in the long run? Is mobile BI having an impact on the structure of the organization because of its flexibility and if yes, how? These are some of the issues that need particular attention in the mobile BI research agenda.

References


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