ACCEPTANCE OF MOBILE LEARNING AT SMES OF THE SERVICE SECTOR

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ABSTRACT

Mobile Learning (mLearning) is becoming popular in several parts of education. The increasing availability of mobile technology and devices is an important fact, which fosters this trend. However, even if it attracts more and more attention at huge enterprises it is not clear what small and medium enterprises (SMEs) think about Mobile Learning. Moreover, in a modern society, the Service Sector increases as well and here Mobile Learning could be a helpful concept to cope with rapid change and innovation on information. The texts provides results of an acceptance study with regard to Mobile Learning at SMEs in the Service Sector. This is related to advantages and disadvantages which companies expect. This qualitative interview study gathered information form 14 SMEs in Germany. As a basis for a successful implementation of mLearning in companies of the Service Sector the acceptance by decision makers and users is crucial. The results show that acceptance already exists but that there are a lot of challenges and requirements as well.

KEYWORDS

Mobile Learning, Acceptance, Service Sector, SME.

1. APPROACHING MOBILE LEARNING

Very early, already in 2002, Keegan anticipated that "mobile learning is a harbinger of the future of learning" (Keegan 2002, 9). Nowadays, almost nobody in highly developed countries of Europe can image a world without smartphones, tablets, laptops, personal digital assistants (PDAs) and other mobile devices with hybrid functions and assess to the internet (see already similar ideas several years ago by INQA 2007).

In 2016, such devices are already located in almost all establishments, administrations, and private households in Germany. In addition to that, the speed of mobile devices is increasing as well as their availability (see e.g. Beutner / Pechuel 2012a). This means that since the early beginnings of Mobile Learning the experience and expertise in use of these devices increased, too (see already Traxler 2009).

But, the fact that mobile devices are currently available does not mean the acceptance of these technologies for learning processes is already established. To get acceptance it needs to have a conceptual basis to get credibility.

To address Mobile Learning in an adequate way a definition is needed. Scholars like Chinnery define mLearning just as a subset of eLearning. Most of the definitions since 2000 look at the specifics of mLearning and focusing on mobile technologies (see Clarke and Flaherty 2002 or see Quinn 2000).

Geddes (2004, 214) points out, "mLearning is the acquisition of any knowledge and skill through using mobile technology, anywhere, anytime, that results in an alteration in behaviour". In 2005 O´Malley et al. defined mobile learning as learning which takes place at no fixed, predetermined location when a learner takes advantages from learning by using mobile technologies (see O´Malley et al. 2005).

Since the beginnings of Mobile Learning (mLearning) there were several discussions about this topic. At the beginning of the millennium we had several studies about the crucial aspects of mLearning (see e.g. Freimuth 2002, Kynäslathis 2003, Reys 2004, Kinshuk / Goh 2004). In 2012 Beutner / Pechuel put these

aspects together and included the ideas of Stone 2010 (see Beutner / Pechuel 2012a and Beutner / Pechuel 2012b) and could identify:

• Efficiency: through learning opportunities at different locations

• Personal sphere: by learning in the personal environment of the learners

• Interaction connection: between learners as well as between students and teachers and also to available databases

• Context sensitivity: the ability to analyze information environment of the learner (situated learning)

• Content should exist on both stationary and mobile platforms

• Convenience

• Expediency

• Immediacy

• Support at critical moments of need (see as well Beutner 2014)

Mobile Learning can be used in different approaches. With focus on portable learning often already existing pedagogical solutions of eLearning are just miniaturized and provided on mobile devices (see e.g. Traxler 2009, 12) sometimes for new target groups (see Beutner / Teine 2016). If mobile technologies are only used to demonstrate the feasibility of technology and possible pedagogical opportunities it will be a very general way of using Mobile Learning (see e.g. Traxler 2009, 12). Some Mobile Learning developments are created to enhance the social exchange and support collaborative learning (see e.g. Traxler 2009, 12). Some are especially focusing productivity and efficiency in learning (see e.g. Traxler 2009, 12) and some are using the real advantages of mobile situations, were the user is in an real environment for example in an enterprise, a museum etc. and can get situated learning which could not exist otherwise (see e.g. Traxler 2009, 12, see Beutner 2016, see Beutner / Teine / Gebbe / Fortmann 2016).

To make mLearning and the framing elements more explicit and to enhance the rational analysis of mobile education Marguerite L. Koole provided a frame model of Mobile Learning which addresses three core perspectives the device itself (D) the learner (L) and the social aspects (S) (see. Koole 2009).

Since the early days of mLearning there is already a strong discussion on its acceptance. With regard to Motiwalli 2007 Wang /Wu / Wang state in research on acceptance of Mobile Learning "Despite the tremendous growth and potential of the mobile devices and networks, wireless e-learning and m-learning are still in their infancy or embryonic stage" (Wang /Wu / Wang 2009 and see as well Motiwalla, 2007).

Concerning acceptance there are several approaches. The TAM model for example focusses on the technical acceptance and is often used in its original way or its modifications to measure the usability of a tool. In addition to these approaches it is also important to get qualitative insights into the field. Nevertheless, there is currently a lack of research concerning qualitative information on acceptance and experiences in different fields of economy and their specific focus on mLearning.

Already in 2009 Kukulska-Hulme et al. provided an idea of the European perspective of mLearning and addresses here parts of the Service Sector as well (see. Kukulska-Hulme et al. 2009).

Taking all these parts of the scientific discussion into account, we designed an Acceptance study for Mobile Learning activities in the Service Sector. In modern societies, the Service Sector is becoming more and more important (see Eichengreen / Gutpa 2013) as Kim stated already 10 years ago (see Kim 2006). But, there is a huge diversity concerning the services. For example the department of innovation, industry, science and research of Australia described this diversity of services with regard to different activities:

• "delivering bricks to delivering a violin concerto

• designing a floral arrangement to designing a pub

• advising on investments to advising on health

• preparing a banquet to preparing a construction site

• driving a taxi to driving a nail

• fixing roof tiles to fixing a heart valve."

(Australian Government - Department of innovation, industry, science and research 2009. 5)

In Service Sectors like the Banking Sector the importance of Mobile Learning is already recognized and first implementations are currently running (see Beutner 2016.)

2. DESIGN OF THE SME ACCEPTANCE STUDY

Studies often focus big companies due to the fact, that they often have more resources for Mobile Learning than smaller ones with less staff members and less capital. There is a lack of research concerning what happens in small and medium sized enterprises (SMEs) in the field modern mobile technologies.

These ideas and discussions lead to the aim of our study. This text and the study behind it are designed to reflect on and understand the position of mLearning in the Service Sector and especially at SMEs. A core objective of our research is to gather and provide ideas what persons in this sector think about mLearning in general. We gather their experiences and attitudes. It is important to get an idea about the advantages and disadvantages which they see in mLearning in this specific field. We addressed staff members and owners of companies at 14 SMEs in the middle of Germany in the region of Paderborn. This is an area of 250.000 people living in it and its surrounding smaller cities and villages. Moreover, it also includes a more rural environment where also about 100.000 people are situated. All of the addressed interview partners are decision makers or they are responsible for training programmes or act as a trainer. To get information about their acceptance of mLearning concerning their educational measures or programmes we developed and pretested a short questionnaire to structure the interviews. The interviews were conducted in a half-structured way. The respondents had always the opportunity to provide additional information and had several parts where they could talk in a narrative way about the topic (see Flick 1998; Strauss / Corbin 1998). All of them got the same introduction with as short explanation why we are focusing on Mobile Learning and what is a sort of general understanding.

After a general introduction and a welcome to the interview, we gathered information on age, about the function in the company, about the branch within the Service Sector etc. In the core part of the interviews, we looked at their experiences with mLearning and their ideas about its use. We led them define the term mLearning to come to a concreate idea of what they are focusing when they were talking about the topic. We asked for the mobile devices used in their company and how they have used Mobile Learning so far. Moreover, we asked in which ways the staff members are currently using their devices. To get a more detailed insight we asked about the requirements for the use of mLearning in their company and about advantages and disadvantages the participants could describe. With regard to the future, we also asked them to tell us their ideas about how mLearning could look like in 5 years with regard to their own company.

We conducted our interviews as telephone interviews and were immediately documented via text-recordings after each call and structured via argumentation tables. To get deeper insight and more interpretation opportunities in a structured way, we used content analysis. This was the basis to analyze and categorize the data. In order to assure trustworthiness the interviews were conducted by an interviewer group, which was right small, so that we could ensure that all participants had a similar interview structure and the same information. The core aim was here to create credibility and validity. Moreover, it was important to secure of the identity of all our interviewees. Validity is existing in our study because all categories emerged from the data of the interviews. In addition to that, they are also consistent with the understandings of the participants. To ensure this we did random checks at the participants. The average duration of each telephone interview was about 10 minutes. The team conducted the interviews after first informative telephone contacts to ensure that the randomly selected persons are informed and available. The interviews with all SMEs were conducted in in first two weeks of December 2016.

3. AN INSIGHT IN THE CORE RESULTS

At first, the core results will be described, following a further analysis of the findings to give an overall insight of the core results of the acceptance study.

92.86% of the participants are aware of the term mLearning and are able to describe the core aspects of mLearning. 7.14% do know what mLearning entails, but were not able to define the term.

85.71% of the participants are using mobile devices in their company. Nearly all of the participants who use mobile devices in their company stated that they use smartphones and laptops (91.67%). Tablets were mentioned nearly as often with 83.33% of those who use mobile devices in their company. 7.14% of the participants who use mobile devices in their company stated that they use PDAs/Organiser as well as smartphones, tablets and laptops.

57.14% of the participants are using mLearning in their company. 14.29% of the participants stated at first that they are not using mLearning, but adjusted that thought after hearing some examples for mLearning. 42.86% stated that they are not using Mobile Learning in their company. As a reason for not using mLearning one participant argued that in their company there are no limitations if a staff member wants to use their own tablet, but they still prefer the traditional learning path, and named seminar rooms equipped with computers as one of their ways to provide further education. Another participant stated that they are probably not familiar enough with that kind of learning tool. Another participant pointed out that they probably fulfil the requirements, but further education is provided externally. Another participant named as a reason for not using mLearning the preference of using traditional learning tools, like books, which provide more safety, trust and is most relevant for source work. The other half of participants who do not use mLearning stated that in their company there is no need nor demand for mLearning so far. On the other hand, the participants who are using mLearning in their company stated different reasons for using mLearning. One reason for 50% of the participants who use mLearning is the element of research. Further reasons for the participants who are using mLearning are:
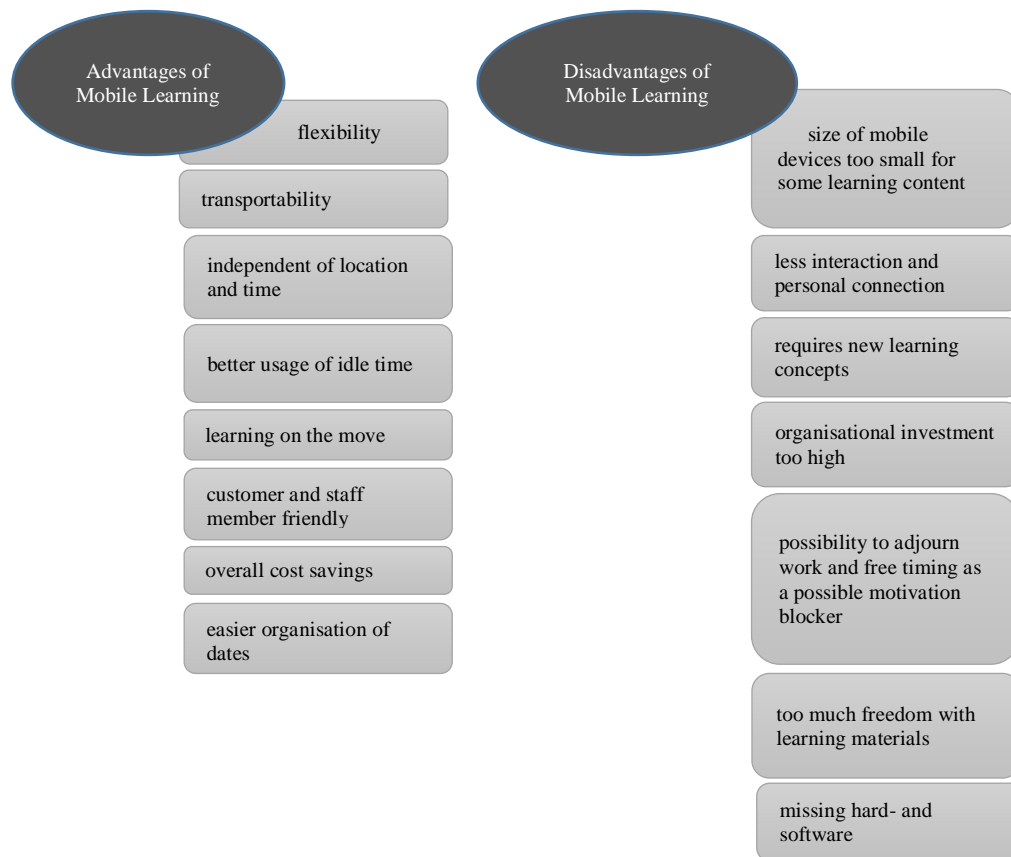
- usage for further education on a train or plane (12.5%),
- refreshment of knowledge (12.5%), for further education on different topics (12.5%),
- learning portals (37.5%),
- e-seminars (25%)

and more specific:

- instructor led training, self-based online training and massive open online courses (for customers and staff members) (12.5%),
- for staff member training on their soft skills (12.5%),
- tutorials on the homepage for customers (12.5%),
- YouTube channel with learning videos for customers (12.5%).

4. ADVANTAGES AND PROBLEMS OF MOBILE LEARNING

The question "Under which circumstances could you imagine using Mobile Learning in your company?" was answered by 71.43% of the participants. The other 28.57% referred to their answer on the question before. 30% stated that they cannot imagine using mLearning in their company at the moment. One of the 30% stated that their company is too small and a direct personal communication is most of the times easier and that mLearning is only applicable for customer trainings or information at the moment. The latter was an argument of another participant as well. Another 20% could imagine using mLearning, but only when the topic is more familiar and the circumstances are adjusted. One participant stated that for the placement of organisational, formative and simple content they could imagine using mLearning in their company. Another participant stated that for staff members who are away on business a lot mLearning would be an advantage. Another participant stated that it depends on the topic and on the reliability of the content. Another one stated that they use mLearning for further education of their staff members.

21.43% do not see any advantages in the usage of Mobile Learning. 78.57% see advantages in the usage of Mobile Learning. Same numbers are applicable for the disadvantages in the usage of Mobile Learning. The following table shows the arguments for and against the usage of Mobile Learning mentioned by the participants. The items which were mentioned with a higher frequency are at the top followed by the items which were mentioned less frequently.

Table 1. SMEs on the advantages and disadvantages of the usage of mLearning in their companies.

Advantages of Mobile Learning

- flexibility
- transportability
- independent of location and time
- better usage of idle time
- learning on the move
- customer and staff member friendly
- overall cost savings
- easier organisation of dates

Disadvantages of Mobile Learning

- size of mobile devices too small for some learning content
- less interaction and personal connection
- requires new learning concepts
- organisational investment too high
- possibility to adjourn work and free timing as a possible motivation blocker
- too much freedom with learning materials
- missing hard- and software

5.   FUTURE CHALLENGES AND CHANCES OF MOBILE LEARNING

Mobile Learning is a supplementary tool to traditional learning rather than as replacement of it. This is becoming more and more important for the future. Regarding the development of mLearning in the next five years especially in the participants´ companies, most participants (92.86%) think that the usage of mLearning will increase due to the advantages mentioned before. Furthermore, some participants (28.57%) argued that mLearning will be used as an addition to the common learning tools and integrated in the Blended Learning Scenario as the range of mLearning tools will increase in the future. Most of the participants think that mLearning will increase, but have no plans to integrate it in their daily work at this point (28.57%). One participant argued that they have and will integrate mLearning in their company, but not so much for staff members as for customers. Another participant mentioned that the staff members have to accustom themselves to the new learning environment, but in the end, the staff members and the company will benefit from it. After presenting these initial findings follows now a further analysis of the data. The high number of participants who did know what Mobile Learning means shows that the term Mobile Learning is increasing in the consciousness of SMEs at least in the service sector.

A lot of SMEs already use mobile devices in their companies which are mostly smartphones, laptops and tablets. This indicates that there already exists the technical basis to use Mobile Learning.

Mobile Learning is indeed known, but not as much used or integrated in the SMEs daily work and learning methods. Nevertheless, a lot of SMEs still prefer the traditional learning methods due to the fact that mLearning is still very new and unknown to them. A common answer was that there is no need nor demand for mLearning in their company, which indicates that there have not given mLearning that much thought and that mLearning is not as integrated as other learning methods so far.

The SMEs who are using mLearning have indicated their individual benefit in using mLearning and are already profiting from the advantages of mLearning. Which indicates that mLearning is already a part of some SMEs and that mLearning is able to foster further education in the setting of a company. The fact that some SMEs do not want to use mLearning in their companies shows that they do not see the advantages of Mobile Learning for their company, nonetheless this does not mean that they think mLearning is not usable in general, it just does not fit in their company's thinking. Moreover, it shows that there is still scepticism towards mLearning this means that there are still barriers that Mobile Learning has to overcome to be used by the majority of the companies. The advantages and disadvantages the SMEs reasoned with show that, too.

The advantages mentioned by the SMEs show that they identified the main aspects of mLearning and are already profiting from them. Such as flexibility, transportability, independency of location and time. Furthermore, SMEs indicated that idle time is better used as learning on the move is possible, it is customer and staff member friendly, there can be overall cost savings and an easier organisation of dates is possible. All these advantages show that mLearning comprises the possibility to stay ahead of the digital change, which also concerns the current learning methods.

The disadvantages show a curtain hesitance towards mLearning, regarding the ability to deliver the wanted outcomes or to provide the wanted learning material. The argument that the mobile devices are too small for some learning content shows that some SMEs are unfamiliar with mLearning, because depending on the learning content a smartphone, tablet or laptop is used to provide the learning material or tool which provide different sizes of screens. Moreover, it seems that SMEs are afraid of losing control over the learning process and development of their staff members when implementing mLearning. SMEs prefer the personal interaction. These arguments indicate that there is a resistance in changing a running system to a new unknown approach. The argument that the hard- and software is missing is a weak one due to the fact, that the private devices of the staff members can be integrated in the process. It indicates that mLearning is still growing and that it will take a great effort to integrate it as a future common approach in SMEs. Most of these arguments against using mLearning are due to the fact that mLearning is still in its infancy and has to develop further to improve the way SMEs are thinking about mLearning which also show the answers to the question about the future of mLearning as a part of the future of their company.

Most of the participating SMEs think that mLearning will play some part in the future of the company, but are not sure on how to integrate or implement it in their company which indicates the need of further guidance for SMEs regarding the implementation of mLearning as to the fact that especially SMEs can profit from the individual learning material mLearning can provide. Furthermore, it shows that mLearning is seen as a future way to provide further education. As some SMEs already identified, mLearning is meant as an addition to further education and is not supposed to replace all other approaches this can be counted as a first accomplishment of mLearning developers. The comment that one company will use mLearning more for their customers than for their staff members indicates that there are quite different aspects of a company's targets. They might see the advantages of mLearning for their customers, but not for their staff members. Probably because they see mLearning in different dimensions and not so much as an overall approach for further education. Overall the disadvantages and vague answers to how the SMEs see the development of mLearning in the next five years in their companies indicate that mLearning is already seen as a possible way to provide further education, but show the range of uncertainties when thinking about implementing mLearning in their company.

The results of the acceptance study indicate that depending on the branch of the company the level of importance and open mindedness towards mLearning might differ. For example, a company which is providing software solutions to their customers is already familiar with the technical environment and is more open minded towards new innovative learning methods such as mLearning than a company which is delivering goods for the last twenty years.

6. CONCLUSION

To sum up, the core results of the acceptance study with SMEs in the service sector show that Mobile Learning is already known, but not (yet) integrated in all of the SMEs. The SMEs identified the advantages, however are uncertain about the disadvantages and therefor hesitate to implement mLearning in their company. These results call for further implementation strategies and development for mLearning.

Undoubtedly the design, the structure and the quality of Mobile Learning is an important part of the future of the Service Sector as well. In our study it becomes clear that the companies recognise that Mobile Learning is a growing challenge and that the topic and its implementations are also effecting SMEs. Even when participants admit to not knowing exactly what happens in the field of Mobile Learning they see that simple implementations are already possible and also more challenging implementations could wait in the future. They are not looking exactly at the specifics of the Service Sector but often use very general argumentations. However, due to the fact that Mobile Learning is a young development this does not really surprise. The chances focus on a collaboration and individual aspect while the challenges seen by our respondents seem to be more company related and organisational aspects. The lack of adequate software does not focus the market but the situation at the companies, where often such resources have not been available, yet.

It is an important fact that the companies seem to be demand driven in their actions because several persons stated that there is currently no demand for mobile approaches concerning learning processes. With demands the usually focus on the end-user - the learner. No company focussed neither directly on market needs nor on internal company needs or stakeholder demands and behaviours.

Nevertheless, at the same time 78.57% of the participants see advantages in Mobile Learning and can explain in which ways mLearning could be useful and how it could be integrated in specific parts of training. Currently they are aware that mLearning exists. But, in most cases the interviewees had only a vague idea what it could look like. Our study highlights the concerns of SME owners and staff with regard to Mobile Learning. It seems that they are searching for good solutions and technical equipment as well as pedagogical opportunities to deal with these new challenges. Providing and finding information quickly is an important aspect in the Service Sector and maybe a combination of learning and information tools could address the real needs of the companies and the staff members in this field. The integration in existing training programmes takes time and resources and especially cost related resources are an important factor for SMEs and influences their way of dealing with the topic.

On the whole, the acceptance of mLearning is already to find in the Service Sector at SMEs but the implementation will be a challenge for several years. The use of mLearning in an educational environment is often said to have a very positive effect on the learning experience. Currently, the requirements of Mobile Learning are not very clear to the Service Sector. The sector is open to innovation in this area and to new future ways but at the same time the companies want to gather more information, like to learn from proposals and model implementations. Mobile Learning is a young topic that will continue to gain popularity. And this popularity is based on convenience. This will be the challenge and the work programme for the future.

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