Experiences and Future Expectations towards Online Courses

–An Empirical Study of the B2C-and B2B-Segments

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Abstract

This article explores the future potential for the development of online courses. The findings are based on an empirical study with 3 sample groups: (1) B2C segment in Germany, (2) B2C segment in the United States, and (3) B2B segment (international). In the first step the status quo of the use of e-learning in general and online courses in particular is presented. Subsequently, the expectations of potential users concerning the design of online courses are determined. Respondents were segmented according to their basic needs, based on ten distinct attributes relevant for the decision-making process. Thirdly, an innovative concept for online courses is reviewed as part of a concept test. Since people increasingly watch (short) videos instead of reading documents, the authors emphasize that creators of online courses can take advantage of this development, provided they adapt their formats to the changed communication behavior of potential users.

Keywords: e-learning, online courses, customer satisfaction, willingness to pay, innovative formats

1. Introduction

According to Androulla Vassiliou - European Commissioner for Education, Culture, Multilingualism and Youth - "the online and open education world is changing how education is resourced, delivered and taken up. Over the next 10 years, e-learning is projected to grow fifteen-fold, accounting for 30% of all educational provision" (European Commission, 2014). Among the instruments of e-learning, online courses are regarded as a subsector with particularly strong growth. The dream of the "democratization of knowledge" might soon be fulfilled: as stated by Fozdar (2015), ODL (Open and Distance Learning) may be the solution for overcoming the gap between those who have had access to science and technology education and those who have not.

"Massive Open Online Courses" (MOOCs) represent an important step in this direction. These are online courses with scientific content and a large number of participants – in some cases tens of thousands. A typical online course includes digital lectures with interactive elements such as discussions in forums and multiple-choice questions. Enrollment to the course is usually free, or very cheap. By December 2014 the number of universities offering MOOCs has exceeded 400, and the cumulative number of courses offered has reached 2,400. Courses are often financed by venture capital firms, nonprofit organizations, profit oriented companies, and universities (Holdaway, 2015). Alsadhan, Alhomod & Shaf (2014) express themselves less euphoric about the future potential of online courses when stating that "there is a little doubt that e-learning courses are becoming more popular each day with thousands of students joining the new courses each day. A survey of online courses reveals that most of the courses are mostly text-based." Also, growing interest in video format can be recognized with regard to the development of YouTube video hosting. The average upload of videos to YouTube per minute, boosted from 8 hours in 2007 to 300 hours in 2014 (Statista, 2014).

1.1 Broad Application of Online Courses

In addition to the academic field, today e-learning plays a significant role in other areas. It offers the prospect of a substantial scalability that is not limited to the classical school or university environment (teacher in a classroom). The scalability in turn includes the opportunity to offer online courses on various topics to a broad range of the population at

a relatively low price or even for free. During the last 3 years "… MOOCs have largely moved from pedagogy to promotion and are now more used to advance institutional reputation than any serious drive to reinvent the institution" (Stewart, Khare & Schatz, 2015).

However, if online courses are also of interest for a wider range of segments (B2C or B2B) and offer a significant value proposition, they do not necessarily have to be free of charge. Consequently, platforms like Udemy offer both: free online courses and courses with prices of up to USD 500 (on average USD 75).[1]

1.2 Study Background and Objectives

The Simpleshow Company (hereinafter TSC) is a media company (founded in 2008), which is specialized in the production of explanatory videos (2 – 4 minutes length) in the business sector. With an accumulated production volume of approximately 5,000 videos, TSC has a leading position in the worldwide market. As explanatory videos strongly compress information and achieve high recall values due to their unique presentation style, there are opportunities to use these advantages as one of several key elements of an online course. Short videos (e.g. 10 minutes length), at discrete intervals during the week, presented to stimulate students, can be more effective than long one hour monologues (University of London, 2013). This corresponds with the finding that it is particularly common for students to complain about the workload on new courses (Mason and Weller, 2000), and that the length of the course plays a crucial role.

The general objective of the study is to explore the future prospects of online courses using a quantitative and representative survey and to measure the acceptance of innovative online courses (concept testing). Within the global market of e-learning, Western Europe (16 %) and North America (53%) are key markets (Docebo, 2014). Therefore Germany and the U.S. were selected as focus regions. In addition to the B2C perspective, the segment of B2B contacts of TSC has been included in the study. In particular it is assumed that the affinity to online courses and explanatory videos is above average in the B2B segment.

1.3 Research Questions

1. What are relevant customer segments for e-learning in general and online courses in particular? Which differences are prevalent across the sample groups?
2. How were online courses used in the past (customer groups, topics, formats) and evaluated in terms of customer satisfaction? Which areas offer opportunities for improvements?
3. What are the key requirements to using online courses in the future? Is there a willingness to pay for online courses?
4. How do potential users of online courses evaluate new formats of online courses (30 min, change of style, sequence of 3 min explanation/explanatory videos etc.)? How does the explanatory video style influence the overall evaluation of the online course concept?
5. How does product-category expertise influence the results of the concept test? Do the results differ between B2C and B2B respondents?

2. Method

2.1 Procedures and Methodology

In order to answer the research questions, an empirical study was developed and carried out. It allows getting insights to regional differences in the B2C sector as well as differences between the B2B and B2C segments.

To map the B2B segment, TSC´s contact data was provided by the company's CRM system and was used for the survey. As the study aims to ensure a representative description of the status quo for important target countries (B2C markets), the survey utilized contacts that have been made available through two online access panels. In addition to the economic benefits of an online research study this survey type also has further substantive advantages for concept testing. This is particularly true when different types of information such as videos and graphics will be presented during the interview. As the assessment of innovative formats of online courses is relevant for the study, online market research becomes particularly favorable.

The online survey - representing 3 different groups (n=1.176) - was conducted in July 2015 and was focused on B2C as well as B2B segments (see Table 1).

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[1]   In the meanwhile, there are indications that the commercial sector marketing faces increasing price pressure. This could explain why Udemy introduced an upper price limit of $ 300 in June 2015.

Table 1. Sample groups and characteristics

Sample group	Respondents	Interview time	Weight
# 1 B2C, Germany	n=491*	∅ 12.0 min	Age, sex, region, internet usage[2]
# 2 B2C, U.S.	n=489*	∅ 13.0 min	Age, sex, region, internet usage
# 3 B2B, International	n=196	∅ 22.9 min	---

* Sample quota were set to n=500 cases. Respondents with unrealistic short interview time (< 2 minutes) were eliminated.

2.2 Structure of the Study

According to the purpose of the study, the designed surveys are divided into three parts: the first section deals with the previous experience in the field of online courses (topics, number of online courses attended, degree of customer satisfaction, intention to use online courses in the future etc.). The second area relates to the customer's requirements with regard to the development, design and creation of online courses (topics of interest, customer needs and expectations etc.). In the third part of the interview a concept test was carried out with a special focus on a new innovative format of online courses (see Giannakos et al., 2014).

The test was carried out in a two-stage approach: in the first stage, the TSC video format was presented. It included a short explanatory video (3 minutes), which presented complicated content in very condensed and compressed form. TSC has developed its own style (hands, scribbles, etc.). After displaying an exemplary video in this format during the interview, in the subsequent step the actual concept test was carried out. During this concept test the basic structure of an innovative online course was presented (explanatory video as an essential input; a speaker leading through the topics; changing forms of presentation; final test; total length of about 30 minutes). With regard to the concept, the intention to use, the willingness to pay for the TSC format, and the willingness to recommend have been recorded (Figure 1). To ensure the validity of the concept test results, Schoormans, Ortt, & de Bont (1995) suggest that consumers who are invited to participate in a concept test should possess a degree of product knowledge. The idea, that product-category expertise enhances a respondent's ability to evaluate concepts in a test of major innovations, was supported in experimental design shown by the researchers. Hence, the reactions of B2C target group ("no experts") and B2B segments ("experts") on product innovation are examined in more detail.
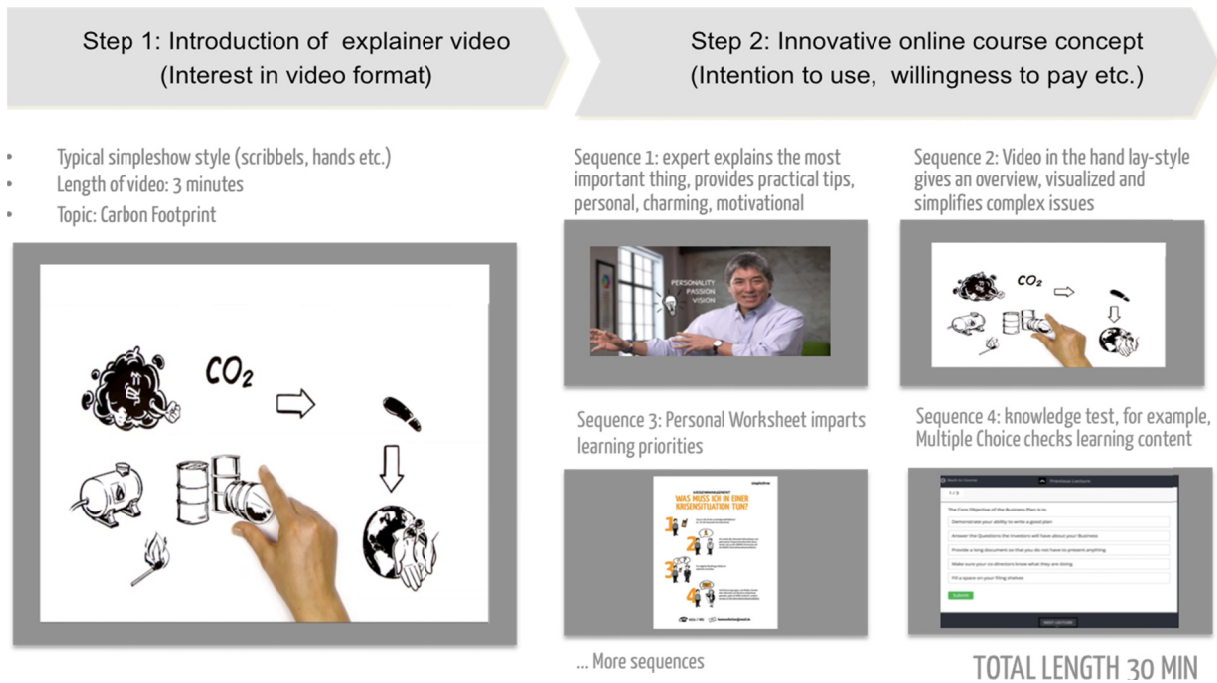

Figure 1. Concept test: Explainer video and new online course concept

In addition to the core areas of the study, there is a screening part at the beginning of the interview. At the end of the interview demographic characteristics were recorded, which later served as descriptive variables as well as parameters for weighting the raw data and adjusting those to representative structures.

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2   Since the recruitment of respondents relies on online access panels, there is a particular risk that interviewees show an above average Internet usage, and hence a potential bias for the study topic is given. Therefore, Internet usage was weighted based on available statistics and secondary information.

2.3 Data Analysis

To examine the significance within the three sample groups and to statistically evaluate background characteristics, the repeated measures ANOVA, given its ability to perform overall comparisons, as well Chi-Square distribution tests were used. Hierarchical clustering to determine the number of clusters and K-Means-Clustering were used for segmentation. All analytical work was done by SPSS version 22.

3. Results

3.1 Experiences with e-learning and Online Courses in the Past

As shown in Table 2, the level of involvement in e-learning reaches 45 % in the U.S., compared to 38 % in Germany. In contrast, 83 % of B2B respondents already experienced e-learning. Differences are significant, when performing Chi-Square Test (p=0.001). Overall, experience with e-learning is strongly correlated with age: all sample groups have shown lower level of involvement if respondents are seniors (60+ years).

Table 2. *Experiences with e-learning* according to sample group

Question		B2C (Germany)	B2C (U.S.)	B2B (International)
Experience with e-learning*	No	62 % *(81 %)*	55 % *(60 %)*	17 % *(25 %)*
	Yes	38 % *(19 %)*	45 % *(40 %)*	83 % *(75 %)*

* Question: Do you already have experience with e-learning in general, and have you also used digital learning applications? Values in ( ): 60+ years

Respondents who confirmed e-learning experience were asked to indicate which digital learning applications were used. Here, the usage of online references (for example Wikipedia) ranks number 1 (see Table 3). While blended learning plays a minor role in Germany, its relevance increases in the U.S. B2C and the B2B segments. Since the term "online course" is not clearly defined, the following definition has been used in the study: users of YouTube training videos, online trainings or learning applications. Overall, 75 % of the B2B contacts completed at least one online course in the past, followed by the B2C segment in the U.S. (34%) and the B2C segment in Germany (29%). At the same time about one third of all users of online courses did not complete one or more online courses. When asked for the reasons (open question) it turned out that length ("course was too long", 38 % of responses) as well as style and pedagogy (32 % of responses) were the main factors. Among all respondents students showed the highest drop-out rate.

Table 3. Digital learning applications according to sample group

Used digital learning applications	B2C (Germany)	B2C (U.S.)	B2B (International)
Online references	77%	67%	89%
Computer training	50%	53%	60%
Learning forums	21%	32%	40%
YouTube training video (=online course)	56%	52%	83%
Online training (=online course)	56%	65%	82%
Learning apps (=online course)	25%	18%	39%
Game-based apps	15%	15%	29%
Blended learning	15%	33%	44%

* Question: Which digital learning applications did you use? (Multiple responses).

Online courses cover a broad range of topics. Here, business and professional topics play a dominant role (especially in the B2B segment). The relevance of language courses strongly differs between the B2C segments in the U.S. (13 %) and Germany (45 %).[3] Similarly, the length of the courses shows a wide range.[4] B2B respondents prefer rather short online courses (51 % up to 1 hour). Between 15 % (B2B contacts) and 22 % (B2C, Germany) of respondents paid for the last online course. The median price is approximately USD 90 in the B2C segments and is significantly higher in the B2B segment (median: USD 550).

The degree of customer satisfaction with online course reaches 48 % (top-2) in Germany and is significantly lower in the U.S. (29 %), while the highest level is recorded in the B2B segment (45 %, differences are significant, p<0.000).

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[3] Other sources confirm that there is a wide gap of speaking foreign languages in the U.S. compared to Europa. The National Journal reports that only 10% of native-born Americans can speak a second language, compared to 56% of European Union citizens (Czekalinski, 2012). The MLA's newest report, released this month, highlights a drastic fallout in foreign language studies: roughly 100,000 fewer students took language classes in 2013 than did in 2009, the last time the association surveyed students (Ferdman, 2015).

[4] In order to obtain a neutral picture as possible on the use of online courses and to capture the memory of respondents as concretely as possible, the interview focused on the last online course conducted by the respondent.

Therefore it can be assumed that there is considerable room for improvement in the market. Concerning potential drivers, the length of a course does not significantly influence customer satisfaction (p=0.055); neither do the number of courses booked (p=0.340), and the topic of the course (p=0.340). The customer satisfaction level is below average for business topics and is above average for languages and leisure topics. However, the satisfaction level significantly depends on age groups (p=0.001). Furthermore, there are indications that the style of the video and its format are relevant factors as well. Pictures, video sequences, and text pages appear significantly more frequently in those courses that were rated "satisfying" by their customers. In particular respondents in the age of up to 30 years are less euphoric about their last online course (top-2: 29 %, low-2: 30 %).

Since many possibilities for the distribution of online courses exist (Holdaway, 2015), further questions focused on the awareness and use of the most important marketing and distribution platforms. As it turned out the market for online courses is strongly fragmented: Khan academy reaches 24 % in terms of awareness (recognition). All other online platforms rank lower.

3.2 Consumer Expectations and Drivers of the Decision for Online Courses

Most respondents see online courses as a good option/opportunity to get further training in interesting subject areas. The evaluation of statements concerning online courses is especially positive within the B2B segment, as well as the group of respondents with usage of online courses in the past.

Overall, approximately one fourth of the respondents have used online courses in the past and have indicated usage in the future. Typically, those interviewees have a relatively high degree of customer satisfaction (49 % top-2) and intensively book online courses. More than 80 % of them are employed and 58 % are willing to pay for online courses. Concerning the B2B segment the share of this subgroup is 64 %.

To identify the decision drivers when selecting online courses, a 3-steps-design was chosen. At the beginning the preferred type of course was defined (language, business topics etc.). Afterwards ten decision criteria were presented. These attributes were explained by incremental changes in the characteristics, which have been referred to as improvements. Respondents were asked to identify the most important feature from their point of view. Finally, they were asked to distribute a total of 100 points according to the importance of the individual attribute. This 3-steps-approach was developed to ensure a realistic decision-making including typical trade-offs (Netzer & Srinivasan, 2007). The authors have successfully implemented this approach in other research fields (see Kalt, Bongaerts & Krämer, 2013). The evaluation of the individual criteria seems to be balanced: on average weights were specified at 5.5 out of 10 possible criteria, a clear indicator that respondents more intensively have set itself apart with the attributes shown. This is confirmed by the measured answer time in the interview.

Table 4. Weight of different decision criteria (Mean and SD)

Decision criteria and incremental change in attribute levels*	B2C (Germany)	B2C (U.S.)	B2B (Intern.)
Duration: 30 instead of 300 min	11.8 (18.5)	14.6 (17.7)	16.7 (20.3)
Price: US-$ 50 instead of US-$ 100	15.0 (18.3)	17.5 (18.2)	8.2 (10.9)
Instructor / tutor / sender: known expert instead of unknown	8.0 (12.6)	10.7 (14.3)	9.0 (12.8)
Mobile availability instead of mobile option not available	8.6 (15.1)	5.9 (9.5)	10.8 (16.0)
Entertainment: very entertaining instead of not very entertaining	12.1 (17.2)	10.2 (15.7)	14.6 (14.4)
With test of knowledge at the end instead of without test	10.3 (13.6)	7.3 (9.9)	8.4 (10.4)
Certificate: With certificate instead of without certificate	16.6 (20.7)	13.4 (18.1)	8.8 (12.5)
Concise description instead of detailed description	4.8 (8.2)	4.7 (6.8)	9.0 (13.9)
High design quality instead of simple quality	8.1 (10.8)	9.8 (15.1)	9.1 (9.8)
Discussion forums available for the course instead of no exchange	4.8 (11.3)	6.0 (12.9)	5.4 (8.9)

* Question: Below we would like to ask you a few questions about the decision-making criteria for selecting online courses in the field of … (most relevant topic for the interviewee is embedded) Various improvements are shown below. First, please tell us the most important improvement for selecting a course. Please allocate 100 points to the improvements according to their weight. ( ) Standard Deviation; Basis: Respondents, who generally consider to book online courses (n=680).

While "providing a certificate" and "offering lower prices" rank top among decision criteria in the B2C segments, "reduced duration" and "high level of entertainment" are the most relevant factors in the B2B segment (Table 4). Due to classification of respondents 3 different clusters can be identified: (1) focus on a wide range of criteria (called "Indifferent"), (2) focus on time and (3) focus on certificate. Provided key customer needs are met, almost 70% of respondents in Germany and U.S. (B2C) indicate a willingness to pay (B2B segment: 96 %). Interviewees, who are already planning to book online courses in the future, show a particularly high willingness to pay for online courses.

Strong variances of recorded values in addition to the calculated mean values can be recognized. This suggests that behind those mean values different subgroups can be identified respectively - each of which has a focus on specific

customer benefits. Therefore, a clustering of respondents was carried out in a further step. As a result, 3 segments were identified with homogeneous customer expectations:

- Focus on time: this segment attaches special importance to a reduction of the length of the online course (36 % weight). Also, the price plays an above-average role (29 % weight).
- Focus on certificate: the customer in this segment values a certificate for online courses. (47 % weight).
- Indifferent: in this segment, the relevance of different attributes is distributed relatively equally distributed. There is no clear focus on few customer benefits.
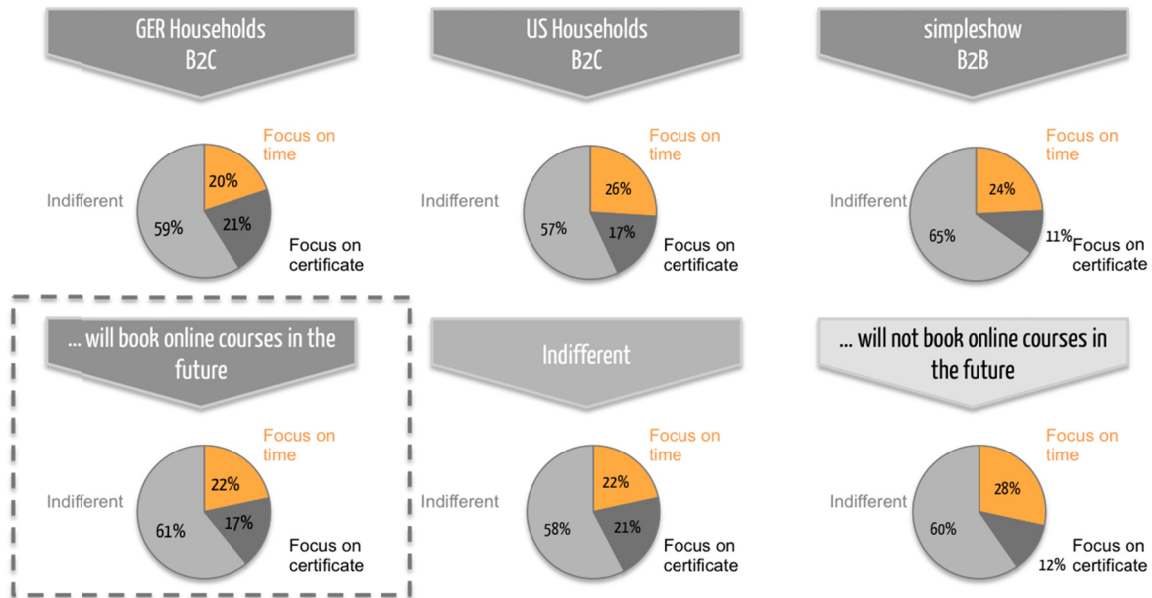

Figure 2. Customer segmentation based on needs

Figure 2 reveals that the distribution of segments according to a sample group (p=0.055) as well as intention to book online courses in the future (p=0.189) are relatively equal across all three samples.

3.3 Evaluation of Innovative Online Course Formats

As presented in Figure 1 a concept test concerning an innovative online course format was conducted in the final part of the interview. TSC´s video format plays a crucial role in this this concept and it was assumed that this format is not generally known in the B2C segments. Therefore a video example was shown in the first step of the concept test. Approximately 50 % of all respondents in Germany and the U.S. rate the TSC video as interesting (% top-2) – as expected corresponding results for the B2B segment were more favorable (82 % top-2). This share increases to 67 % in the group of respondents with the general intention to book online courses in the future. When performing Chi-Square-tests differences across groups are indicated to be significant (p<0.000) for both splits.

In a second step the structure of an innovative online course format was described. 25 % of respondents in Germany and 30 % of respondents in the U.S. show a high probability to book an online course as presented in the concept test (respondents with intention to book online courses in the future: 50 %). The evaluation of the online course concept is significantly driven by the assessment of the TSC video format, which was shown before. Respondents with a very good evaluation of the video indicated 67 % probability to use the online course (low interest: 7 % probability, p<0.000).

In addition the interviewees were also requested to indicate whether they are willing to pay for an online course comparable to the style as presented.[5] Based on these responses interviewees were allocated to 3 different groups (Table 5). Typically, TSC contacts (B2B) show a higher level of interest, a higher probability to use and a higher willingness to pay for the online course concept. Almost 45 % of the respondents within the B2B segment indicated a high probability to use and a willingness to pay 10 USD or more per course. The corresponding figures for the B2C segments are lower and reach 20 % in the U.S. and 13 % in Germany (Table 5). Overall, differences across sample

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[5] To measure the retention price a direct question was used instead of a rather complex and time-consuming methods like conjoint measurement. Recent research suggests mood and environment can deliver major benefits in encouraging consumers to increase their WTP (Lowe, Lowe and Lynch, 2013). Therefore it is not only decisive to use a valid instrument to measure the WTP in a certain situation, but also a robust one (Krämer, 2015).

groups as well as groups with different intention to book online courses in the future show a strong significance (p<0.00).

Table 5. Intention to use and willingness to pay for 30 min online course (concept test)

Used digital learning applications*	B2C (Germany)	B2C (U.S.)	B2B (International)
Low-medium intention to use**	75.1 %	69.7 %	34.6 %
High intention to use and willingness to pay < USD 10 per course	12.0 %	10.1 %	20.1 %
High intention to use and willingness to pay USD 10+ per course	12.9 %	20.2 %	44.9 %

* Question: Now imagine an online course consisting of several three-minute chapters. Each chapter can follow different formats such as the TSC video you have just seen, but also traditional elements. Would you book such an online course? (Scale from 0=not at all to 10=very probable, How much would you pay to participate in this online course (30 min.)?

** Scale points 0–7 (on the 0-10 scale) used to define low probability to book an online course as presented.

4. Discussion

The study results show that the use of online courses has become popular among the population and is not only a subject for academic training. Free of charge offers do not necessarily have a high quality. This also applies to online courses. On the one hand the number of users of online courses increases. On the other hand a relatively low degree of customer satisfaction suggests that there is a considerable room for improvement. Correspondingly, dropout rates are high. For 2014 Stanford University reported a completion rate of just 5 – 10 % (Walsh, 2015). This is consistent with the results of our study, showing an above-average proportion of not completed courses in the group of students. For other target groups, this is also true. Studies with focus on the business environment underline also that employees only weakly participate in online courses (IBIS Capital, 2013). A lack of incentives, failure to understand the content material, having no one to turn to for help, and having other priorities to fulfill, are the main reason for drop out, as Hew and Cheung (2014) point out. The authors conclude, "quality of MOOC education and MOOC business model are some unresolved issues". Other studies show that course completers tend to be more interested in the course content, whereas non-completers tend to be more interested in MOOCs as a type of learning experience (Wang & Baker, 2015).

As described by Shah (2014), most popular subjects of online courses are IT/software-use (Java coding, Excel, Adobe), business (entrepreneurship, project management, investing and others), and science (Biology, Physics, Medicine). This does not contradict the empirical results presented in our study. However, a special feature is the importance of languages as a topic for online courses in Germany. In this case, significant differences between the study regions arise.

With regard to the requirements of the potential benefits to the design of online courses, it becomes evident that a special sub-segment, in particular, expects a strong reduction in the length of online courses. This may be explained by two factors. On the one hand, shorter courses provide more options to fit the course in the time schedule. On the other hand, such courses are compressed in terms of content and detail. Here, videos can play a crucial role. Since video content is easy to understand and learners often retain more by watching a video than by reading a document (Abeer & Miri, 2014), the video format is one option to compress content in order to reduce the length of an online course. Further examining the possibilities of use and the learning efficiency of explanatory videos help identifying a rule of thumb: shorter videos are more engaging than longer videos. It should be strived to make the content as concise as possible to achieve the highest engagement. The longer the video is, the higher the dropout rates (Hornung, 2014). However, this relationship is not linear. Usually higher dropout rates arise when thresholds are exceeded: 2-3 min, and 10 min, respectively (Ruedlinger, 2012).

As presented by Sun, et al. (2008) "course quality is the most important concern in this e-learning environment. Course content should be carefully designed and presented sparingly. Technological design plays an important role in students' perceived usefulness and ease of use of a course and will have an impact on students' satisfaction." Taking into account the low degree of satisfaction concerning the quality of online courses (students and other target groups) and an increasing demand for stronger compression of the content, it is consistent that the concept test shows positive results for an online course format, which is based on a reduction in the duration of the course and the use of different elements (Instructor, charts, videos, etc.). Format and design are two factors among others that determine the quality of online courses. Further factors, which make up the quality, are the right content and the educational concept. This is consistent with findings of Lister (2014), which suggest that there are four main considerations when designing e-learning and online courses: i) course structure, ii) content presentation, iii) collaboration and interaction, and iv) timely feedback.

Overall, the study shows a high interest in innovative online courses concept and good chances of success. The presented design is strongly focused on the inclusion of short explanatory videos. Increasingly, people do not take the time to read documents - they watch videos instead (Bowley, 2015). Considering this, suppliers of online courses can

also take advantage of this development provided they are able to adapt formats to the changed requirements of potential users. In addition to the concept test in September 2015 a market test will start, wherein a fully developed online course (according to the design featured in interview) is offered on a well-known online platform.

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