Department 4: Computer Science

Antecedents of user acceptance towards weblogs: a theoretical
framework and empirical study

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submitted by

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A	Attitude Towards Using
AL	Active Loyalty
ASF	Atom Syndication Format
BI	Behavioural Intention to Use
CFA	Confirmatory Factor Analysis
CFI	Comparative Fit Index
CMS	Content Management System
CPD	Clicks Per Day
EFA	Exploratory Factor Analysis
GFI	Goodness of Fit Index
HTML	Hypertext Markup Language
KMO	Kaiser Meyer Olkin Measure of Sampling Adequacy
n.d.	no data
NNFI	Non-Normed Fit Index
PL	Passive Loyalty
PU	Perceived Usefulness
PEOU	Perceived Ease of Use
RMR	Root Mean Square Residual
RMSEA	Root Mean Square Error of Approximation
RSS	Rich Site Summary
RTU	Readiness To Use
SEM	Structural Equation Modelling
SU	Actual System Use
TAM	Technology Acceptance Model
TTFM	Technology Task Fit Model
TRA	Theory of Reasoned Action
URL	Unified Resource Locator
EWOM	Word Of Mouth
WWW	World Wide Web
XML	Extensible Markup Language

1   Introduction

1.1   Problem definition

New technologies, to some extent, constantly shape and influence our way of life. The Internet is one particular example of technology which has had a huge impact in terms of how we communicate, socialise and do business. The rapid development of the Internet continuously creates new information technology applications and services. A recent major trend has been summed up under the term "Web 2.0" or "Semantic Web". The Internet thrives on being an information or business platform, and also a social network that emphasises communication and participation. Growing technical sophistication allows people to seek opportunities to share their own feelings, emotions and opinions with other Web users.

One of those new services is the so called "weblog" technology, which offers new and dynamic opportunities for interaction between the different actors within the Web space. As a "*new form of mainstream personal communication*" (Rosenbloom 2004, p. 31), weblogs can also serve as a new medium that allows electronic person-to-person interaction. Weblogs allow companies to employ viral marketing strategies by using social networks and word of mouth to create awareness of their products in order to reach customers or certain target groups.

In order to successfully employ weblogs for marketing purposes it is essential to learn about the antecedents for the user acceptance of weblogs. It is obvious that if users do not accept weblogs this will result in fewer benefits for the organisations that use them as a marketing instrument.

Acceptance research is usually aligned with the introduction of new technologies, as it evaluates the antecedents that underlie the user's decision to make use of that technology. Weblogs are considered to be a relatively young technology, and so far research has been primarily concerned with the effectiveness of weblog performance and with the benefits that weblog usage can provide. The question "what in particular are the factors that attract people to accept weblogs and make use of them?" has still to be satisfactorily answered.

As consumer behaviour research sets the framework for acceptance research, this paper starts with an explanation of the basic behavioural mechanism of beliefs, attitudes and behaviour, for example, that are crucial elements of the acceptance concept.

Acceptance models can also be interpreted as a tool which continuously helps to improve the quality of a product or service. The analysis and evaluation of user acceptance also allows us to efficiently identify deficits of the weblog service design. Adjusting such deficits helps to align the service to the expectations of the (potential) users, and consequently increases user satisfaction (Amberg/Hirschmeier/Wehrmann 2003, p. 7).

The research was conducted employing a user perspective of acceptance, particularly taking into account the need to facilitate sustainable usage through evaluating loyalty factors. Based on the results of the conducted research the paper also provides managerial implications which help to construct and develop a strategy to generate weblog acceptance.

1.2   Research objective

The underlying intention of this thesis is to determine the relevant antecedents that lead towards the acceptance of weblog technology by developing and testing a hypothetical causal model. The research was conducted from a user perspective. This is important to bear in mind, as the conceptualisation and operationalisation were designed from this perspective.

A review of conducted acceptance studies helps to examine the theoretical fundamentals for the acceptance model that is development/promoted by this paper. Furthermore, the paper also introduces and compares both traditional and new models that have been developed and proposed in order to explain the acceptance phenomena. The paper shows how those various approaches discussed in acceptance research literature can contribute to, and support, the ongoing research of weblog acceptance.

As already mentioned, the research of the antecedents of the acceptance of weblogs has not yet been completely researched. This paper approaches the acceptance phenomena from the perspective of the user. An acceptance model, adapted on the basis of the thoroughly researched Technology Acceptance Model (TAM) by Davis/Bagozzi/Warshaw (1989, p. 985), was developed and tested. This model was extended by loyalty factors introduced by Ganesh/Arnold/Reynolds (2000, p. 71).

The first part (Chapter 2.1) of the theoretical fundamentals examines the definitions and the characteristics of weblogs. The characteristic of weblog technology in relation to the benefits and limitations of their underlying concept of communication is of particular interest.

The second part of the theoretical fundamentals (Chapter 2.2) introduces the concept of acceptance, and how it is used in the economic environment. Examining conducted acceptance studies and acceptance models helps to draw conclusions for the development of a model towards the acceptance of weblogs. By relating the TAM to aspects of customer loyalty (Chapter 2.2.5), the aspect of sustainable usage can be addressed.

The empirical section describes the conceptualisation and operationalisation of the quantitative survey (Chapter 3.2/3.3), conducted by employing an online questionnaire. The final model is tested and validated with the help of data analysis methods (Chapter 3.4) towards its capability in order to explain acceptance regarding weblogs (Chapter 3.5/3.6). The identification of the different factors, their relative importance, and the relationship between them, should explain the acceptance of weblogs. This also helps to deduce managerial implications (Chapter 5) concerning the design and configuration of weblogs.

This paper addresses researchers with backgrounds in acceptance research, and also those who are interested in consumer behaviour research. It also consults practitioners who are interested in learning about antecedents of weblogs acceptance, for example as an instrument for corporate communication. So-called weblog service providers, such as wordpress.de or blog.de for example, may also partly benefit from this study as they learn about the antecedents of weblogs acceptance. They can adapt their platforms in order to make their service attractive to a broader range of users. Most notably, the acceptance model research might be of interest to researchers, as it examines whether the TAM is capable to deliver explanation towards a current Internet technology such as weblogs.

Which factors are relevant to the acceptance of weblogs, and how can they be conceptualised and operationalised? Can the acceptance towards weblogs be demonstrated using the TAM? Furthermore, can user loyalty towards weblogs be deducted from acceptance?

1.3 Methodology

Theoretical fundamentals (Chapter 2) introduces and evaluates weblog technology by explaining the characteristics of weblog communication. This is done by exemplarily analysing a single communication link between the blog creator and the blog user. Definitions of weblogs are compared and assessed as they help to gain a general understanding of weblogs. This part is important for the ongoing research of this paper, as it identifies characteristics and features of weblogs that can be addressed within the design of the items used in the questionnaire.

Following on from the theoretical introduction of weblogs, an introduction of the acceptance research within the framework of behavioural research is given. Evaluating the different theoretical models that can be found in acceptance research (e.g. TRA, TTFM) contributes towards the selection and appraisal of an acceptance model towards weblogs. A study review furthermore helps to identify factors or characteristics of acceptance models that affect the design of the model developed by this paper. A brief introduction to the loyalty concepts is also provided, as the research objective of this paper incorporates factors of the loyalty concept by Ganesh/Arnolds/Reynold (2000, p. 71). The aim of this is to extend and optimise the final acceptance model which is based on the TAM by Davis/Bagozzi/Warshaw (1989, p. 985).

The empirical section describes the qualitative testing of the proposed research model by conducting a multivariate analysis following the approach of Homburg/Giering (1996, p. 12). The empirical section is finalised with a cluster analysis which aims to identify groups within the participants of the survey, respectively the weblog users.

The overall research process can be summarised using the following steps:

Step 1: Identifying the research subject: weblog, acceptance research

- Definition and characterisation of weblog technology
- Overview of models and studies of acceptance research
- Introduction to user loyalty research

Step 2: Developing a prediction model: extended TAM

- Conceptualisation of the model
- Outline of the prediction procedure

Step 3: Defining research model: items for weblog acceptance

- Operationalisation of the model

Step 4: Verifying the model and finding implications: weblog acceptance behaviour

- Multivariate analysis
- Cluster analysis
- Conclusion and managerial implications

2 Theoretical fundamentals

2.1 Weblog technology

The following section introduces the current understanding and characteristics of weblog technology. Following a historical introduction of weblogs, the definitions provided show how weblog technology is defined in literature in order to identify the most important characteristics of weblogs.

The paper also provides a new definition, based on the communication concept underlying weblog technology, following an evaluation and discussion of the "communication process model of weblogs" (Figure 1), adapted from Foulger (2004, p. 1).

2.1.1 History

There are two approaches regarding the origin of weblogs. While Blood (2000, p. 1) claims that the origin of weblogs is a result of their assigned **publishing tools**, Winer (2002, p. 1) looks at the **content** that has been published by weblogs.

Blood describes the very first blogs as a service established by individuals with the purpose of sharing personal information. With the development of blog search engines and the introduction of additional features such as permalinks and interlinkage, blogs have thus far managed to attract a large group of users. Winer argues that the first blogs were developed in order to relate content of remote Web locations to each other, for example in the form of a link collection site.

In the literature, Berners-Lee is often referred to as being the first person to set up a blog. This page was organised as a link collection page called "What's New?"[1]. During the first major boom periods of the Internet industry in the late 1990s, blogs emerged as a popular means for the exchange of information. Between the years 2000 and 2001,

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[1] http://www.w3.org/History/19921103-hypertext/hypertext/WWW/News/9201.html, available: 13/02/2007.

when the Internet industry experienced a crash, blog activity overall also decreased. A survey undertaken by the Perseus Development Corporation (2003, p. 1) shows that in 2003, only 60 percent of the blogs that were established during the boom period still remained existing.

It is only just recently that weblogs have gained attention again, and have started to attract the interest of users and companies alike. The graph (Appendix 1) generated by www.alexa.com shows a comparison of the daily reach[2] of different Web pages. However, traditional news and commercial pages, for example www.cnn.com and www.ebay.com, have experienced a stagnation, or possibly even a decline, in the size of their daily reach. Instead, blog pages such as www.technorati.com and www.blogger.com are attracting a greater number of users. This can also be evidenced by the rise in the number of weblogs, which can of course vary from country to country. According to the study by the Edelman corporation (2007, p. 34), the Asian countries, for example Japan, South Korea and China, are at the forefront of total blog usage.

The different approaches ("tool-based view" by Blood and "content-based view" by Winer) towards weblog technology are important for the overall understanding of the motives that have led, and are still leading, towards the employment of weblogs and consequently to the acceptance of weblogs. Users might have started using weblogs because they needed to publish or consume information content. Others might have become aware of weblogs while using a certain technology or tool which makes them attractive for usage.

Obviously blog popularity and the economic growth of the Internet industry are connected to each other. Weblog usage might therefore also be a result of economic incentives. The usage of weblogs also shows large differences between countries, indicating that weblog acceptance might also be related to cultural aspects.

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[2] Percentage of all Internet users accessing a certain Web page each day.

2.1.2   Definition

The definitions and extracts of definitions provided within Table 1 aim to show the full spectrum of the understanding of weblogs. Some current **Web 2.0** services, such as folksonomies, wikis or recommendation sites, for example, show similarities towards the weblog technology. That makes it difficult to distinguish between those technologies.

The terms "weblog" and "blog" are often used synonymously by media and literature. This is also the case in this thesis and should not be confused with a "Web log" which is used (e.g. Rahm 2002, p. 75) when referring to data collected when assessing a website (user tracking or IP logging, for example).

Other terms which have originated from the term "weblog" and used in this paper are:

- **blogosphere**: total universe of weblogs (TechEncyclopedia, 2006a)
- **blogger**: a person who writes weblogs (TechEncyclopedia, 2006b)
- **blogging**/**to blog**: activity of creating and adding a new item of information to a weblog (TechEncyclopedia, 2006c)

Some popular definitions that can be found in literature are mentioned below. These definitions and aspects extracted from definitions should give an overview of the various understandings of weblog technology. They are ordered chronologically, starting with the oldest:

Reference	Definitions
Barger 1997, p. 1	*"(…) Web page where a blogger 'logs' all the other Web pages he/she finds interesting''*
Morris 2001, p. 52	*"(…) frequently updated Web page consisting of brief, dated entries, with new ones pushing the old to the bottom of the page"*
White 2003, p. 10	*"(…) a Web diary"*

Albrycht 2004, p. 14	*"A blog is an online journal, a collection of observations, stories, news and other terms that a person or organisation deems worthy of sharing with the world. Blogs enable readers to comment on what is written, providing a de facto collaborative space. Finally, the content of a blog can be syndicated for news aggregators (via RSS/XML content syndication standards) and easily linked to form other blogs"*
Grossman 2004, p. 65	*"(…) amateur websites that provide news, information and, above all, opinions to rapidly growing and devoted audiences drawn by nothing more than a shared interest or two and the sheer magnetism of the editor's personality"*
Rosencrance 2004, p. 23	*"(…) valuable knowledge management and communication tools in companies"*

Table 1: Definitions of weblogs

Barger's definition is the oldest that can be found. It contains rather technologically oriented understanding of weblogs. A more differentiated and detailed definition was formulated by Albrycht, who covers various technologies and areas of weblog application in her definition. The aspect of "sequence updating", however, which is mentioned by Morris's definition, for example, is still missing in this definition. Definitions which provide further aspects and explanation of the weblog concept are given by Grossmann and Rosencrance. They elevate weblogs to a medium for communication and assign the technology to certain functions (e.g. management information source, news service).

The following Table 2 shows the main issues towards weblogs, as mentioned in the definitions above:

	Actuality	Personalised	Interaction/ Participation	Usability
Barger		X	X	
Morris	X	X	X	
White	X	X		
Albrycht		X	X	X
Grossmann		X	X	X
Rosencrance			X	
Total	2	5	5	2

Table 2: Criteria appearance in definition

The aspect of "participation/interaction" (e.g. community, interlinkage) is mentioned in all but one of the definitions. It has generally been agreed that weblogs contain "personalised content", for example annotated links or insight information. The criteria of "usability" is also mentioned very often within definitions, and relates to the ability of blogs to be published/read by tools such as feedreaders. Surprisingly, "actuality" in terms of frequent updating of blogs is rarely mentioned. The ability of blogs to provide actual content is an advantage that is usually highly regarded by many users.

The underlying technological bases for weblogs, for example Web protocols and mobile solutions, will certainly expand the various fields of application for weblogs. Because other Web 2.0 services are also still developing this may lead towards technological synergies between different technologies such as Rich Site Summary (RSS), Atom Syndication Format (ASF), Content Management Systems (CMS) or Cascade Style Sheet (CSS) (Downes 2005, p. 412), for example, of which some were referred to within the definitions above. As a consequence these technologies can affect the standardisation, convergence, emergence or disappearance of current Internet technologies such as weblogs.

As a matter of fact, literature definitions turn out to be quite diverse. A final definition has not been given yet, and certainly cannot be given since the developments of the weblog concept are not completely settled. Definition can only capture the current state, and therefore the statement: *"Your blog is whatever you want it to be"* (blogger.com 2007, p. 1) is certainly of significance. It sums up what has been discussed before: there is still room for wider-reaching interpretations of what a blog actually is.

2.1.3 Characteristics of weblogs

The following chapter should deepen the reader's understanding towards the weblog technology, especially the **communication concept** which underlies weblogs, and will be described and discussed in detail. This is especially important as the versatility of weblog technology still confuses people and makes them question where they should allocate it: is it a service, an application or even an information system?

Because weblogs do not necessarily require scripting or programming, they are not an application in the traditional sense. To describe weblogs as an information system would certainly also fail, as they do not attain the complexity of a system. Nevertheless, they can still be part of an information system. An applicable explanation for weblogs would be to classify them as "information and communication services".

The basic design of an information and communication service usually contains three components: a sender, a receiver, and a media that connects the two. The following (Figure 1) was adapted from Foulger (2004) to fit communication concept of weblogs:
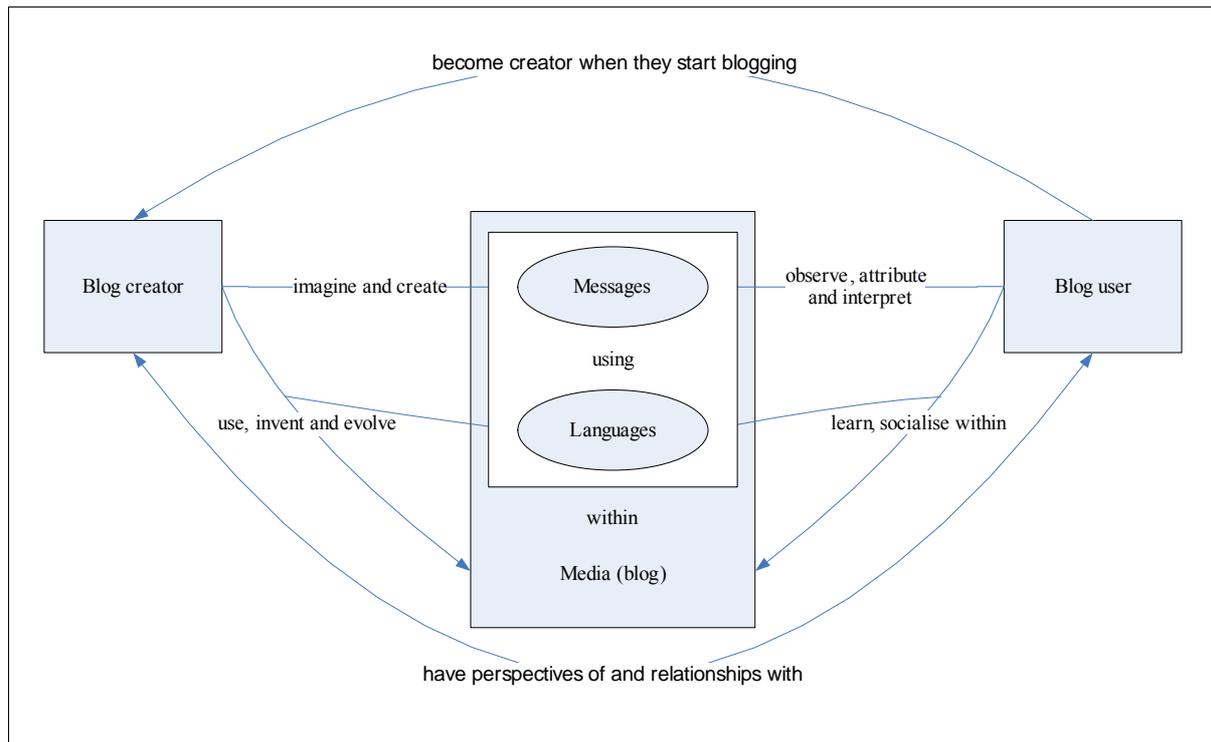
Figure 1: Communication process of weblogs (adapted from Foulger 2004, p. 1)

There are two actors in the model that communicate with each other. The model shows an actor "**blog creator**", often referred to as "blogger", who determines the guidelines and content of the blog. Part of that is the imagination and creation of messages. For this purpose the blogger uses, evolves or inverts languages within the blog. In other words he sets up, writes and maintains the blog.

The second actor is the "**blog user**" who observes blogs, and who can, for example, read or comment on the blogs. "Attribute" means the blog user might connect the message to a certain topic. Furthermore, the blog user interprets and creates his/her own opinion towards the messages, and consults, reads, observes, interprets or comments on that blog. The languages used in the blog enables him/her learn or socialise within the media. The differentiation between creator and user is important to remember, as the paper approaches the acceptance research from a user perspective. These two actors are connected by a "media", "**the blog**", which sets the technical framework and transmits a "message" by means of a "language" (German, for example).

The model also perceives that there is a personal relationship between the creator and the user. Furthermore, creators and users can change their position in the model. A closer look at that is provided in sections 2.1.3.1 to 2.1.3.4.

The above model only extracts a single network link and describes the communication characteristics on the basis of a single connection. Weblog communication can be described as "network communication" in the sense that there can be many interactive communication links beneath multiple users that form some kind of social network (Downes 2005, p. 1).

The following section provides further explanation of the core components and the communication process illustrated in Figure 1. This is important as the actors of the model need to be characterised. The characteristics of the blog user especially needs to be carefully examined, as it is the user who is the focus of the conducted research.

2.1.3.1 The blog creator

Because weblog interaction is to some extent personal interaction, the personal character and social status of the blog creator also needs to be examined, as this can influence the behaviour of the blog user. For instance, certain blog users might prefer to consult blogs that have been written by CEOs than ones that were prepared by employees.

Weblogs are usually the creation of a single user, designed for individual use, and possessing a personal and informal style (Lang 2005, p. 37). But this is not a prerequisite. As Clyde (2002, p. 1) points out, there can also be group weblogs where several people post information.

The motivation behind the creation of a weblog can be varied. It can either be intrinsic, to create, for example, a record of the user's thoughts (Himler 2005, p. 26), or extrinsic, due to delegation and/or commercial reasons (Sun/Zhang 2006, p. 17). This differentiation is important as it can also affect the character of the blog, because it might interact with its authenticity. Intrinsically motivated blogs might contain a higher level of authenticity. This authenticity is highly demanded by blog users. Where blog

users realise that a blog is fictitious, this usually results in heavy criticism of the blog's creator.

As mentioned above, the character and the quality (e.g. authenticity or actuality) of the blog usually depend upon the personality or status of the blogger. Wright (2006, pp. 101-119) identifies different types of weblog creators:

- **barber**: a prominent consultant
- **blacksmith**: an expert and/or insider
- **bridge**: a communicator between people
- **window**: an expert who looks beyond the boundaries of the company
- **guide**: an expert who discusses potential trends
- **pub**: an open-minded type who prefers informal discussion
- **newspaper**: a journalist, usually interested in political and technical content, providing facts rather than supporting the formation of opinion

Because blog users might have different expectations regarding the blogger's character, each of the characters above might affect the acceptance towards a blog from case to case, either positively or negatively. Because the blogger and the blog user do not meet face-to-face, weblogs do not ensure total authenticity. Blog users are exposed to the possibility that a blogger is not who he/she claims to be.

2.1.3.2 The weblog user

Issues that apply to the blog creator also apply to the blog user in a similar way. For instance, as there are several types of weblog creators, there are also different types of blog users. They can, for example, be classified according to their degree of involvement or activity. Some users might have a relatively low level of involvement, just reading or observing blogs. Others show a higher level of involvement by commenting on blogs, and by making intensive use of the interaction opportunities provided by weblogs.

The dividing line between blog user and blog creator is certainly very small. This is because someone who reads or comments on a blog would be regarded as a blog user for that particular blog. At the same time he might be a blog creator for another blog, or even for his own blog. We therefore have to position the actors in relation to a certain blog, as this paper concentrates on a blog user's perspective.

A certain kind of intrinsic or extrinsic motivation is a crucial aspect for both blogger and blog user. Similarly to the blogger, the blog user expects a certain benefit by using the blog. For instance, blogs can be used for enjoyment, entertainment, socialising, information or financial reasons. To name one major benefit: purchase decisions can be supported by using additional information that is provided by blogs.

2.1.3.3 The media weblog

The technical framework that transmits the messages of the weblog service, for example by means of a language, can be described as the media, which in this case is the blog.
The physical appearance or weblog design is largely determined by the technology or service that is used in order to transmit the weblog. Weblog service providers, such as wordpress.de or blog.de, provide a media platform that can be used to set up or access a blog. Those platforms also support the development of certain standards regarding the presentation of a blog. An example of a blog presentation by wordpress.de can be found in Appendix 2. Media platforms are a relatively easy-to-use technology (Albrycht 2004, p. 14), enabling technologically inexperienced users to create their own weblogs. The separation of content and presentation supported by those platforms also help blog users to focus on the content validity of the blog (Gordon 2006, p. 34). The content of blogs is usually reduced to plain text. In spite of this, information published in weblogs does not necessarily need to appear in text format. For example, photo, audio or video weblogs have a very similar function to that of podcasts (Knallgrau 2003, p. 1).

The messages send by weblogs usually refer to a specific genre such as sports, tourism or fashion (Herring et al. 2004, p. 2). Furthermore blogs can also affect a certain area of application. Dearstyne (2005 pp. 40, 42) identifies and classifies fields in which weblogs are employed:

- **personal news and views**: individuals publish information about life, families, personal development, etc., predominantly for the purpose of personal expression

- **news, commentary and journalism**: publish, interpret and comment on news, e.g. bildblog.de[3]

- **advertising and promotion**: clear and straightforward business intention is produced by industry to generate customers and sales growth, e.g. Astra blog by Opel[4]

- **business/professional commentary and insight**: feature commentaries by CEOs, professionals and other employees, for example General Motors CEO blog by Bob Lutz[5]

- **knowledge management**: perspectives and policies are published in order for them to be shared with employees or project managers

These various fields in which blogs can be employed also implies that blog users might show different acceptance behaviour towards certain blog genres or fields. Blogs within the "personal news and views" field might be consulted more voluntarily than blogs of the "knowledge management" field, as their usage might be enforced by companies. Consequently, users might show a negative attitude towards blogs of "knowledge management". The same applies for the other fields of application where different users might have different perceptions towards such blogs. These issues need to be taken into consideration when researching the acceptance towards blogs.

The unique characteristics of the communication process, facilitated by the interaction of blog creator and blog user, using the weblog service, is described in the following chapter.

2.1.3.4 Weblog communication process

The communication process facilitated by weblogs can be described as an "interactive" type of communication. Based on the fact that individuals or persons communicate with

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[3] http://www.bildblog.de
[4] http://astra.blogg.de
[5] http://fastlane.gmblogs.com/archives/bob_lutz/

each other, the type of communication is usually referred to as word-of-mouth communication (WOM). This acknowledges that there can also be multiple recipients as opposed to one person alone. Arndt (1967, p. 189) defines WOM as *"oral person-to-person communication between a receiver and a communicator, whom the receiver perceives as non-commercial"*.

In order to address the research objective "weblog" more closely, it certainly makes sense to broaden this definition and include the Internet as a medium. Hennig-Thurau et al. introduced the term "electronic word-of-mouth communication" (eWOM) in order to achieve a terminological differentiation of Internet or electronic WOM from traditional WOM. They speak conceptually of *"positive or negative statements"* relating to a *"product or company"* which are made by using the Internet (Hennig-Thurau et al. 2004, p. 39). Nevertheless they state that the motives that account for traditional WOM are also relevant for eWOM (Hennig-Thurau et al. 2004, p. 40). Because it better fits the discussed topic of this paper the term eWOM is used from here on.

The use of eWOM as it is supported by weblogs consequently leads towards an increase of the so-called "network effect". This effect is a fundamental characteristic of most Web 2.0 services. The benefit that a network provides usually increases with the number of its participants (Katz/Shapiro 1985, p. 424). For weblogs this usually means that the more participants become involved, the more beneficial it becomes to its participants.

In order to support eWOM, weblogs contain functions like "trackback" or "pingback" which makes it easy for the blog user to connect content of different blogs or sources to each other. This also makes it possible to indicate the origins of any given piece of information, or where additional information may be found (Margulius 2006, p. 16). Those functions, furthermore, support the linkage of ideas, generation and sharing of knowledge between bloggers, providing benefit to the weblog communities (Du/Wagner 2006, p. 790).

Besides creating network effects, weblog communication also enhance the development of "multiplier effects", simply by spreading information regarding a certain brand or product (Cohen/Krishnamurthy 2006, p. 616). This effect is often used by companies as

an effective and inexpensive way to create awareness for their products and/or services. Still, this can also pose a threat to companies in the sense that negative news attracts greater attention, and may harm a company's reputation. It is questionable whether blog users perceive marketing campaigns making use of weblogs as positive. A reason could be that weblogs are regarded by many users as an authentic, non-commercially oriented medium (Lee/Lee/Park 2006, p. 8).

A further comment on weblog communication is made by Nardi et al. (2004, p. 44), who finds that communication through weblogs takes place on a more democratic level: blog users have an equal right to pass comment, irrespective of their position. This is a notably significant factor, especially in organisational weblogs. Furthermore, in contrast to traditional publications, there are usually no professional editorial journalists or censorship which might take away some of the users' fear of doing something wrong, and which strengthens their self-confidence towards making comments on blogs.

The communication process between blog creator and blog user can be summed up under the aspect of "electronic interaction and participation" activities. A weblog can certainly be regarded as an authentic Web 2.0 service, largely due to the fact that it generates its power almost entirely from human interaction.

2.1.4   Conclusion

It might be their relatively simple technique that makes weblogs an attractive service for communication. Still, Neuberger/Nuernbergk/Rischke argue that weblogs should not be trivialised just because they have a versatile format (2007, p. 96). This is also demonstrated by the broad range of different definitions, the perception of the technology, presentation and content which is of a varying nature. Convenience and ease of use are apparently major factors in promoting blog development. Users may find that blogs are easier to manage and more pleasurable to read and write than a collection of intranet pages or endless e-mail threads, for example.

By comparing both the definitions mentioned above and the discussion regarding the communication process of weblogs, it becomes obvious that the definitions are very

technically oriented. For the reason that weblog technologies have yet to be conclusively settled, technical characteristics may from time to time become antiquated. Some definitions also consider the fact that weblogs contain personalised content and enhance participation and interaction. Still, the unique form of the weblog communication process has been insufficiently addressed. The definition developed by this paper should focus on this special form of communication and should still be as broad as possible in order to address all types of weblogs. A definition of weblogs that tries to incorporate those aspects is:

"A (we)blog is a regularly maintained, Web-based communication service that allows electronic interaction and participation of blogger and blog users in order to make use of emerging network effects and provide benefits to both by an efficient sharing of information."

There are, however, certain limitations to weblogs. The lack of control over blogs is certainly a potential risk for commercial bloggers or blog users. Furthermore blogs can be exploited by bloggers or blog users as an attempt of self-promotion instead of to the benefit of the community. Both blog creator and user can also face legal issues, for example by publishing confidential information.

Participation and interaction are certainly the main aspects of weblog communication. Most weblogs, however, try to reach as many users as possible by making use of eWOM. What makes eWOM particularly beneficial to blog creators and blog users is the fact that it is more or less free of charge (Marken 2005, p. 31). Companies that employ blogs for marketing purposes might assume that blog users generally perceive such forms of marketing as being more credible than traditional advertising. This is due to the fact that the potential customer, who usually is the blog user, actually interacts with the company. For blog users large benefits are certainly found in the reduction of information and transaction costs. Furthermore, blogs may also satisfy their need for entertainment.

2.2 The concept of acceptance

In the previous part of this paper the theoretical concept and characteristics of weblogs have been discussed. The following chapter introduces and discusses different research approaches towards acceptance behaviour. Because "acceptance research" is located within "behavioural science" the paper starts to allocate and describe it within this framework. After that acceptance research is examined, discussing its relevance towards the economic environment.

2.2.1 History

Classical acceptance research was limited to studies in the area of work science and business administration. In work science, acceptance research was applied to the introduction of technologies or techniques that focus on the ergonomics of technologies, thus trying to lower psychological and physical exposures within the workplace. Organisational and economical effects were not originally the priority of acceptance research (Reichwald 1978, p. 26).

Acceptance research as it is relevant for this paper has been conducted ever since the mid 1960s as an important prerequisite towards the successful introduction of market innovations. During the 1970s, the term was used in socio-scientific discussions and was especially discussed in relation to the introduction of new media applications (Degenhardt 1986, p. 36).

Acceptance research was originally limited to a form of "accompanying research", observing the resulting user behaviour towards the introduction of an innovation (Kollmann 1998, p. 54). Problems that resulted in a lack of user acceptance at an early stage of the application/service introduction process were therefore difficult to address. Nowadays, acceptance research is discussed in a much broader sense of the word and has evolved with multiple meanings. In the area of business administration, acceptance research covers issues in marketing, organisation, production and computer sciences (Döhl 1983, p. 110). Due to the convergence of technologies, products and services,

acceptance phenomena have adopted a more "integrated perspective" (Döhl 1983, p. 111).

2.2.2 Introduction to the acceptance research

2.2.2.1 The acceptance concept in the framework of consumer behaviour research

The acceptance concept is fundamentally located within the framework of consumer behaviour research. It is very much related to concepts discussed in psychology. As mentioned, it is in particular connected to the behaviour towards the introduction of an innovation. Biberhofer describes an innovation as being something new for the whole environment or for an individual (Biberhofer 1982, p. 9). He makes the point that it does not matter whether the object is brand new, as long as it appears to be new to the person adopting it. Rogers (1995, pp. 15, 16) specifies five relevant attributes of innovations:

- **relative advantage** compared to previous ideas or technologies
- **compatibility** of the innovation with existing values, experiences and the needs of the person adopting it
- **complexity** of an innovation
- **trialability** of an innovation
- **observability** of the results of an innovation

With the exception of "complexity", all attributes relate positively towards acceptance of an innovation.

The weblogs technology certainly accounts for the above identified attributes of an innovation. As already mentioned, weblogs have been around for some time, which makes the technology not so innovative. It is rather the current expansion of weblog popularity and their application towards other areas and topics which makes weblogs an "innovation" for many users. As a matter of fact, it largely depends on the individual user whether he or she understands weblogs as an innovation, and certainly most users would.

In order to clearly distinguish between the different terms that are used within the concept of user acceptance the terms attitude, adoption, diffusion and acceptance - which are used in consumer behaviour research - are defined below:

- **attitude**: "(…) learned predisposition to respond in a consistently favourable or unfavourable manner with respect to a given object" (Fishbein/Ajzen 1975, p. 6)
- **adoption**: "(…) continuous, voluntary use of a product or service" (Rogers 1995, p. 21)
- **diffusion**: "(…) is the process by which an innovation is communicated through certain channels over time among the members of a social system" (Rogers/Shoemaker 1971, p. 18)
- **acceptance**: "(…) strong or less strong affirmative attitude of an individual or group towards an object, subject or other issue" (Hilbig 1984, p. 320)

The terms "adoption" and "acceptance" are often confused with one another and/or are used interchangeably. This paper understands "acceptance" to be an extension of "adoption" by taking a "positive attitude" towards the innovation. "Diffusion", however, describes the process as a whole as the means of acceptance of an innovation.

According to Mowen, the characteristics of consumer behaviour as defined above are the direct consequences of "consumer belief". Consumer belief is determined by the knowledge that a consumer possesses concerning an "object" - in this case a weblog - its "attributes" and the "benefits" it provides (Mowen 1995, p. 285). Mowen provides a model that presents theses factors and their relationships:
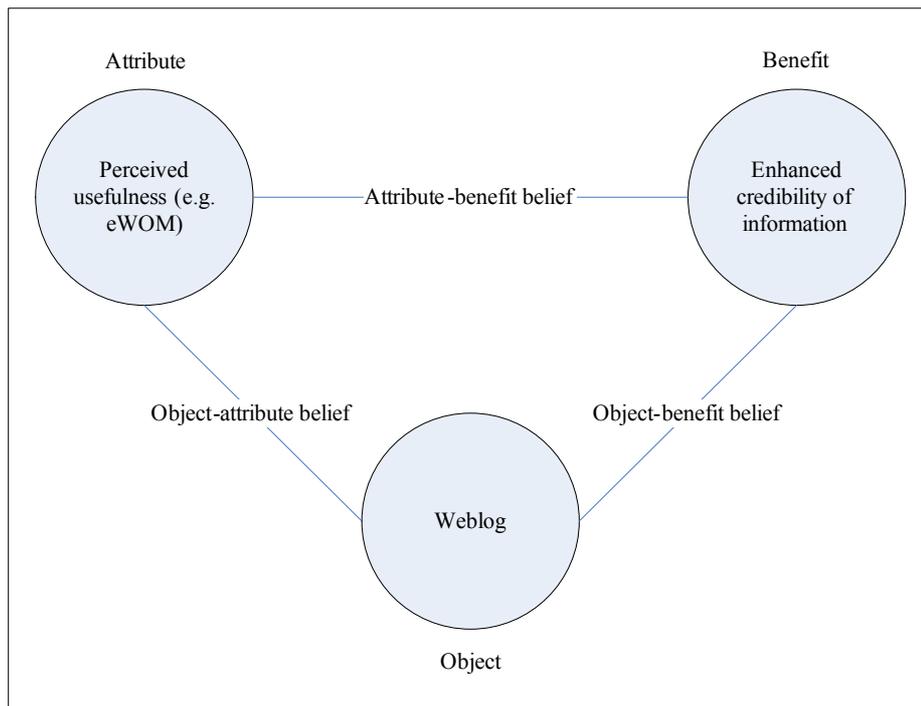
Figure 2: Consumer behaviour (adapted from Mowen 1995, p. 286)

eWOM is believed by many blog users to be an attribute or characteristic of the weblog communication concept, which originates from the object-attribute belief. As a result, the attribute-benefit belief eWOM is perceived to enhance credibility and trust in the information that is distributed via weblogs. Consequently, weblogs are also believed to deliver enhanced trust and credibility by the relationship of object-benefit belief.

This model (Figure 2) is based on mechanisms such as the cost-benefit paradigm which is often quoted as being one of the most important determinants for consumer behaviour and behaviour in general. It can be traced back to being part of the "behavioural decision theory" (Beach/Mitchell 1978, p. 443), and is also relevant to perceived usefulness (PU) and perceived ease of use (PEOU), which will be examined later on in this paper. Customers look for a good trade-off between the effort which is required to employ the strategy and the quality of the resulting decision (Davis 1989, p. 321). For example, the cost-benefit paradigm applies where a company substitutes its newspaper campaign by a weblog, because it expects a much better cost-benefit ratio in terms of creating greater awareness with lower budgets. For blog users a benefit could be that they consult blogs because they expect higher information credibility.

The type of model which is used by this paper to research the acceptance behaviour is a "structural model". This type of model is primarily concerned with the psychological processes inside an organism that lead to a decision (Kroeber-Riel/Weinberg 1999, p. 363). Those structural models can be further categorised within "total models" and "partial models". Partial models only describe parts of the decision-making process, for example the development of attitude towards usage (Weinberg 1981, p. 69). Instead, the total model represents the entire decision-making process towards usage (Meffert 1992, p. 28). The developed model, which is extensively discussed in this paper, is of a total model character. That means the TAM which is used by this paper examines the whole process from "first contact" to "actual system usage".

In the following section, some total models will be examined. Those models follow the so-called S-O-R model structure (Figure 3). The behaviour of the user towards the innovation is the central point of acceptance research and is abstracted by the S-O-R concept (Simon 2001, p. 86):
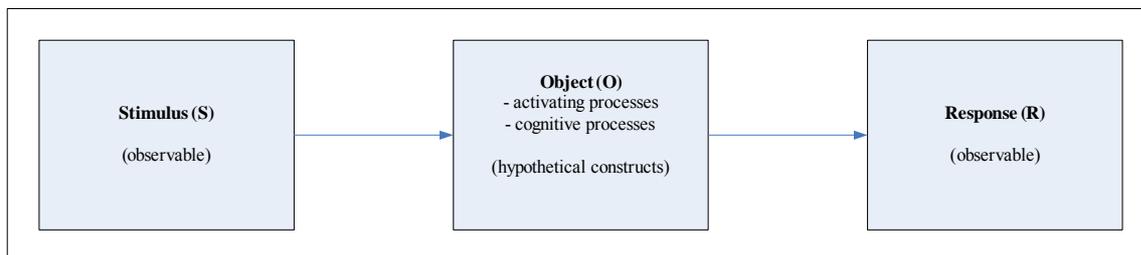
Figure 3: S-O-R model structure (Rosenstiel/Neumann 2002, p. 73)

The object component described in the S-O-R model stands for the innovation that is usually the central object within acceptance research. A potential consumer or user becomes stimulated by the object. By "activating processes" and "cognitive processes" hypothesised, the user or consumer is expected to demonstrate a certain response.

2.2.2.2 The acceptance concept in the economic environment

Reichwald (1982, p. 36) suggests that the acceptance should be approached from a user-oriented perspective, towards the adoption of innovations. The employment of the user perspective is preferable as the user should know best about his/her behaviour and how

acceptance is generated from this point of view. Furthermore the research approach chosen and developed is usually determined by the research object and/or the research direction (Kollmann 1998, p. 50). In order to gain a better understanding of what "user perspective" means, the following paragraph shows some types of user (Table 3). Furthermore, a differentiation between attitude (non-directly observable) and behaviour (observable behaviour) is provided.

A differentiation between "**attitude acceptance**" and "**behaviour acceptance**"[6] was successfully introduced by Müller-Böling/Müller (1986, p. 26) and has become generally well established in economical acceptance research. The "attitude acceptance" contains a cognitive and an affective component. Together, they indicate the disposition for an action. As the attitude acceptance revolves around a person's internal psychological structure, it cannot be directly observed. The cognitive component towards the attitude balances the attributes (e.g. ease of use, usefulness) of an innovation. The affective component considers the motivational/emotional evaluations of the innovation.

"Behaviour acceptance" extends the acceptance concept by a conative component that contains the acceptors' behaviour, for example purchasing and use of an innovation, which is observable (Müller-Böling/Müller 1986, p. 26). This distinction made between attitude and behaviour acceptance is based on Rosenberg/Hovland's "three-component-model" (in Frey/Möhle 1989, p. 135). These three components of different behaviour are:

- **affective component**: contains a person's emotional state towards an object and the perceived adequacy of this object for satisfying a motivation in the sense of a feeling of rejection or adoption
- **cognitive component**: meaningful examination of the advantages and disadvantages
- **conative component**: willingness of behaviour towards an object in a certain way that derives from the evaluation of the object

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[6] Should not be confused with the factor "behavioural intention to use" (BI) of the TAM.

An overview of different user types shows the relation between the components "attitude" and "usage" of the acceptance concept:

	Behaviour acceptance	
Attitude acceptance	Weak	Strong
Negative	Convinced non-user (no acceptance)	Forced user (usage-dependent acceptance)
Positive	Hindered non-user (attitude-dependent acceptance)	Convinced user (acceptance)

Table 3: User types according to attitude and usage (adapted from Müller-Böling/Müller 1986, p. 28)

The ideal case for acceptance applies where attitude is positive and behaviour is strong towards an innovation respectively. Here, the user is a "convinced user" and has fully accepted the innovation by him/herself.

In an organisational context, the organisation is commonly the decisive element because of economical incentives concerning the introduction of an innovation. This can, on the surface, be regarded as an adoption decision. Nevertheless, the actual acceptance decision takes place on the employee level. Here, factors such as ease of use are of increasing significance and relevance (Küpper 2005, p. 132).

Before starting the discussion of the different acceptance models the introduced approach by Müller-Böling/Müller should have clarified that there are observable and non-(directly)observable behaviours as well as different types of users or consumers.

2.2.3 Review of acceptance models

The following models show different conceptualisation of the approach to measure and explain the acceptance phenomenon. The introduced and discussed models certainly belong to the state-of-the-art in the field of acceptance research.

2.2.3.1 Theory of Reasoned Action (TRA)

The Theory of Reasoned Action (TRA) (Figure 4) has been developed in collaboration with the perceptions of social psychology. As the TRA is designed *"to explain virtually any type of human behaviour"* (Ajzen/Fishbein 1980, p. 4), it is a quite general approach, and has already shown its power of explanation for studying the acceptance of information technology.
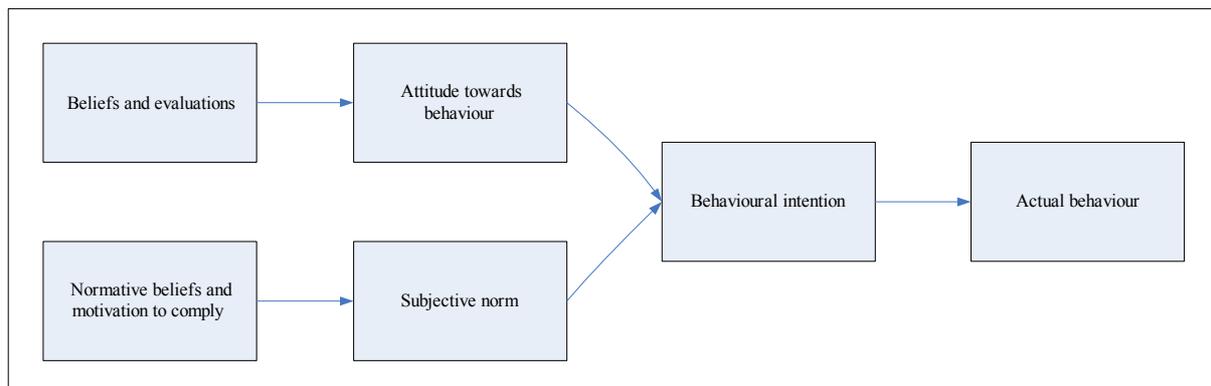
Figure 4: TRA model (Fishbein/Ajzen 1975, p. 16)

"Beliefs and evaluations" of possible consequences directly affect the "attitude towards behaviour" of a person. The attitude is influenced by an individual's positive or negative attitude towards the specified behaviour, which has the character of an evaluation effect (Ajzen/Fishbein 1975, p. 216).

"Normative beliefs and motivation to comply" determine the "subjective norm" of an individual. Ajzen/Fishbein describe this as "*the person's perception of what most people, who are important to him, think whether he should or should not perform certain behaviour*" (Ajzen/Fishbein 1975, p. 302).

The "subjective norm" and the "attitude towards behaviour" determine the "behavioural intention". The "behavioural intention" represents the "*measure of the strength of one's intention to perform a specific behaviour*" and determines the "actual behaviour" (Ajzen/Fishbein 1975, p. 288). The actual behaviour follows a conscious behavioural intention, as a person's performance towards a specific behaviour is determined by the behavioural intention to perform the behaviour (Davis/Bagozzi/Warshaw 1989, p. 984).

It could be the case that this model is too general, and therefore not specific enough for the acceptance research in business and technology applications. Where the TAM is more cost-benefit oriented, the TRA adopts a psychological approach and considers beliefs and motivations of a person. Furthermore, it does not specify beliefs that have an operative function for a particular type of behaviour. The notion of other people's behaviour being relevant for a person's behaviour makes sense, and is addressed by the subjective norm. The acceptance is still mostly facilitated through the attitude towards behaviour. It is only in the organisational context that it can be observed that behaviour might be influenced by the subjective norm. The TAM does not consider the subjective norm as being a separate factor. Instead, this aspect is addressed by "external variables". Overall, the TRA is regarded as being a thoroughly well-researched intention model, and has proven to be successful in both predicting and explaining behaviour across a wide variety of domains.

2.2.3.2 Technology Acceptance Model (TAM)

The Technology Acceptance Model has been developed on the basis of the TRA model, using the TRA for specifying the relationships between the factors of the model. The TAM[7] by Davis/Bagozzi/Warshaw (1989, p. 985) (Figure 5) is a very popular and useful model, especially employed in the Anglo-American sphere. It was applied to numerous studies and has been adapted, extended and built upon. The acceptance model proposed by this paper is also based upon the TAM.

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[7] The employed TAM (Davis/Bagozzi/Warshaw 1989, p. 985) in this paper is an adaptation of the original model by Davis (1989, p. 334). It also addresses "external variables" and the factor "attitude towards using".
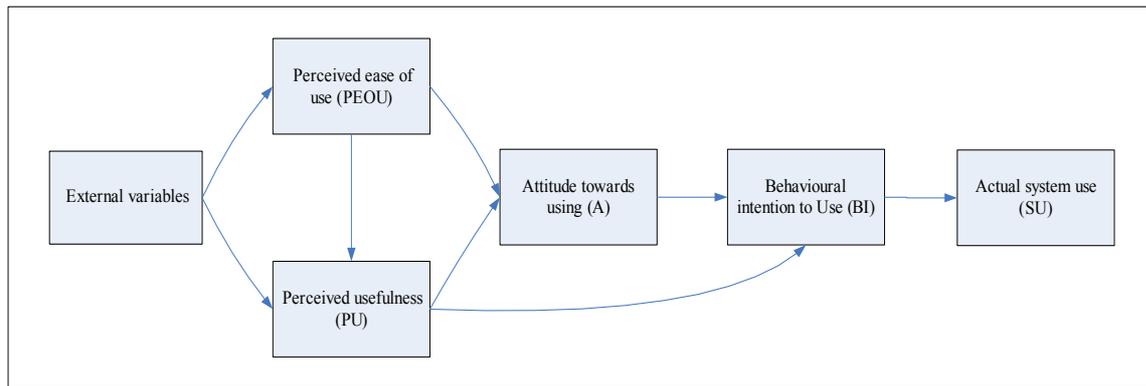
Figure 5: TAM (Davis/Bagozzi/Warshaw 1989, p. 985)

It considers "perceived usefulness" (PU) and "perceived ease of use" (PEOU) as being the two principal determinants for the acceptance which are influenced by "external variables" that can have "organisational-", "individual-", and "social characteristics". These variables affect the "behavioural intention to use" (BI) after those were mediated by perceived usefulness and perceived ease of use.

Perceived usefulness can be defined as "*the degree to which a person believes that using a specific application system will increase his or her job performance within an organisation context*" (Davis 1989, p. 320). The user consistently expects certain benefits from using a technology. The evaluation of the usefulness takes into account "external variables" e.g. personal preferences and also perceived ease of use is presumed to have a direct impact on PU as saved effort can be used to enhance the working performance.

Perceived ease of use is defined as "*the degree to which a person believes that using computer technology would be free of effort*" (Davis 1989, p. 320). Davis claims that the easier a system is to use, the more likely it will gain credibility and acceptance with the user (Davis 1989, p. 320). The TAM understands "self-efficacy" as the basic mechanism for PEOU. Efficacy underpins issues of "personal control" and can be seen as facilitators for an easy system. PEOU is similar to the definition of "complexity" as "*the degree to which an innovation is perceived as relatively difficult to understand and use*" (Rogers/Shoemaker 1971, p. 154).

PU and PEOU jointly determine the factor "attitude towards using" (A). The attitude towards using information technology was defined by Fishbein/Ajzen (1975, p. 216) as "*an individual's positive or negative feelings (evaluation affect) about performing the target behaviour*". Attitude is the user's evaluation of the desirability of employing a particular information systems application and affects BI. It is an evaluation of the likelihood by which a person will employ the application. Of course, people are more likely to perform behaviours from which they assume to have a positive effect.

The "actual system usage" (SU) is directly performed as a result of the behavioural intention to use. SU can be understood in terms of "frequency" of system use (i.e. "how often") and the "volume" of system use (i.e. "how much") by the user (Lederer et al. 2000, p. 277).

The original TAM (Davis 1989, p. 334) does not contain the factors "external variables" and "attitude towards using" as mediators towards BI. This adapted TAM (Davis/Bagozzi/Warshaw 1989, p. 985) contains an behavioural response that is represented by two factors: A and BI.

As discussed, the subjective norm as a determinant factor towards BI, as in the TRA model, is not considered in the TAM concept. This is because it is difficult to separate the "direct effects" of this connection from "indirect effects" emerging from factor A (Kelman 1958, p. 53). In contrast to the TRA, PEOU was introduced as a completely separate factor, seen to have a strong influence on A. The assumption that people are more likely to perform behaviours from which they assume to have a positive effect is also incorporated in the TRA model, in the way that rewards and promotions are seen to foster a certain type of behaviour which will again help to enhance their work performance.

The factors used in the TAM may, in some cases, be insufficient to describe the acceptance phenomena. For example; social aspects as addressed by the factor of "subjective norms" are not addressed by the model itself. Furthermore, according to several studies, the perceived ease of use has shown only slight effects on overall acceptance, and might therefore be regarded as over-represented in relation to the perceived usefulness. Kollmann argues that the TAM omits certain aspects of process

orientation and acceptance by continuous usage which is necessary in order to increase experience with the system (1998, p. 102).

Generally speaking, the model has shown that it does indeed provide explanatory power for studying the behaviour towards computer systems. Further explanation of the TAM, especially of the factor relationships, will be provided within the conceptualisation and the formulation of hypothesis in the empirical section of this paper.

2.2.3.3 Technology Task Fit Model (TTFM)

The TTFM by Goodhue (1995, p. 1840) (Figure 6) is an approach very similar to the TAM, but originally it was developed in order to explain the "appraisal phenomenon". It looks at how people - in particular the users - evaluate or appraise a certain technology rather than how the users accept it. Therefore, this approach is only indirectly concerned with the acceptance phenomenon which is the main difference to the other approaches of TRA, TAM and Dynamic Acceptance Model. But as the appraisal of the performance of a system has a great deal of influence over the acceptance of a system, the TTFM can also be seen in some respects as an acceptance model.
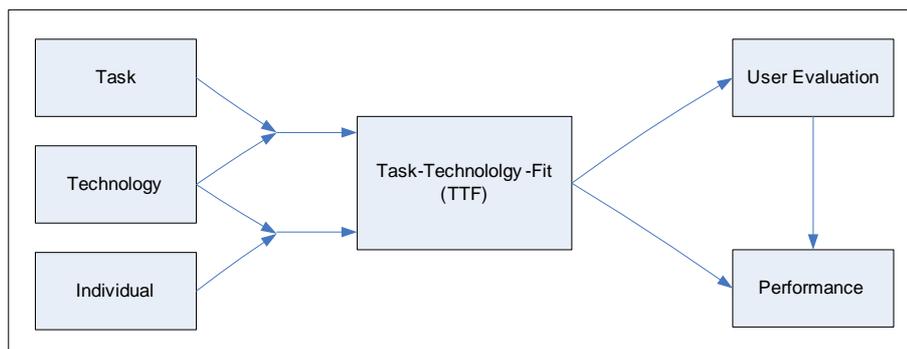
Figure 6: TTFM (Goodhue 1995, p. 1840)

A combination of "task", "technology" and "individual" are identified by Goodhue (1995, p. 1831) as the determinants for the Task-Technology-Fit. The factor "task" contains the attributes of the tasks which must be fulfilled by the individual. "Technology" looks at the characteristics of the services of the information system.

Among others, these can include the degree of complexity, diversity or dependency from other organisational units which influence the adequacy of the technology (Goodhue 1995, p. 1831). Finally, the abilities and the skills of the "individual" influence the appraisal of the information system. The result is the appraisal of the information system, and, in a broader sense, the acceptance of this system by the user. Depending upon the task, the user appears to evaluate the system as a tool that can either assist or hinder him/her in the performance of a task (Goodhue 1995, p. 1840).

The TTFM employs an ex-post-oriented evaluation of systems. This means that the system has already been tested or introduced before evaluation. The TTFM is often applied where systems underpin organisational usage enforcement.

2.2.3.4 Dynamic Acceptance Model

The acceptance model introduced by Kollmann is based on a process-oriented approach. This is fundamentally different to that of the other models previously described. Kollmann argues that following this approach can lead to a new understanding towards acceptance in which acceptance decisions are not regarded as deterministic yes/no decisions, but rather as a whole process (Kollmann 1998, p. 86).

This approach has found some utilisation in the German-speaking sphere and is widely used, especially for acceptance studies in the marketing environment. The "Dynamic Acceptance Model" developed by Kollmann (1998, p. 106) can be described as a multi-level model that contains three fundamental phases which potential users pass through:
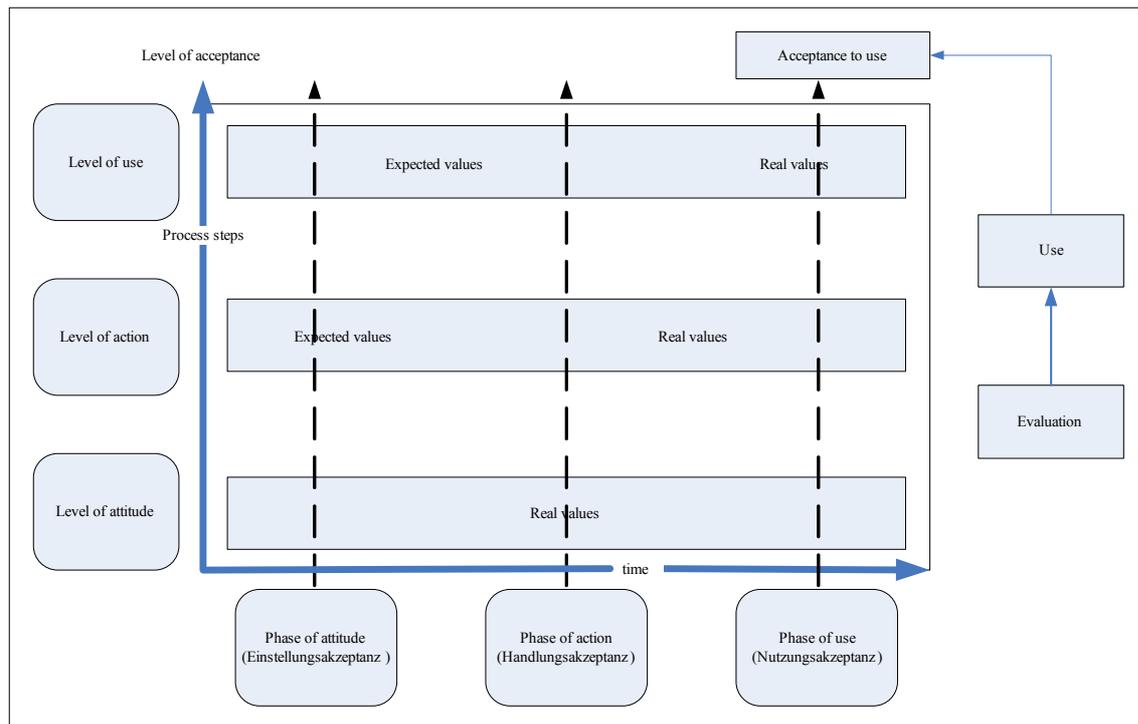
Figure 7: Dynamic Acceptance Model (Kollmann 1998, p. 106)

The initial "phase of attitude" is regarded as the phase before the adoption of an innovation. This phase can be divided into the process steps "awareness", "interest" and "expectancy/awareness". "Phase of attitude" is a result of the "real values" of the "level of attitude" and the "expected values" of the "level of action" and "level of use".

"Phase of action" describes the point of innovation adoption. This phase contains the partial steps "attempt/experience", "purchase/acquisition" and "implementation" that lead towards the generation of a real value on the level of "action". In the first partial step, experience is gained by the use of the innovation. After evaluating the use of the innovation, the purchase decision is performed and a real value towards acceptance on the level of use can be obtained. If the adoption of the innovation is perceived positively, this may also affect the acceptance generated in the phase of use.

"Phase of use" considers the post-purchase behaviour and usage. The first partial steps of this phase are the "application area", which is determined by the application situation. The second step is that of "usefulness" which contains the real value of the innovation performance. Based on this value, the user can generate "acceptance to use".

It can be argued that, by introducing the three levels, it is thus assumed that the level of acceptance can fluctuate due to "influencing" factors such as usefulness, enjoyment, etc. These influencing factors can also (at the same time) become important and relevant for the state of acceptance. It is questionable, therefore, whether the enhanced complexity of this approach results in a higher explanatory competence of the acceptance phenomena.

2.2.4 Literature review on acceptance studies

The literature has been retrieved by using the relevant journals and databases (e.g. JSTOR, EBSCO and ABI/INFORM, etc.). Finally, 20 research studies were collected to examine the concept of acceptance in a marketing context (Table 4). In addition, the articles examine the acceptance concept by employing a user-driven perspective. The articles were published between 1989 and 2007, and are listed chronologically:

Author(s) and year	Data collection and sample size	Measurement approach	Model employed	Antecedents/construct of acceptance	Consequences/findings	Good
Davis 1989	Questionnaire, experiment, 15 experienced users, 120 users, 40 graduate students	EFA, CFA, cluster analysis, Cronbach's alpha, SEM	TAM	PU, PEOU, SU	PU ➔ SU, PEOU ➔ SU	PROFs, XEDIT, Chart-Master, Pendraw
Davis/Bagozzi/ Warshaw 1989	Experiment, 107 full-time MBA students	EFA, CFA, Cronbach's alpha, SEM	TAM	PU, PEOU, A, BI, SU	PEOU ➔ PU, PU ➔ A, PEOU ➔ A, A ➔ BI, PU ➔ BI, BI ➔ SU	WriteOne
Haynes/Thies 1991	Questionnaire, bank customers	Content analysis	TAM	PU, PEOU, SU	PU ➔ SU, PEOU ➔ SU	Automated teller, self-service gas
Straub/Limayem /Karahann-Evaristo 1995	Questionnaire, 458 financial headquarters employees	EFA, CFA, Cronbach's alpha, SEM	TAM	PU, PEOU, SU, social presence, information richness	PU ➔ SU, PEOU ➔ SU, social presence ➔ PU, information richness ➔ PU	V-mail

Author(s) and year	Data collection and sample size	Measurement approach	Model employed	Antecedents/construct of acceptance	Consequences/findings	Good
Szajna 1996	Experiment, 61 graduate business students	EFA, CFA, Cronbach's alpha, SEM	TAM	PU, PEOU, BI, SU	PEOU ➔ PU, PU ➔ BI, BI ➔ SU	E-mail
Liang/Huang 1998	Questionnaire, 85 experienced Web users	CFA, Cronbach's alpha, SEM, discriminant analysis	Transaction Cost Economics (TCE)	Transaction cost, uncertainty, asset specificity, acceptance	Uncertainty ➔ acceptance, transaction cost, transaction cost ➔ acceptance, asset specificity ➔ transaction cost	Products in electronic markets
Kollman 2001	Questionnaire, 1,300 buyers, 870 sellers	EFA, CFA, Cronbach's alpha, correlation analysis, SEM	Causal model	Differentiation between demand and supply : readiness to use, database quality, intermediation service, transformation rate, intermediation costs	Database quality, transformation rate, intermediation service and costs ➔ marketplace acceptance	Electronic marketplaces

Author(s) and year	Data collection and sample size	Measurement approach	Model employed	Antecedents/construct of acceptance	Consequences/findings	Good
Lederer et al. 2000	E-mail response to website, 163 business Web users	CFA, Cronbach's alpha, regression	TAM	Antecedent ease of use, PEOU, antecedent usefulness, PU, SU	Antecedent ease of use ➔ PEOU, antecedent usefulness ➔ PU, PEOU ➔ SU, PU ➔ SU	WWW
Amberg/ Wehrmann 2003	Five questionnaires, 100-200 per survey and application, in total 500-600	Cluster analysis, Content analysis	Compass-Acceptance/ DART Model, Dynamic Acceptance Model	PU, PEOU, perceived network effects, perceived costs	PU ➔ SU, PEOU ➔ SU, perceived network effects ➔ SU, perceived costs ➔ SU	Mobile services

Author(s) and year	Data collection and sample size	Measurement approach	Model employed	Antecedents/construct of acceptance	Consequences/findings	Good
Van der Heijden/ Verhagen 2004	Questionnaire, pilot sample: 61, main sample: 312, undergraduate students	EFA, regression, Cronbach's alpha	TAM	Store usefulness, enjoyment, PEOU, trustworthiness, style, familiarity, settlement	Store usefulness, trustworthiness, settlement, enjoyment ➔ attitude towards purchasing online	Online-store image
Wang et al. 2003	Telephone interview, 123 Taiwanese adults	EFA, CFA, Cronbach's alpha, SEM	TAM	PU, PEOU, BI, perceived credibility, computer self-efficacy	Computer self-efficacy ➔ PEOU, PEOU ➔ BI, perceived credibility, PU	Internet banking
Arami/Koller/ Krimmer 2004	Questionnaire, 417 students	descriptive analysis	TAM	PU, SU, PEOU, perceived risk	PEOU ➔ SU, perceived risk ➔ SU, PU ➔ SU	Smart cards
Lai/Li 2005	Questionnaires, 247 graduate and MBA students	EFA, CFA, Cronbach's alpha, SEM	TAM	PU, PEOU, A, BI	PEOU ➔ PU, PEOU ➔ A, PU ➔ A, A ➔ BI	e-banking

Author(s) and year	Data collection and sample size	Measurement approach	Model employed	Antecedents/construct of acceptance	Consequences/findings	Good
Chung/Tan 2004	Questionnaire, 154 students	EFA, CFA, SEM, content analysis	Adapted TAM	Perceived playfulness, website characteristics, cognitive aspects	Cognitive aspects, website characteristics, motivation for searching ➔ perceived playfulness	Acceptance of general information-searching websites
Hsu/Chiu 2004	Questionnaire, 239 Taiwanese MBA students	CFA, SEM	TPB	BI, A, PU, SU, perceived risk, perceived playfulness, general Internet self-efficacy, perceived behavioural control, subjective norm	PU, perceived playfulness, general Internet self-efficacy ➔ A, A ➔ BI, BI ➔ SU	Internet self-efficacy and electronic service acceptance

Author(s) and year	Data collection and sample size	Measurement approach	Model employed	Antecedents/construct of acceptance	Consequences/findings	Good
Shih 2004	Questionnaire, 212 office workers, potential customers	Regression, Cronbach's alpha	TRA, TAM	PEOU, PEOU of perceived information, system and service quality (PEOUT), PEOU of Web security and access cost (PEOUW), PU, user satisfaction, A	PU ➔ A, PEOU ➔ A, PEOU ➔ PU, PEOUT ➔ PU, PEOUW ➔ PEOUT, user satisfaction ➔ PEOUT, PEOUW, A	e-shopping

Author(s) and year	Data collection and sample size	Measurement approach	Model employed	Antecedents/construct of acceptance	Consequences/findings	Good
Bauer et al. 2005	Questionnaire, 1,020 students and others	Cronbach's alpha, correlation analysis, CFA, SEM	TRA	Consumer-based acceptance drivers: innovativeness, knowledge, information-seeker behaviour, A Innovation-based acceptance drivers: perceived utility, perceived risk, social norms, BI	A ➔ BI, SN ➔ A, Innovativeness ➔ information-seeker behaviour, perceived utility ➔ A, perceived risk ➔ A	Mobile marketing

Author(s) and year	Data collection and sample size	Measurement approach	Model employed	Antecedents/construct of acceptance	Consequences/findings	Good
Hung/Chang 2005	Questionnaire, 267 potential customers	EFA, Cronbach's alpha, CFA, SEM	TAM, Decomposed Theory of Planned Behaviour (TPB)	TAM: PU, PEOU, A, BI TPB: A, subjective norm, perceived behavioural control, BI	TAM: PEOU ➔ PU, PU ➔ A, PU, ➔ BI, BI ➔ SU, A ➔ BI TPB: A ➔ BI, subjective norm ➔ BI, perceived behavioural control ➔ SU, BI ➔ PU	WAP services
Avlonitis/ Panagopoulos 2005	Questionnaire, 240 sales staff, users of CRM	EFA, CFA, Cronbach's alpha	TAM	social factors, organisational factors, individual factors, PEOU, PU, user satisfaction, salesman performance, CRM acceptance	Social factors ➔ CRM acceptance, individual factors ➔ salesman performance, PU ➔ salesman performance, PEOU ➔ PU, PEOU ➔ user satisfaction, PU ➔ user satisfaction	sales staff acceptance of CRM technology

Author(s) and year	Data collection and sample size	Measurement approach	Model employed	Antecedents/construct of acceptance	Consequences/findings	Good
Wu/Liu 2007	Questionnaire, 253 online game players	EFA, CFA, Cronbach's alpha, SEM	TRA	Trust, enjoyment, A, subjective norm, BI	Trust ➜ A, A ➜ BI, enjoyment ➜ BI, enjoyment ➜ A, subjective norm ➜ BI	Online games

Table 4: Acceptance study literature review

The studies within the literature review have primarily been selected according to their research objectives, which should be concerned with some aspect of Internet technology and/or innovative applications. Where possible, studies with a marketing context have been examined within the review. Furthermore, most of the studies selected were conducted by the TAM approach which is also employed in this paper.

The motivation to conduct an acceptance study is for most studies based on the idea of providing insights for management in order to successfully introduce new technologies. Most of the studies have also employed an empirical approach.

The TAM approach, with its adaptations and extensions, is by far the most popular and is widely implemented, especially in the field of information system acceptance studies. Overall, 14 of the 20 reviewed studies employed TAM as the research model. Internet technologies are investigated by 13 studies.

Most studies show a clear distinction between affective and cognitive dimensions. PU and PEOU are factors of the cognitive dimension whereas "perceived enjoyment" or "social norm" for example can be assigned to the affective dimension. The influence of both dimensions on acceptance has successfully been confirmed within research. Still, it is controversial whether cognitive factors influence affective reactions like Chung/Tan 2004 for example have shown or if it is the other way round as for example Wu/Liu 2007 state. The study review shows that the majority of studies see affective factors influencing cognitive factors.

No matter which model is used, the aspects of "usefulness" and "ease of use" are regarded as being essential antecedents to predict usage by all models. Only one study (van der Heidjen/Verhagen 2003, p. 614) found that usefulness had a significantly stronger effect on usage than perceived ease of use.

Most studies do not explicitly distinguish between BI and A. Of the five studies that do integrate dimensions of attitude and behavioural intentions, most indicate that the relationship between A and BI is usually not very strong. The relationship between BI and SU is highly significant within the examined studies. Overall, PU shows a strong

effect on A and BI, whereas PEOU often indicates a weak influence on A. Furthermore A often shows significant effect towards actual system usage.

For further research of this paper it should also be mentioned that none of the reviewed papers integrate factors of user loyalty into their research model.

Some further inconsistencies between the factor structure of the models can be observed. Five out of ten TAM studies do not include SU as a factor in their research model. The studies by Wang et al. (2003), Lai/Li (2005), Bauer et al. (2005), Hung/Chang (2005) and Wu/Liu (2007) test towards the factor BI. For these authors, having a concrete plan to make use of an innovation already fulfils the state of acceptance.

Studies also show that the attitude and usage factors can vary from "passive" to "very active". Simply "reading" weblogs could be regarded as an "adoption decision", whereas "commenting" on blogs could be described as active usage and account for a state of acceptance. It is, therefore, necessary to decide which "level of activity" is regarded as a signal of full acceptance of the weblog technology.

The models overall assume a similar mechanism to the underlying factors and relationships of the acceptance constructs. These mechanisms are, for example, the "self-efficiency theory", "cost-benefit research", "expectancy theory", "innovation research" and "channel disposition". These mechanisms, and their influence on the TAM, will be further discussed in Chapter 3.2.2, which contains the formulation of the hypothesis within the empirical part of this paper.

The TAM shows better explanatory power than the TRA which was used within three studies. The TAM also shows better results than the two studies that employed the TPB model. Extended TAMs, such as used in, for example, the study by Avlonitis/Panagopoulos (2005, p. 365), have succeeded in showing a better explanatory power than the original TAM.

The quality of the TAMs results differ significantly, which shows that the research context is in actual fact important for the research. The review shows that the acceptance models deliver inconsistent results regarding their power to explain the

acceptance of innovations. The research context can be determined by the characteristics of the innovation or by the organisational context to which the innovation is introduced (e.g. a workplace). The broad variety of research contexts and innovations make it difficult and impractical for researchers to use the same models. For instance, Sun/Zhang (2004, p. 53) address this issue by integrating "moderating factors" into their research model based on the TAM.

The majority of the studies reviewed have adapted the TAM in similar ways to achieve a better explanatory power of the TAM. This was usually done in such a way that new factors were developed which fit the individual research context. It is noticeable that these factors usually extend the affective part of the models by including factors such as perceived enjoyment, self-efficacy or trustworthiness.

Most studies are conducted with students in laboratory environments. Field studies instead usually employ questionnaires and take place in real working environments. Studies using experiments and the laboratory environment usually result in having a higher explanatory power than field studies, caused by their relatively controlled environment, where inconsistent answers to questionnaires, for example, are eliminated before they find their way into the dataset. This is certainly not always the case in field studies.

There can also be identified a difference between experienced (professional users) and inexperienced users (students) as experienced users usually show more positive perceptions towards PU of an information system.

Another potential hazard is that people from different cultural backgrounds may have different beliefs and/or values when it comes to accepting products or services (Rogers 1995, p. 65). It is, therefore, necessary to see the results of a study in relation to the characteristics of the sample and measurement approach.

2.2.5 User loyalty towards weblogs

Surprisingly, many researchers within traditional acceptance research regard the "purchase/adoption decision" to be on an equal level as "acceptance". This view lacks the aspect of "**sustainable usage**" which is understood to be a fundamental and essential criterion towards acceptance (Kollmann 2004, p. 149).

The sustainable usage towards weblogs was researched with the help of the customer loyalty[8] concept. Oliver defines customer loyalty as "*a deeply held commitment to rebuy or repatronise a preferred product/service consistently in the future, thereby causing repetitive same-brand or same-brand-set purchasing, despite situational influences and marketing efforts having the potential to cause switching behaviour*" (1999, p. 34).

It is obvious that loyalty towards weblogs goes beyond "actual usage". A "positive attitude" is regarded as an equally important prerequisite towards loyalty as actual usage (Fitzsimons/Greenleaf/Lehmann 1997, p. 18). This is because actual usage of weblogs does not necessarily imply a change of the user's attitude towards weblogs.

In contrast to the acceptance concept which is concerned with intended and actual behaviour towards "**actual usage**" behaviour (e.g. Ajzen/Fishbein 1975, p. 288), customer/user loyalty is primarily associated with "**post-purchase/actual usage**[9]" behaviour (e.g. Oliver 1998, p. 14). The behaviour towards the actual usage and the usage itself are already researched within the TAM. Therefore, the loyalty concept, as it is employed here, concentrates primarily on the evaluation of **indented behaviours** of the user **after** the point of his/her initial usage of weblogs.

The position and the interference of the acceptance concept and the user loyalty concept as understood by this paper are shown within Figure 8.

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[8] The terms "user" and "customer" are used synonymously in this study. This is because customers can also be regarded as "users" and vice versa if there is no financial component involved. Therefore, the concept of acceptance and the customer loyalty approach can also be applied for the context of weblog acceptance, replacing "customer" with "user".

[9] "Usage" and "purchase" are used synonymously.
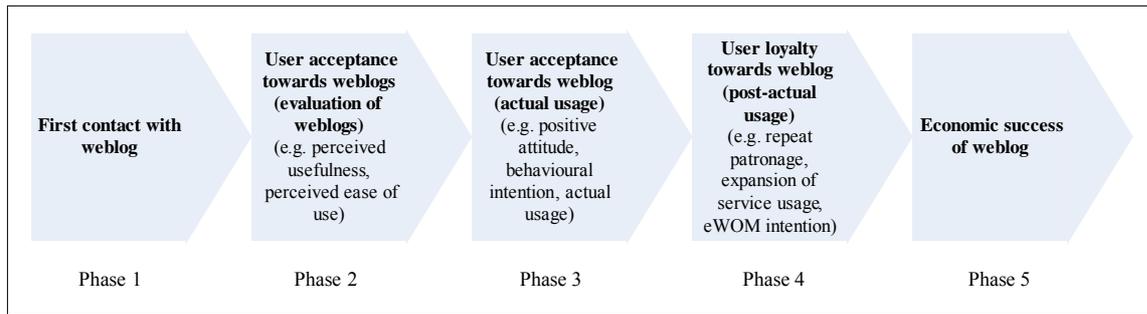
Figure 8: Functional chain of blog user behaviour towards economic success of weblogs

Figure 8, shows the relationship between the TAM concept and the user loyalty. Furthermore, it shows the relationship between each phase and the approach towards economic success.

The first phase "first contact with weblogs" addresses the initial contact with blogs in the way that a user might occasionally uses weblogs (Bruhn/Homburg 2000, p. 9). In this phase usage proceeds without having a positive attitude or significant behavioural intention towards weblogs. The blog users might develop certain expectations about a product/service and reach a certain level of evaluation of weblogs in the second phase. The "evaluation" can be reached or maintained by fulfilling the customer's expectation of perceived usefulness or ease of use, for example. In this phase the user develops a certain degree of positive attitude, positive behavioural intention to use, and acceptance towards a specific weblog by using the blog. The fourth phase shows the user loyalty which contains less switching behaviour, expressed by repeat patronage, expansion of service usage or positive eWOM intention. User loyalty is a necessary prerequisite in order to achieve profitability and economic success (Reichheld/Sasser 1990, p. 108).

Loyalty towards Internet services is often hard to achieve. One of the most famous examples is probably the mass shift of users from Yahoo to Google in recent times, and certainly blogs can also experience a decline in loyalty, where, for instance, aspects of maintenance, actuality or authenticity are disregarded.

Especially for advertising purposes a high level of user loyalty towards blogs is often regarded as an essential prerequisite for (economic) success. Corporate messages can be efficiently forwarded to the user. The efficiency as it applies for weblog communication

certainly requires a high quantity and special quality of users to visit a blog. In other words, the user should belong to the target group of the blog.

The loyalty approach, integrated into the final acceptance model towards weblogs, was developed by Ganesh/Arnold/Reynolds (2000, p. 71). It contains two dimensions:

- **active loyalty** (AL): derived from the consumer/user (internal driver), the user develops personal enjoyment by using a blog

- **passive loyalty**[10] (PL): behaviour which is a reaction to the provider/publisher activity (external driver), enhanced enjoyment as a reaction of sensitivity towards the increase in information quality of the blog

In particular, the question whether loyalty towards weblogs can be categorised between AL and PL is interesting for the blog provider. Where factor PL can be evidenced, the blog provider knows that his/her activities cause blog user reactions regarding loyalty. The blog provider furthermore learns about the factors that determine strong user loyalty.

Further explanation of the conceptualisation and operationalisation of active and passive loyalty is given in the empirical section of this paper.

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[10] In other studies, the term "reactive loyalty" instead of "passive loyalty" is also used (v. Wagenheim/Bayon 2001 p.6).

2.2.6   Conclusion

There is a large variety of models that examine the acceptance construct. As has already been mentioned, the TAM in particular is widely applied, which makes it an adequate basis to start developing a model towards the acceptance of weblogs.

The acceptance study review (Table 4) has shown that all the models, and especially the TAM, are capable of delivering a satisfactory explanation for the acceptance of innovations. The structural models (e.g. TAM, TRA, TTFM) are basically all grounded upon the S-O-R structure which makes them to some extent compatible. Their results do not differ entirely from each other. The model by Kollmann delivers a promising approach, but so far has only found attention in the German-speaking region.

Because all models are relatively similar in their proceedings it does usually prevent a total failure of the acceptance study. Details in the model structure should therefore determine whether the model is regarded as adequate for explaining the acceptance towards an innovation or not. Undoubtedly, the selection of the model must also depend on the purpose for which the model itself is used. The context for which the acceptance concept is employed is crucial to the selection of the model. Furthermore, the model should have a *"parsimonious nature"* and be *"theoretically justified"* (Davis/Bagozzi/Warshaw 1989, p. 985). In other words, the model's complexity should be appropriate to the purpose or context and should also have already demonstrated its explanatory power.

The literature review certainly shows the necessity to adapt the TAM towards the research object of this paper. The level of user activity which is regarded as fulfilling the requirements towards acceptance must be clarified. Furthermore, factors, items and hypothesis must fit the research objective and purpose. Finally, the appropriate data analysis method should be selected according to the research objective.

It is doubtable that there is spontaneous acceptance of blogs by users. Instead, acceptance needs time, and must be developed. As the TAM describes the process

towards the actual system usage, the construct of customer loyalty examines the "post-actual usage" behaviour.

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Chapter 2.2.5 explained how the acceptance and loyalty concept can be connected with each other. Furthermore, it was discussed how the loyalty concept can complement user acceptance in order to make it a stronger instrument towards explaining the (economic) success of weblogs. The introducing of the active and passive loyalty factors can help to examine the sustainability of usage.

3 Empirical study

3.1 Methodology

While the first part of this thesis has explored the theoretical framework of acceptance research and weblogs characteristics, the second part describes the empirical survey and testing of the developed model.

The conceptualisation of the acceptance model towards weblogs follows Edwards/Bagozzi (2000, p. 156), as they describe a construct as *"a conceptual term used to describe a phenomenon of theoretical interest"*. Although a phenomenon is normally not directly observable, it can be described in the form of a latent factor (Homburg/Giering 1996, p. 6). In other words, in order to explain the acceptance of weblogs, measurable factors have to be conceptualised and operationalised.

The operationalisation and testing of the acceptance construct has been conducted employing the Homburg/Giering approach (1996, p. 12) (Table 5), which is a favourable approach for empirical studies and can also be found within other studies (e.g. Kilian 2004, Figure 24, p. 113: Clement 1999, Figures 5-24, p. 193).

Step I.	**Developing an initial set of items**
Step II.	**Pre-test: refinement and reduction of items**
Step III.	**Data collection**
Step IV.	**Quantitative data analysis**

	Research level A
	
	Factor level testing
	
	    - Exploratory factor analysis (EFA)
	
	    - Cronbach's alpha
	
	    - Confirmatory factor analysis (CFA)

	Research level B
	
	Testing the factor structure
	
	    - Testing the discriminant validity
	
	    - Testing the model conformity

	Research level C Testing the causal relationships - Causal analysis

Table 5: Quantitative analysis approach (following Homburg/Giering 1996, p. 12, Figure 4)

A pre-test, conducted on the item level, ensures that the items are appropriate for the following empirical test of the conceptual model. This pre-test can be regarded as a qualitative-oriented method.

The pre-test follows a quantitative empirical testing of the entire model, following the basic requirements of validity and reliability. Within this section, the factor structure (research level B) and the causal relationships within the model (research level C) will be tested.

The empirical testing of the hypothesis that will be formulated, requires a sufficient sample size. Homburg/Baumgartner (1995a, p. 1093) propose a prerequisite minimum of 200 to ensure a sufficient size of the dataset to proceed the multivariate analysis. The research instrument for testing the identified acceptance factors and the hypothesised relations is a standardised quantitative survey. The advantages of this research method

can be noted as being the relatively low cost and time efforts, whilst being able to manage a large sample size (Berekoven/Eckert/Ellenrieder 1996, p. 112)

3.2   Conceptualisation

The objective of this chapter is to develop a conceptual model which is capable of measuring the acceptance towards weblogs. The developed model specifies the relationships between the **items** and the **factors** of the model.

If items aim to measure a phenomenon that cannot be observed directly, the **reflective type of model** should be given preference. Every item shows one part of the construct and contributes to the conceptual and empirical relevance (Jarvis/MacKenzie/Podsakoff 2003, p. 201). The latent construct emerges from the explained items (Fornell/Bookstein 1982 p. 441). Items, therefore, which do not correlate are thus removed.

The operationalisation is based on the conceptualisation of the construct which specifies the dimensions and, if necessary, the sub-dimensions of a construct (Homburg/Giering 1996, p. 5). Homburg/Giering distinguish between single-factor and multi-factor constructs (1996, p. 6). If the factors can be assigned to a single theoretical dimension, a construct is described as "single-dimensional". Following Homburg/Giering, the construct developed in this paper can be characterised as a **multi-factor model**.

3.2.1   Conceptualisation of the TAM and the loyalty factors

The model has primarily been developed adapting the TAM approach introduced by Davis/Bagozzi/Warshaw (1989, p. 985), extending it by the factors of loyalty developed by Ganesh/Arnold/Reynolds (2000, p. 71). As the TAM and the employed loyalty concept have already been discussed in the theoretical part of this paper, the conceptualisation is confined to the assessment of the factor structure.

The TAM regards PU and PEOU as being the central factors expected to deliver a substantial part of the explanation of the acceptance phenomenon. PU and PEOU can be regarded as the main independent factors of the construct whereas BI and SU are the dependent factors within the model.

Because weblog user behaviour is most importantly a result of the benefits provided by weblog usage the factor certainly needs to be PU factorised in the model. For instance the ability to use weblogs as a source for information is certainly a very important benefit provided by weblogs.

PEOU of weblogs is still a very important issue concerning the acceptance of an innovation. But as weblogs become ever more popular, this might make positive PEOU a less important concern for acceptance, for example if the experience of the effort to learn how to use weblogs is shared (Du/Wagner 2006, p. 796).

Harnischfeger/Kolo/Zoche suggest that the employment of external factors helps to identify user types regarding acceptance decisions or acceptance patterns (Harnischfeger/Kolo/Zoche 1999, p. 10). One major difference between the conceptualised model and the TAM is the substitution of the "external variables" by the factor "readiness to use" (RTU). As described in the theoretical part in Chapter 2.2.4, the TAM contains the "external variables" (EOU) that deal with the cognitive and affective determinants of computer acceptance. Those external variables have been replaced with the single factor RTU. Doing so, it is assumed that PEOU and PU are influenced by personal innovativeness[11]. This factor may also be useful in relation to cluster analysis, ultimately helping to characterise different groups of users according to their personal innovativeness.

As already mentioned in the theoretical section, factor A relates to the evaluative effect regarding performance of the "target behaviour" (Fishbein/Ajzen 1975, p. 216). This factor can be found in most acceptance models, as it results in either a positive or negative response which can trigger either a rejection or adoption of the weblog technology.

BI is the final step before the actual system use. At this stage, a positive statement about usage is made in the form of a user already formulating specific plans for actual weblog usage.

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[11] *"The willingness of an individual to try out new technologies"* (Agarwal/Prasad 1998, p.206).

The factor SU describes the actual use of weblogs and the intensity of use in terms of frequency ("how often") and the volume of system use ("how much") by the user (Lederer et al. 2000, p. 277)

The aspect of usage is an important pillar of the TAM. Following the TAM, the state of SU would be regarded as the requirement to achieve acceptance (Avlonitis/Panagopulus 2005, p. 365). Acceptance studies that address the organisational use of a technology might need to take into account the fact that usage can be enforced by the organisation. For the targeted blog user group of this study usage is assumed to be voluntary and rather limited to private use.

As mentioned above, it is quite controversial whether the TAM is sufficient to capture full acceptance. The missing aspect of sustainable and continuous usage is addressed by adoption of the TAM, taking in factors of loyalty. This is logical, as the success of weblogs is crucially related to their attributed loyalty. Following the Ganesh/Arnold/Reynolds concept, the factors of active and passive loyalty were integrated into the model.

In summary, the developed model distinguishes from other TAMs primarily in the way that it attempts to incorporate aspects of personal innovativeness and sustainability of usage as required antecedents towards full acceptance towards weblogs.

3.2.2 Hypothesis

In this section, the developed hypothesis towards the acceptance of weblogs according to the conceptualisation is formulated. The explanation of the hypothesis is reduced to the essentials. Most information concerning the factor relationships within the TAM and the customer loyalty concept have already been discussed in the theoretical section.

RTU is widely assumed to directly impact on the PEOU and PU. The relationship between RTU and PEOU has its roots in innovative theory. It is suggested that *"if an innovation is perceived as relatively difficult to understand and use, this also influences the adoption behaviour of the user"* (Rogers 1995, p. 242). As RTU primarily concerns itself with the individual's innovativeness, this factor can prove to be especially important for an innovative technology such as weblogs.

Someone who understands him/herself as "ready to use" a new technology is more likely to expect a greater level of perceived usefulness, and will disregard potential problems with the usability. Existing technical knowledge is also regarded as important for the acceptance decision. This technical knowledge can have a positive effect on the perception of the innovation complexity in the sense that PU and PEOU are also perceived to be more positive (Moreau/Lehmann/Markman 2001, p. 15).

Hypothesis 1a. Positive readiness to use will positively enhance perceived usefulness of weblogs.

Hypothesis 1b. Positive readiness to use will positively enhance perceived ease of use of weblogs.

Perceived usefulness is also determined by perceived ease of use, because *"other things being equal, the easier the use of the system, the more useful it can be"* (Venkatesh/Davis 2000, p. 2).

Improvements to the PEOU may also be instrumental in enhancing performance. Effort saved due to improved EOU may be redeployed, thus enabling a person to accomplish

more work for the same amount of effort. To the extent that increased PEOU contributes to improved performance, PEOU has an effect on PU.

Hypothesis 2a. Positive perceived ease of use will positively influence perceived usefulness of weblogs.

Self-efficiency and instrumentality are seen as the basic mechanisms for a PEOU to be able to influence attitude: *"The easier a system is to interact with, the greater should be the user's sense of efficacy and personal control"* (Bandura 1982, p. 122). Self-efficacy is seen to contain aspects of "intrinsic motivation", such as enjoying the process of using weblogs and "inborn competencies". "Inborn competencies" instead are not part of the intrinsic motivation, as they act autonomously from "instrumental determinants" such as learning (Bandura 1982, p. 122). The direct PEOU-A relationship is intended to capture this intrinsically motivating aspect of PEOU.

Hypothesis 2b. Positive perceived ease of use will positively influence attitude towards using weblogs.

In addition to PEOU, PU is also assumed to directly affect A and BI. The theoretical justification for this relationship between the two is based on "expectancy theory" (Porter/Lawler 1968, p. 25) which furthermore states that *"within organisational settings, people evaluate the consequences of their behaviour in terms of rewards they get for their performance"*. In the case of private blog usage this hypothesis may be inadequate. Still, society may function as a kind of organisation. Due to the fact that an individual has a certain "role perception", he/she seeks to fulfil his/her role by an effective job performance (Porter/Lawler 1968, p. 25) which also applies to private life. If weblogs positively support their job performance, their A and BI towards weblogs is assumed to be positive.

Hypothesis 3a. Positive perceived usefulness will positively influence the attitude towards using weblogs.

Hypothesis 3b. Positive perceived usefulness will positively influence the behavioural intention to use.

Davis/Bagozzi/Warshaw postulate that social influences in particular, for example social status perception and/or interaction with other users, may indeed affect behavioural intention. This can happen either *"directly via compliance or indirectly via attitude as a result of internalisation and identification processes"* (Davis/Bagozzi/Warshaw 1989, p. 986). Acceptance that is the result of compliance is certainly less desirable than voluntary acceptance. Voluntary usage usually requires that people's attitudes towards blogs are more positive as oppose to negative. The relationship between attitude and behavioural intention is assumed to be significantly positive.

Hypothesis 4. Positive attitude towards using will positively influence the behavioural intention to use weblogs.

BI was found to be a significant device for predicting systems usage (Davis/Bagozzi/Warshaw 1989, p. 997). It has been empirically confirmed that the relationship between BI and SU is more significant for experienced users than for inexperienced users (Fishbein/Ajzen 1975, p. 288). This is verifiable because experienced users would almost certainly utilise previous experience of weblogs to form their intentions.

Hypothesis 5. Positive behavioural intention to use will positively influence the actual use of weblogs.

Loyalty describes the user behaviour beyond the actual stage of usage (Homburg/Bruhn 2000, p. 10). The aspect of loyalty becomes important with regard to the economic success of a product or service (Chen/Chin 2006, p. 3). As already discussed in the theoretical part of this paper, loyalty succeeds the actual use. Frequent use and positive attitude are certainly prerequisites of loyalty, and are therefore identified as precursors of loyalty.

In market research, loyalty is regarded as a central aspect or continuous relationship between supplier and buyer (Reichheld/Schefter 2000, p. 107), or - in the case of weblogs - of publisher and blog user, and is necessary for full acceptance.

Hypothesis 6a. Positive actual usage of weblogs will positively enhance the active loyalty towards weblogs.

Hypothesis 6b. Positive actual usage of weblogs will positively enhance passive loyalty towards weblogs.

The connection between the TAM and user loyalty is largely determined by the level of "user satisfaction". User satisfaction can be reached or maintained by fulfilling customer's needs, for example the quality of the relationship, the service quality and/or perceived value (Taylor/Baker 1994, p. 171). If user satisfaction is positive, this state might lead towards a phase of user loyalty (Homburg/Giering/Hentschel 1999, p. 93). User satisfaction is affected by attitude and behavioural intention towards weblogs. Besides the actual usage, A and BI are therefore also regarded as factors that directly influence loyalty (Jacoby/Chestnut/Fisher 1978, p. 539). There are models that insinuate a direct relationship between PEOU and loyalty. The model developed in this paper adopts the approach that the users behaviour that is measured within factors A and BI, has an effect on loyalty. It emulates a person's emotional state towards a blog, which is part of the factor A and BI. For that reason the following hypotheses have thus been formulated:

Hypothesis 7a. Positive behavioural intention to use weblogs will positively enhance active loyalty.

Hypothesis 7b. Positive behavioural intention to use weblogs will positively enhance passive loyalty.

Hypothesis 8a. Positive attitude towards using weblogs will positively enhance active loyalty.

Hypothesis 8b. Positive attitude towards using weblogs will positively enhance passive loyalty.

The formulated hypotheses constitute the following conceptualisation of the acceptance model towards weblogs:
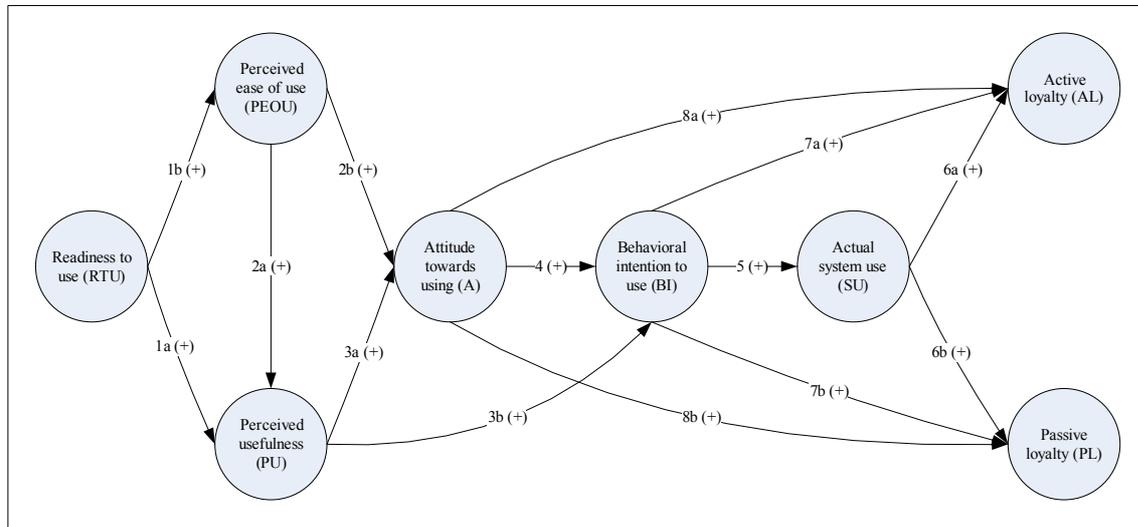
(+) will positively enhance

Figure 9: Acceptance model towards weblogs

3.3 Operationalisation of the factorised model

The review of acceptance studies and the evaluation of the characteristics of weblog technology allowed the identification of a range of items which are assumed to best describe the acceptance construct of weblogs. Since the acceptance of weblogs has been conclusively discussed in the previous literature, the employment of already tested items has only been possible in a limited form. Most of the items that measure the operationalised factors employed in this study were adopted from available item scales, while some had to be developed from scratch with expert consultation. Overall, it has been emphasised to select items according to literature.

The following diagram demonstrates a step-by-step refinement of the construct towards single items:

Figure 10: Operationalisation of the acceptance construct

The acceptance model discussed here is based on two constructs: the TAM and user loyalty. These two approaches have been assembled into a single model. The factors consist of items which were developed, taking into account issues and aspects that can

be assigned to each of the factors, for example the factor PU contains items that address social aspects.

3.3.1 Perceived Usefulness (PU)

PU and PEOU were operationalised by Davis (1989, p. 991) using a four-item instrument. The relatively sizeable initial number of twenty-three items formulated for PEOU (nine items) and PU (fourteen items) in this paper is caused by the multiplicity of characteristics of the research object weblog. The fact that other models also contain further items that take into account other factors, for example "perceived enjoyment", that are not conceptualised as separate factors within the model also contribute to this high number of items for PU.

The usage of weblogs is highly related to the concept of weblogs being able to increase the quality of information. This aspect manifests itself within an enhanced credibility (items v_751 and v_749) and the opportunity to interact (v_753). As this interaction can also enhance social contacts (item v_752), it further distinguishes between traditional types of media, and may even allow the substitution of such types of traditional media, because the format of the service enables the users to read weblogs from a mobile device wherever they are. Items v_755, v_754 and v_750 are formulated to address these issues.

Weblogs can also function as a source of varied information, for instance information issued by companies concerning their activities (items v_757, v_758 and v_759) that could influence the buying decision.

Items v_760 and v_761 were implemented to ensure the reliability of the measurement results by posing control questions.

Item abbr.	I agree that weblogs …	Adopted from source
v_749	are a good source of information	Huffmann/Kahn 1998, p. 510
v_750	substitute classic media	Self-created
v_751	are a credible source of information	Wang et al. 2003, p. 519
v_752	positively enhance social contacts	Self-created
v_753	positively enhance interactivity	Self-created
v_754	make exchange of information more easily	Lai/Li 2005, 384
v_755	are a good medium for communication	Eriksson/Kerem/Nilsson 2005, p. 207
v_760	are of no usage for me	Taylor/Todd 1995, 172
v_761	overall are an useful technology	Lai/Li 2005, 384
v_763	are sign for my innovativeness	Bauer et al. 2005, 192

Table 6: Items of perceived usefulness

3.3.2   Perceived Ease of Use (PEOU)

PEOU refers, by definition, to the effort required to make use of a technology. Effort can be regarded in terms of cost and/or time input. Items v_766, v_770, v_771 and v_772 refer to the general aspects of ease of use regarding commenting, reading and setting-up a blog.

Weblogs can also result in costs for searching for the right blog (item v_765) or content that one expects to find within a blog (item v_768). Ease of use is usually enhanced by experience, therefore the opportunity to learn how to use weblogs (item v_764) is also important for the users' perception. Also relevant for ease of use is the technology or publishing system (item v_767 and v_769) which is used to access weblogs.

Item abbr.	I agree that …	Adopted from source
v_764	learning how to use weblogs is easy	Lai/Li 2005, p. 384
v_765	finding an interesting weblog is easy	Self-created
v_766	weblogs are user-friendly	Venkatesh/Davis 2000, p. 26
v_767	I'm using RSS-feeds to read blogs	Self created
v_768	weblogs allow easy information retrieval	Lederer et al. 2000, p. 274
v_769	weblogs are a very structured and concise way to display information	Lederer et al. 2000, p. 274
v_770	it is easy to comment on weblogs	Self-created
v_771	overall weblogs are easy to use	Lai/Li 2005, 384
v_772	weblogs are easy to maintain	Self-created

Table 7: Items of perceived ease of use

3.3.3 Attitude towards using (A)

Generating items that measure the attitude towards weblogs should take into consideration both the commercially oriented and non-commercial aspects. The commercial aspects relate to product-related information (items v_773 and v_782), whereas items v_776, v_774 and v_786 extend the focus of standard product marketing. They examine a broader stance on marketing activities, including customer relationship management (CRM) (item v_777) and Web 2.0 aspects of marketing, by being closer to the customer (item v_785).

Items v_781 and v_784 manifest the individual preferences, evaluations and interest regarding weblogs. Part of that is also enjoyment (item v_778), which can be found in several TAMs (e.g. Hsu/Chiu 2004, p. 375, Pikkarainen et al. 2004, p. 230). Such items relate to non-commercial aspects. Item v_780 demonstrates an anticipated evaluation of the further success of weblogs.

Item v_783 can be defined as a control item, as it has been duplicated and already implemented to measure PU.

Item abbr.		Adopted from source
v_773	I approve product information in weblogs	Shimp/Alican 1984, 799
v_774	I appreciate corporate blogging	Hung/Chang 2005, p. 368
v_776	I'm interested in company background information	Self-created
v_777	I agree that background information enhances customer relationship	Self-created
v_778	I enjoy reading weblogs	Hsu/Chiu 2004, p. 375, Pikkarainen et al. 2004, p. 230
v_780	Weblogs will raise in popularity	Selfcreated
v_781	Blogging is cool/trendy	Self-created
v_782	I don't like advertisement in blogs	Self-created
v_783	are a credible source of information	Wang et al. 2003, 519
v_784	Blogging is an innovative form of communication	Self-created
v_785	Weblogs can help companies to anticipate customer demand	Self-created
v_786	I find that many blogs are manipulated in favour of companies	Self-created

Table 8: Items of attitude towards using

3.3.4   Readiness to Use (RTU)

External factors as used in the acceptance model by Wu/Chen/Lin (2007, p. 165), Avlonitis/Panagopoulos (2005, p. 357) have not been integrated in order to simplify the model. Instead, the external factors have been replaced by RTU, which addresses the aspect of personal innovativeness. Because potential users may gather information and show interest regarding a technology without actually intending to use it, it is important to assess their readiness to use as a characteristic of innovativeness (Bloch/Sherrel/Ridway 1986, p. 125).

Enjoyment and pleasure almost certainly account for this factor, for the reason that users may enjoy familiarising themselves with a new technology (Arnold/Reynolds 2003, p. 80). This issue is addressed within item v_789.

The item scale used contains three items which examine the degree to which an individual adopts innovation. Items v_788 and v_787 are applicable for the general innovativeness, whereas item v_790 particularly examines the degree of familiarity with the weblog technology.

Item abbr.		Adopted from source
v_787	I'm technologically advanced	Oliver/Bearden 1985, p. 328
v_788	I'm open minded towards new technologies	Oliver/Bearden 1985, 328 Hung/Chang 2005, 368
v_789	The aspect of enjoyment and entertainment in using a technology is really important for me	Self created
v_790	Weblogs are familiar to me	Self-created

Table 9: Items of readiness to use

3.3.5 Behavioural Intention to Use (BI)

BI was operationalised using a 3-item scale. As this factor examines the strength of an intention to perform certain behaviour, an item (v_775) measuring the intended behaviour has thus been formulated. This behaviour is influenced by the user's attitude which can be perceived as positive if, for example, plans have already been constructed and geared towards blogs usage. Items v_762 and v_779 can be regarded as being close to actual weblog usage. This is due to the fact that the aspect of perceived enjoyment, as discussed in the PU factor and already addressed by item v_779, indicates a more conative character. That means that actual use of blogs is shortly to happen.

Item abbr.		Adopted from source
v_762	Blogs are a status symbol for me	Bauer et al. 2005, p. 192
v_775	I plan to start my own blog	Wang et al. 2003, p. 519
v_779	I enjoy blogging	Hsu/Chiu 2004, p. 375, Pikkarainen et al. 2004, p. 230

Table 10: Items of behavioural intention to use

3.3.6 Actual System Use (SU)

SU indicates the "actual use" of weblogs with the single item v_817, measuring the frequency of blog usage per day.

This needed to be done in order to conduct the causal analysis with the other factors which have been operationalised using ordinal-scaled data. The concept to measure the usage intensity by ratio-scaled items has been adapted from Lederer et al. (2000, p. 277).

Item abbr.		Adopted from source
v_817	How much time do you use weblogs per day? (minutes)	Lederer et al. 2000, p. 277, Pikkarainen et al. 2004, p. 230

Table 11: Items of actual system use

3.3.7 Active Loyalty (AL) and Passive Loyalty (PL)

Active and passive loyalty are understood to measure "post-actual usage" behaviour. Measuring loyalty according to "repeat patronage intentions" is certainly too simplistic and does not capture the entire construct (e.g. Dick/Basu 1994, p. 101). Therefore

"eWOM intentions" and "expansion of service usage intention" (cross-buying) are further addressed within the dimensions of active and passive user loyalty.

"Repeat patronage intention" and "expansion of service usage intention" show the loyalty of the individual user. The users become more active and raise their level of participation by commenting on blogs or visiting other blogs, for example. Items v_797, v_798 and v_799 measure the aspect of repeat patronage intentions which is expressed by means of continuous preferential usage in relation to a certain weblog.

The "eWOM intention" is also an important sign of the individual user loyalty, but at the same time eWOM intentions, as described above, are the key mechanism of the entire weblog service and therefore essential for its overall success. Furthermore, eWOM was found to be a meaningful characteristic towards behavioural intention as it also takes into account attitudes towards weblogs. eWOM can be observed if, for example, a blog user comments on blogs or tells friends in a positive manner. As users want to keep their reputation they tend only to give a positive eWOM of blogs of which they are convinced. Items v_809, v_810 and v_811 indicate whether a positive eWOM has been given. The items of eWOM have been assigned to the factor of active loyalty, fundamentally due to the fact that eWOM requires a positive attitude.

PL is more determined by issues relating to the blog itself, for example credibility or information searching costs are assumed to influence loyalty. Therefore, items relating to the content (v_798), features (v_799) or recommendations that were passed on by others (v_802), have been devised.

"Expansion of service usage" intentions regarding weblogs are measured by items v_800, v_801 and v_802. These items indicate whether a weblog user would extend his/her activities, for example by visiting a blog in regular intervals or by visiting related blogs that are linked by the blog itself or appear in the blogroll. Items with behavioural intended character were formulated by the prefix "I will …" or "If I …" or "I intend …".

The operationalisation of both the active (Table 12) and passive dimension (Table 13) of blog user loyalty resulted in an overall scale of nine items.

Active Loyalty (AL)

Item abbr.		Adopted from source
v_797	I will furthermore visit my preferred blogs	Fitzsimons/Greenleaf/Lehmann 1997, 35
v_809	I recommend my preferred blogs to friends	Fitzsimons/Greenleaf/Lehmann 1997, 35
v_810	I will also mention bad blogs to my friends	Ganesh/Arnold/Reynolds 2000, p. 74
v_811	I welcome information concerning further weblogs	Self-created

Table 12: Items of active loyalty

Passive (Reactive) Loyalty (PL)

Item abbr.		Adopted from source
v_798	If I want information on a certain topic (lifestyle, shopping, politics, etc.) I will once again consult my preferred blogs	Fitzsimons/Greenleaf/ Lehmann 1997, p. 35
v_799	I would appreciate if I would get reminded to use a certain blog on a regular basis	Self created
v_800	If I look for a specific topic I would not hesitate to consult other than my preferred blogs	Fitzsimons/Greenleaf/ Lehmann 1997, 35
v_801	I intend to read blogs more often in the future	Ganesh/Arnold/Reynolds 2000, p. 74
v_802	If I would get informed about other blogs I would also consult them	Self created

Table 13: Items of passive loyalty

3.4 Data analysis methods

In terms of **reliability**, an empirical survey should prevent random and unpredictable errors throughout the measurement (Backhaus et al. 2003, p. 371). Furthermore, a survey should accomplish the requirements of **validity**. In other words, a measurement should measure the construct it is designed to measure (Böhler 1992, p. 102). Reliability is an essential prerequisite for the validation of any given measurement (Homburg/Giering 1996, p. 7, Peter 1979, p. 6).

There are four fundamental criteria of validity:

- **content validity**[12] applies if the selected items represent the intention of the conceptual framework (Bohmstedt 1970, p. 91)
- **convergence validity**[13] describes the extent to which two measures form a single factor (Bearden/Netemeyer/Mobley 1999, p. 5). It also describes the internal consistency on the level of items, factors and dimensions of a construct
- **discriminant validity**[14] requires the developed construct to fit in with the self-contained factor constructs (Bagozzi/Phillips 1982, p. 469). Different conceptualised models must show different measurement results
- **nomological validity**[15] of constructs can be considered applicable if the construct developed theoretically, and can be empirically proven with other constructs (Homburg/Giering, 1996, p. 7)

Methods to examine the reliability and validity of the construct can be categorised as first and second generation criteria (Homburg 2000, p. 75). Such generations contain different criteria that indicate the quality of the model.

Starting with the **first generation criteria**, the exploratory factor analysis (EFA), Cronbach's alpha test and the item-to-total correlation have all been conducted.

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[12] *"Degree to which the score or scale being used represents the concept about which generalizations are to be made"* (Bohrnstedt 1970, p.91).
[13] *"(…) two measures designed to measure the same construct are related"* (Bearden/Netemeyer/Mobley 1999, p.5).
[14] *"(...) measures of distinct concepts differ"* (Bagozzi/Phillips 1982, p.469).
[15] *"(…) the degree to which predictions from a formal theoretical network containing the concept under scrutiny are confirmed"* (Bearden/Netemeyer/Mobley (1999, p.5).

More powerful than first generation criteria is **second generation criteria** (Anderson/Gerbing 1988, p. 411). The confirmatory factor analysis and the analysis of the causal model are included among the criteria capable of modelling several dependent and independent factors (Gefen/Straub/Boundreau 2000, p. 4). The methods in this paper are combined in order to optimise the degree of explanation.

Employing the quality criteria helps to methodically improve and validate a model (Homburg/Giering 1996, p. 12). That includes eliminating items which do not contribute to the explanatory quality of the model.

As the survey aims to address a broad range of people who are familiar with the weblog technology, the questionnaire was published in such a way that it reaches a broad audience. The population of the sample shows the following structure:

	Publishing media	Potential readers (estimated)	Actual feedback (estimated)	
			Total number	%
University Koblenz-Landau	Newsgroup	~ 1,000 (Campus Koblenz)	~ 50	~ 2
Automobil-blog.de	Blog	~ 600 clicks per day (CPD) (http://automobil-blog.de/das-blog-der-blogger)	~ 20	~ 4
Adam Opel GmbH, Marketing Department, student apprentices	E-mail	~ 30	~ 10	~ 33
Own address book	E-mail	~ 30	~ 10	~ 33
University Essen-Duisburg	news portal	n.d.	n.d.	n.d.

Bildblog.de	Blog	~ 70,000 CPD (http://www.bildblog.de/presse)	~ 1,200	~ 4

Table 14: Sample population

With 1,349 responses overall, the sample size can be regarded as being relatively high. The banner link to access the questionnaire, published on the weblog "bildblog.de" was particularly helpful in order to reach this number of participants. The percentage of potential feedback, however, shows that the response rate for bildblog.de is relatively low compared to other groups also addressed by the survey. A possible reason for this is that a link on the website is not visible for users reading articles with their feedreaders. Furthermore, requests for answering the questionnaires that were sent by e-mails adopt a more personal line and are therefore more likely to be answered.

3.4.1   Quality criteria of research level A

In order to reduce the complexity of the dataset and to condense the items to factors, an **exploratory factor analysis** was carried out. By employing this method, the structure of the model is fixed ex-post. Items should be combined within representative factors which best represent the developed model (Gerbing/Anderson 1988, p. 189). Items that do not correlate with these factors are thus eliminated.

The above-mentioned first generation criteria, in particular EFA, are somewhat vulnerable since they do not incorporate restrictive assumptions, preventing measurement errors. The second generation criteria are based on the confirmatory factor analysis and can therefore balance these deficits, due to the fact that the CFA analysis requires advance allocation of the items.

Since the adapted TAM and loyalty construct are considered to be two separate parts of the acceptance model, each will be evaluated separately using an EFA and CFA.

Prior to conducting the EFA analysis, the data material must be checked to conclude whether heterogeneous data structure may negatively affect the analysis, in the sense that the data does not show a normal distribution (Backhaus et al. 2003, p. 203). This can be done by examining the KMO criteria. Without the loyalty items, it reaches a very positive value of 0.918. For the loyalty items, a **KMO value** of 0.788 is an average result. Nevertheless, the results offer a firm basis for the factor analysis.

By generating a **factor loading matrix**, the loading of single items towards a factor become obvious. The factor loadings lead to a preliminary conclusion for both the convergency and discriminant validity of the factorised model. This procedure obtains a set of items, adjusted under the aspect of reliability and convergence validity. The extent to which the construct contains an independent factor structure is examined by the discriminant validity.

The **quality fit of the model** is examined by conducting a confirmatory factor analysis, in which the reliability of the relationship between the construct as a whole and each individual factor is examined.

The following quality criteria are employed:

Quality criteria	Explanation	Quality requirement
First generation criteria		
Factor loading	Strength of the correlation between the item and the factor	≥0.4 (Homburg/Giering 1996, p. 8, Homburg 2000, p. 102)
Cross-loadings	The items should show a higher correlation with its "own" factor than with another factor	When cross-loading, the item is eliminated
Cronbach's alpha	A basis for evaluating the reliability of a group of items: the reliability of scale increases with the correlation of the underlying items	≥0.6 (ok), ≥0.7 (good), (Nunnally 1978, p. 245)

Quality criteria	Explanation	Quality requirement
Item-to-total correlation	To test whether the alpha value can be improved by eliminating single items, the item-to-total correlation is conducted for each factor. High values for items indicate high convergence validity, i.e. items with low values can be eliminated to improve the overall quality	Where applicable, the elimination of the weakest value. Recommended value: ≥ 0.5 (Bearden/Netemeyer/Teel 1989, p. 475)
Second generation criteria		
Local fits		
Standardised Regression Weight	Shows the structural coefficience, correlation for single items	≥ 0.5 (Steenkamp/van Trijp 1991, p. 293)
Factor Reliability (Rel)	Quality of the factor and its assigned items	≥ 0.6 (Bagozzi/Yi 1988, p. 82)
Squared Multiple Correlation (R²)	Percentage of explained item variance by a single factor	≥ 0.4 (Bagozzi/Baumgartner 1994, p. 402) n>1000: (Balderjahn 1986, p. 117)
Global fits		
GFI	Shows the explanatory quality of a model towards a set of observations	≥ 0.9 (Homburg/Baumgartner 1995b, p. 166)
AGFI	Also based on GFI, incorporating a number of parameters and degrees of freedom	≥ 0.9 (Bagozzi/Yi 1988, p. 82)
CFI & NFI	Measure the quality of conformity between the basic model and the developed model	≥ 0.9 (Homburg/Baumgartner 1995b, p. 166)
RMSEA	Inference-statistical measurement of conformity, measuring the real approximity of the model	≤ 0.05 (good), ≤ 0.1 (ok) (Browne/Cudeck 1993, p. 144)

Quality criteria	Explanation	Quality requirement
RMR	Examines the variance which the model fails to explain	≤0.05 (good), ≤0.1 (ok) (Homburg/Baumgartner 1995b, p. 167)
Chi-square/df	Testing null-hypothesis	≤3 (Homburg/Giering 1996, p. 13)

Table 15: First and second generation criteria

3.4.2 Quality criteria of research level B

Testing the discriminant validity permits an assessment of whether the construct has a self-contained factor structure. The first step is an analysis of the covariance between the factors. Thereafter, either a chi-square-difference test or the Fornell-Larcker-Criteria can be employed (Fornell/Larcker 1981, p. 46).

The factors and their discriminant validity have been tested. After that the nomological validity of the factor structure was then verified. The second generation quality criteria GFI, AGFI, NFI, CFI, RMSEA and RMR are necessary in order to achieve this.

3.4.3 Quality criteria of research level C

The causal analysis is based upon the estimation of the relationships between the latent factors of a model. The latent factors are again based on variances and covariances between the model items. Both the direction and strength of the correlation between the factors examined in the model help to verify the formulated hypothesis (Leeflang et al. 2000, p. 443).

3.4.4   Questionnaire design

The devised questionnaire has been designed in such a way that it has a consistent form and should be easy to use and understand. A steady change of positive or negative questions, for example, should not confuse the participant. On the other hand, questions to help verify the integrity of the collected data are necessary (Oppenheim 1992, p. 70). In order to provide further incentives for conducting the questionnaire, three Amazon vouchers were drawn among the participants. This has become common practice as it has been proven that such incentives boost participation and encourage people to take the time to participate and consider their answers more accurately.

The questionnaire has only been made available online, thus narrowing down potential participants purely to computer users. This helps to concentrate on the target group for the questionnaire and the purpose of this paper. The questionnaire was constructed using the platform www.unipark.de. Because it is expected that the participants of the survey will show different behavioural patterns towards acceptance, the questionnaire contains questions designed to collect socio-demographic data, which ultimately help to profile groups of blog users. Furthermore, these socio-demographics help to prove the representativeness of the sample.

A prerequisite for conducting the multivariate analysis is the existence of metric data. Such data is collected using a scale similar to that of the 5-point Likert scale. The scale used in the questionnaire ranges from absolute agreement to absolute disagreement ("totally agree; agree; about the same; disagree; totally disagree"), allowing the collection of ordinal-scaled data.

Data referring to the SU (item v_817) and for the items that are examined in cluster analysis (v_813, v_818) have been collected by a ratio scale, which requires the participant to provide actual figures concerning the intensity of actual usage.

Socio-demographic data is collected by means of a nominal scale, requiring the participant to give information about his/her level of education, gender and income.

3.4.5 Pre-test

A qualitative pre-test was conducted by experts of the Marketing Faculty of the University of Koblenz-Landau. Furthermore, professional and habitual bloggers were both involved and consulted in testing the items. The pre-test was conducted, primarily in order to optimise the questionnaire. It was ensured that the questions were clear, complete and the duration of the questionnaire acceptable.

3.5   Multivariate analysis and reporting

3.5.1   Sample classification

The large sample size still requires the **representativeness** of the results to be tested, especially since most of the participants have been grouped from bildblog.de. As bildblog.de is one of the most popular German-speaking blogs, it is virtually guaranteed to reach a broad range of blog users. Due to the fact that not everyone is completely familiar with the concept of weblogs, it has been necessary to find a balance between conducting the survey in such a way that it is possible to collect a sufficient number of participants and still manage to avoid the participation of too many inexperienced participants without bias or discrimination. The representativeness of the sample can be examined on the basis of the following selected socio-demographics.

	Number	**%**
Gender		
Male	1,180	87
Female	169	13
Total	**1,349**	**100**
Age (in years)		
< 20	293	22
21-25	456	33
26-30	318	23
31-40	224	17
41-50	38	3
51-60	11	1
> 61	9	1
Level of education		
University degree	315	23
Undergraduates	559	42
A-levels	361	27
GCSEs or equivalent	114	8
Monthly net income (in €)		
<500	522	39
500-1,000	331	25
1,000-2000	303	22
>2,000	193	14
Weblog experience (in years)		
< 1	22	2
1-2	1,039	76
> 2	288	21
> 5	17	1

Table 16: Socio-demographics of the sample

As the survey was conducted within Germany, the sample was limited to the German-speaking blogosphere. The socio-demographic profile of the participants was compared to other studies. The paper "A Corporate Guide to the Global Blogosphere" (Edelman study 2007) and "Blogstudie 2007" (Zerfass/Bogosyan 2007), both helped to gauge the representativeness of the survey.

The percentage of male participants in the sample was higher than within the community of weblog users as was investigated by Zerfass/Bogosyan (2007, p. 2). They found a ratio of 60 : 40, with males making up the majority.

The average age of the participants - most of them came from bildblog.de - was 26.3, which fits in with samples taken from other studies. Both Zerfass/Bogosyan (2007, p. 2) and the Edelman study (2007, p. 8) determined an average age of approximately 32 for their respective samples.

Less then 10% of survey participants did not have an educational degree, A-levels or equivalent. This is in line with other socio-demographic surveys, which suggest that the majority of bloggers are well educated and generally have well-informed opinions.

The all-round weblog experience demonstrates that the majority of survey participants had an average experience of between one and two years of regular blogging. This indicates that the participants had sufficient experience in the field of blogging to be able to satisfactorily respond to the questionnaire.

The participants' socio-demographic profiles showed an acceptable sample of the German blogosphere, which can be regarded as being well represented. An absolute representativeness of the sample cannot be ensured in the case of voluntary participation (Witte 1997, p. 428).

3.5.2 Factor analysis

Before conducting a statistical analysis, the sample had to be "cleaned". This was done by eliminating unrealistic datasets. The character of the questions and the software used to set up the questionnaire enabled the development of a deterministic questionnaire. Each question needed to be answered in order to be able to proceed with the questionnaire. As a direct consequence, there were no missing values or omissions of data. In order to address the conceptualisation of the model that integrates the two concepts TAM and loyalty, a separate EFA and CFA were conducted for each of the concepts.

3.5.3 Exploratory factor analysis

The EFA examines the items by exploring their underlying factor structure without already having formulated a hypothesis regarding the factor correlation (Hartung/Epelt 1989, p. 505). The EFA was conducted using the Varimax rotation, which postulates a certain degree of factor independency in order to increase the significance of the results (Churchill 1979a, p. 508).

Conducting an exploratory data analysis led to the following rotated component matrix, indicating the factor loadings for the individual items:

Factor/item	Factor loading				
Perceived ease of use					
v_771	0.80				
v_766	0.71				
v_772	0.65				
v_770	0.63				
v_764	0.58				
Attitude towards using					
v_774		0.81			
v_777		0.86			
v_776		0.86			
v_785		0.58			
Perceived usefulness					
v_768			0.74		
v_769			0.72		
v_767			0.51		
v_761			0.46		
v_778			0.45		
v_750			0.43		
Behavioural intention to use					
v_775				0.74	
v_779				0.67	
v_762				0.63	
Readiness to use					
v_787					0.85
v_788					0.81
v_790					0.50
Cronbach's alpha	0.742	0.816	0.70	0.643	0.667

Table 17: EFA TAM factors

A separate exploratory factor analysis of the loyalty items shows the following results and factor loadings:

Factor/item	Factor loading	
Active Loyalty		
v_810	0.86	
v_809	0.85	
v_811	0.57	
v_797	0.56	
Passive Loyalty		
v_801		0.75
v_802		0.73
v_800		0.65
v_799		0.62
v_798		0.51
Cronbach's alpha	0.69	0.71

Table 18: EFA loyalty factors

3.5.4 Confirmatory factor analysis

In contrast to the EFA which examines the factor structure, the CFA is employed to test the factor structure, which has been developed, conceptualised and pre-tested. The CFA should be performed in case knowledge referring to an existing factor structure already exists (Byrne 1998, p. 5).

Factor	Item	Number of items	Squared Multiple Correlation (R²)	Standardised Regression Weight
Perceived Ease of Use		5		
	v_771		0.777	0.881
	v_766		0.388	0.623
	v_772		0.217	0.466
	v_770		0.362	0.602
	v_764		0.242	0.492
GFI: 0.987; AGFI: 0.960; CFI: 0.974; NFI: 0.971; RMSEA: 0.078; RMR: 0.022; Chi Square/df: 9.168, AVE: 0.57				
Attitude towards Using		4		
	v_774		0.528	0.727
	v_777		0.671	0.819
	v_776		0.706	0.840
	v_785		0.263	0.513
GFI: 0.991; AGFI: 0.954; CFI: 0.988; NFI: 0.987; RMSEA: 0.094; RMR: 0.023; Chi Square/df: 12.801, AVE: 0.87				
Perceived Usefulness		5		
	v_768		0.625	0.791
	v_769		0.508	0.713
	v_761		0.363	0.603
	v_778		0.299	0.547
	v_750		0.170	0.412
GFI: 0.928; AGFI: 0.783; CFI: 0.856; NFI: 0.858; RMSEA: 0.192; RMR: 0.055; Chi Square/df: 50.521, AVE: 0.66				

Factor	Item	Number of items	Squared Multiple Correlation (R²)	Standardised Regression Weight
Behavioural Intention to Use		3		
	v_775		0.639	0.799
	v_779		0.516	0.718
	v_762		0.117	0.342
AVE: 0.99 Because this factor only has three items, global quality criteria are not applicable				
Readiness to Use		3		
	v_787		0.476	0.690
	v_788		0.626	0.791
	v_790		0.244	0.494
AVE: 0.60 Because this factor only has three items, global quality criteria are not applicable				

Table 19: CFA TAM factors

In addition to the EFA, a separate CFA for the loyalty factors has also been conducted:

Factor	Item	Number of items	Squared Multiple Correlation (R²)	Standardised Regression Weight
Active Loyalty	AVE: 0.78	4		
	v_810		0.768	0.877
	v_809		0.684	0.827
	v_811		0.144	0.379
	v_797		0.219	0.468
GFI: 0.994; AGFI: 0.970; CFI: 0.990; NFI: 0.989; RMSEA: 0.072; RMR: 0.025; Chi Square/df: 8.026				
Passive Loyalty	AVE: 0.76	5		
	v_801		0.540	0.735
	v_802		0.391	0.625
	v_800		0.275	0.525
	v_799		0.246	0.495
	v_798		0.258	0.508
GFI: 0.977; AGFI: 0.930; CFI: 0.933; NFI: 0.929; RMSEA: 0.108; RMR: 0.058; Chi Square/df: 16.863				

Table 20: CFA loyalty factors

The "actual system usage" factor has not been tested by the EFA because it has been operationalised by ratio-scaled data that cannot be tested in a single analysis in accordance with the other items. The EFA resulted in new combinations of items which were originally assigned to other factors.

From nine initial items of the PEOU, the EFA led to the elimination of four items. Item v_765 was eliminated whereas items v_767, v_768 and v_769 showed loading on the PEOU factor. A Cronbach's alpha of 0.742 is acceptable. The item v_771 "I agree that

weblogs are, overall, easy to use" showed exceptionally high factor loading. Without this item, the factor PEOU would only have reached an alpha of 0.637.

Surprisingly, from the ten items initially developed, five items were condensed within the PU factor. From the originally developed items, only v_750 and v_761 remain. Three PEOU items and the item v_778 "I enjoy reading weblogs" were migrated towards the PU factor. A Cronbach's alpha of 0.7 is acceptable. Without the item v_767 "I agree that I use RSS feeds to read blogs", Cronbach's alpha reached a value of 0.75. The CFA showed a standardised regression weight of 0.31 and an R^2 of 0.096 for the PU factor, thus providing good reasons for its elimination. A new confirmatory factor analysis, without v_767, caused a further decline in the RMSEA from 0.144 to 0.192.

The composition of factor A changed greatly. With four of the 12 original items remaining, the total number of items decreased profoundly. The Cronbach's alpha of 0.816 of this factor showed a satisfactory value.

The RTU items that were suggested to represent this factor have shown strong reliability. Only item v_789 needed to be eliminated. A Cronbach's alpha of 0.668 also shows an acceptable level of reliability.

Furthermore, BI was confirmed by items v_775 and v_779. The three-item solution showed an alpha of 0.643, which is just acceptable for this number of items. A two-item solution eliminating v_762 "I agree that weblogs are a status symbol for me" would result in an alpha of 0.727 which would be quite reasonable. Still, because of the overall balance of the entire model, the three-item solution should be retained.

By conducting the EFA and CFA, the originally structure of user loyalty according to the two-dimensional solution of Ganesh/Arnold/Reynolds (2000, p. 71) has been completely confirmed. A Cronbach's alpha of 0.69 for AL and a value of 0.71 for PL show satisfactory results for both factors.

Overall, the developed factors show low R^2 values, which imply that they have been measured weakly compared to other studies. This is possibly due to the fact that important items were obviously excluded or the model was incorrectly specified. For

instance, Taylor/Todd (1995, p. 159-164) reach R² values of 0.5 to 0.7 throughout their study in which they tested different acceptance models.

There is certainly a necessity to search for additional items, especially concerning the factors RTU, PEOU and BI. For instance, items related to social aspects similar to those of subjective norms used in other models, may be represented incorrectly in the operationalisation of the present model. Items that are close to the quality requirements of the standardised regression weight or R² are not strictly eliminated as they also deliver an explanatory value. V_767 was the only item that needed to be eliminated in order to fulfil the outlined requirements.

Chi-square/df does not fulfil the quality requirements of a ≤3 value. In the literature, it is debatable as to whether those high values caused a total rejection of the entire model. As the value depends on the number of the degrees of freedom, which can vary depending on the researchers specifications, chi-square/df is a relatively soft quality criterion. A relatively large sample can create a significant relationship between an item and two factors. Any item with cross-loading has been eliminated. Furthermore this can also lead towards a high chi-square/df value. The correlation of the items should therefore also be examined under the terms of content analysis so that hypotheses do not necessarily have to be rejected (Brosius/Brosius 1995, p. 358).

With a Cronbach's alpha of above 0.6, all of the factors showed at least sufficient scale reliabilities and therefore further elimination of items did not appear to be necessary. The main factors PEOU and PU both showed a value of 0.7, which is above the acceptable limit and indicates a credible reliability. The Cronbach's alpha value can be further improved by eliminating the item with the lowest item-to-total correlation (Churchill 1979b, p. 68). This possibility, however, has not been used, in order to keep the amount of measurement items for a factor above three, rather taking into account a bad Cronbach's alpha. Overall, the measured alpha can be regarded as satisfactory for all of the factors.

In addition, the global fit criteria highlighted positive values for all factors of the TAM and the user loyalty factors, except for PEOU, where the AGFI, CFI, NFI and RMSEA values were marginally below the required quality criteria. As GFI and RMR still showed relatively good values, PEOU can also be regarded as almost validated.

3.5.5 Discriminant validity

The content validity of the model ensured that the items represent the best possible concept of weblog acceptance (Bohmstedt 1970, p. 91). This requirement was addressed by adopting items that were employed in other studies.

Factor analysis and local quality criteria already deliver adequate proof towards validity of the factors. Nevertheless, there should still be a test conducted on discriminant validity.

Since the chi-square/df value for the individual factors is very poor, the chi-square-difference-test cannot be employed. Discriminant validity can also be demonstrated if the average variance extracted (AVE) of both factors are greater than their squared correlation extracted by employing a Pearson's inter-correlation analysis (Fornell/Larcker 1981, p. 45):

Construct	AVE	PU	PEOU	A	RTU	BI
PU	0.66	1				
PEOU	0.57	0.397**	1			
A	0.87	0.375**	0.170**	1		
RTU	0.60	0.237**	0.380**	0.092**	1	
BI	0.99	0.347**	0.278**	0.253**	0.214**	1

** Correlation is significant at the 0.01 level (2-tailed)

Table 21: Test of Fornell/Larcker criterion for TAM factors

Construct	AVE	AL	PL
AL	0.78	1	
PL	0.76	0.429**	1

** Correlation is significant at the 0.01 level (2-tailed).

Table 22: Test of Fornell/Larcker criterion for loyalty factors

The TAM factors (Table 21) indicate a maximum squared correlation of 0.244 (0.494^2). For the loyalty factors (Table 22) a value of 0.184 (0.429^2) was measured. These

measures show that for the TAM and the loyalty factors, the squared correlation of each pair of factors are below the average variance extracted. The discriminant validity is proved.

3.5.6   Validation of factor structure

3.5.6.1 Construct validity

The factors are the result of aggregated weighted items. The quality of the aggregation of items towards a factors is tested by the construct validity. This method of validation can be verified by examining the inter-correlation of items. If the weighted item only correlates towards one acceptance factor, then this can be interpreted as proof for the validity of the construct (Kuss 1987, p. 63). Having conducted the EFA each items can clearly be assigned to a certain factor. Construct validity therefore has been accomplished.

3.5.6.2 Test of the model conformity

After having tested the factors and the discriminant validity, the following section evaluates the global fit of the entire model by employing the second generation criteria as described above.

| Criteria	Value
GFI	.874
AGFI	.851
CFI	.821
NFI	.798
RMSEA	.066
RMR	.468
Chi Square/df	6.881

Table 23: Second generation quality criteria results

The GFI and AGFI criteria marginally fail to meet the quality requirement of ≥0.9. That indicates a less than ideal fit of the model. The CFI and NFI values also show a value below the required value of the quality criteria which also indicates a non optimal fit of the model. The RMR value indicates a very negative model fit, failing to meet the standard quality requirement by a considerable margin. This could be due to the operationalisation of SU as a single-item factor. The chi-square/df value also shows a bad fit which may have been caused by the relatively large sample size as already discussed. Only the RMSEA measure reaches the desired quality criteria.

In general terms, the model shows a bad fit which could be the result of the model complexity caused by the high number of factors. In addition, hypotheses were formulated in a forward and direct manner, thus contributing to a rather high level of model complexity. Relationships assumed as being less significant have, nevertheless, been hypothesised. Finally, the extension of the TAM and integration of the user loyalty construct may also have been responsible for the low model fit.

The measures GFI, RMSEA and CFI assess the nomological validity (Bollen/Long 1993, p. 6). Following this recommendation only a good RMSEA value would therefore indicate a nomological validity of the model. The nomological validity of the model towards the acceptance of weblogs by users can be regarded as quite unsatisfactory.

3.5.7 Causal analysis

In order to verify the empirical validation of the proposed acceptance model, the hypotheses are tested by a causal-analytical test procedure. Causal analysis examines a model which describes the relationships between the construct and the factors and between the factors and the respective items measured (Kollmann 1998, p. 146). For the purpose of analysing causal models with latent factors (not directly observable), the statistical/analytical software package AMOS was used.
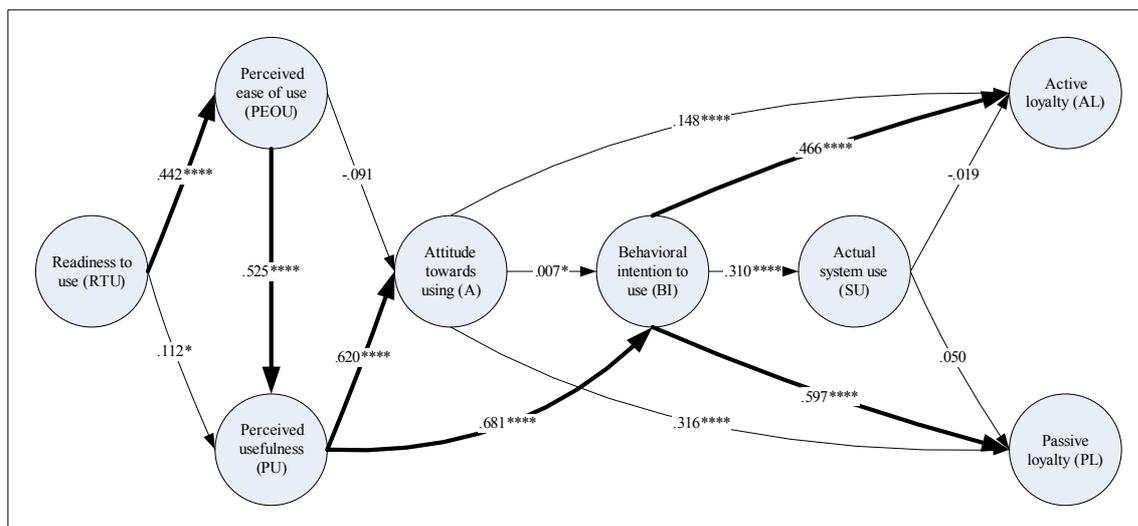
* p-value < 0.05; ** p-value < 0.01; *** p-value < 0.001; **** p-value < 0.0001.

Figure 11: Causal model

The causal analysis shows overall a less than satisfactory result for the hypothesised acceptance model by confirming 6 of 14 hypotheses:

Hypothesis	Factor relationships	Standardised regression weight and level of significance
1a	RTU ➜ PU	.112*
1b	**RTU ➜ PEOU**	**.442******
2a	**PEOU ➜ PU**	**.525******
2b	PEOU ➜ A	-.091
3a	**PU ➜ A**	**.620******
3b	**PU ➜ BI**	**.681******
4	A ➜ BI	.007*
5	BI ➜ SU	.310****
6a	SU ➜ AL	-.019
6b	SU ➜ PL	.050
7a	**BI ➜ AL**	**.466******
7b	**BI ➜ PL**	**.597******
8a	A ➜ AL	.148****
8b	A ➜ PL	.316****

* p-value < 0.05; ** p-value < 0.01; *** p-value < 0.001; **** p-value < 0.0001.

Table 24: Summary of the causal model results

An interpretation of the findings should start with the core components of the TAM: PEOU and PU. The influence of PEOU towards PU (hypothesis 2a) is significant, and furthermore indicates that usability is an important factor in the perception of usefulness. Some of the items originally assigned to the PU factor became part of the PEOU factor after conducting the factor analysis. Therefore a strong differentiation between usability and usefulness is obviously not made by weblogs users. One reason for this could be the major voluntary use of weblogs by which people relate efforts that are factorised by PEOU with benefits factorised by PU. The result is that effort and benefit may become mixed up in the users' perception.

PEOU and PU were both assumed to be strong factors which affect A. The result shows that PEOU does not play a big role towards A (hypothesis 2b). PEOU obviously does not affect the evaluation of the weblog service which can be interpreted in the way that users do not perceive weblogs as a difficult technology to use. In spite of this, PU has a significant effect on attitude (hypothesis 3a), implying that people's attitudes depend rather on people's perceived usefulness, for example by using weblogs as a source of good credible information.

RTU shows a positive effect on PEOU (hypothesis 1b). This makes it clear that PEOU is determined by personal experience and innovativeness. The hypothesised relationship between RTU and PU (hypothesis 1a) obviously does not exist, indicating that the perception of the usefulness proceeds independently from the degree of innovativeness or readiness to use. There might be two reasons for this. The first one is that because people are simply unaware of the usefulness of weblogs, their innovativeness has no effect on their perception of usefulness of weblogs. The second reason might be that people regard weblogs as equally useful, regardless of the personal readiness to use.

The weak relationship between factors A and BI (hypothesis 4) indicates that internalisation and identification processes towards user behaviour have not taken place. These processes are regarded by Davis/Bagozzi/Warshaw (1989, p. 986) as a sign of voluntary use of a system. Instead, PU shows that a significant effect on BI (hypothesis 3b) assumes that BI is rather the result of cost-benefit evaluations than of a positive attitude. People may still not choose to use weblogs because they have a positive attitude towards them. They rather decide on behalf of the advantages and benefits weblogs deliver. Users may still adopt a neutral attitude, as they still have to become more familiar with weblogs. As mentioned before, users can make usage decisions even without having a positive attitude. Following the model developed by this paper, this neither leads towards acceptance nor towards loyalty of weblogs.

Also surprising and contradictory was the discovery that A mediated much less between PU and BI than hypothesised (hypothesis 3a and 4). TAM usually assumes that these causal relationships are quite significant. More research is needed to fully identify the conditions under which A mediates between factors PEOU and PU and factors BI and SU towards weblogs. Also, there were no effects from A on the factors AL (hypothesis

8a) and PL (hypothesis 8b). Obviously the attitude does not (so far) determine the loyalty of the weblog users. This has a particular effect on the willingness to provide a positive eWOM by the users. A strong positive attitude does not necessarily contribute to a positive eWOM by the user.

The BI-SU relationship (hypothesis 5) appears to be quite weak on the surface. This is usually the case when users are inexperienced, which certainly applies to a large amount of users in the case of weblogs. Users cannot utilise their experience in order to form their intention. Less experienced users may only have abstract knowledge as they have not undergone the learning processes that are essential in order to make judgements about weblog usage, for example whether or not they want to set up their own blog. Later on, when people become more experienced, the learning effect will certainly increase the importance of usefulness and a decrease in the influence aspect of ease of use.

BI represents a significant relationship with active (hypothesis 7a) and passive (hypothesis 7b) loyalty. It can be interpreted in the way that the intention to perform a specific behaviour is relevant towards loyalty, as it is already more concrete than an existing attitude.

As weblog users' behaviour may show strong fluctuations, their SU does not relate to active (hypothesis 6a) and passive (hypothesis 6b) loyalty. In many cases, the use of a blog can result in frustration, or the user, who has before shown a positive BI towards blogs, becoming disappointed. This can result in the user giving up blogging. Most blogs are used voluntarily, and their use is fundamentally due to enjoyment or entertainment which also assumes that most users do not really depend on blogs in terms of the economic incentives they may offer. Most blog users become aware of blogs by using Google query, trackbacks or blogrolls, for example. Where a user has not subscribed to a blog, he/she might only visit the blog once, or irregularly, for the purpose of gaining instant and specific information on a certain topic.

3.6   Cluster analysis

The identification and differentiation between different types of users can help to provide further explanation towards the acceptance of weblogs. Are there certain groups below the blog user level that can be identified according to their behaviour? And can those groups be characterised by their socio-demographics in order to give further explanation?

Having conducted several hierarchical cluster analyses with different factor combinations, a two-cluster solution has been chosen on the basis of the "**Elbow criteria**".

K-means clustering requires the degree of significance and type of sample scale to be tested. Firstly, the significance of the clusters requires the sample to show a normal distribution of the arithmetic mean of its characteristics. Furthermore, the variances inside the clusters should be homogenous and tested by a one-way "**analysis of variance**" (ANOVA). Secondly, it is also necessary that the classification items have the same type of scale (e.g. ratio scaled, etc.) and the same length of scale (e.g. 5-point scale) for the cluster analysis (Bacher 1994, p. 173). Because of the two-cluster constellation, a post-hoc test could not be performed.

Clustering of users only makes sense if the users are able to collect experience with the system in order to develop individual and differentiated patterns of usage. The bias that is caused by the basic usage needs to be limited by user experience in order to find distinctiveness of intended usage. The central question therefore is: does the distribution of the characteristics (factor and socio-demographics) significantly differ between clusters?

The first user segment, containing 750 participants and representing 56% of the total sample, were described as "**intensive users**". The second user segment containing 599 users was entitled "**occasional users**". It represents 44% of the participants. In order to be able to observe differences between the factor structure of the extracted clusters, the values of each factor for the two clusters are as shown below:
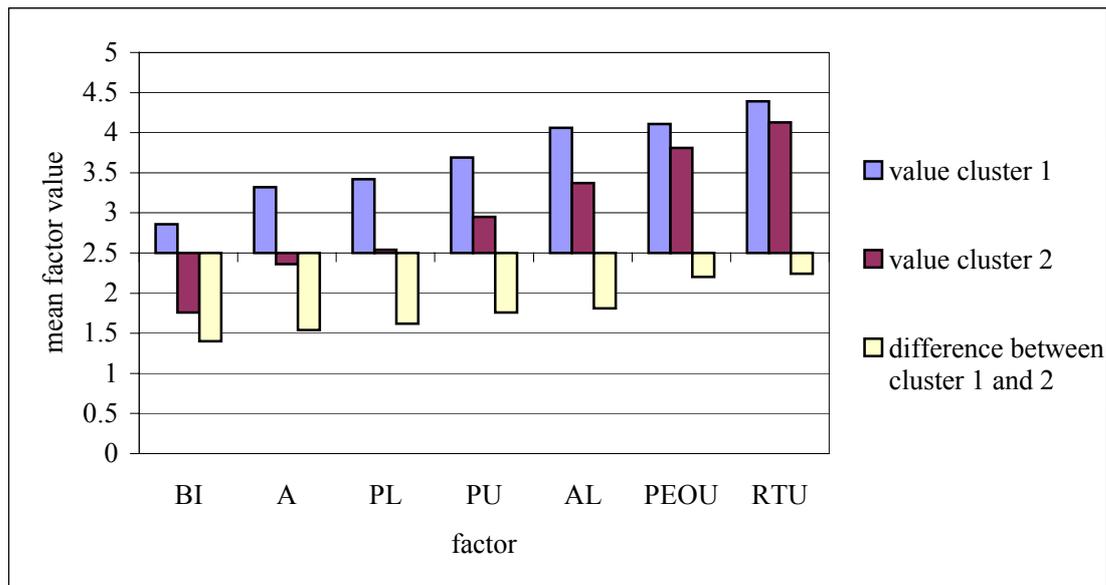
Figure 12: Relative factor values for segment 1 and segment 2

This representation of the factor values was chosen in order to show the average factor value of each factor of the two clusters (blue and red bar). The difference between the two average factor values is also indicated by the yellow bar. A comparison is important as it shows which factors more or less determine the differences between the clusters. The mean of the 5-point scale is located at 2.5 ("about the same"). The participants of the questionnaire have on average provided more positive answers in the form "I agree", as the mean factor values are almost all above the mean of 2.5.

The factor structure in Figure 12 shows small differences within the significant characteristics of the identified clusters. The conducted ANOVA shows a high level of significance on a level of 0.1% for the cluster selection and the assigned mean factor values. Testing of homogeneity variance shows insignificance regarding attitude and readiness to use, except for PEOU, whereby significance is on a 5% level, and the significance for all of them reaches 0.1%.

Figure 12 shows that the factors BI, A, PL and PU in particular show some significant distinctions, whereas the factors PEOU and RTU do not show much variance between the identified clusters. The first segment appears to have a higher degree of loyalty towards blogs. Surprisingly, the factor RTU, which is supposed to indicate the personal

innovativeness, does not actually support the distinction between intensive and occasional users, showing roughly the same value for both segments.

The gender characteristics show a value of 1.13 for segment 1 and 1.12 for segment 2. A 5% significance in the homogeneity test and insignificance for the ANOVA have been reached for this characteristic. The segments do not show a difference concerning the gender of its participants.

The average age for segment 1 was found to be 25.85 years, and for segment 2 26.87 years, also indicating no significant difference. The ANOVA shows significance on the 5% level for age and an insignificant test result for homogeneity.

The level of education is also not very different for both segments. Both segments show on average that the participants are in possession of a university qualification, with the second segment containing slightly more students. The educational level shows 0.1% significance to homogeneity test and the ANOVA.

Finally, the income level shows insignificance for the homogeneity test and the ANOVA. The figures indicate no significant difference, overall. The income level is also the same for both groups as the participants have on average a monthy income of 500 to 1,000 euros.

One distinction between the two clusters was found within their usage intensity of blogs. The usage intensity, measured by the factor SU (item v_817) shows that the average time per day spent on weblogs is nearly twice as high for segment 2 (41.48 minutes) compared with 23.25 minutes for segment 1.

The average frequency of weblog usage per week (v_813: "How often do you use weblogs per week?" (figure)) was also examined by the questionnaire. The figures show that segment 1 users use weblogs 22.47 times per week, whereas segment 2 users only use blogs 11.43 times per week.

Regarding the experience with weblogs in terms of years, which has also been asked for in the questionnaire (v_818: "For how long do you use weblogs for? (years)") shows similar figures for both segments (2.01 years to 1.84 years).

The test of homogeneity shows a 5% significance for v_813, a 0.1% for v_817 and an insignificance for v_818. The ANOVA shows a 1% significance for v_813, 0.1% for v_817 and a value of 0.006 with a slight insignificance on the 5% level for v_818. The approbation of the factors in the first cluster is higher than in the second cluster.

The distinction made between intensive and occasional users makes perfect sense, as the intensive users cluster certainly appears to use weblogs much more regularly than the users in the occasional oriented acceptors cluster. The usage intensity and the factor structure certainly justify the two-cluster solution and the associated description. The differences between those two segments with reference to their socio-demographic characteristics were minor, thus making it difficult to interpret user behaviour following this data.

It is necessary to mention that the measures of ANOVA and homogeneity test have shown less than satisfactory results. Overall, the cluster analysis does not show significant differences of the cluster relating to their socio-demographic characteristics. Because the sample has been collected by using bildblog.de, it is not surprising that the sample already shows evidence of pre-selection of participants and a relatively high level of sample homogeneity.

4 Conclusion

The formulated objective of this thesis was to analysis the underlying antecedents of user acceptance towards weblogs. Overall the research objective was successfully accomplished.

Nevertheless, the developed acceptance model based on the TAM approach has only been partly confirmed. The chosen approach, however, helped to follow the goals of this thesis and combined concepts of acceptance research with the characteristics of weblog technology.

The extension of the model by factors of loyalty has also been successful. Most hypotheses have failed to be confirmed, but the results of the analysis have still been able to deliver a satisfactory amount of interpretation towards the research objective. EFA and CFA in particular have also shown satisfactory results for both the conceptualised and operationalised model. A separate analysis for factors of user loyalty certainly made sense in the way that AL and PL are factors that relate to the state of post-actual usage behaviour, whereas the TAM is mainly concerned with the intended and actual behaviour towards actual usage.

The literature review of acceptance studies provided a good overview of the different approaches, advantages and limitations of the acceptance concepts. It has also become obvious that acceptance models - here the TAM - cannot be applied without adaptations. The TAM serves as an excellent basis, but also requires some adaptation which needed to be done according to the individual technology.

In this respect, this thesis also supports the conclusion of other studies that the TAM may indeed be inappropriate for certain technologies. It also concentrates too much on the aspect of ease of use and leaves out aspects of sustainable usage.

The representativeness of the study can be regarded as appropriate for the research purpose. Although limited to people visiting bildblog.de, participation in the questionnaire was quite high in light of its voluntary nature. Nevertheless, the

questionnaire has certainly attracted more people to participate who are personally interested in weblog technology. The development of items was difficult since the users differ in their level of experience with blogs. Questions that go too deep might have been imprecisely answered.

In contrast to other services and technologies that are typically researched by the TAM approach, weblogs have a broad range of complexity. This complexity is caused by the various areas of application of weblogs. Therefore, research that tries to cover acceptance research in general - like this paper - might face difficulties regarding the interpretation of result.

It is questionable whether the developed models can be generalised to explain the acceptance of other technologies. It is also important to remind oneself that even though this model fits the data and provides a theoretically consistent set of hypotheses towards weblog acceptance, there may be other equivalent models that fit the data equally well. There may also be non-equivalent alternative models that fit the data better than this model.

In general, the hypothesised extension of the TAM by factors of loyalty was a reasonable approach. It became obvious that loyalty is hard to interpret and explain for weblogs, especially because the hypothesised relationship between SU and user loyalty shows no significant correlation. Usage of weblogs does not significantly lead to a user loyalty. This may be because blogs primarily are used more for entertainment purposes, thus lacking in usage where the user can generate sizeable benefit. This is also supported by the missing relationship between RTU and PU. Professional users with considerable capacity for personal innovativeness would act more subjectively, trying to extrapolate benefit from weblogs.

The claimed effect of PEOU on A has not been confirmed by this study. This is not surprising, as the effect of PEOU was also found to be rather weak by other studies. Furthermore, the demonstrated relationship between the affective and behavioural response of the TAM has been confirmed by other studies, but not in this study. This may be due to the characteristic of the weblog research object, which is more complex than other applications or systems usually studied by the TAM.

Surprisingly, acceptance and loyalty studies are usually conducted separately. This study has shown why it is important to combine these two concepts, even if the developed model, based on an extension of the TAM, is only party successful. Loyalty factors surely managed to provide further explanation towards the acceptance phenomenon.

Future research is certainly needed in order to extensively test the generality of the observed usefulness and ease of use towards attitude and the impact of attitude towards usage of weblogs.

Even if there is still room for further improvement, the TAM model appears to be the appropriate model to analyse the acceptance of weblogs. As shown, the structural approach of the model that contains attitude, behaviour and usage components provide a good basis for the research of weblog acceptance.

5   Managerial implications towards corporate blogging

Although weblogs were primarily used for private purposes in recent times, they have now experienced a shift into the focus of business organisation and business operations. Advertising and marketing agencies embrace the chances that weblogs deliver, and relish the opportunity to connect with customers (Reed 2005, p. 227). Companies are conscientiously starting to invest in the establishment of new blogs. The fact that marketing seeks to utilise effective ways of reaching a given target group make weblogs more attractive for marketing purposes. Central to this is the fact that weblogs serve as an ideal platform for social interaction and participation. How can the findings of the study be applied in order to achieve acceptance and manage the employment of weblogs for their use in corporate communication?

To create blog awareness amongst users in the first place, it is recommended to become engaged with eWOM. Here, pingbacks or the appearance in other blogs' blogrolls can help to attract visitors. Furthermore, the blog should be regarded in a way similar to a Web page, highly rated in search engines such as Google or special blog search engines like Technorati.

Because positive BI shows positive effects towards passive loyalty and active loyalty, corporate bloggers should try to create intentions for blog users to become active and intensive users. Attempting to motivate users to participate in blogging, by giving comments for example, accelerates and facilitates the success of a blog. The blog user is more likely to give positive eWOM to others. The result is that a blog reaches a large amount of users early on.

It was discovered that PU is very important for the users towards their behavioural intention to use. As PU basically represents the benefits a user obtains from a blog, benefits should be made clear to the user. The user should quickly be informed about the content of a blog and the benefits he/she can get by using a particular blog. This can be done in the way that the weblog contains a register of topics discussed in the blog. The user quickly finds out whether the blog contains the content he/she is interested in. The blog should also be carefully maintained by publishing interesting, contemporary and reliable content. Furthermore, the authors of the blog should be authentic and let the

blog user know about their level of competence. That helps to enhance the overall perception of the information on the blog.

The blog itself can also be useful in the sense that it directly benefits the user by giving him/her a certain reward for regular use, for example in the form of a competition where the blog user has the chance of winning something. By doing this, it is possible to enhance PU, which then leads towards a positive A and BI.

While a positive attitude of the user does not deliver a further positive influence over weblog acceptance, BI was identified as being very important for actual usage of a blog. This may be because an "intention to blog" is more concrete than simply a "positive attitude towards blogging". A blog should therefore motivate its readers to participate by either commenting or reading. A positive BI is even more important for loyalty, since the actual usage factor does not show an effect on loyalty. Therefore, large volumes of traffic or access to a blog does not necessarily mean that those blog users stay loyal to a blog in the long term. Instead, they have to be motivated to participate by commenting or participating in blogging activities, as already discussed.

PEOU was identified by the study as playing a less important role on the attitude towards weblogs. Nevertheless, PEOU still shows strong influence over PU and should therefore not be neglected in this field. RSS and ASF feeds especially should be supported by the weblog. A button or other similar function to subscribe to feeds and to add the blog to the feed reader should be placed in an exposed and visible position at the top of the page. This is essential, as RSS technology is assumed to be highly integrated into media centres and will start to become mass market technology. Good presentation and easy navigation of the blog content can be achieved by using a standardised blog design.

To make users remain loyal to a blog it ought to send features such as newsletters via e-mail, which can help to keep the user informed of new blogs or other blogging activities. As already mentioned, active bloggers should be rewarded for their activities. In many cases, a reward can also be that they experience a higher status within the blogging community.

As blogs can serve as a media platform, users are becoming more sophisticated in their creation of personal pages with the integration of graphics, music and videos. A corporate blog should capitalise on this by using personal blogging to assist social networking.

Blog communication and other marketing activities should support each other. At best, the various marketing channels complement each other in order to generate multiplication effects. This is necessary in order to develop a sound marketing strategy which forms a consistent strategy for each marketing channel. The interoperability of weblogs should be used to create content and services available across multiple digital platforms that can also be beneficial by creating synergies between the channels resulting in genuine customer benefit. This should also be supported by the forming of alliances or partnerships with other media platforms. A sponsorship for Web 2.0 content,for example podcasts, can also help to make people aware of a particular company.

Companies should relax when conducting corporate communication via channels they have relatively little control over, such as weblogs. Companies that have a good reputation will certainly benefit from user reactions, whereas companies with a negative reputation and false or failed promises regarding their products will experience problems in finding customers. One reason why companies are unable to control blog-user-generated content is the fact that there are far too many blogs, and customers therefore have different options available to them if they wish to change the blog. The immediate feedback on the products and services provided by the blog user who is at the same time a customer of the company is valuable information for the company. This is because the customers usually have to decide on the basis of individual and unconscious value expectations resulting in authentic information.

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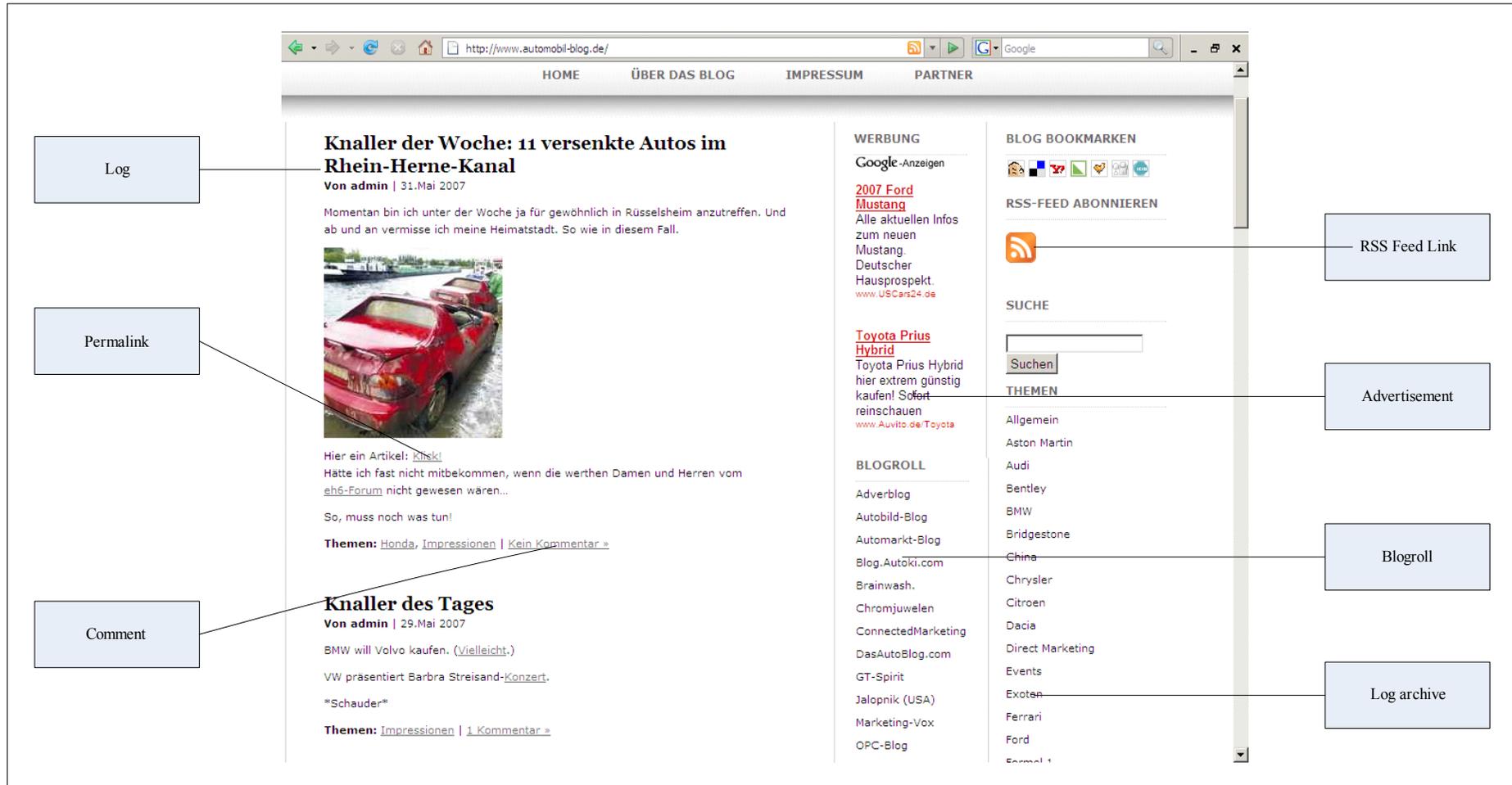
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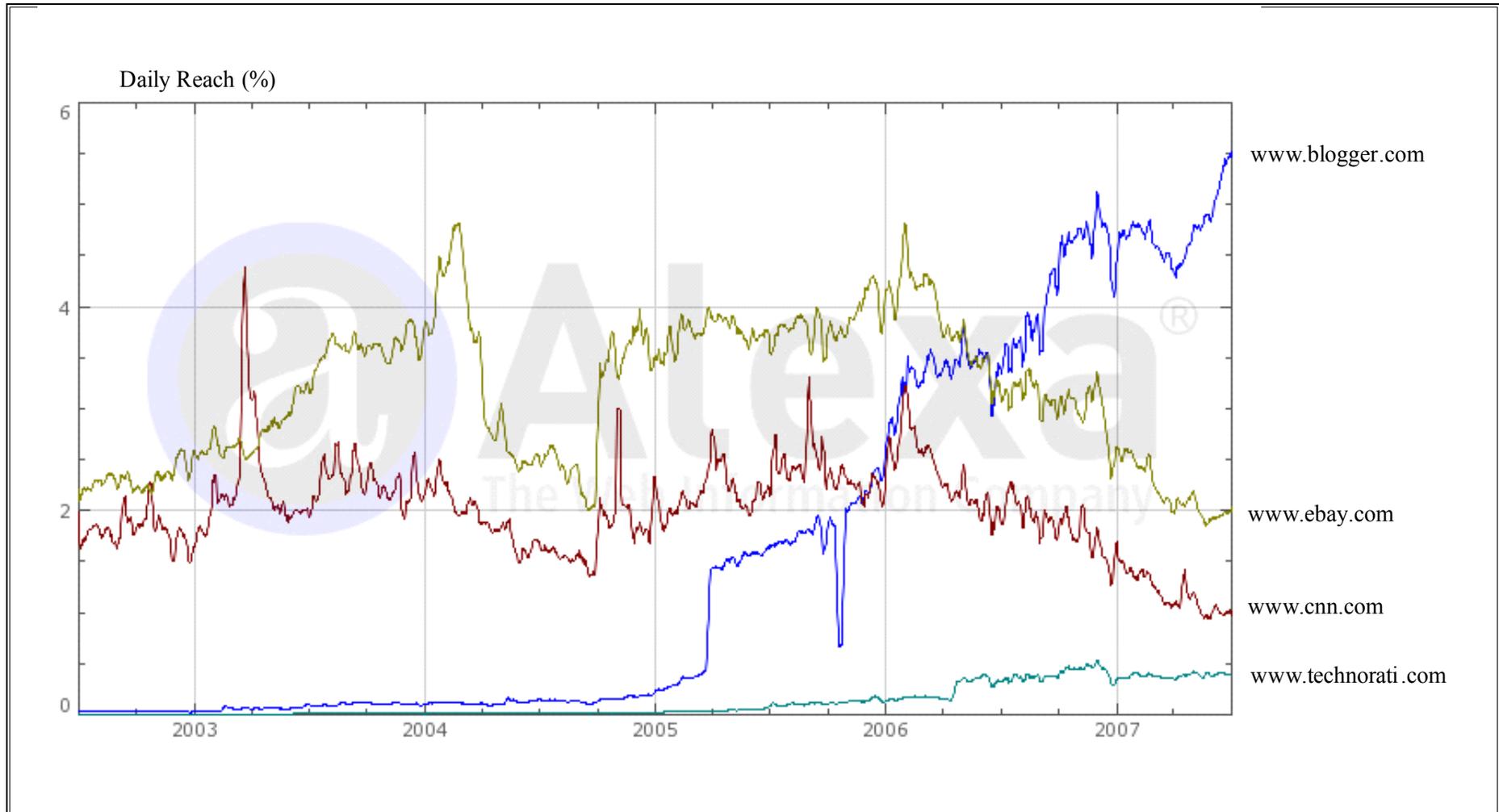
Appendix 1: Blog popularity (www.alexa.com 2007)

Appendix 2: Weblog features

Certificate

I hereby certify that the substance and content of this thesis has not previously been submitted for any other degree, either in whole or in part, and is not currently being submitted for any other degree or course to the best of my knowledge.

I also certify that any help I have received regarding the preparation of this thesis and all sources quoted and/or used, have been formally and properly acknowledged where appropriate.

I also give my consent for this paper to be published and archived in the University of Koblenz-Landau library.

Signature: Markus Weiler_____

Date: _____