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Wynand Beukes

University of Pretoria, wynand.beukes@gmail.com

Helene Gelderblom

University of Pretoria, helene.gelderblom@up.ac.za

Alta van der Merwe

University of Pretoria, Alta.vdm@up.ac.za

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78. Why designers responsible for websites of large organisations disregard basic web design principles

Wynand Beukes¹
University of Pretoria
wynand.beukes@gmail.com

Helene Gelderblom¹
University of Pretoria
helene.gelderblom@up.ac.za

Alta van der Merwe¹
University of Pretoria
alta.vdm@up.ac.za

Abstract

When a large organisation spends a notable proportion of its budget on creating a positive web presence, one would assume the web site to be well designed, usable and to provide a good user experience. This is not always true. In this case study we investigated a large telecommunications organisation based in Africa to determine the value it places on usability and user experience. We evaluated a core function of the web site through an eye tracking usability study and found severe usability problems. This led to an investigation into the reasons for this. Through interviews with web designers in the organisation, we discovered how they view the design process and why they believe that basic, documented design guidelines are not worth following. The results will help management of large organisations understand why web sites fail to achieve their goals and provide pointers on how to address this.

Keywords

Web Design; Design Guidelines; Telecommunications Websites, User Experience, Usability

1. Introduction

Easy to use websites, characterising organisational goals, and providing satisfactory customer experience have become essential to strengthen competitive advantage (Albert & Tullis 2013). Flawed website design continues to hamper successful e-commerce realisation, despite the fact that e-commerce is trending upwards (Sivaji, Downe, Mazlan et al. 2011). In a study of 10,000 online shoppers, 30% of the respondents indicated poor website organisation as one of the main factors for abandoning potential transactions (Sivaji et al. 2011). Information displayed on a website should be organised in an intuitive manner, driven by consistent task sequences where a user is not required to remember information more than a few seconds and users are not overloaded with information (Leavitt & Shneiderman 2006).

¹ Department of Informatics

The ISO 9241-11 defines *usability* as the extent to which users can use a product to achieve their goals effectively, efficiently and with satisfaction. With fierce competition in the e-commerce market, users can choose between hosts of options to satisfy their e-commerce needs. The user's choice relates to their belief that one website is better than another and directly reflects their attitude towards a website's design (Lee & Koubek 2010). In e-commerce, the user's experience of the website is the most important factor in determining the organisation's success.

Leavitt and Shneiderman (2006) regard usability and design guidelines as beneficial to four distinct groups: designers, usability specialists, managers and researchers. Guidelines can provide designers with a clear sense of direction and will prevent them from diverging to 'opinion-driven' design. Usability specialists can use guidelines as an evaluation checklist during website review and managers can use them as a benchmark for website design. Researchers can identify areas of improvement, assess current research or challenge previous findings.

Responding to personal experience and informal reports of dissatisfaction with the website of a large African telecommunications organisation, we embarked on an investigation to determine firstly, the extent of the usability problems and, secondly, how it happens that an organisation that has the stature and financial capability to attract the best designers, ends up with a website that violates some of the most basic web design principles. Although many guidelines on website design are available in the literature, not much has been written on why web site developers do not follow the guidelines. Our findings are disconcerting and reveal a clear need for remedial action that should be initiated from an organisational management level.

We start with a brief survey of published web design principles, summarising some of the basic guidelines to provide a reference point for the usability evaluation discussed later.

2. Web usability and design guidelines

Website design directly relates to efficient exchange of information between a user and a website, and this directly affects the user's perceived experience of the site (Xiaodong 2010). A website should not be a hindrance between a user and a piece of information, but rather act as a conduit to find the expected information swiftly (Beard, 2010). Ergonomics, which studies the physical characteristics of the interaction between the user and a computer to accomplish a certain goal, is a central concept in human-computer interaction (HCI) (Dix, Finlay, Abowd & Beale 2004). It contributes to HCI by suggesting detailed and specific guidelines for the way in which systems and interfaces are designed.

Bevan (1999) argues that organisations often produce websites that mirror the internal concerns of the organisation rather than what the users want. He also believes that more attention is given to the design of printed material than websites. The fact that this is still a problem today, raises the question whether web designers are sufficiently informed of the available guidelines and principles and, if so, what significance they attach to these guidelines.

In our survey of the literature pertaining to web design guidelines, we identified eight aspects of website design that receive the most attention: home page design, page layout, navigation,

headings, titles and labels, links, text appearance, graphics, and search. We summarise some key guidelines associated with each aspect in Table 1 below.

3. Research objectives and questions

During the research process we focused on one major telecommunication organisation in South Africa. The goal was to first confirm, by means of an eye-tracking usability test, that users experience problems with the website. Second, the study aimed to investigate why the current website design does not reflect long-accepted design principles even when the organisation has a respectable web design team.

Aspect	Extract of key guidelines relating to the aspect
Home page	The home page should convey the characteristics of the organisation (Mahlke 2002). In the short time users spend on a home page the value of the website (and the company) must be conveyed effectively. The purpose of the website should be clearly communicated (Leavitt & Shneiderman 2006). Text should be kept to a minimum (Farkas & Farkas 2000). A link back to the home page should be available from every page of a website.
Page layout	Order of items reflects their relative importance. Items should be positioned consistently, aligned appropriately (horizontally or vertically) and organised hierarchically throughout the website (Hornof & Halverson 2003). Important items should appear towards the top and center of the page.
Navigation	Users should never land on a page with no navigational options (Zimmerman, Slater & Kendall 2001). They should find it easy to return to the homepage to start new information seeking task (Farkas & Farkas 2000). Pages that require scrolling should provide anchor links at the top of the page (Zimmerman, Slater & Kendall 2001). Breadcrumbs are effective indication of the current location and lead users to the next step (Lynch & Horton 2009). Navigation should be supported by matching a link's text to the destination page heading, formatting URLs to relate to the user's location on the website, and changing the colour of selected links. Content should be accessible from various locations to support different preferences (Ivory, Sinha & Hearst 2000).
Headings, titles and labels	Most users scan rather than read when they spend time on a website (Nielsen & Morkes 1998). Well-designed and descriptive headings, titles and labels aid users in scanning and reading effectively. Descriptive headings can provide context to the information or functions that follow them and improve user's interpretation (Ivory & Hearst 2002). Labels that properly represent the function they signify, assist users to quickly and easily evaluate the available actions (Ehret 2002). Less descriptive or representative labels force users into exploratory learning and trial and error interaction that will slow them down.
Links	Effective links have meaningful labels, consistent clickable cues and they change appearance when clicked (Leavitt & Shneiderman 2006). Labels should clearly differentiate one link from another to avoid confusion. Single word labels might not provide enough information about the intended destination, but long descriptors might be difficult and time consuming to read. Clickable elements should clearly afford clicking and those that are not links should not appear like links. Links should be easily identifiable, they should be made visible by avoiding clutter and placing them high up on the page, and they should clearly indicate their destination (Farkas & Farkas 2000). Closely matched link descriptions and destinations provide feedback to the users so that they do not have to spend time scanning the destination page to determine if they are on the right track (Mobrand & Spyridakis 2002).
Text	Text appearance influence reading speed and ease of learning. Mixed-case elicits faster reading and should be used for text if users need to read large portions of information (Larson 2004). Familiar font types and sizes achieve the best reading speed (Bernard et al. 2001). Black text on a plain, high-contrast, non-patterned background is most successful. Visual consistency reduces task completion and learning time (Adkisson 2002). It refers to consistent use of colour, size and spacing of characters, size and location of labels, and fonts and backgrounds (Osborn & Elliott 2002). Bold text should be used sparingly (Joseph, Knott & Grier 2002). Variation between bold and non-bold text influences search time and accuracy and should only be used to draw attention to specific information.
Graphics	Graphics used appropriately can add value, but if not, it can be detrimental to a website. Graphics should be kept simple and should not resemble banner advertisements (Bayles 2002). Text placed over a background image may cause strain. Preferably the only image that should be present on every page is the company logo that links back to the homepage (Adkisson 2002). Ideally, the company logo should be in the same location on every page to serve as a frame of reference for users to confirm that they are still on the intended website. The most common position for a logo is in the top left corner.
Search	Websites often provide users with the ability to search for information through a search box to enter one or more keywords. Users should be presented with search results that match their expectations, fit the context and are in a usable format (Farkas & Farkas 2000). Search results should solve users' problems, and not confuse or frustrate them (Dumais, Cutrell & Chen 2001). Search should not be used as a substitute for good content organisation, but can be added to every page on a

	content-rich website. It should allow simple keyword searches as well as more complex Boolean searches (Farkas & Farkas 2000).
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Table 1: Guidelines related to key aspects of web site design

The main question addressed in this paper is: *Why do web designers of large information technology organisations disregard accepted design guidelines to the detriment of their business?* To answer this question we conducted a thorough usability evaluation experiment through the use of eye tracking on the case website. This was aimed at answering the following sub-questions:

- *What are the usability problems experienced by users when exposed to a web facility that represents a key aspect of a telecommunication organisation's business model?*
- *To what extent can the usability problems identified be linked to non-adherence to web design guidelines?*

Finally, after establishing that the usability problems could be attributed to the disregard of accepted guidelines, we investigated the following question:

- *What are the factors that prevent website designers in a large telecommunication organisation from adhering to accepted guidelines?*

4. Methodology

Our research took the form of a case study conducted in two phases that correspond to the two objectives listed above. A case study is an in-depth inquiry into a specific real-life instance of the object or topic under investigation (Lazar, Feng & Hochheiser 2010). It is often characterised by examination in context; the use of multiple data sources; and emphasis on qualitative analysis (Lazar et al. 2010). All of these apply to our study. The case investigated was a large African telecommunications organisation that we refer to with the pseudonym *Kommunika*.

4.1 Phase 1: The usability evaluation through eye tracking

During the first phase the goal was to confirm (or not) whether users experience problems with the *Kommunika* website. We conducted the evaluation of website through an eye tracking experiment in the Informatics Design Lab at the University of Pretoria.

4.1.1 Data collection

Eye tracking is a technique to record eye movements while a person is looking at a stimulus. It provides an objective measure of the users' attention on interface elements throughout the interaction period (Duchowski 2007). People's eyes continuously move. These movements are called saccades. Following a saccade is a moment where the eye becomes stationary to focus on a specific point. These static moments are called fixations. Capturing users' gaze patterns (i.e. saccades and fixation points) provides accurate information on what the areas of focus were and which parts of the interface were ignored. We used a Tobii T120 eye tracker to record users' eye movement while performing a task on the *Kommunika* website. The fixation radius was set at 35 pixels and a 5-point eye tracking calibration was used. With the Tobii Studio software we exported data in the form of gaze videos, gaze plots and heat maps. These are graphical representations of the gaze data, superimposed on screen recordings captured during interaction.

After each eye-tracking session, we conducted a post-session interview during which participants could describe their experience of performing the prescribed task. The interviews were recorded.

4.1.2 The task

Participants performed one key task on the web site. The transaction chosen for the usability test is known in the telecommunication market as a “mobile data top-up” or “purchasing of a data bundle”. The following scenario was explained to each participant: “You just bought a new mobile SIM card. After arriving home you insert the SIM card into your phone and realise that you are not able to browse the Internet because you do not have any data available. On your computer, you open the *Kommunika* website to top-up your SIM card with mobile data”. The top-up transaction is important in the context of a telecommunication organisation, because not being able to provide mobile data to clients will have a negative impact on the turnover and user experience.

4.1.3 The participants

Hertzum, Molich and Jacobsen (2014) found that more than 10 participants are required to identify the important usability problems. Our usability test involved 20 participants but the eye tracking data of only 15 users were accurate enough to be used. Their ages ranged from 14 to 60 years with an average age of 33. Eight participants were female and seven male. A pre-requisite for participation in the study was that the participant was not a client of *Kommunika* and had not previously used the organisation’s website. The participants’ qualifications ranged from still in school to a having Master’s degree. They are all computer literate and make use of technology on a daily basis. We used a combination of convenience and snowball sampling to recruit participants.

4.1.4 Data analysis

Eye tracking data was exported and analysed with the Tobii Studio Professional software. This included quantitative metrics such as task completion time, number of fixations, time to first click, time spent on the home screen and time spent on the top-up screen. This data was transferred to an Excel spread sheet where descriptive statistics including minimum, maximum, average and median values were calculated for each set of metrics. Data for qualitative analysis, such as gaze videos, heat maps, and gaze plots were also exported for each participant. Recordings of the post-test interviews were analysed to enrich the eye-tracking results. The final step of data analysis in this phase entailed mapping the usability problems identified, to the violation of specific guidelines discussed in Section 2. The results are discussed in Section 5.

4.2 Phase 2: Interviews with designers

The aim of this phase was to investigate why the organisation’s website does not adhere to usability design guidelines. Interviews were conducted at the company’s premises with six designers responsible for *Kommunika*’s website. Their ages ranged from 26 to 34 years and they had an average of seven years’ experience as designers at the company. All the interviewees have a tertiary qualification with one qualified in the field of Information Technology, four in Information or Graphic Design and one in Sports Management. The questions given in Appendix 1 were used as guide during the semi-structured interviews.

The interviews were recorded and the transcribed answers were grouped per question. The results were integrated into a summarised discussion for each question. A thematic analysis was conducted to identify themes and patterns of behaviour. The results are discussed in Section 6.

5. Results of the usability evaluation (Phase 1)

We discuss the results of Phase 1 with reference to time to complete the task, time to navigate between screens, number of fixations, number of pages visited, the navigation path followed and post usability test interviews.

5.1 Task completion time

The quickest participant completed the full task in 50 seconds. The slowest one took five minutes 51 seconds. The median time to complete the task was three minutes 28 seconds. Four out of the 15 users (27%) completed the task in more than five minutes. Six of the users (40%) took more than three minutes and less than five minutes, four users (27%) took between one and three minutes and only one user completed the task in less than a minute. For a simple task that represents a core aspect of the organisation's business, the time spent on it was excessive.

5.2 Fixation results for the home page

The minimum number of fixations on the home page until the first click was 23, the maximum 117, and the median 38. The spatial distribution and the order of fixations are scattered across the home page. Figure 1 shows a gaze plot for one user on the home page. Users fixated equally on the three main buttons in the center of the screen, indicating that they could not easily identify the one relevant to their task.

Users could reach the target page via two routes from the home page – by clicking MOBILE in the top horizontal menu bar, or by clicking the “View our mobile deals” button in the center of the screen. The other two buttons are labeled “Connect your Business” and “Connect your Home” respectively. Only five participants fixated on the menu bar, with four of them choosing it for their first click. Six participants first clicked on “Connect your Home”, three on “View our mobile deals” and two on “Connect your Business”.

Usability problems identified:

UP1: The time spent until first click and the number of fixations on the home page, indicate confusion as the participants were scanning the page to try and figure out what to do next.

UP2: Unclear labeling of buttons on the home page lead to confusion with only three participants clicking on “View our mobile deals” – the correct place to start.

UP3: The participants mostly ignored the top grey menu bar. The small font and dimmed colour of the menu bar caused it to blend in with the browser and made it seem inactive.

UP4: The number of fixations on the graphics at the bottom of the home page indicates that some participants wasted time scanning the images.

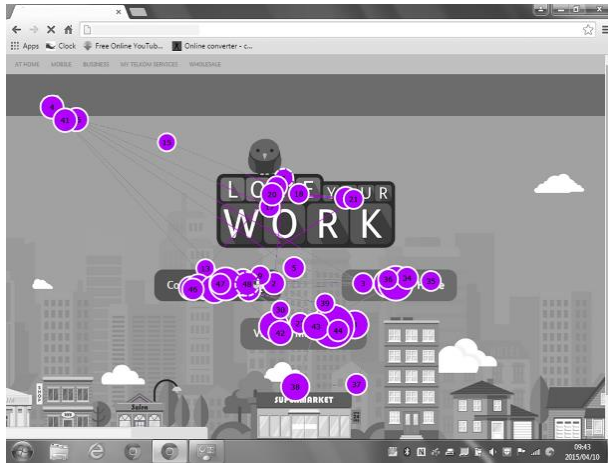


Figure 1: A gaze plot on the home page

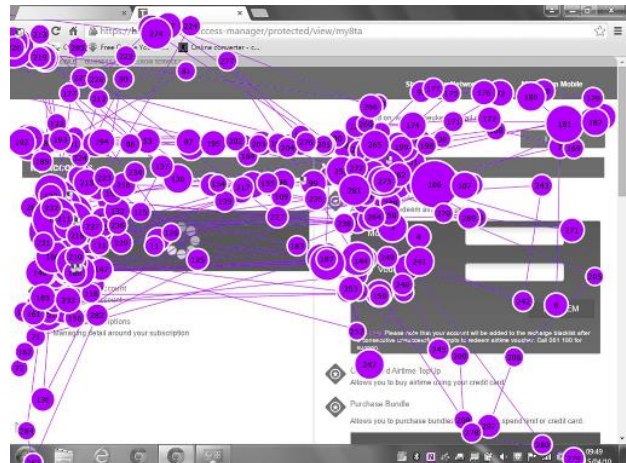


Figure 2: A gaze plot on the top-up page

5.3 Fixation results for the top-up page

The fixation data on the top-up page indicate even more confusion than on the home page. The minimum number of fixations until the top-up functionality was selected was 69, the maximum 517 and the median 109. Figure 2 illustrates one user's confusion. The top-up functionality is located on the bottom right-hand side of the page with only the "Purchase bundle" heading visible initially. Thirteen participants scanned the top-up page from the top left-hand side. Instead of then scrolling down to the required interaction section, they clicked the "Purchase bundle" label.

Usability problems identified:

UP5: The target top-up function is located on the bottom right hand side of the page while users' first instinct is to scan from the top left-hand side. Users struggled to locate the target.

UP6: Only the "Purchase bundle" label was visible on bottom right-hand side of the screen and participants had to scroll down to view the actual target functionality.

UP7: Instead of scrolling, users clicked on the "Purchase bundle" heading on the top-up page which just caused the page to reload. This label should not be clickable.

5.4 Navigation results

Investigating the navigation paths (distinct pages visited during the task, the order in which these were visited and the time spent on each page) revealed more usability problems. The optimum navigational path from the home page to reach the top-up screen consisted of four screens. Only three participants reached the target via this path. A disconcerting total of 23 separate pages were visited by the 15 participants during the task. The most screens visited by a single user were 16, and the median was nine. The average time spent by the three participants following the optimum path to complete the task was 1 minute and 6 seconds. The average time spent by the rest of the participants to complete the task was 3 minutes and 41 seconds. A quarter (26,67%) of the participants visited the home page more than once, having to navigate back to restart the task.

Usability problems identified:

UP8: Navigation from the home page to reach the top-up page is unintuitive and confusing as indicated by the time spent to reach the destination. The number of off-target screens visited by the participants confirms this.

UP9: The navigation problems originated on the home page. Only four participants completed the task in the optimum number of pages, indicating that they started on the wrong path.

UP10: Two participants navigated back to the home page to restart the task, confirming their confusion.

5.4 Results from post-test interviews

The most prominent result from the interviews relate to the confusion users felt on the home page. Eleven out of 15 participants (73%) mentioned that they did not know where to navigate to from the home page. The “View our mobile deals” label was interpreted as a marketing campaign and not as the correct navigational entry point to do a top-up.

Other significant problems mentioned were the struggle to locate the top-up page and that no search functionality was available. Four participants said that they would have used a search if available. More than 60% of the participants mentioned that they felt confused and had no idea how to continue. More than half also confirmed that the top-up functionality, which is on the right-hand side bottom of the top-up screen, was difficult to find.

With regard to appearance, complaints were that graphics on the home page did not convey a business-like image, the home page and the top-up screen did not have the same look and feel, font sizes varied and the width of the top menu and its font differed from page to page.

Usability problems identified (only those not mentioned before):

UP11: No search functionality is provided on the home page.

UP12: The text appearance differs between pages, causing a difference in look and feel from the landing page to the top-up screen.

5.5 How the identified usability problems relate to web design guidelines

Our next aim was to establish if the usability problems encountered could be linked to the violation of the basic web design guidelines discussed in Section 2. Table 2 lists some of the guidelines that were violated. The usability problems (UPs) that could have been prevented if a guideline was followed are given in brackets after the guideline. Each one of the identified problems could be associated with one or more guidelines that were not adhered to.

5.6 Summary of Phase 1 results

The answers to the two sub-questions addressed in this phase of the study can be summarised as follows:

1. The usability evaluation of the *Kommunika* website, when used for mobile data top-up, revealed twelve usability problems that severely hampered users’ efforts to complete the task successfully.
2. Each one of the twelve problems could be linked to the violation of one or more web design guidelines identified in the review of the web design guidelines (discussed in Section 2).

Context	Design guidelines violated (and the usability problems that can be linked back to them)
Home page	<ul style="list-style-type: none"> The value and purpose of the homepage should be clearly and prominently communicated to the user (UP1, UP9) Limit the amount of text and graphics on a homepage to enable a user to scan the homepage as quickly as possible to find information (UP4)
Page layout	<ul style="list-style-type: none"> To improve comprehension, a page should be structured in such a way that the items on a page are displayed in an order that reflects their relative importance (UP3, UP5) Important items displayed on pages should be placed consistently throughout a website, aligned appropriately and organised hierarchically (UP5) Important items should normally be presented towards the top and centre of the page to facilitate a user's anticipation where it would be most useful to them (UP5)
Navigation	<ul style="list-style-type: none"> Long pages that require scrolling should provide cues or anchor links on the top of the page (U5) Breadcrumbs are an easy and effective way to provide users with feedback to help them understand where they are in a website and assist them to proceed to the next activity (UP8, UP10) Anchor links can provide users with a quick link to the specific content required or provide them valuable information regarding the content below (UP8)
Headings, titles and labels	<ul style="list-style-type: none"> Use descriptive headings and labels to assist users in finding the information they are seeking as quickly as possible (UP1, UP2, UP6) Labels that are highly representative of the function they represent, assist users to quickly and easily evaluate their available actions (UP1, UP2, UP6)
Links	<ul style="list-style-type: none"> Effectively used links should have meaningful labels, consistent clickable cues and should indicate when they have been clicked (UP3, UP7) Important content should be accessible by users from more than one location or link (UP10, UP11)
Text appearance	<ul style="list-style-type: none"> Ensure visual consistency throughout a website (i.e. size and spacing of characters, colours, location of labels, fonts and backgrounds and text format (UP12)
Graphics	<ul style="list-style-type: none"> Use graphics and images sparingly (UP4)
Search	<ul style="list-style-type: none"> Ensure that search engines search the entire website and communicate clearly to users if search engine is only searching a subset of the website (UP11) Users should be able to search from any page on a website, not only the homepage (UP10, UP11)

Table 2. Design guidelines that were violated

6. Factors preventing designers from following guidelines (Phase 2)

The second phase of the study involved interviews with *Kommunika* website designers. The interview questions appear in Appendix 1. When asked to name some usability guidelines, only four designers could do so. Between them only seven basic usability design guidelines were mentioned. These referred to alignment, typography, colour, emphasis, navigation and breadcrumbs. According to one interviewee, the most important guidelines that promote usability are intuition and getting the size right (neither of these feature in the design guidelines described in section 2). Another designer stated that she “do[es] not think about guidelines as a guideline but as a given”, confirming that designers do not consciously apply usability guidelines. One interviewee felt guidelines can be limiting but was not able to name specific guidelines that might hamper creativity or novelty. He also said: “Because an agile approach is being followed, new design features can be tested and sometimes the tried and tested usability guidelines are put back because they are there for a reason”.

The above is just a short extract from the interview results. Through analysis of all the interview data we identified the following nine factors relating to the non-adherence of usability guidelines:

- Designers follow an “intuitive approach”, some not acknowledging any usability guidelines.
- Novelty drives some designers to push the boundaries and not adhere to usability guidelines.
- Sprints of the website are released for testing, and when usability problems are detected, agile methods allow designers to re-deploy an updated version of the website fairly quickly.

- Although designers regard some usability design guidelines as fundamental, they do not consciously apply them.
- Designers follow trends rather than the documented guidelines.
- Designers say that they find usability design guidelines useful, but feel they should be applied according to personal preference and may be violated to ease information discovery.
- Usability is seen as a specialised field and although designers should share the responsibility of website usability, a team specialising in usability should be made ultimately responsible.
- Internal politics and focus on marketing are two major forces hampering the adherence to guidelines.
- Although organisations talk about user experience and usability, these are used as buzzwords and their true meaning is not understood. This indicates a need to involve usability experts.

7. Conclusions

The aim of this study was to determine why web designers of large information technology organisations disregard accepted design guidelines. The results indicate that despite the obvious significance of a website for business success, the importance of proper web design practices is overlooked. In the case study discussed here, each of the usability problems identified could be avoided had the designers applied basic, widely published web design guidelines. Interviews with the designers confirmed that they are: (1) not well informed about existing design guidelines, and (2) not concerned about their lack of this knowledge. The interviews revealed various factors that explain their disregard of the guidelines. In answer to the research question, we organised these factors into the following five broad reasons for non-adherence to guidelines:

1. Following an intuitive design approach
2. Following trends rather than guidelines
3. Relying on agile methodology to fix design problems
4. Lack of emphasis from management on user experience and usability.
5. Lack of clear allocation of responsibility for usability.

In the introduction to this paper we explained the major impact that web design can have on an organisation with reference to studies by Sivaji et al. (2011) and Lee and Koubek (2010), for example. This indicates that the responsibility for the usability of websites lies at a management level rather than with the individual designers. The reasons we identified for designers' disregard of guidelines should therefore be addressed at a managerial level. What we have learnt can be summarised as follows: Although designers should be allowed artistic or intuitive freedom, they should be committed to user experience enhancement and be well informed about traditional good design practice. Intuitive design should be clearly distinguished from the 'opinion driven' design that Leavitt and Shneiderman (2006) refer to. This should be enforced through careful selection of design team members and proper training of designers in UX and usability design. Design trends should not be blindly accepted and designers should be expected to test all their choices against usability guidelines. In an agile development environment, designers should be made accountable for the usability of agile releases. The argument that agile releases enable quick fixes relies on the assumption that users will inform the organisation of usability problems rather than just migrating to another company. Management should instill a culture that emphasises user experience and the adherence to usability guidelines. The use of design guidelines should be addressed in the organisation's relevant policies. Although individual designers should be knowledgeable about design practices that lead to usable websites, a

dedicated usability and user experience evaluation team and their management should carry the final responsibility for a website's success.

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Appendix 1 – Interview questions

Table 3 below lists the questions that were asked during the interviews with six designers of the *Kommunika* web site.

1	What is your age?
2	Do you have a qualification?
3	What is your background in website design?
4	What is the system development life cycle (SDLC) methodology employed when designing a website?
5	Where in the system development process does interface design fit in?
6	Do you know some of the important website design guidelines promoting usability?
7	What is your opinion on the use and usefulness of website design guidelines that promote usability?
8	What are the website design guidelines promoting usability that you adhere to when designing a new website?
9	From your perspective, who is responsible for website usability?
10	Do you think it is easy (or difficult) to adhere to website usability design guidelines? Why/why not?
11	Do you think there is enough focus from an organizational point of view on the importance of website usability?

Table 3: Questions used during interviews with designers

