

CHAPTER 5

FINDINGS

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CHAPTER 5

FINDINGS

5.1 Introduction

This chapter primarily reports on the findings of the summative evaluation phase. The formative evaluation will also be mentioned. Four different groups evaluated the web site by means of the same evaluation questionnaire. The instrument is described in detail in 5.2.1.

The researcher anticipated that each group would look at the site from a different perspective and interpret and answer every question in their own way. Therefore the same questionnaire (a single questionnaire) was specifically used for all the groups. The results revealed that the correct decision regarding the single questionnaire was made.

A few questions from target analysis questionnaires, Questionnaire 1 (Appendix A) and Questionnaire 2 (Appendix B) will be utilised in this chapter, because of the relevance to the research questions.

During the course of this chapter the results to the questions will be analysed and the researcher will determine whether the design objectives were met by means of the outcomes from the questions.

Following in Table 5.1 are the different objectives and the relevant questions from the different questionnaires.

Table 5.1 Questionnaire and related objective to be met (†)

Objectives	Evaluation	Open day	Target analysis
	(questionnaire3)	(questionnaire 1)	(questionnaire 2)
The site has to be marketable.	-(Q4) Use of colours(Q5) Choice of fonts(Q10) Different navigation options on site map clear & easy to use(Q11) Useful links page will attract visitors.	Section 6 - Marketing.	-(Q18) Way of obtaining specific information on the Internet(Q20) Web site beneficial for marketing.
A functional communication facility must be established.	-(Q6) Layout of site map(Q16) Establish functional communication facilities(Q17) Contact details are clear.	Section5 - Internet use.	-(Q17) Use of the Internet(Q21) Communication facility on the web site.
Create a functional web site with sound design principles.	-(Q1) Appearance and overall look(Q2) Readability. (Q3) Consistency of all elements(Q4) Use of colours(Q8) Consistency of buttons(Q14) Presentation of content is consistent.	Not applicable for this objective	Not applicable for this objective
Ensure that the site is a functional and workable product.	-(Q2) Readability(Q3) Consistency of all elements(Q5) Choice of fonts(Q6) Layout of site map(Q7) Navigation to & from homepage(Q9) Layout of site map for navigation(Q10) Different navigation options on site map clear & easy to use(Q11) Useful links page will attract visitors(Q12) Amount of content in manageable chunks(Q15) Choice of graphics(Q19) Download time of pages(Q20) Web site is easy to use.	Not applicable for this objective	Not applicable for this objective



5.2 Evaluation of the program

5.2.1 Instrument used (†)

A questionnaire with 19 questions was handed out to 3 of the 4 different groups of respondents (students, lecturers, and CBT students). The questionnaire was compiled in the following manner:

- Section 1: Layout of the web site. (6 questions)
- Section 2: Navigation. (5 questions)
- Section 3: Content. (4 questions)
- Section 4: Communication, support and ease of use. (4 questions)
- Section 5: An open question for general comments on the total site was provided.

(Appendix C)

The questionnaire handed out to the fourth group (expert evaluators) was identical to the layout above, but a space for comments and suggestions was provided after each section. A distinct request was made to utilise the space.

The respondents had to evaluate each of the questions according to the five point Likert scale with the following meanings attached to the numbers:

1 = Excellent

2 = Good

3 = Above average

4 = Average

5 = Poor

The researcher combined the following results for the purpose of the interpretation of the findings:

1+2 = Good

3 = Average

4+5 = Poor



The results of the single questionnaire indicated a successful evaluation, as ample relevant data was gathered.

5.2.2 Description of the respondents (†)

5.2.2.1 Students

Twenty-five enrolled students from different levels of study (1st to 4th year), involved in Architecture and Interior Design (**Program**), represented the majority of the target population.

5.2.2.2 <u>Lecturers</u>

Four lecturers, the **client** being one, involved in the School of the Built Environment, were also representative of the target population. The **client**, who supplied most of the content, was part of the design team and participated in the formative evaluation phase.

5.2.2.3 Computer Based Training students (CBT students)

The CBT students are currently completing their final year of study for a diploma in Computer Based Training. They have had extensive exposure to all aspects of web design and could therefor evaluate the site in terms of functionality and workability.

5.2.2.4 **Experts**

Eight experts in the field of web and instructional design & management participated in the evaluation of the product. Each one received an evaluation form by e-mail. They were individually contacted and asked to participate, before sending a questionnaire. This ensured the return of a completed questionnaire.

5.3 Findings (†)

The results of the different groups are revealed in separate tables and discussed in detail. The percentages were calculated as follows:

1+2 = Good

3 = Average

4+5 = Poor

Thereafter the objectives that had to be met in order to answer the research questions will follow.

5.3.1 Students (†)

Twenty-five students participated in the evaluation phase and the results obtained from the evaluation are revealed in Table 5.2.

Table 5.2 Results from the students (†)

Note: The following calculations are used in the table:

1+2 = good 3 = average (ave) 4+5 = poor

Questions	Respondents out of 25 evaluating the web site								
Layout of the web site	1	2	good %	3	ave %	4	5	poor %	
The appearance of the web site and the overall "look" is:	6	8	56%	4	16%	4	3	28%	
2. The readability (size and space of writing) on the pages is:	6	14	80%	3	4%	2	3	16%	
3. The consistency of all the elements through out the web site is:	3	11	56%	7	28%	4	0	16%	
4. The use of colours in the web site is:	6	8	56%	3	12%	4	4	32%	
5. The choice of fonts (type of writing) is:	2	12	56%	5	20%	4	2	24%	
6. The layout of the site map is:	3	7	40%	7	28%	8	0	32%	
Navigation									
7. The navigation to and from the homepage is:	6	11	68%	4	16%	3	1	16%	
8. The consistency of the buttons through out the web site is:	7	8	60%	4	16%	6	0	24%	
9. The layout of the site map for navigation purposes is:	4	7	44%	8	32%	5	1	24%	
The different options of navigation in the site is clear and easy to follow: The "Useful link" page will attract more visitors:		11	68%	4	16%	4	0	16%	
		7	44%	4	16%	8	2	40%	
Content									
12. The amount of content per page is presented in manageable chunks:	4	12	64%	7	28%	1	1	8 %	
13. The content is understandable and appropriate:	3	13	64%	9	36%	0	0	0%	
14. The way in which the content is presented gain the attention of the visitor:	1	7	32%	7	28%	8	2	40%	
15. The choice of the graphics is:	3	5	36%	5	20%	6	6	44%	
Communication, support and ease of use									
16. The possibility of communicating with other students and lecturers, with a bulletin board and listsery will be:	3	12	60%	6	24%	3	1	16%	
17. The contact details on the web site is easy accessible and clear:	6	13	76%	3	12%	3	0	12%	
18. The web site enables and promotes learning:	0	9	36%	14	52%	2	1	12%	
19. The download times of the web pages is:	6	8	56%	8	32%	3	0	12%	
20. The web site is easy to use:	7	15	88%	3	12%	0	0	0%	



5.3.1.1 <u>Interpretation of students' results</u>

The results in Table 5.2 are addressed and interpreted according to the different sections in which the questions were asked and suitable comments are supplied.

Layout of the web site.

The results reveal that the majority of the students were satisfied with the general layout. 57,3% rated it as good, 18% as average and 24,6% as poor. The students, being artistic in nature, obviously looked at the site from a design perspective. From the general comments the researcher could establish that a more modern look and choice of fonts as well as the use of more exciting colours would have been appealing to a greater majority.

The only point of concern was the layout of the site map, which was only approved by 40% of the students. The home button was only visible after scrolling and some links were not functioning. The colour combination was also a matter of discussion.

Navigation.

The results reveal that 56,8% of the students were satisfied with the navigation in comparison with 24% that rated it as poor. Comments such as "the navigation bar should have been a different colour" and "the font is too ordinary", revealed a degree of ignorance regarding the questions. Therefore, the fact that the majority rated it as good was excepted.

A matter of concern however, remained the layout of the site map for navigation and the "useful links" page, which was rated as good by a mere 44%.

From comments made about the "useful links" page, the researcher established that the majority of the students misunderstood the intention of the page. Imaginary logos were used and it was clear that they did not read the explanation stating the purpose at the top of the page.

Content

Only 49% rated the section on the content as good, 28% felt that it was average and 23% revealed that it was poor. The overall impression was that the students did not find

the content presentation satisfactory, but looking at the questions separately only two matters caused concern.

The way in which the content is presented did not gain the attention. The content was supplied by the client and is supposed to provide information. Therefore it does not appear exciting enough for the majority of the students. Even though the graphics are examples of student work and design related fields, they found it not satisfactory. To a great extent the perspective of the designer nature played a role.

Communication, support and ease of use

The majority of the students agreed that that this section was satisfactory. 63,2% rated it at good, 26,4% rated it as average and only 10,4% rated it as poor.

Issues regarding communication and ease of use were rated above average and good.

Therefore no matters of concern were documented.

Figure 5.1 graphically displays the results indicated in Table 5.2.

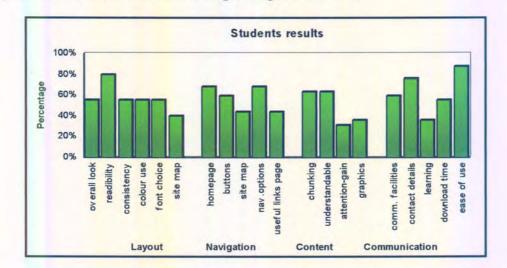


Figure 5.1 Results of students regarding the web site

5.3.2 **Lecturers** (†)

Four lecturers participated in the evaluation phase and the results obtained from the evaluation are revealed in Table 5.3. One of the lecturers is also the client and had insight into the design phase.

Table 5.3 Results from lecturers (†)

Note: The following calculations are used in the table:

1+2 = good 3 = average (ave) 4+5 = poor

Questions	Respondents out of 4 evaluated the web site								
Layout of the web site	1	2	good	3	ave	4	5	poor	
1. The appearance of the web site and the overall "look" is:	0	2	50%	2	50%	0	0	0%	
2. The readability (size and space of writing) on the pages is:	1	2	75%	1	25%	0	0	0%	
3. The consistency of all the elements through out the web site is:	0	2	50%	2	50%	0	0	0%	
4. The use of colours in the web site is:	1	2	75%	1	25%	0	0	0%	
5. The choice of fonts (type of writing) is:	1	2	75%	0	0%	1	0	25%	
6. The layout of the site map is:	2	1	75%	1	25%	0	0	0%	
Navigation									
7. The navigation to and from the homepage is:	2	0	50%	2	50%	0	0	0%	
8. The consistency of the buttons through out the web site is:	3	1	100 %	0	0%	0	0	0%	
The layout of the site map for navigation purposes is:	0	3	75%	1	25%	0	0	0%	
10. The different options of navigation in the site is clear and easy to follow:		3	100 %	0	0%	0	0	0%	
11. The "Useful links" page will attract more visitors:		2	50%	1	25%	1	0	25%	
Content									
12. The amount of content per page is presented in manageable chunks:	0	1	50%	2	25%	0	1	25%	
13. The content is understandable and appropriate:	2	1	75%	1	25%	0	0	0%	
14. The way in which the content is presented gain the attention of the visitor:	1	2	75%	0	0%	1	0	25%	
15. The choice of the graphics is:	1	2	75%	1	25	0	0	0%	
Communication, Support and ease of use									
16 The possibility of communicating with other students and lecturers, with a bulletin board and listsery will be:	4	0	100	0	0	0	0	0	
17. The contact details on the web site is easy accessible and clear:	3	1	100 %	0	0%	0	0	0%	
18. The web site enables and promotes learning:	1	2	75%	1	25%	0	0	0%	
19. The download times of the web pages is:	2	1	75%	1	25%	0	0	0%	
20. The web site is easy to use:	4	0	100 %	0	0%	0	0	0%	



5.3.2.1 <u>Interpretation of lecturers' results</u>

The results in Table 5.3 are addressed and interpreted according to the different sections in which the questions were asked and suitable comments are supplied.

Layout of the web site

The results from the lecturers revealed a positive rating of 66,6%. Only 29,1% rated it as average and 25% as poor. A matter of concern was that only 50% of the lecturers rated the overall look as good. The rating on this question should have been higher, as this was the initial idea from the client.

A possible reason for the change of attitude could have been the decision of the School of the Built Environment to obtain web sites with a uniform look or it could be attributed to a lack of internal consulting.

Navigation

A substantial majority (85%) revealed that they were satisfied with the navigation issues. 15% rated the issues as average.

50% rated the navigation to and from the home page as good and 50 % as average. Therefore the above issue was accepted as satisfactory.

Content

The rating of the lecturers revealed a satisfaction regarding the content. 68,75% rated it as good, 18,75% as average and 12,5% as poor. The lecturers supplied the content, therefore the data was no surprise to them, and they did not expect exciting, design information.

The rating of the chunking of information revealed that lecturers were of the opinion that the amount of content should be less. Only 50% of the lecturers were satisfied. 25% rated this issue as average, while 25% rated it as poor. These results created concern and will be kept in mind during the final phase of change.

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Communication, support and ease of use

The results concerning these issues reveal a total satisfaction on the side of the lecturers. A majority of 90% rated the communication, support and ease of use issues as good and 10% rated average.

Figure 5.3 graphically displays the results indicated in Table 5.3

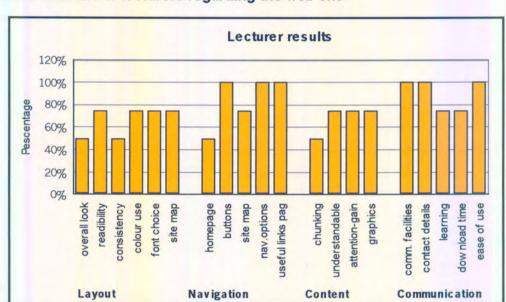


Figure 5.3 Results of lecturers regarding the web site

5.3.3 CBT students

Thirteen CBT students participated in the evaluation phase and the results obtained from the evaluation are revealed in Table 5.4.

Table 5.4 Results from CBT students (†)

Note: The following calculations are used in the table:

1+2 = good 3 = average (ave) 4+5 = poor

Questions	Respondents out of 13 evaluating the web site							
Layout of the web site	1	2	good	3	ave	4	5	poor
The appearance of the web site and the overall "look" is:	6	4	77%	2	15%	1	0	8%
2. The readability (size and space of writing) on the pages is:	6	6	92%	0	0%	1	0	8%
3. The consistency of all the elements through out the web site is:	7	4	85%	2	15%	0	0	0%
4. The use of colours in the web site is:	5	7	92%	0	0%	1	0	8%
5. The choice of fonts (type of writing) is:	6	6	92%	0	0%	1	0	8%
6. The layout of the site map is:	8	4	92%	1	8%	0	0	0%
Navigation								
7. The navigation to and from the homepage is:	7	4	85%	1	8%	1	0	8%
8. The consistency of the buttons through out the web site is:	7	6	100	0	0%	0	0	0%
9. The layout of the site map for navigation purposes is:	7	6	100 %	0	0%	0	0	0%
10. The different options of navigation in the site is clear and easy to follow:		6	100 %	0	0%	0	0	0%
11. The "Useful links " page will attract more visitors:		3	85%	1	8%	1	0	8%
Content								
12. The amount of content per page is presented in manageable chunks:	4	5	69%	4	31%	0	0	0%
13. The content is understandable and appropriate:	7	4	85%	2	15%	0	0	0%
14. The way in which the content is presented gain the attention of the visitor:	9	2	85%	1	8%	1	0	8%
15. The choice of the graphics is:	7	4	85%	1	8%	1	0	8%
Communication, Support and ease of use								
16 The possibility of communicating with other students and lecturers, with a bulletin board and listsery will be:	7	4	85%	2	15%	0	0	0
17. The contact details on the web site is easy accessible and clear:		2	92%	1	8%	0	0	0%
18. The web site enables and promotes learning:	6	4	77%	2	15%	1	0	8%
19. The download times of the web pages is:	7	4	85%	1	8%	1	0	8%
20. The web site is easy to use:	11	2	100 %	0	0%	0	0	0%



5.3.3.1 Interpretation of CBT students' results

The results in Table 5.4 are addressed and interpreted according to the different sections in which the questions were asked and suitable comments are supplied.

Layout of the web site

A majority of 88,3% of the CBT students rated the layout as good, only 6,3 % rated it as average and a meagre 5,3% as poor. The overall look was rated as good by 77% of the students and is well above average, even though it received the lowest rating in this section.

The CBT students were not subjective and primarily evaluated the site for functionality and workability. Therefore their input was of great importance.

Navigation

The ratings of all the questions in this section were good. An average of 94% was achieved for the section. The students were impressed with the navigation and comments such as "comfortable and clear navigation" and "an easy ride through the pages", expressed a positive attitude.

Content

A rating of 81% was measured for the total section. 15% rated it as average and only 4% rated it as poor. The students found the content understandable, attention gaining and also approved of the choice of graphics. A few positive comments regarding the graphics were made.

The students did not feel convinced that the content was presented in manageable chunks, because only 69% rated it as good. Therefore attention has to be given to this specific issue.

Communication, support and ease of use

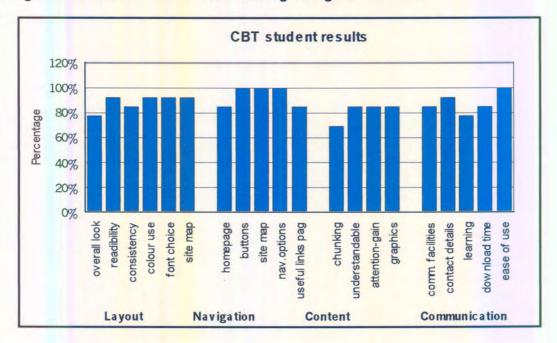
The results revealed that the students felt very positive about this section. 87,8% rated it as good, only 9,2 rated it as average and 3% as poor. Everybody agreed that the site Chapter 5 - Findings

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was easy to use. The majority agreed that a communication channel with a listserv and bulletin board would be an asset.

Figure 5.4 graphically displays the results indicated in Table 5.3

Figure 5.4 Results of CBT students regarding the web site



5.3.4 Experts (†)

Eight experts participated in the evaluation phase and the results obtained from the evaluation are revealed in Table 5.5.



Table 5.5 Results from experts (†)

Note: The following calculations are used in the table:

1+2 = good 3 = average (ave) 4+5 = poor

Questions		Evaluation by 8 experts								
Layout of the web site	1	2	good	3	ave	4	5	poor		
1. The appearance of the web site and the overall "look" is:	1	6	87 %	1	13%	0	0	0%		
2. The readability (size and space of writing) on the pages is:	3	3	75%	1	13%	1	0	12%		
3. The consistency of all the elements through out the web site is:	2	3	63%	2	25	1	0	12%		
4. The use of colours in the web site is:	3	2	62%	3	38	0	0	0%		
5. The choice of fonts (type of writing) is:	3	2	63%	2	25	1	0	12%		
6. The layout of the site map is:	3	2	63%	2	25	1	0	12%		
Navigation										
7. The navigation to and from the homepage is:	1	4	63 %	2	25%	1	0	12%		
8. The consistency of the buttons through out the web site is:	4	2	75%	0	0%	2	0	25%		
9. The layout of the site map for navigation purposes is:	4	1	63%	2	25%	1	0	12%		
10. The different options of navigation in the site is clear and easy to follow:		3	75%	2	25%	0	0	0%		
11. The "Useful link" page will attract more visitors:		4	50%	2	25%	2	0	25%		
Content										
12. The amount of content per page is presented in manageable chunks:	3	3	75%	0	0%	2	0	25%		
13. The content is understandable and appropriate:	3	3	75%	2	25%	0	0	0%		
14. The way in which the content is presented gain the attention of the visitor:	2	3	63%	2	25%	1	0	12%		
15. The choice of the graphics is:	4	0	50%	3	38%	1	0	12%		
Communication, Support and ease of use										
16. The possibility of communicating with other students and lecturers, with a bulletin board and listsery will be:	1	6	87%	1	13%	0	0	0%		
17. The contact details on the web site is easy accessible and clear:	3	1	50%	3	38%	1	0	12%		
18. The web site enables and promotes learning:	0	4	50%	3	38%	1	0	12%		
19. The download times of the web pages is:	1	3	50%	2	25%	2	0	25%		
20. The web site is easy to use:	4	1	63%	2	25%	1	0	12%		



5.3.4.1 <u>Interpretation of experts' results</u>

The results in Table 5.5 are addressed and interpreted according to the different sections in which the questions were asked and suitable comments are supplied.

Layout of the web site

The basic layout of the site according to the results from the experts, was a success. The majority of the experts (68,8%) rated the layout as good, 23,2% rated it as average and 8% rated it as poor.

Issues of concern are the following:

- One expert suggested that the fonts could be smaller in order to limit the amount of scrolling.
- One expert had a problem with the consistency of the elements throughout the site. The red arrow (pointing to the next page) and the "top" button (hypertext for returning to the top) do not appear on the same place on each page. The respondent did not approve of the home page logo at the top on the right hand side.

The respondent suggested that it would be beneficial to: "place the arrow, 'top' and home link in the middle bottom of the page."

This matter did not cause any concern with any of the other experts, but will be noted and returned to if deemed necessary.

One expert had a problem with the choice of fonts used on the navigation bar and suggested that the font should be totally different to any of the fonts used, to ensure visibility.

General comments from the experts regarding possible improvement to the site:

- "The leaf image is too big. Rather use a narrow straight line between the paragraphs"
- "Homepage -the choice of the graphic is good, but too much open space presents a dull and uninteresting opening page. Place the heading in the middle, with a substantial menu bar either at the bottom or on the side"



The majority accepted the **layout of site map** and rated it as good. The only comment worthwhile noting was that the text was difficult to read against the background colours. An adjustment in this regard will add to the functionality of the site map as such.

Even though only 62% rated the **use of colours** as good, 38% rated it as average; implying no poor rating and therefore a satisfactory result.

The following comment conveyed an extremely positive attitude:

" I loved the choice of the colours, the graphics and the general layout."

Navigation

The majority (65,2%) rated the navigation section as good, 25% rated it as average and 9,8% rated this section as poor. The issues causing concern were those with a poor rating and will be discussed briefly.

One expert felt that the navigation to and from the home page was insufficient and supplied the following comment:

"I would have liked a short menu list on the home page. It seems to be incomplete."

The respondent did obviously not see the menu and the red arrow at the bottom of the page as an amount of scrolling was necessary on some of the older monitors.

This matter needs definite refining as the functionality of the site is jeopardised.

One expert did not approve of the layout of the site map for navigation purposes and supplied the following comments:

"I hit the site map first and it did not make much sense at first. I would have liked a simpler, but more explanatory site map."

"The colour of the text disappears on the colour of the background."

The fact that the home page logo was not visible at first sight, that scrolling had to be done and that the text was not sufficiently visible on the background colour could have affected the functionality of the site map.



> Two experts commented on the "Useful link "page. The researcher could determine from some of the comments made that some of the respondents did not completely understand what the use for this page was.

Some of the comments regarding the "link" page were the following:
"Nice idea, but the graphics are not active and does not lead anywhere."
"All the graphics should be the same size and of the same colour quality."

The researcher realised that the explanation with regard to the reason and aim of the page, supplied at the top of the "Useful links" page, must have been insufficient and not visible enough. After explaining the use of the page to the respondents in question, they both agreed that the idea was workable and could in future attract visitors, but only after the site has become known.

Content

The majority of the experts (69%) approved of the section regarding the issues on content. Only 25% rated this section as average and 6% rated it as poor.

Positive comments such as the following were obtained:

"Good chunking really added to the friendliness and informative possibilities of the site" "Choice of graphics is stunning",

Negative comments such as the following were obtained:

"Some pages are too long. Try and use as little scrolling as possible. Split up in sub pages. Some content can still be divided into smaller chunks"

"Graphics could have been a little smaller. Bigger graphics took the emphasis from the

"Graphics could have been a little smaller. Bigger graphics took the emphasis from the content and causes scrolling."

Communication, support and ease of use

The majority of the experts (65,2%) rated the above section as good, 25% rated it as average and only 9,8% gave it a poor rating.

A **communication facility** with the possibility of a listserv as well as a bulletin board was well supported.



The majority also agreed that the contact details were reasonably accessible and clear.

One of the experts made the following comment:

"The link to the application form opens up the home page of the university. Is it possible to link it directly to the form?"

The possibility of a direct link will be investigated.

The experts viewed the site from their own computers, whether at work or at home and at their own time, whether midday or midnight. Therefore everyone would have experienced a different **download time**. 50% of the experts were satisfied with the download time, also acceptable were the 25% who rated it average. Fortunately only 25% found the downloading to be poor.

The reasons for this occurrence could be multiple. The modem could for instance be older and slower. The researcher decided to accept the rating of the majority as successful.

Most of the experts found the site **easy to use**. The following comments revealed a definite positive attitude to the site as a whole:

"I admired the fact that only the necessary information is included, to make the site useful and easy to understand."

"The individual pages were easy to understand and even "newbies" would be able to negotiate their way through the pages."

General comments that revealed a potential successful site were the following:

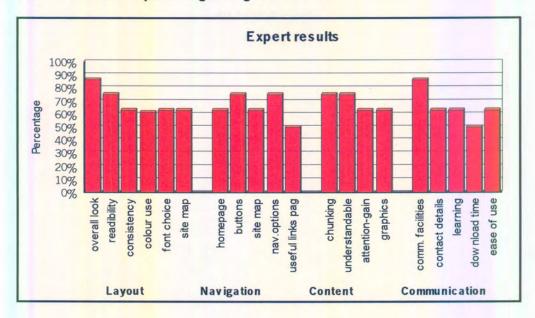
"The site has a professional look."

"This site will definitely contribute to the general objective."

"Great look and feel. Good piece of work!"

Figure 5.4 graphically displays the results indicated in Table 5.5

Figure 5.4 Results of experts regarding the web site



5.3.5 Average results from the different respondent groups

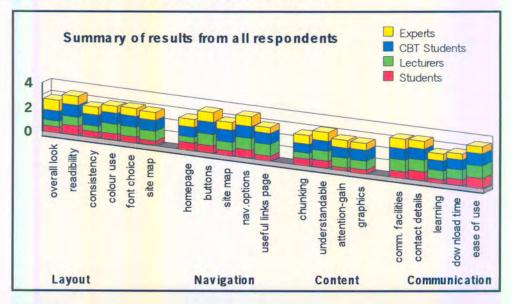
Table 5.6 reveals the results from the different respondent groups on each question in the evaluation questionnaire. An overall average for each question is supplied to assist in the evaluation of the findings regarding the design objectives in 5.4.

Table 5.6 Average results from the different respondent groups

Issues	Students %	Lecturers %	CBT Students %	Experts %	Average of respondents
Layout of the web site					
overall look	56	50	77	87	68
readability	80	75	92	75	81
consistency	56	50	85	63	64
colour use	56	75	92	62	71
font choice	56	75	92	63	72
site map	40	75	92	63	68
Navigation					
homepage	68	50	85	63	67
buttons	60	100	100	75	84
site map	44	75	100	63	71
navigation options	68	100	100	75	86
useful links page	44	100	85	50	70
Content					
chunking	64	50	69	75	65
understandable	64	75	85	75	75
attention-gain	32	75	85	63	64
graphics	36	75	85	63	65
Communication, supp	ort and eas	e of use			
communication facility	60	100	85	87	83
contact details	76	100	92	63	83
learning	36	75	77	63	63
download time	56	75	85	50	67
ease of use	88	100	100	63	88

Figure 5.5 graphically displays the average percentage obtained for each question regarding the average percentages obtained from the different respondent groups as indicated in Table 5.6

Figure 5.5 Summary of results from all respondents



5.3.6 Relevant target analysis results

In attempting to achieve certain design objectives, the researcher found it necessary to include the results of specific questions asked in questionnaires 1 and 2 (target analysis). The respondents used in questionnaire 1 were **potential students**, while those used in questionnaire 2 were **enrolled students**.

Table 5.7 reveals the specific questions regarding the target population taken from questionnaire 1 and questionnaire 2 as well as the results obtained for each question.

Table 5.7 Results from relevant questions in questionnaires 1 & 2 (†)

Questions	Variants	% potential students (Q 1)	% enrolled students (Q 2)	% average of total respondents
Where did you obtain	Posters	30		30
information regarding	Word of mouth	15		15
the open day and the	School	55	not	55
Program?	Internet	0		0
Current means of	Library	45	applicable	45
obtaining information for	Magazines	40		40
research topics?	Internet	55		55
Computer access?	Yes	100	100	100
Internet connection?	Yes	65	84	75
How do you obtain	Surfing	25	52	39
information on a subject	Search engine	65	84	75
on Internet?	Trial & error	40	60	50
	Specific address	80	88	84
Purpose of Internet use?	General info seeking	70	48	59
	Specific info seeking	75	84	80
	Communication	60	48	54
	Surfing	55	52	54
Need for a web site for Program?	Yes	90	100	95

5.3.6.1 <u>Interpretation of results from questionnaires 1 and 2</u>

The results of the questions displayed in Table 5.7 are addressed, interpreted and suitable comments are supplied.

The results revealed that all the respondents have access to a computer and that the majority has Internet connection.



With regard to the obtaining of information about the **Open** day and specifically about the **Program,** it was noted that none of the potential students found information via the Internet.

This fact indicates a definite need for information via the web, especially when taking into consideration that the majority has Internet access and that they have sufficient knowledge of the web. 95% of the total group agreed to the need of a web site. For optimal marketing of the **Program** the results gave a clear indication of the necessity of a web site, where interested parties can find information regarding the **Program** and related activities.

Another point of interest is that the majority of respondents use a search engine to locate information and an even larger majority uses specific addresses. Therefore the site has to be structured in the correct manner for successful engine searches, to ensure that the site serves as a functional marketing tool.

54% of the total group use the Internet for the purpose of communication. If they are supplied with specific facilities (bulletin board &listserv) to communicate with fellow students as well as lecturers, the researcher is convinced that this percentage will increase.

5.4 Discussion of relevant findings

In 5.3 the results of the complete evaluation questionnaire were discussed in general. Following is an exposition of the findings relevant to the design objectives that had to be met in order for the main question of this study to be answered. For the purpose of this discussion, the averages of the respondents are used. The detailed results are indicated in Table 5.6 and Table 5.7.

The design objectives are the following:

- Create a functional web site with sound design principles.
- Develop a site that is marketable.
- Establish a functional communication facility.
- Ensure that the site is a functional and workable product.

Following is a table for each design objective, containing relevant questions from the questionnaires as well as outcomes and comments.

5.4.1 Design objective 1

Create a functional web site with sound design principles.

Table 5.8 displays the questions from the evaluation questionnaire with relevant comments to indicate that the web site has been created with sound design principles.

Table 5.8 Questions and comments indicating that the web site has been created with sound design principles

Questions	Average % of respondents	Comments			
Appearance of the web site/overall "look?	68	Even though 68% of the respondents agreed that the "look" of the site is good, the primary target group was not extremely impressed. An average of 53% of the target group felt that the site is good. Therefore adaptations to the overall look of the site is necessary. (Refer to Chapter 6 for recommendations)			
2. The readability on the pages?	81	All the groups agreed that the readability of the site is very good. One expert indicated that the fonts could be smaller to limit scrolling.			
Consistency of all elements in the site?	64	The students rated this aspect 56%, and the lecturers 50%. They complained about the arrow and top-link that did not appear on exactly the same place on each page.			
4. Use of colour in the site?		The use of colour was rated satisfactory, but it is apparent from the comments that the students would have preferred more striking and funky colours.			
8. Consistency of buttons in site?	84	All the groups rated the consistency of the buttons as good.			
14. Presentation of content gains attention?	64	According to the students (only 32% rated it as good), the presentation does not gain the attention. No specific recommendation was made and the other groups found this issue above average and good.			

5.4.2 Design objective 2

Develop a site that is marketable.

Table 5.9 displays the questions from the evaluation questionnaire with relevant comments to indicate that the web site is a potentially functional marketing tool.

Table 5.9 Questions and comments indicating that the web site is a functional marketing tool.

Questions	Average % of respondents	Comments
4. Use of colour in the site?	71	Even though the students did not completely agree with the colours used, the rest of the respondents approved and gave a definite indication that as a sample of the total WWW population, the colours would be effective for marketing purposes.
5. Choice of fonts?	72	The average received from the total group of respondents indicates that the choice of fonts will add to the positive marketability of the site.
6. Layout of the site map?	68	The students projected a negative attitude towards the layout of the site map but did not make any comment or recommendation. After interviewing a few from the target group, it became apparent that some of the links did not work and that the home button was not visible enough. The rest of the respondents complimented the map and found it satisfactory. The layout as it appears, will not have a negative impact on the marketability of the product
10.Navigation options clear and easy?	86	The global average from all the respondents indicate that the navigation options are good and will aid the marketability of the site.
11. Useful links page will attract visitors?	70	This page has the potential to be an extremely positive marketing tool, when active and used correctly. Some of the respondents did not understand the use of the page. (Refer to 5.3.4.1 for more detail.)

Relevant information obtained from questionnaire 1 (**Open** day) regarding the appropriateness of the site as a marketing tool is displayed in Table 5.10.

Table 5.10 Evaluation of information regarding the appropriateness of the site as a marketing tool.

Illarketii	.5	Average %				
Questions	Variants	of respondents	Comments			
Where did you obtain	Posters	30	Respondents obtained information			
information regarding the open day and the	Word of mouth	15	regarding the open day by different means and because of the absence of			
Program?	School	55	a web site, nobody could use the			
riogiami	Internet	0	Internet for this purpose. The fact that all the respondents are computer -and Internet literate implies that they would have consulted a web site if it existed. (refer to Table 3.5)			
Current means of	Library	45	The averages to this question			
obtaining information for research topics?	Magazines	40	strengthen the argument in the			
	Internet	55	previous question. A web site for the "Program" will serve as a primary marketing tool.			

5.4.3 Design objective 3

Establish a functional communication facility

Table 5.11 displays the questions from the evaluation questionnaire with relevant comments to indicate that functional communication facilities have been established.

Table 5.11 Questions and comments indicating that a functional communication facility is established.

THE PERSON	Average %	
Questions	of respondents	Comments
6. Layout of the site map?	68	The web site should be the point of departure for any activity. Communication in this instance is seen as interacting with information. Communication can start at the site map, because from this point the user should be able to surf to any linked destination or mail/communication facility. The students found difficulty in doing that. Therefore the layout needs attention. (Refer to Chapter 6 for recommendations)
16.Enhance communication facilities?	83	Without a doubt the establishment of a web site will enhance communication.
17.Contact details are accessible and clear?	83	Necessary contact details are imperative. All the respondents agree that the given details are accessible and clear

Table 5.12 reveals relevant information obtained from questionnaire 1(**Open** day) and questionnaire 2 (Target analysis) indicating the validity for a functional communication facility.

Table 5.12 Questions and comments indicating the validity for a functional communication facility

Questions	Variants	Average% of respondents	Comments
Computer access?	Yes	100	Although 25% of the target group mentioned in this question does not have
Internet connection?	Yes	75	Internet connection, all of them have access to a computer. Getting connected is simple. The university supplies communication facilities, but a web site with communication facilities specifically for the "Program" would be the best option.
How do you	Surfing	39	The group utilises the Internet and
obtain	Search engine	75	resources available and by looking at the
information	Trial & error	50	averages, it is clear that they use the most
on a subject on Internet?	Specific address	84	productive ways. A web site would be beneficial for the students as well as interested and related parties for many different reasons.
Purpose of Internet use? General info seeking		59	At this stage only 54% of the respondents use the Internet for communication
	Specific info seeking	75 39 75 50 84	purposes, but if they had facilities specifically for their use, they would utilise
	Communication	54	it to a much greater extent. Seeking info
	Surfing	54	can also be seen as a way of communicating; a way in which information is gathered.
Need for a web site for Program?	Yes	95	This result indicates a real and concerning need for a proper web site, with all the necessary communication facilities, to ensure accessibility to all functions of the Internet and WWW.

5.4.4 Design objective 4

Ensure that the site is a functional and workable product.

Table 5.13 displays the questions from the evaluation questionnaire with relevant comments to indicate that the final product is a functional and workable product.



Table 5.12 Questions and comments to verify that the final product is a functional and workable product.

Questions	Average % of respondents	Comments		
2. The readability on the pages?	81	The response from all the groups indicated that the readability is good and this will add to the functionality and workability of the product.		
3. Consistency of all elements in the site?	64	Even though the students and the lecturers were not completely satisfied with the consistency of the elements, the comments made were applicable to a few hyperlinks that will be moved to suit the abovementioned groups. These changes should satisfy them and add to the workability of the site.		
5. Choice of fonts?	72	The positive average of the total group indicated that the choice of fonts is acceptable and that it should be an asset to the site.		
6. Layout of the site map?	68	The students rated the layout of the site map below average. The rest of the groups were satisfied and rated as good. As the students are the main users of the site, a few changes will be made to suit their needs. The above average rating indicates that the layout is satisfactory.		
7. Navigation to /from homepage?	67	The lecturers had a problem with the navigation to and from the home page. The rest of the groups found it to be above average and good. A few changes are necessary to add to the functionality. (Refer to 5.3.4.1, for a detailed discussion)		
9. Layout of site map for navigation?	71	The students found navigation from the site map difficult. The rest of the groups rated it good. Changes have to be made to accommodate the students. (Refer to 5.3.4.1, for more detail.)		
10.Navigation options clear and easy?	86	All the respondents agreed that the navigation options a clear and easy to follow. This will add to the functionalit and workability of the site.		
11."Useful links" page will attract visitors?	70	During the testing phase the students and the experts dinot clearly understand the use of the "Useful links" page causing a low rating. The use was explained afterwards and that caused a change of opinion. The use of the page was explained to the CBT students and lecturers before they started the evaluation. Therefore their feedback was extremely positive. (Refer to 5.3.4.1, for more detail.)		
12.Content in manageable chunks?	65	The ratings on this issue ranged from average to good. The content as it is presented, will provide a workable and functional site. A few respondents supplied comments, which will be taken into consideration during the refinement. (Refer to 5.3.4.1, for more detail.)		

Table 5.12(continued)

Questions	Average % of respondents	Comments	
15.Choice of graphics?	65	The students did not approve of all the graphics used, even though all the graphics were student work of work from the design-related field. The other groups found the graphics pleasing. This matter will not interfere with the workability of the site. The choices of students will be attended to in future (Refer to 5.3.4.1,for more detail.)	
19.Download time of pages?	67	The download time of the site was rated from below average to good. The download times varied because some respondents used a stiffy during the test phase, while others used the Internet. Different size modems and networks were also used. Therefore the times differed and will remain to differ once the site is on the WWW.	
20.The site is easy to use?	88	All the groups rated favourably on this matter and agreed that that the site is a functional and workable product.	

5.4.5 Summary on the findings regarding the design objectives

A large number of students did not appear to see the evaluation as a serious matter. They did not take their time to look at the site intensively and did not bother to read instructions and especially highlighted comments. Therefore they misunderstood the purpose of some of the matters, such as the "Useful links" page. The testing phase was not a matter of importance to them, but unfortunately their comments and ratings have to be acknowledged..

The other groups, on the other hand, really made an effort to do the evaluation to the best of their ability.

The recommendations and conclusion will be addressed in Chapter 6.



CHAPTER 6

CONCLUSIONS AND RECOMMENDATIONS

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CHAPTER 6

CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

The findings in Chapter 5 indicate that the study succeeded in providing a sound understanding of how a web site should be developed to serve as an appropriate marketing tool and to provide functional communication channels.

An attempt was made to find solutions to the specific research problems, to gather relevant information by means of a literature research (Chapter two) and to develop a workable product by integrating the literature and the needs of the target population.

In this chapter the following are discussed:

- Conclusions.
- Functionality of the product.
- Limitations of the research.
- Recommendations for improvement of this product.
- Recommendations for future programs of this nature.

6.2 Conclusions

The main research question that had to be answered:

What are the issues to consider when building a web site to serve as a functional marketing tool and to provide effective communication?

Following are the design objectives that had to be met in order for the main research question to be answered:

Create a functional web site with sound design principles.



- Design a site that serves as an effective marketing tool.
- Establish a functional communication facility.
- Ensure that the site is a functional and workable product.

In order to establish whether the design objectives had been complied to, the following sections of user interface were evaluated and analysed in Chapter 5 and the applicable sections below are discussed for each design objective:

- Layout.
- Navigation.
- Content.
- Communication and ease of use.

Table 6.1 displays the sections and the relevant questions from the different questionnaires, which had to be answered in order to establish the success of the design objectives and ultimately the success of the main research question. Conclusions and recommendations are based on the outcomes established in Chapter 5.



Table 6.1 Design objectives in relation to the sections and the applicable questions

Note: The different questionnaires are indicated as follows:

Q1 = Questionnaire 1 Q2 = Questionnaire 2 Q3 = Questionnaire 3

Objective	Sections of user interface and applicable questions from the applicable questionnaires				
	Layout Navigation		Content	Communication	
Objective 1 Create a functional web site with sound design principles	(Q3:1) Appearance and overall look. (Q3: 2) Readability. (Q3:3) Consistency of all elements. (Q3:4)Use of colours.	And overall look. (Q3: 2) Readability. (Q3:3) Consistency of buttons. Consistency of buttons. Presentation of content is consistent. (Q3:4) Use of			
Objective 2 Develop a site that is marketable	(Q3:4)Use of colours. (Q3:5)Choice of fonts. (Q3:6) Layout of the site map.	(Q3:10)Different navigation options on site map clear & easy to use. (Q3: 11)"Useful links" page will attract visitors.	(Q1)Section 6 - Marketing. Refer to Table 5.9	(Q2:18)Way of obtaining specific information on the Internet. (Q2:20)Web site beneficial for marketing.	
Objective 3 Establish a functional communication facility	(Q3:6)Layout of site map.	(Q2)Section5 - Internet use.		(Q3:16)Establish functional communication facilities. (Q3:17)Contact details are clear. (Q2:21) Communication facility on the web site.	
Objective 4	(Q3:2) Readability. (Q3:3) Consistency of all elements. (Q3:5)Choice of fonts.	(Q3:7)Navigation to & from homepage. (Q3:9)Layout of site map for	(Q3: 15)Choice of graphics. (Q3:12)Amount of content in manageable	(Q3:19)Download time of pages. (Q3:20)Web site is easy to use. (Q3:17)Contact	
Ensure that the site is a functional and workable product	(Q3:6)Layout of site map.	navigation. (Q3:10)Different navigation options on site map clear & easy to use. (Q3:11)"Useful links" page will attract visitors.	chunks.	details are clear. (Q2:21) Communication facility on the web site.	



Table 6.2 displays a summary of the outcomes of **all** the findings in Chapter 5 and for the purpose of the conclusions and recommendations the average response of all the respondents is used. The specific questions dealing with each objective are taken from the summary in Table 6.2.

During the discussion that will follow the researcher will mention either negative or positive inputs and comments received from individual respondent groups where necessary.

Table 6.2 Summary of the outcomes of each respondent group

Issues	Students %	Lecturers %	CBT Students %	Experts %	Average of respondents %
Layout of the web site					
1. overall look	56	50	77	87	68
2. readability	80	75	92	75	81
3. consistency	56	50	85	63	64
4. colour use	56	75	92	62	71
5. font choice	56	75	92	63	72
6. site map	40	75	92	63	68
Navigation					
7. homepage	68	50	85	63	67
8. buttons	60	100	100	75	84
9. site map	44	75	100	63	71
10. navigation options	68	100	100	75	86
11. useful links page	44	100	85	50	70
Content					
12. chunking	64	50	69	75	65
13. understandable	64	75	85	75	75
14. attention-gain	32	75	85	63	64
15. graphics	36	75	85	63	65
Communication, supp	ort and eas	e of use			
16. communication facilities	60	100	85	87	83
17. contact details	76	100	92	63	83
18. learning	36	75	77	63	63
19. download time	56	75	85	50	67
20. ease of use	88	100	100	63	88

6.2.1 Objective 1: Create a functional web site with sound design principles

"Line, shape, texture, balance, space, colour and text all play an equally important part in creating a visual message. It is important to use these elements in context with the subject matter." (Phillips, 1997:82)

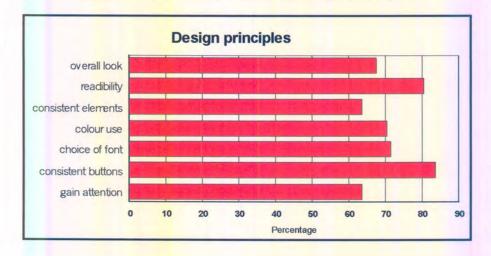
Table 6.3 reveals the average percentages allocated to each question relevant to Objective 1.

Table 6.3 Questions and average percentage of all respondents

Questionnaire	Question	Average %	
Q3:1	Appearance and overall look (Layout)	68	
Q3:2	Readability (Layout)	81	
Q3:3	Consistency of all elements (Layout)	64	
Q3:4	Use of colours (Layout)	71	
Q3:5	Choice of font. (Layout)	72	
Q3:8	Consistency of buttons (Navigation)	84	
Q3:14	Presentation of content gains attention (Content)	64	

Figure 6.1 displays an overview of the question-percentage relation indicated in Table 6.3.

Figure 6.1 Evaluation of issues related to design principles





6.2.1.1 Section: Layout

The average response to the questions regarding the overall look of the web site, the readability of text, consistency of all the elements and the use of colour indicate that these elements were utilised appropriately and to the satisfaction of most of the groups.

The lecturers however rated the overall look as well as the consistency of the elements as average (50%). The reason for this rating can be attributed to the fact that two members from the group are involved in the other departments residing within the recently reconstructed faculty and are therefore not directly involved in the development of this product.

The primary target group, the enrolled students, did not approve of the look, which included the choice of colours, consistency of the elements and choice of font. The following comment was made:

" A more funky look with striking colours would have been acceptable."

The majority of the results and comments from the student group indicated that they were not satisfied with the aesthetics of the product. As their expectations were of an artistic and exciting nature, they would have preferred a more artistic and stimulating product. They also indicated that the layout did not support an attention gaining presentation, but no changes were made in this regard as all the other groups rated this issue as above average and good. They did apparently not take into consideration that the purpose of the site is to provide information.

Results from the experts and CBT students, who specialise in design principles, however indicated that the elements were applied successfully. Minor changes were suggested.

The following comments were made in this regard:

- "Fonts could be smaller to reduce scrolling."
- "A different font colour should be considered on the navigation bar to enhance the visibility."
- "Too much open space on the home page causes a dull and uninteresting opening page even though the choice of the graphic is good."
- "The leaf image structuring the content into chunks is too bulky; use a narrow straight line instead."



According to Reeves & Harmon (1994) creative designers sometimes violate screen design principles for effect. In the design of the web this concept was utilised in some instances such as the leaf image for chunking as well as scrolling of pages and the use of a relatively large font.

"Only 10% of users scroll beyond the information that is visible on the screen when a page comes up. All critical content and navigation options should be on the top part of the page." (Nielsen, 1996b).

Nielsen (1997) however indicated that users are more willing to scroll than they were during the earlier years of the Web, but still recommends that scrolling on navigation pages be limited. Therefore it was decided not to minimise the font. The favourable rating given to the readability also reinforced this decision.

The client preferred a narrow leaf image to a straight line.

The layout is accepted as successful in terms of the design principles and the overall percentage point of 72% obtained in this regard confirms this assertion.

6.2.1.2 Section: Navigation

The relevant question used for the evaluation regarding design principles was the issue relating to the consistency of buttons.

According to Lynch & Horton (1997) a user should never experience a lack of sense of where in the site he or she is. They promote clear, consistent icons and graphic identity schemes. A link to the home page or site map must appear on each page.

"Consistency is key to teaching users what the link colors mean. Links to pages that have not been seen by the user are blue; links to previously seen pages are purple or red. The ability to understand what links have been followed is one of the few navigational aids that is standard in most web browsers."(Nielsen, 1999b)

During the design and development stages the researcher went to great lengths to insure consistency of links and buttons. Therefore active links were applied according to the literature.



The overall group responded favourably with regards to this issue and a percentage of 84% was achieved.

The following comments were made:

- "The red arrow indicating the next page as well as the 'TOP'-button did not appear in exactly the same position on every page".
- "Consistency of the buttons is excellent! (CBT students and lecturers)".

The buttons concerned were adjusted as suggested.

6.2.1.3 Section: Content

Wilson (1999c) states that the purpose of a web site has to be clear and specific.

This site has to serve as a marketing tool. The purpose of this site on the other hand is to provide information regarding the **Program**. Attention gaining content in this context should thus be seen as all the relevant and appropriate information which is necessary to provide the user with a broad spectrum of knowledge about the **Program**.

According to the student group the content did not gain attention. They rated this issue as extremely poor (32%). Their expectations of the site were based on an interior design perspective, which was unmistakably evident from the comment: "I expected trendy ideas, design models and graphic examples from the industry."

As a result of their expectations, they did not approve of the graphics, which were student work as well as examples of previous projects provided by the client.

The other groups however, regarded the content as being useful and attention gaining. An overall percentage of 64% was obtained.

The following comments indicated a positive outcome regarding the content:

- "Presentation of the content is consistent and easy to follow."
- "The content is well organised and understandable."
- "Satisfactory information is supplied."
- "The content is not exciting, but satisfies the purpose."



As a result of the above-mentioned comments, the researcher decided to leave the content unchanged, but recommendations to accommodate the need of the students will be made.

6.2.1.4 <u>Summary</u>

The outcomes of the questions in Table 6.3 indicate that Objective 1 obtained an overall percentage of 72%, which indicates that the web site was created with sound design principles.

6.2.2 Objective 2: Design a site that serves as an effective marketing tool

According to Ellsworth & Ellsworth (1995:270) visibility of the web site can be obtained by cross-linking from another site to the home page. The site should provide links to other sites of interest, initiate curiosity and provide useful information.

Table 6.4 reveals the average percentages allocated to each question relevant to Objective 2.

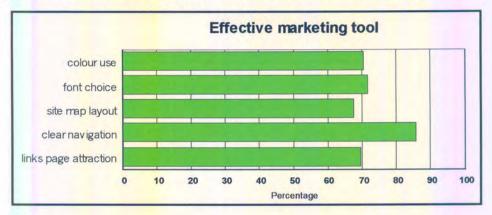
Table 6.4 Questions and average percentage of all respondents

Questionnaire	Question	Average %
Q3:4	Use of colours (Layout)	71
Q3:5	Choice of fonts (Layout)	72
Q3:6	Layout of the site map (Layout)	68
Q3:10	Navigation options on site map clear, easy to use (Navigation)	86
Q3:11	Useful links page will attract visitors (Navigation)	70

Figure 6.2 displays an overview of the question-percentage relation indicated in Table 6.4.



Figure 6.2 Evaluation of issues related to effective marketing



6.2.2.1 Section: Layout

For the evaluation of the site as an effective marketing tool, the input of the broader spectrum of respondents is of importance, because they represent a sample of the total WWW population. Therefore the rating by the students concerning the marketing aspects was not of prime importance.

The students rated the use of colour as average (56%), while the rest of the respondent group approved of the colours used. The colours as applied in the site will not have a negative effect on marketing; therefore the basic colour scheme will prevail. A colour enhancement regarding the home page will be recommended in order to satisfy a greater majority of the respondents.

The overall rating of the site map was above average (68%). The students reflected a negative attitude and rated the site map as poor but did not provide any suggestions or comments in this regard. This could have been as a result of links that did not work at the time of evaluation and a home button that was not visible at first sight. Nielsen (1999a) states that the navigation should be clear and understandable to avoid users getting lost.

The rest of the respondents approved of the site map. The links were rectified and the home button was placed in the centre of the page.

The following comments were received from the total group of respondents:

- "More exciting colours would have provided a funkier look" (Student).
- "The use of colour and fonts are applied well"(Lecturer).
- "I loved the choice of the colours, the graphics and the general layout" (Expert).



"The home page looks dull and uninteresting because of too much white space. The graphic used is appealing." (Expert).

6.2.2.2 Section: Navigation

"Don't assume that users know as much about your site as you do. They always have difficulty finding information, so they need support in the form of a strong sense of structure and place. Start the design with a good understanding of the structure of the information space and communicate this structure explicitly to the user. Provide a site map and let users know where they are and where they can go. (Nielsen, 1999a)

Navigation options were rated as excellent (86%) by the total group. Some of the links were not active and comments were made in this regard. The links were rectified.

From comments made about the 'links'-page the researcher realized that some of the respondents did not understand the purpose of the 'links' page and consequently rated it below average to poor. After an explanation they agreed that the page could be a valuable attribute.

The lecturers and CBT students agreed that the page has the potential to be an extremely positive marketing tool with all the links activated and used correctly.

The following comments were made:

- "Navigation options are clear, but some links are not active." (CBT student).
- "The 'links'-page is an excellent idea and will attract visitors" (Lecturer).
- "An easy ride through the pages." (CBT student).
- "Links' page a very good idea to get to the right people quickly" (Expert).

6.2.2.3 <u>Summary</u>

The use of colour throughout the site was accepted as satisfactory. The colours on the home page should be enhanced for a more striking effect.

The combination of the font choice, clarity of the navigation options, the 'links' page, the revised site map and overall use of colour resulted in providing a successful site for the purpose of serving as a functional marketing tool. A positive rating of 73% was obtained for Objective 2.



Information obtained from the questionnaire on the Open day (Appendix 1) confirms the need for a web site to serve as a tool for marketing purposes. The majority of the respondents agreed that they would have consulted a web site to obtain information about the Open day and the **Program**, had a site been available.

6.2.3 Objective 3: Establish a functional communication facility

E-mail, bulletin boards, listservs, teleconferencing, chat rooms and newsgroups are examples of types of communication and have become the primary means of communication among people on the Web. For communication from the program to the user the computer screen and how it is designed is of primary importance. Therefore the interface between the material and the user plays a significant role. (Allesi & Trollip, 2001:372; 423)

The outcomes of the questions asked in questionnaires 1 and 2 indicated a positive attitude regarding the validity for a functional communication facility. (Appendices 1 & 2)

All the students indicated that they have access to a computer, 75% of the group have direct access to the Internet, while the other 25% have the option to use the facilities of the university.

The majority use the Internet facilities for information seeking, communication and general surfing in the most productive ways. An average of 95% of the group indicated a definite need for a specific web site with communication facilities.

Table 6.5 reveals the average percentages allocated to each question from questionnaire 3 relevant to Objective 3. (Appendix 3)

Table 6.5 Evaluation of issues related to functional communication facilities

Questionnaire	Question	Average %
Q3:6	Layout of the site map (Layout)	68
Q3:16	Establish functional communication facilities (Communication)	83
Q2:17	Contact details are accessible and clear (Communication)	83



Figure 6.3 displays an overview of the question-percentage relation indicated in Table 6.5.

Functional communication facility

Site map layout

Enhance communication

Clear contact details

0 10 20 30 40 50 60 70 80 90

Percentage

Figure 6.3 Percentages of issues related to functional communication facilities

6.2.3.1 Section: Layout

Alessi & Trollip, (2001) state that the user interface plays a significant role in the communication between program and user. Therefore the researcher decided to highlight the layout of the site map as an example of functional user interface. This specific element was chosen because of the user interaction on the screen and the importance of well-structured navigation options.

Interactive communication from the site map should allow the user to go to any destination within the site and to any linked site.

"Make sure that all pages include a clear indication of what web site they belong to since users may access pages directly without coming in through your home page. For the same reason, every page should have a link up to your home page as well as some indication of where they fit within the structure of your information space." (Nielsen, 1999a)

Nielsen's comment is especially applicable when taking into consideration that communication has a direct impact on the marketing aspect connected to this site. Therefore the links on the site map in particular as well as all the links in the rest of the site should be 100% accurate and active.



The site map should be functional with all the links activated and the home button placed in the centre of the page.

6.2.3.2 Communication, support and ease of use

By means of e-mail and the other facilities person to person or person to group communication will be possible.

The student group viewed the site from a stiffy. Therefore any link to another site as well as the communication facilities could not be utilised and evaluated properly. The other groups (experts and CBT students) evaluated the site on the Web and could therefore give a more valuable input on the functionality.

All the respondents however, rated the provision of communication facilities as either good or excellent and agreed that the web site with the communication facilities as provided currently, would be of great value once the site is in use.

6.2.3.3 <u>Summary</u>

Objective 3 was rated good with an average of 78%. The following overall ratings were given to the elements used in the evaluation of this objective:

Layout of the site map 71%

Functional communication facilities 83%

Contact details 83%

The outcomes of the ratings provided a positive indication that functional communication was established.

6.2.4 Objective 4: Ensure that the site is a functional and workable product

This objective encompasses the other 3 objectives, because for this site to be functional and workable the following issues have to be successfully dealt with:

- sound design principles,
- basic characteristics of a site serving as a marketing tool; and
- functional communication.



Therefore many of the questions are also applicable in coming to a conclusion regarding this objective. The matters that have been dealt with during the previous discussions are regarded as conclusions applicable to this objective as well, except if viewed from another perspective.

The researcher aimed to create a site to fulfil many needs and satisfy the total respondent group but also kept in mind that the success of the site as a marketing tool depends on the broader WWW population. Therefore it was important to refer to the literature regularly, especially regarding layout, design principles and sound navigation structures.

Misanchuk, (1992:167) states that the most universal examples of good layout tend to be simple and maintain a delicate balance between unity and diversity.

"A button bar with all the different choices, at the bottom of each page provide a consistent graphic identity " (Lynch & Horton, 1997)

Table 6.6 reveals the average percentages allocated to each question relevant to Objective 4.

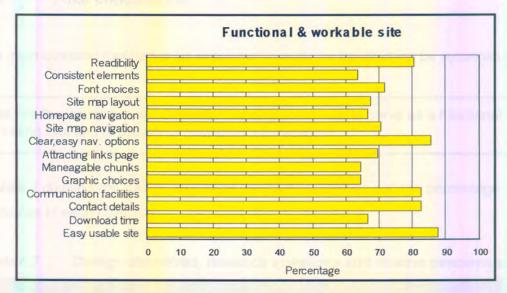
Table 6.6 Evaluation of issues related to the functionality and workability of the site

Questionnaire, question nr.	Question	Average %
Q3: 2	Readability on the pages (Layout)	81
Q3: 3	Consistency of elements in the site (Layout)	64
Q3: 5	Choice of fonts (Layout)	72
Q3: 6	Layout of site map (Layout)	68
Q3: 7	Navigation to and from the home page (Navigation)	67
Q3: 9	Layout of site map for navigation (Navigation)	71
Q3:10	Navigation options clear and easy (Navigation)	86
Q3:11	Useful links page will attract visitors (Navigation)	70
Q3:12	Content in manageable chunks (Content)	65
Q3:15	Choice of graphics (Content)	65
Q3:16	Communication facilities (Communication, support)	83
Q3:17	Contact details (Communication, support)	83
Q3:19	Download time of pages (Communication, support)	67
Q3:20	Site is easy to use (Communication, support)	88



Figure 6.4 displays an overview of the question-percentage relation indicated in Table 6.6.

Figure 6.4 Evaluation of issues related to functionality and workability of the web site



6.2.4.1 Section: Layout

The average percentage of the overall rating regarding the layout of the site was 71%, which implies an above average outcome. The readability as well as the choice of fonts was not changed, as the response from the overall respondent group was satisfactory.

Although the students indicated that a more exciting choice of font or fonts would have been preferred, the researcher decided to turn to the literature in this regard. Schwier & Misanchuk, (1993:241) suggest that not more than two different fonts should be applied and also indicate that a good writing style dictates the use of plain text. Unusual type styles should also be limited.

With the necessary changes to the site map and the consistency of the elements in the site as discussed in 6.2.1 these elements should be satisfactory and should add to the general workability of the site.

The following comments were made regarding the layout:

- "I would have liked a menu list on the home page" (Expert)
- "A number of different fonts should have been applied" (Student)

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- "The graphic on the home page is good, but the layout is dull and uninteresting."
 (Expert)
- "Layout of site map is good; the colour of text against the background should be more visible."(Expert)

6.2.4.2 Section: Navigation

Navigation elements give a program structure and provide the user with some control over events. Well-contrived and properly executed, navigation and management features serve to enhance the activity and make the interactive multimedia treatment easy to use, but if not, they can be a nightmare for the user. (Schwier & Misanchuk, 1993:173)

The following comments were made:

- "Navigation to and from the home page should be more prominent." (Lecturer)
- "Navigation throughout the site is excellent, apart from the links that are not active."
 (CBT student)
- "Even 'newbies' would be able to navigate their way through the pages." (Expert)
- "Some of the pages could not be accessed, especially from the site map." (Expert)

Proper workability of the site requires a navigation structure without any flaws, therefore alterations were made to the following elements:

- All the broken links to and from the homepage, as well as throughout the site, were rectified.
- The navigation bars and buttons (e.g. the home button) were placed in more visible positions.
- The navigation bar on the home page was placed in a position to ensure that not scrolling is necessary.
- The home button on the site map was placed in the centre of the screen.

The students and the experts misunderstood the purpose of the "Links" page. It was apparent that they did not read the note supplied on the screen. After an explanation to the students and individual experts who commented on this issue, they all agreed that the page would actually add to the attraction of visitors to the site, when applied correctly.



6.2.4.3 Section: Content

"Every multimedia project includes content. It is the "stuff" from which you fashion your messages. It is also the information and material that forms the heart of your project - that defines what your project is about. Practically content can be any and all of the elements of multimedia." (Vaughan, 1998:524)

The researcher was faced with a predicament regarding the content because the client supplied the text as well as graphics. The researcher was only able to manipulate the content by means of layout and screen design.

The average rating received from the total respondent group regarding the chunking of the content was above average (65%). The lecturers rated it at 50%, which caused concern. The following comments were made in this regard:

- "Chunking of content can be optimised" (CBT student, lecturer)
- "Some pages too long, split up to prevent scrolling." (Expert, lecturer)

This issue was discussed with the client and to solve the problem, some pages were split up to provide more manageable pieces of text and the leaf image was applied in another instances.

The students did not approve of the choice of the graphics at all, but as the client provided the graphics, no changes were made in this regard. Only one respondent (expert) commented on the size of the graphics and suggested that they could be smaller for less emphasis.

Schwier & Misanchuk, (1993:215) state that for every graphic object on the screen (including blocks of text) there is one or more visually complimentary objects. Balance provides a feeling of stability and a screen should not give the impression that it is tipping over to one side. Therefore the researcher decided not to make any alterations regarding the graphics used. This decision was strengthened by the fact that the rest of the respondents indicated that they were satisfied with the graphics, and that it added to the value of the site.



Some of the comments that were made:

- "The content is not exciting" (Students)
- "The content serves the purpose and is presented effectively." (Lecturer)
- "The content will gain attention of interested visitors coming to the site for a specific purpose." (CBT student)
- "Good chunking added to the friendliness and informative possibilities of the site. (Expert)
- "I loved the choice of the graphics." (CBT student)
- "The graphics add to the value and interest of the site. Good work!" (Expert)

6.2.4.4 Section: Communication, support and ease of use

Good communication is the backbone of functional marketing. For this site to serve as a marketing tool for the **Program**, communication facilities have to exist and they have to be connected correctly. During the testing phase the students and most of the lecturers viewed the site from a stiffy or the hard drive of the PC. They were informed that the links to the different communication facilities were not active.

The overall rating for the need of functional communication facilities was excellent (83%), which indicated that the total group was satisfied with the following proposed facilities:

- E-mail.
- Listserv.
- Bulletin board.

The communication facilities as mentioned above will remain unchanged.

For the site to serve as a marketing tool the following indirect communication channels also have to be in place:

- Active links to sites related to the industry.
- Active links to move back and forth within this site.
- The "Useful links" page with active links to the different sites of interest.

The contact details were rated as excellent (83%) and each individual group indicated their satisfaction regarding this issue. All the respondents indicated that the site is easy to use. The positive comments and the excellent rating (88%) are clear-cut proof thereof.



The only matter of concern regarding this objective is the download time. The rating varied from below average to good, the reason being that some respondents viewed the site from a stiffy and others from the Web. Different sized modems and networks were used. Download times on the Web will always vary because of various reasons such as modem size, time of downloading (midday or midnight).

During the design of the site, the researcher specifically ensured that the size of the graphics did not exceed 50K. The site was specifically designed to accommodate users with older hardware and modems. Literature advises that download time should not exceed 10 seconds. (Lynch & Horton, 1997). The overall rating was above average (67%), which the researcher accepted as satisfactory. Therefore no changes were made in this regard.

The following comments were made:

- "The site is easy to use" (Student, CBT student, lecturer)
- "The bulletin board and listserv are good ideas." (Student, expert)
- "The individual pages were easy to understand and even "newbies" would be able to negotiate their way through the pages." (Expert)
- "I admired the fact that only the necessary information is included to make the site useful and easy to understand." (Expert)

The outcome of communication, support and ease was excellent (80%). Therefore no changes are indicated.

6.2.4.5 Summary

The primary purpose of this Web site is to serve as a marketing tool and provide functional, internal as well as external communication channels, especially with regard to marketing matters.

The issues regarding the general layout, navigation options, relevant content matters, communication and ease of use were all successfully dealt with. The average rating obtained from the relevant questions involved was good (75%), which implied a workable and functional site

6.3 Final conclusions

The main question that had to be answered in order for the study to be successful was:

What are the issues to consider when building a web site to serve as a functional marketing tool and to provide effective communication?

Table 6.7 displays the design objectives, research questions and the percentage outcomes of each objective.

Table 6.7 Design objectives, research questions and relative percentages

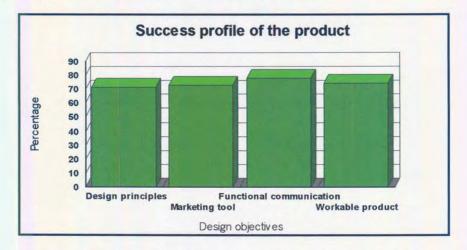
Design objective	Sub question	%	Comments
Create a functional web site with sound design principles.	What methods should be applied to ensure the effectiveness of the site?	72	Successfully answered.
Develop a site to serve as a functional marketing tool.	What methods should be applied for creating a site to serve as a functional marketing tool?	73	Successfully answered.
Establish functional communication facilities.	How can efficient and effective communication be obtained?	78	Successfully answered.
4. Ensure that the site is a functional and workable product.	How can functionality and sustainability be ensured?	75	Successfully answered.

The outcomes of the different design objectives portray a picture of a successful study where all the relevant sub-questions were successfully answered. The overall rating for the success of the total site as derived from the percentages in Table 6.7, is 75%.

Figure 6.5 graphically displays the total success of the product as summarised in Table 6.7.



Figure 6.5 Success profile of the final product



From the positive outcomes of all the design objectives it would be safe to say that the main question was successfully answered

The following comments are an indication of the success of the site:

- "I admired the fact that only necessary information is included to make the site useful and easy to understand" (Expert)
- "Impressive site" (Expert)
- "The site has a good look and feel" (CBT student)
- "The site has a professional look" (Expert)

Elements that caused concern during the evaluation were rectified or changed. A brief discussion of each section follows:

6.3.1 Layout

- The menu bar that was only visible on some monitors after scrolling, was placed in a more visible position.
- Consistency of the elements:

The arrow and 'TOP'- links were placed on the same position on every page.

The site map was readjusted to ensure that the whole site map is visible on the screen, without any unnecessary scrolling.

6.3.2 Navigation

All the broken and misleading links were rectified throughout the site.



- Useful "Links"-page: The notice, explaining the purpose of the page was highlighted. The researcher decided not to change all the fictitious logos to the same size, because the logos of the different companies that will appear on the page in future, will differ in size, shape and colour.
- The faulty links on the site map were activated and the home button was placed in the centre of the page.

6.3.3 Content

- Some of the text was split up into two pages to limit the amount of scrolling.
- The leaf image was used to optimise the chunking of text and the image was minimised.

6.3.4 Communication, support and ease of use

 No major issues of concern were raised; therefore no changes were made to any of these elements.

6.4 Limitations of this study

The following limitations were experienced during the course of his study:

- The client involvement was not sufficient (as a result of external circumstances), no specific instructions were given and the researchers worked on different guidelines and ideas. Therefore time was wasted on redesigning and unnecessary changes. The home page for instance, was redesigned four times and, in desperation, the last attempt, which was not the best one, was on.
- The home page determined the style, colour scheme and layout of the rest of the site. Had any of the previous attempts been chosen, the site would have had a different overall look, which the students most probably would have preferred.
- The client supplied all the content (text and graphics) and the researchers had to structure the layout accordingly.
- As a result of the restructuring of the whole faculty, the original ideas changed drastically. The Program now resides under the School of the Built Environment. It is possible that the web site will have to change to suit the uniform idea of the new structure.
- Initially Microsoft FrontPage98 was used as the authoring tool and much time was spent on getting to know the tool. Thereafter the researchers decided to change to Dreamweaver2 because of the reasons stated in 3.5.3.



During the evaluation phase the students had a very indifferent attitude. This resulted in unsatisfactory results from the group. Unfortunately the venues for student evaluation differed. Some students had to evaluate the site on a stiffy and others on the hard drive of a PC.

No proper evaluation of the communication facilities was possible, because Internet connection was not available. Fortunately all of them had knowledge of all the proposed communication facilities and could therefore answer the questions satisfactorily.

6.5 Recommendations for improvement of this product

Recommendations derived from the results and conclusions from this study are summarised under the different design objectives and displayed in Table 6.8.



Table 6.8 Design objectives and relevant recommendations

Design objective	Recommendation	Comments
Create a functional web site with sound design principles.	-Include the use of 3-D objects in 3-D space.	-Create an atmosphere of reality. (Simulation)
	-Use thumbnails to represent images that are too large to download.	-Use relevance-enhances image reduction.
	-Apply more colour coding to the site map in order to make it more understandable.	-Instead of just having the top of each section the same as the relevant topic page, colour the total column relevant to the topic or section.
2. Develop a site to serve as a functional marketing tool.	-Optimise the "What's new" page with daily or weekly updates.	All events in the Program as well as the design industry should be places and regularly updated.
	-Generate reciprocal links from active and important sites relevant to the industry.	-Links to and from other design departments within the academic environment, locally as well as internationally as well as links to and from affiliated institutions, would gain visibility.
	-Include active use of CD-ROM.	-CDs can be distributed to potential students and companies in the design industry.
	-Consider a newsletter.	 -A monthly or biannual newsletter to interested parties affiliates of the Program and other academic institutions.
	-Publish an article regarding the Program and the new site in an accredited magazine.	-A positive mention in an article could result in many visits and would be beneficial for the visibility of the Program , especially since the whole 'face' has changed.
	-Include animation to gain attention.	-Use has to be functional. Check the download time.



Table 6.8 (continued)

Design objective	Recommendation	Comments
3. Establish functional communication facilities.	-Establish listservs and bulletin boards for each level of study, the FTR Lab, Virtual Workshop and other independent groups.	-This type of service will allow discussions and spontaneous interaction within the closed group and could add to productivity and can be a timesaving experience.
	-Include more interactivity.	 -Link graphics to a screen where the graphic or something relevant is explained.
	-Consult with UP webmaster to enquire whether a link from the site to the application \ enrolment forms would be possible.	It would be beneficial if the student could go from this site directly to the application form to register for a course.
	-Provide a facility where the user can interact, e.g. FAQ.	-Questions regarding the Program could be answered by e-mail and/or placed on a specifically allocated bulletin board for all interested parties to read.
	-Consider private chat rooms, audio-or video teleconferencing. (Refer to 2.4.5, 2.4.6, 2.4.7)	-Specific users e.g. members in the design industry may have discussions while working on a specific project.
	-Virtual reality.	-Powerful medium for the exchange of information.
	-Use scrolling when really necessary for a specific topic.	-Most important information on the first screen.
	-Consult with the client regarding simplifying the text.	-Informal text would create a friendlier atmosphere.
4. Ensure that the site is a functional and workable product.	-Administer a survey amongst the student population to verify exactly what they would like on the site and provide a separate section within the site to accommodate them if deemed necessary.	- The survey could provide valuable information as to the likes and dislikes of the students. A separate section would most probably satisfy their needs. Select a student to administer this section.
	-Allocate a webmaster and insure that the site stays up to date. Include an e-mail address of this person to allow for questions and enquiries.	 Always stay a step ahead. No outdated information should ever appear on a site. Keep the site interesting and create curiosity where possible. If no pages exist create them!
	-Optimise the use of graphics	-Link the graphic to a following screen where a detailed explanation is given, motion is implemented when the mouse moves over a particular section etc.



6.6 General recommendations for similar development

This study provides ample opportunities for further research regarding the optimising of a web site as a marketing tool, as well as the functional use of different communication facilities. The web site, as a product of this research provides the basic structure for the needs and requirements of an academic institution.

The recommendations as summarised in Table 6.8 can also be taken into consideration for proposed similar development.

Should this web site have to be changed or reconstructed to suit the needs of the School of the Built Environment, all the groundwork for such a development is in place. A relevant literature study has been conducted, the target groups have been analysed and identified, appropriate design principles have been documented and problem areas have been identified.

With regard to the enhancement of a web site as a powerful marketing tool, the following are applicable:

- Virtual reality interface: "This is a complete environment in which the user physically enters and interacts with the program for example, if you were learning about landscape design you might walk around in the area to be designed. You could pick up shrubs and plant them in various locations, install lights and construct water features. The user must be able to use senses to operate in a virtual world." (Schwier & Misanchuk, 1993:126)
- Functional use of pictures and other graphics can add to a much more memorable visit to a web site.
- Carefully applied motion (animation) could attract visitors, but Nielsen, (1999a) insists on not including page elements that move incessantly, because of the overpowering effect on the human peripheral vision.
- The addition of sound for a specific functional purpose could add to the value of he site.
- A good way of getting visitors to return to a site is by offering a database (collection of information) either of general interest or related to the area of business.
 (Ellsworth & Ellsworth, 1995:225:236)
- Request a visitor to bookmark the site in order to revisit the site.



 Place the URL on stationary and corporate literature and promote the site by means of the traditional media.

6.7 In conclusion

From this study it is evident that the creation of a successful marketing and communications website can be fraught with problems should some basic rules not be followed. These rules largely relate to the usability and navigational ease of the site and the relevance of the contents to the target user. Elements such as design and layout, consistency of presentation and communication facilities are all supporting features to these main critical success factors. Over time, the importance of these elements will most probably shift. That is, communication facilities, functionality and content will gain prominence in terms of the importance of building and maintaining a sustainable marketing site.

Most important remains an open view on how the objectives of a site relate to the needs and the usability requirements of its target audience.