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Student weaknesses in aesthetics of posters

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Abstract

The study aimed to investigate areas of student weaknesses in aesthetics of posters for oral presentations. The objectives of the study were to: (1) identify the text features used in terms of text style, positioning on the poster, and amount of text; (2) describe use of colours for highlighting information and contrast with background; and (3) evaluate use of images in terms of relevance to content and position on the poster. The data were 15 posters created by 75 students working in groups of five for a university course and comments by their lecturer on the aesthetics of the posters. Analysis of the posters showed that the students had the most problems with text features and the least problems with size, relevance and positioning of images. Half of the posters showed good choice of colours for text and background, but the other half of the posters had visibility issues due to poor choice of colours and lack of contrast. The undesirable text features were excessive capitalisation and text-heavy posters resulting from the use of full sentences. The study identified particular points of weaknesses that students should be alerted to so that their oral presentation slides and posters are more aesthetically appealing to enhance the message.

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Introduction

University students are usually required to make oral presentations as part of their assessments. They customarily make PowerPoint slides as an aid in their oral presentations. Well-prepared slides enhance the quality of delivery by providing notes of the content and inject visual interest into the presentation. Because of the importance of slides in effective presentations, students are taught how to produce aesthetically appealing slides and delivery skills in generic courses in the university such as in language courses and professional communication courses. There is also an abundance of tips for effective PowerPoint presentations (e.g., Alley & Neeley, 2005; Holzl, 1997; Katt et al., 2008) but general observations by lecturers indicate that students' PowerPoint slides are found wanting. Therefore, for the teaching of oral presentation skills to effectively meet the needs of students, the quality of their PowerPoint slides needs to be studied.

There have been many studies on the quality of PowerPoint slides produced by lecturers. Bartsch et al. (2003) found that students liked their lecturers to use PowerPoint slides than transparencies, and this study was conducted during the days when overhead transparencies were still in use. The study showed that students performed the most poorly on recall when they were taught using slides with text and irrelevant pictures, compared to text-only slides and slides with text and a relevant picture. Kosslyn et al.'s (2012) study showed that academic research slideshows were similar to business slideshows, and tended to violate cognitive communication principles, and consequently taxing human information processing. Kosslyn et al. (2012) explained that when the audience's encode information well when there is discriminability (or contrast) between the to-be-encoded material and the background and other patterns. After visual patterns are encoded, the materials are integrated in the working memory but the working memory has a limited capacity, which is why irrelevant information and unnecessary changes in appearance of slides can lead the audience astray (Kosslyn et al., 2012). Finally, the audience has to extract meaning from the information on the slides. To help the audience access their long-term memory, slides need to contain explicit explanations on new concepts, compatible graphics, and relevant amount and type of information. The research on PowerPoint slides has been on student preferences (Apperson et al., 2008) and the effect on students' learning (Chou et al., 2015; Cosgun Ögeyik, 2017; Nouri & Shahid, 2005; Savoy et al., 2009).

Much is known about students' preferences for PowerPoint presentation structure and the effect on their learning in different subjects. However, there is a lack of research findings on the quality of PowerPoint slides and posters produced by students. Little is known about whether students are able to produce aesthetically appealing presentation materials. PowerPoint slides present the information over a number of slides but posters show all the information at one go. With so much information to fit into one poster, compliance with the cognitive communication principles becomes even more crucial.

The study aimed to investigate areas of student weaknesses in aesthetics of posters for oral presentations. The objectives of the study were to: (1) identify the text features used in terms of text style, positioning on the poster, and amount of text; (2) describe use of colours for highlighting information and contrast with background; and (3) evaluate use of images in terms of relevance to content and position on the poster.

Method of study

The descriptive study involved the analysis of posters created by 75 students working in groups of five. They were enrolled in a course, Multinational Corporations and Global Communication, in a Malaysian university. The descriptive research design is appropriate for the study as the purpose was to describe characteristics and/or behaviour of sample population in terms of creating posters for presentation.

The texts collected for analysis were 15 posters explaining problems of communication and culture in one multinational corporation based on a case study reported in a journal paper. The lecturer's comments on the posters were also collected as data for the study. The coursework assessment assessed their skills in analysing implications of globalisation and the growth of multinational corporations on communication and cultural adjustment. The instructions for the contents of the poster are as follows:

1. Show the organisational model of the MNC (headquarter-branch);
2. Include the channels of communication (e.g., telephone calls, e-mails, memos, letters, virtual meetings, and informal chats; advertisements and broadcasts to customers) and types of information that are communicated using these channels;
3. Identify the channel of communication which has caused the problem – and describe the problem;
4. Identify which cultural difference(s) has caused the problem – demographic, geographic, nationality, and structural – and describe the problem; and
5. Strategies to overcome problems and barriers if the problems cannot be overcome.

The group of students were required to show the poster which was projected onto the screen in the lecture hall. They each took turns to present a part of the contents of the poster. For the poster, they were graded by their lecturer in terms of the content and the aesthetics, but the present study focussed on the aesthetics of the poster.

The analysis framework in Table 1 was constructed based on tips and rules for making good posters. As part of the assignment instructions, the students were given Table 1 as a guide to create aesthetically-pleasing posters. The posters were analysed based on Table 1. In addition, the lecturer's comments were analysed thematically to find the main areas of weaknesses for the text, colours and images on the posters.

Table 1. Framework for analysing aesthetics of PowerPoint presentation slides

Criteria	Descriptors
Text	Use of sans-serif font type like Arial
	Good use of font size to show importance – minimum 24 pt
	Consistency for headings and body – less than 4 font types
	No excessive use of caps, italics, punctuation marks, abbrev
	Use points (bullets/numbers), no full sentences
	Parallel structure for sentences
Colour	Clear contrast of text and background – light/dark
	Good use of colour to highlight important info
Images	Enhance content (big enough, not too many)
	Relevant to content - No distracting images, sounds, animation & transitions
	Good positioning of text and images – not crowded or empty

Results and Discussion

Three sets of results are presented on the aesthetics of posters, in terms of text features, colours and images.

Text features in posters

Table 2 shows the frequency of compliant text features in posters. The text features that the students did not have problems with was using sans-serif font type like Arial and Calibri, and not Times New Roman or Tahoma. They also did not use too many font types in their slides.

Table 2. Frequency of compliant text features in posters (N=15)

Descriptors	Compliant	Non-compliant
Use of sans-serif font type like Arial	15	0
Good use of font size to show importance – minimum 24 points	11	4
Consistency for headings and body – less than 4 font types	15	0
No excessive use of capitalisation, italics, punctuation marks, abbreviations	4	11
Use points (bullets/numbers), no full sentences	4	11
Parallel structure for sentences	14	1

However, the students had difficulties complying with use of capitalisation and points. Eleven out of 15 groups showed excessive use of capitalisation on their posters, and the squarish shapes of the capital letters makes it hard to read the words from a distance. Appendix 1 illustrates a poster with excessive use of capitalisation, which was used in the long title of the poster, organisational chart, headings, and student names. “Typefaces in which letters are similar (because they

are visually complex, all upper case, all italics, or all bold) cannot be easily read” (Kosslyn et al., 2012, para. 12). Besides capitalisation, there are other text tools that can be used to convey important content and make the information easy to follow. For example, “students can better grasp significant information through text size, bolding, italics, or placing content in a highlighted or shaded text box” (Villanova University, 2023). Simple tools and formatting can help to direct the audience’s attention to important points and contexts better than capitalisation.

The students in this study were also inclined to write full sentences instead of using points, arranged using bullet points or numbered lists. As a result, there is too much text on the poster and they look crowded, as illustrated in Appendix 2. The problems of cultural differences and strategies were shown in textboxes and the text was overwhelming. The number of words can be reduced by using bullet points and listing. Most of the groups learnt to use parallel structure for their points, with the exception of one group.

Four out of 15 groups used font sizes that were too small, and this affects the clarity of the slides when viewed from a distance (see Appendix 2). In this poster on Nasdaq, the font size for the organisational chart, barriers, strategies, and references was too small. Text-heavy slides, a term used by Sommerville (2023), should be avoided because slides (and posters for that matter) are a poor medium for detailed reading. The way to avoid text-heavy slides and posters is judicious use of words in bullet points and numbered lists. Presenters should edit their slides and posters many times until the message can be conveyed clearly in as few words as possible.

Colours in posters

Table 3 shows the results on use of colours in posters. Fourteen out of 15 students demonstrated good use of colour to highlight important information on their posters, such as for headings and keywords. An example of good use of colours is shown in Appendix 3. The colours are also pleasant to the eyes.

Table 3. Frequency of good use of colours in posters (N=15)

Descriptors	Compliant	Non-compliant
Good use of colour to highlight important information	14	1
Clear contrast of text and background – light/dark	8	7

However, they had a problem with their choice of colour and only eight groups had a clear contrast of text and background. The other seven groups chose colours for the background that was too dark, and the text colours were dark as well till there is no contrast. Appendix 4 shows a poster using different shades of brown for the text and the background is also in light brown hue, making visibility an issue particularly for the references because of the small font size. According to Kosslyn et al. (2012), using blue and red at the same time on slides is not advisable because of the way that different wavelengths of light focus on the retina in the yes. Dark text on a light background is optimal and patterned backgrounds can reduce visibility (University of Nebraska-Lincoln, 2023).

Although this seldom occurred, but one group superimposed the company organisational chart onto a background with words, and this made the poster difficult to read, as shown in Appendix 5. There were also too many colours and boxes with thick outlines. Students do not like lecture slides with too many colours (Vanderbilt University, 2023), and the same can be said of posters.

Images in posters

Table 4 shows the results on the use of images in posters. The size of the images was right and they did not have too many images. The images were also relevant to the content of the presentation and there were few distracting images, sounds, animation and transitions, like Appendix 3. Sommerville (2023) stated that presenters should focus on the message and not the technology. He was writing about slide transitions and sound effects, and advised against the use of distracting sound effects and transitions like fade-ins, fade-outs, wipes, blinds, dissolves, checkerboards, cuts, covers and splits. An example of a distracting image is in Appendix 1, where the top right-hand corner has a clipart of a ringing alarm clock sitting on two books. It has no connection to Vodacom which is a phone company.

Table 4. Frequency of good use of images in posters (N=15)

Descriptors	Compliant	Non-compliant
Image(s) enhance content (big enough, not too many)	14	1
Relevant to content - No distracting images, sounds, animation & transitions	15	0
Good use of space - positioning of text and images (not crowded or too empty)	12	3

A majority of the posters demonstrated good use of the space in terms of the positioning of text and images but three groups had too crowded posters (e.g., Appendix 1, Appendix 2, Appendix 5). The organisational chart often ended up too small, affecting readability. The students hardly have slides that were too empty.

Overall, the students had the most problems with text features and the least problems with images. Half of the posters showed good choice of colours for text and background, but the other half of the posters had visibility issues due to poor choice of colours and lack of contrast.

Discussion and Conclusion

The study on student weaknesses in aesthetics of posters for oral presentations showed that the students had the most problems with text features, moderate problems with colours, and the least problems with size, relevance and positioning of images. Half of the posters showed good choice of colours for text and background, but the other half of the posters had visibility issues due to poor choice of colours and lack of contrast.

Poor colour contrast in text and background as well as excessive capitalisation disturb the first stage of the information

processing because the lack of discriminability prevents effective encoding of information (Kosslyn et al., 2012). Without proper encoding, the subsequent meaning-making process is compromised and the materials cannot be understood (Kosslyn et al., 2012).

The second stage of the information processing is integration into the working memory, and the poster features which hamper this process are excessive use of colours and unnecessary text. Half of the posters had different background colours for the text boxes and this is distracting. Although placing content in a highlighted or shaded text box is a recommended technique to highlight salience of information (Villanova University, 2023), excessive use of colours becomes distracting. In a study conducted by Vanderbilt University (2023), it was found that students did not like lecture slides with too many colours. However, in the present study, the students made the same mistake of producing kaleidoscopic posters. A majority of the posters had too much text, usually in the form of full sentences. The limited capacity of the working memory has to be used to sieve through the colours to figure out what is being highlighted through the change in appearance or colours and the superfluous words. Text-heavy posters compromises the meaning-making stage of information processing.

Only a few posters facilitated the encoding stage and the integration into the working memory stages of the information processing, making it easier for the audience to make sense of the posters. For a majority of the posters, the final stage of accessing the long-term memory to extract meaning probably cannot take place, made worse by the use of incompatible graphics in a handful of posters.

The findings have implications on courses teaching oral presentation skills, which usually include preparation of PowerPoint slides and posters. The study has identified particular weaknesses that students should be alerted to so that their oral presentation slides and posters are more aesthetically appealing to enhance the message. A limitation of this study is the focus on the aesthetics of the posters, without dwelling on the content of the posters. Future studies can investigate lecturer preferences in PowerPoint and poster aesthetics to find out if there is a match between lecturer and student likes and dislikes.

Appendices

PROBING LANGUAGE IN TANZANIA WITHIN WESTERN ORIENTED BUSINESS ORGANISATIONS. ANALYSIS OF SENIOR MANAGERS' WORKPLACE DISCOURSES IN DIFFERENT SOCIAL GROUPS



VODACOM

Jameel Joosub, The president of Vodacom, subsidiary company of Vodafone in Tanzania



AIM

Contractual discourse with Western origins and a Kinship discourse with local sources as the two prominent discourses.

Two sets of communication languages emerged from this analysis, the Western contractual and the local kinship, which are :

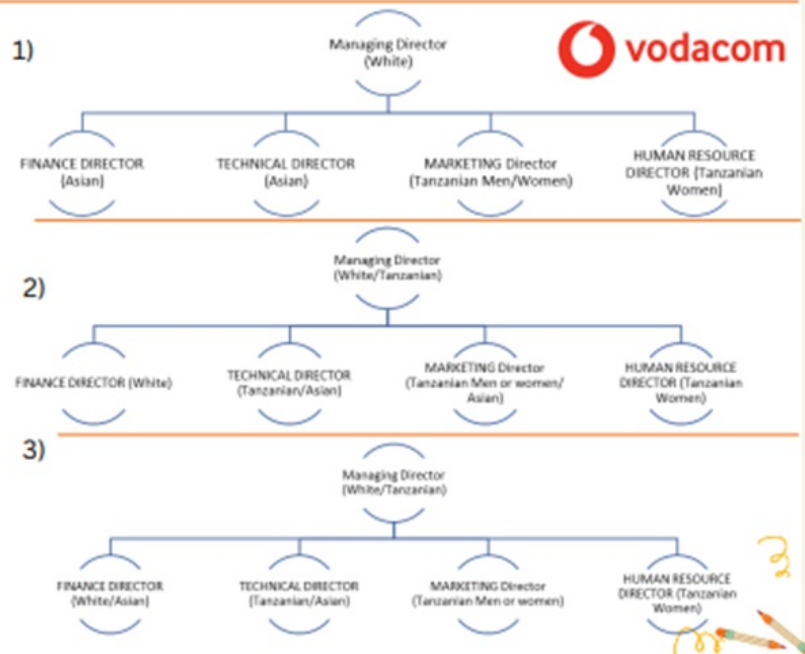
(Stan, European expatriate)

(Lars, European expatriate)

Group 1 – choices of management group composition the outcome is from workgroup one consisting of two indigenous Tanzanian women and represents their evaluation.

Group 2 - shows the outcome of the second group consisting only of Western in the higherup

Group 3 - This table presents both groups assumed evaluation of the best composition of the management group



ANALYSIS

Channels of communication & which channel causes problems.

- Analysis shows how people draw on discourses circulating within their societies, reveals these actual underlying discourses, and explores the languages used in communication.

Why it causes problems?

- Western contractual contributes to the thinking of efficiency and profit making. Something that relies on power to dominate their workers. Local kinship on the other hand is a rooted communal and human values.

How it may lead to misunderstanding

- Poor Education
- Work behavior and attitude
- Motivational factors
- "Nanny" culture and decision making
- Negotiations

CULTURAL DIFFERENCE THAT CAUSES PROBLEMS

1. Perceptions towards one another.
2. Difference in cultural discourse when selecting management roles
3. Language preference in Tanzania

STRATEGIES TO OVERCOME THE PROBLEMS/BARRIERS

1. Maintain Etiquette
2. Keep it simple in conversations.
3. Avoid Slang
4. Speak Slowly



UNIVERSITI MALAYSIA SARAWAK

- 1) MUHAMMAD NUR IQMAL BIN HURHANIZAT (75913)
- 2) MUHAMMAD SALLEHUDIN BIN SAMSUDIN (76686)
- 3) MUHAMMAD NAZMI BIN KAHAR (75905)
- 4) MUHAMMAD NAZIRUL BIN NURIQMAL (75770)

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Appendix 1. Poster illustrating excessive use of capitalisation

National Association of Securities Dealers
Automated Quotations Stock Market

ORGANIZATIONAL MODEL

Nasdaq Nordic Legal Structure Outline

Confidential

What is Nasdaq?

An online global marketplace for buying and trading securities—the world's first electronic exchange.

PROBLEMS OF CULTURAL DIFFERENCES

Geographic

English is used as the corporate language but the level of English proficiency still varies depending on the area. It causes inequality and imbalance of power and hinder knowledge sharing. People come from different countries, they speak different languages, which creates a communication barrier

Structural (Communication difficulties)

The use of four 'corporate languages.' Multiple corporate languages may appear to foster equality and fairness. Internal communication becomes challenging. Employees did not know which language to communicate in.

A little barrier

- The informants pointed out how communication with native-speaker (NSs) could be intimidating because they were able to use English in such a skillful manner that they gained the upper hand automatically and could not be trusted at face value.

CHANNEL OF COMMUNICATION

Verbal Communication
(Phone calls and face-to-face)

Written Communication
(Emails)

STATEGIES TO OVERCOME PROBLEMS & BARRIERS IF THE PROBLEMS CANNOT BE OVERCOME

'Emergent strategy'

- Pragmatic choice of only one language,
- In everyday corporate work context, our informants used English, or rather BELF, with their (NNS) colleagues, for example, on the phone, in email, or face-to-face.
- Approximately 70% of English communication took place between NNSs (can be characterized as BELF) and around 70% of all communication took place within the company
- Five case organizations are happy with the 'emergent strategy' of using Business Lingua Franca (BELF), in their daily interactions of international internal communication.
- Most of the internal communicators were non-native speakers of English, nobody gained the upper hand, and equality and trust prevailed in the sense that each speaker had an equal right to the language used.

CHANNEL OF COMMUNICATION THAT HAS CAUSED THE PROBLEM

Face to face: Communication can be intimidating

Emails: Difficulty switching mother tongue to English

References:

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Appendix 2. Poster showing use of full sentences instead of points



BABEL IN BUSINESS: THE LANGUAGE BARRIER AND ITS SOLUTIONS IN THE HQ-SUBSIDIARY RELATIONSHIP (HARZING & MAGNER, 2011)

ORGANISATIONAL MODEL

HQ-Subsidiary relationship between managers and employees



CHANNELS OF INFO

- Most of the employees would rather send emails than talking on the phone, although some use both.
- Japanese are more inclined to communication via email than Germans.
- Germans tend to write long emails with a lot of information and a very confusing structure.

CULTURAL DIFFERENCE

- German's communication culture is direct, while Japanese is subtle in communication.
- Japanese managers keep their modesty in their communication, unlike German managers.

STRATEGIES & BARRIERS

Informal day-to-day changes in communication patterns

1. Build in redundancy in the communication exchange
2. Adjust the mode of communication
3. Code-switching

Structural solutions at organizational level

1. Common corporate language
2. Machine translation
3. External translators or interpreters
4. Language training

Bridge individuals

1. Bilingual employees as linking-pins
2. Expatriates
3. Inpatriates
4. Locally hired non-native managers
5. Parallel information networks

Barrier

1. Slowing down business processes and incurring additional cost.

Harzing, A., Koster, K., & Magner, U. (2011). Babel in business: The language barrier and its solutions in the HQ-subsubsidiary relationship. *Journal of World Business*, 46(3), 279-287.

Group members:
Kiren Victoria Jaffry (75219, G2), Waithelmina Wilentzen (72729, G2), Michelle Angel Mella (75619, G2) & Marvelyne Sibut (75571, G1)

Appendix 3. Poster illustrating good use of colours for text and background

G1 GROUP MEMBER :
 Nurul Nadia binti Aznan (76477)
 Stephanie anak Sirai (76894)
 Cindy anak Jubeli (74495)
 Nurul Farhah Liyana binti Razid (76445)
 Anastasia Ashley anak Gerald Abit (74098)

"BRINGING ENJOYMENT 'N' QUALITY TO LIFE"

THE ORGANISATIONAL MODEL

President & CEO
Conway Lee

President
America

President
Asia Pacific

President
China

President
Europe

President
Latin
America

BenQ global sales regions are divided into five regions. There are 43 operational locations in 30 countries, with marketing covering over 100 countries. Operational headquarters makes global decision, regional sales center executes locally.

CHANNEL OF COMMUNICATION

- Both Formal & Informal Channel
- Types of information: Managerial Roles Expectation

PROBLEM AND CAUSE OF PROBLEM BY THE COMMUNICATION CHANNEL

FORMAL COMMUNICATION CHANNEL

Management Change Procedure

- One side thought to retain previous managerial roles while another thought to gradually change them into those of same culture

Cultural Differences

- Cross-cultural communication is hard to be achieved and leads to uncertainty and decreases employee's job satisfaction

CULTURAL DIFFERENCES

1

Individualism vs collectivism

- Taiwanese : collectivistic culture rooted in Confucianism
- The Germans: individual & "universalism," applying general rules and obligations as the major source of moral reference

3

Uncertainty avoidance

- BenQ announced discontinuing the investment in Siemens mobile phone unit within a year, surprising many industry observers

2

Power distance

- Taiwanese society is a high power distance culture, while power distance and long-term orientation are ranked considerably low in Germany

4

Corporate Culture

- Different national origins and identities
- Cultural differences in management

SUGGESTION TO OVERCOME THE PROBLEM

Get to know the differences between cultures

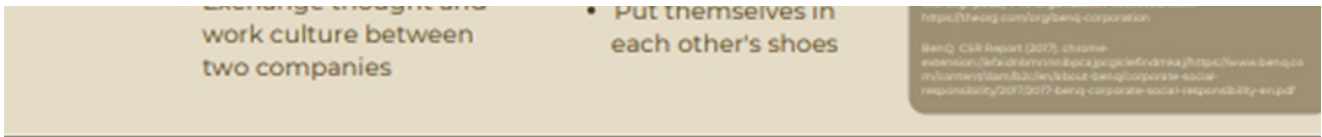
- Exchange thought and

Stay composed and be open minded

References

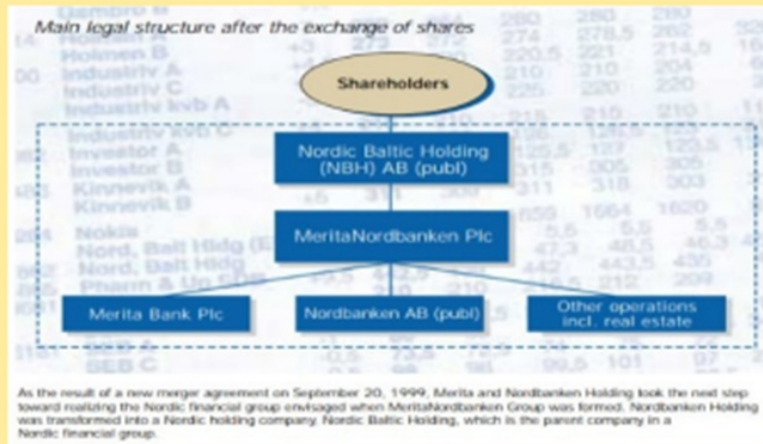
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Appendix 4. Poster illustrating lack of contrast between text and background colours

FINNISH MERITA BANK & SWEDISH NORDBANKEN



1. ORGANISATIONAL MODEL OF THE MNC

- Nordic merge between 2 banking sector'
- Merging multinational corporation
- Two banking companies (Finnish & Swedish) combine into a single new legal entity (MeritaNordbanken) .
- Key idea is to build a regional bank of international size.

2. (I) CHANNELS OF COMMUNICATION

Participant Observation

- Face-to-face

-E.g: Observe how Finns and Swedes reacted to merger in developing a language training policy.

Interviews

- Face-to-face

-E.g: Thematic interviews with the current and former employees of MeritaNordbanken.

Analysis of Media Text

- Printed texts

-E.g: Daily tabloid, weekly business magazine, and daily newspaper texts analysis.

-E.g: Finnish printed media articles on the MeritaNordbanken merger are evidence of empirical evidence.

2. (II) CHANNELS OF COMMUNICATION THAT CAUSED PROBLEMS

Cultural seminars

- 350 Finnish and Swedish managers and executives took part in cultural seminars (October 1998 - January 2000).
- Finnish participants had issues such as lack of ability to explain themselves effectively and exhaustion brought on by these seminars being held in Swedish.

4. STRATEGIES TO OVERCOME PROBLEMS

- Utilise English language as official corporate language
- Provide an intensive training or professional class that focuses on the language skills.

3. CULTURAL DIFFERENCE(S) & THE PROBLEM

- Nationality differences (language)
- The company chose Swedish as their official corporate language.
- This problem is caused by the chief of board. Finnish Vesa Vainio request that the new board use Swedish as their corporate language prior to this problem.
- He assumes that all the Finnish top managers are supposedly fluent in speaking Swedish and the Swedes had Swedish as their mother tongue.
- The decision was controversial and interpreted in different ways, with unintended consequences. Finnish people had poor internal conditions on average.
- Additionally, Finnish participants find it hard to communicate in a foreign language and they are unable to convey themselves well (Swedish language).
- This forces them to remain silent when professionalism requires active participation

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Appendix 5. Poster illustrating distracting background for the organisational chart

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