

# Power Distance and User-Centred Design in a Traditional Culture

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## ABSTRACT

This study describes the challenges faced by designers and users of software in a developing country with a traditional culture, and it shows how economic and cultural differences may affect the design and use of software in unexpected manners. It is based on observations and interviews with twenty employees in three different administrations and on interviews or conversations with nine other informants.

## Categories and Subject Descriptors

H5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

## General Terms

Design, Human Factors

## Keywords

Culture, international design, Hofstede, user-centred design

## 1. INTRODUCTION

Hofstede [1] and World values survey [2] have described cultural differences between different countries in general. In addition there are a number of studies of how cultural differences affect the perception or use of software interfaces. However, there is a lack of studies that describe the problems faced by designers and users of software in developing countries with traditional cultures, and how the designers and users cope with the problems.

The present study is based on a previous comparative study of cultural values in Denmark and Philippines [3]. The comparison is interesting because the differences between the two countries span a large part of the possible global variation. See table 1. The previous study identified a number of aspects that might be relevant when designing software for a country with a traditional culture, but did not verify them. The purpose of the present study was therefore to determine their consequences in actual work situations.

## 2. METHOD

The field part of the study took place from July 3 to August 4, 2006 in the same area as the previous study [3]. The main

Table 1: Differences between Denmark and Philippines [3]

Philippines	Denmark
Low income (1,080 USD GNI/capita)	High income (33,750 USD GNI/capita)
Traditional	Secular-rational (post-modern)
Masculine – survival values	Feminine – well-being values
Large power distance – inequality and privileges are considered normal.	Small power distance – equality is seen as ideal.
Collectivistic	Individualistic

part was designed as semi-structured interviews, where the participants told about their daily work and about the problems experienced by them when using computers.

The participants in the main part of the study worked in a city administration and in two municipal (rural) administrations. I conducted interviews in nine different offices, where I interviewed in total twenty persons including department managers and employees. Most of them had a sufficient command of English for me to conduct the interviews directly. In addition, I was accompanied by my local assistant who occasionally interpreted my questions and translated answers that the respondents found difficult to express in English.

In addition to the main part of the study, I made notes from conversations or interviews with nine other persons. One of them had worked as a manager in the Philippine government's department for Science and Technology, and another had, until he retired, been in charge of courses and training for city and municipal officials in the area.

## 3. Results

I did interviews in offices of property assessment, where they provide the assessments that property taxes are based on, engineering offices and general administrative offices. My general impression is that the goals of the work are similar to those in Denmark and probably in other municipal administrations all over the world.

Despite the large power distance, I was told that a fast and good service to ordinary citizens was important. As an example, the main reason for introducing computers for word processing in an administrative office was to make it possible to write a permit or a so-called clearance at once, so the applicant did not have to come back later to pick up the permit.

In total I was told about 48 separate problems during the interviews.

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The large power distance meant that the designers of new systems in some cases did not know the actual conditions of use. As an example, the system for entering government statistics required Internet access, even though none of two rural administrations had a fixed phone line that could be used for Internet access. An employee in one of the administrations told me that she had to go to an Internet cafe in the city to enter the statistical data, whereas an employee in the other administration told me that she had a friend in a government agency in the city, who allowed her to go there and use one of their computers.

My previous study [3] showed that computer science students always would choose the cheapest or least complicated solutions. The present study shows the same tendency in administrative applications. The assessment offices had on average only one computer for every eight office workers, and they optimized the use of computers by doing as much work as possible on paper forms before so-called encoders or computer operators entered the information into the computer.

As another example, all departments kept paper copies of the entered information, so it was possible to enter it again, if the electronic copy was lost, instead of relying on electronic backups. Given the limited experience with computers this made sense. Paper copies and paper archives is a well-known technology, and it is always possible to reconstruct the electronic data from it.

I found in my previous study [3] that there could be problems because technicians in Philippines would choose the cheapest or least complicated solutions, even though the same level of reliability was required as in Denmark. That was confirmed by the present study, where I observed and heard about frequent problems with unreliable equipment. I observed that many Filipinos are used to repair technical equipment, and it appears that this is a cultural prerequisite when computers and other electronic equipment are used in a dusty and often humid climate.

I found in my previous study [3] that Filipinos compared to Danes were more honest and expected more honesty on a personal level. Together with the tendency to choose the cheapest and least complicated solutions this meant that many companies tried to save money by using spreadsheets instead of investing in proper bookkeeping applications (presumably without knowing how to lock parts of the spreadsheets). The consequence was that any of the employees who had access to the computer could change both figures and formulas in a company's bookkeeping, and one of the informants told me about an embezzlement that had been done in that manner in a private company while she worked there.

I suggested in the previous study [3] that it might be worthwhile to take organisational dishonesty – for instance corruption - into account when designing systems [3]. The former manager in the department for Science and Technology confirmed this. He had thought about how difficult it is to find incriminating paper-based information, whereas it is possible to design electronic information systems such that all information can be accessed by auditors, and such that a single person cannot delete or change incriminating information.

I found in the previous study [3] that privacy was much less important in Philippines compared to Denmark. Even though the present study confirms the general tendency, I found exceptions that require an evaluation of each specific case. In Denmark assessments of property values are

publicly available because they often are used as basis for prices when selling property. In contrast, the assessments in Philippines are used only for tax purposes, so only the tax authorities and the owner of the land has access to them.

Despite the collective culture and general sharing of information several offices had wanted to implement personal passwords. The reason individual passwords were not used was, that the encoders had not been able to get them to work properly with the available software.

I have seen the curricula of several Philippine colleges, and none of them teaches anything about usability, user-centred design or support of computer systems. That may be because such topics where it is necessary to reflect upon a personal practice are more accepted in a secular-rational (post-modern) culture than in a modern or traditional culture.

I was told about five problems that could be attributed to users not having learned to use the software. In addition, it is likely that lack of training contributed to some of the seven cases of accidental corruption or deletion of data I was told about.

In a similar manner, 23 of the problems I was told about could directly be attributed to the software not being adapted to the specific tasks. These problems were all in assessment offices that used database software that was designed specifically for them, and where the problems could have been avoided by applying some fairly basic user-centred design. In particular when the encoders clearly could explain both the problems and possible solutions to me.

#### **4. DISCUSSION AND CONCLUSION**

People in Philippines are in general open, and the semi-open interviews made it possible to get a rich information that made it possible to evaluate the answers. In addition, it appeared that the participants were eager to talk and explain, in particular about problems they had experienced when working with computers. In addition, the information from the interviews, from the previous study and from other sources to a large extent confirm each other.

The study indicates that lack of cultural adaptations or limited economic resources are not the causes of most problems when introducing computers in a traditional society. More problems are caused by lack of local awareness and knowledge about what in the Western world is considered good practice as regards user-centred design and courses and training for users.

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#### **6. REFERENCES**

- [1] Hofstede, G. *Culture's consequences*. Sage Publications, USA, 2001
- [2] Inglehart, R. *Modernization and Postmodernization – Cultural, economic and political change in 43 societies*. Princeton University Press, USA 1997
- [3] Strom, G: Interaction design for countries with a traditional culture: A comparative study of income levels and cultural values. In *People and Computers IX – The Bigger Picture* ed. by Tom McEwan, David Benyon & Jan Gulliksen. Springer, UK, 200