

## ENGINEERING CULTURAL BELIEFS AND ATTITUDES IN THE DEVELOPING NATIONS

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Received: 1986-06-16

## Abstract

Often the adoption of modern information technologies is impeded by difficulties stemming from cultural attitudes and beliefs that are incompatible with those technologies. One new technology is available specifically to deal with this kind of difficulty. Galileo provides a method for describing, measuring and engineering changes in the attitudes and beliefs of any set of people in a scientific way, and may prove helpful in overcoming cultural difficulties in development efforts.

Developing nations face many problems in the introduction, use and maintenance of modern information technologies. Some of the most serious problems - and often among the most difficult to deal with - are problems which stem from the cultural attitudes and beliefs which exist among those people who must plan, purchase, use, maintain or otherwise deal with the new technologies.

Indeed, cultural attitudes and beliefs may often be the primary barrier to the successful introduction and maintenance of new information technologies into developing nations. Some may be suspicious of computers, for example, or hostile to radio or television; fearful of printing or ignorant of the need for spare parts inventories and preventative maintenance. Cultural or legal norms may, for example, prevent the importation of needed spare parts, or may delay equipment deliveries until warranties have expired. Officials may desire the newest technology when an older device may be more appropriate for the culture; still others may not understand the need for education and continuing training of users and operators of the new equipment.

These are only the smallest examples of the wide range of barriers to the introduction of information technologies that result from inappropriate attitudes and beliefs of those who must permit, authorize, acquire, operate, use or otherwise deal with them.

## GALILEO AS AN INFORMATION TECHNOLOGY

Just as the new information technologies have brought with them solutions to old cultural problems, they have created new ways for dealing with cultural beliefs and attitudes as well. The most powerful information technology available for dealing with cultural attitudes and beliefs is The Galileo system.

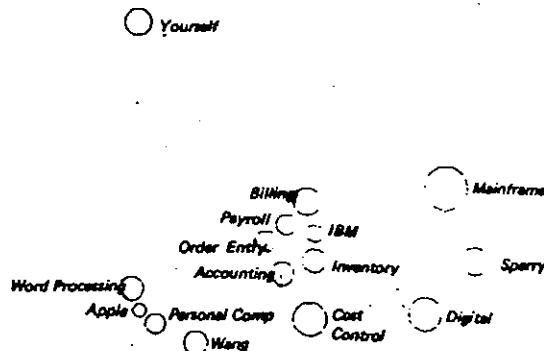
The Galileo system consists of computer-based methods for measuring the attitudes and beliefs of any group or culture about any topic. Furthermore, not only does Galileo allow the measurement of attitudes

and beliefs, but provides effective ways for changing attitudes and beliefs to make them more consistent with important goals and plans.

## HOW GALILEO WORKS

On the basis of interviews and questionnaires administered to representatives of any group or culture, Galileo identifies the main "object" or "attributes" which describe whatever topic one chooses to study, and projects them onto a "space" or "map". Figure One represents a map of the computer "neighborhood" for a group of businessmen.

Figure One: Computers and their Attributes



Within the neighborhood represented on this map, objects that are seen to be similar to each other are close together. Notice that "Apple" and "Personal Computer" are seen to be quite close to each other in this neighborhood. Notice also that "Apple" is very far from "Mainframe". "IBM" and "Sperry" are much closer to "Mainframe", which means that these businessmen associate Apple with personal computers and IBM and Sperry with Mainframes.

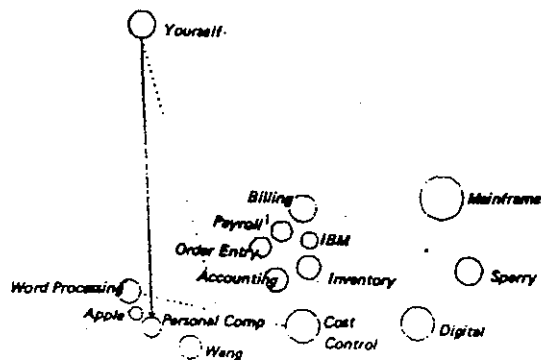
It is also possible to see that the businessmen's own "self", represented on the map by the word "Yourself", is quite far from the rest of the space, which shows that the businessmen are somewhat alienated from the computer neighborhood. There is, in this case, a problem with the businessmen's attitudes and beliefs about computers which holds back their adoption.

## ENGINEERING CHANGES IN BELIEFS AND ATTITUDES

Galileo not only makes it possible to measure attitudes and beliefs and locate potential problems, but it produces solutions for the problems. Figure Two

shows another map of the same neighborhood, but this time it shows a vector from the "self" toward the concept "Personal Computer". This vector represents the desired attitude change which would lead to increased adoption of personal computers by these businessmen.

Figure Two: Strategy for Improving Attitudes toward PC's



Similarly, Figure Two also shows a dotted line between "Word Processing" and "Cost Control", and another dotted line drawn from "Yourself" to the center of the first dotted line. This point (that is, the point at which the two dotted lines meet) is the point toward which the businessmen's own self point would move if a sales strategy emphasizing "Word Processing" and "Cost Control" were to be employed. While not a perfect strategy (no strategy is ever likely to be perfect) it is a very good one, and close scrutiny of the map will show there is no more effective strategy possible.

In practice, the Galileo computer program "tries out" every possible strategy, and determines the few that will be most effective, thus ruling out less than optimal strategies. In practice, Galileo has turned out to be very effective, and Barnett (1986) has provided a bibliography of several hundred references to the procedure.

#### GALILEO IN DEVELOPING NATIONS

Unlike traditional Western "market research" techniques, which have been developed almost exclusively in the context of Western, developed nations, the Galileo has been developed from the beginning as a world model, relying on measuring systems in common use in Eastern, Western, developed and developing nations. It has already been tested on hundreds of thousands of people on every continent, and is available in a form suitable for nations at all levels of development.

In the most technologically advanced contexts, Galileo can be provided as a complete local technology, with all hardware, software and technical support staff operating locally. Where local field interviewers and some computing skills are available, but sufficient logistic support to maintain a major mainframe computing facility lacks, data may be collected locally and analysis conducted via telecommunications link to a

centralized Galileo facility at another site, perhaps even on another continent. Where this is not possible, data may still be collected locally and shipped to a centralized location for analysis. Finally, full service is available when needed, so that staff from a centralized location visits the client site, conducts the research in toto, and provides complete reports.

#### LITERATURE

- Barnett, G.A.: A Bibliography of Galileo Materials. - Unpublished manuscript, SUNY at Buffalo, Buffalo, NY, USA (Available on request from the author)
- Woelfel, Joseph and Edward L. Fink: The Measurement of Communication Processes: Galileo Theory and Method. - NY., Academic Press, 1980.

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#### PROCESIRANJE KULTURNIH VJEROVANJA I STAVOVA U ZEMLJAMA U RAZVOJU

##### Sažetak

Usvajanje moderne informacijske tehnologije često je otežano komplikacijama koje proističu iz kulturnih stavova i vjerovanja koji su oprečni toj tehnologiji. Jedan novi tehnološki izum može se primijeniti da bi se savladale takve teškoće. Galileo pruža, na znanstveni način, mogućnost opisivanja, mjerenja i organiziranja promjena u stavovima i vjerovanjima bilo koje grupe ljudi. Galileo može biti od velike koristi u prevladavanju kulturnih komplikacija u procesu razvoja.