South Africa is undergoing a number of changes, which has an effect on every aspect of society from the workplace to everyday life. South Africans need to reflect on this situation and determine how to proceed. The purpose of this article is to consider the development and implementation of information technology, one particular problem area, in this broader context. The article draws an analogy between the trade unionist systems development tradition in Scandinavia and the possible application it might have in South Africa. The article describes the situation in South Africa, presents the trade unionist approach to systems development, and describes the underlying principles that have been identified by Scandinavian researchers. It then evaluates these principles from a South African perspective and discusses the possible uses they might have in the South African situation.

INTRODUCTION

South Africa (SA) of today is an emerging society. The emergence of new beliefs and values creates both uncertainty and a number of expectations. One of the expectations is for social democracy within a society, which is characterised by: heterogeneity, no tradition of social democracy and a high level of illiteracy.

The expectation for social democracy is described in the SA Bill of Rights (1996): “Heal the divisions of the past and establish a society based on democratic values, social justice and fundamental human rights; improve the quality of life of all citizens and free the potential of each person”. A further expectation is that of a people-driven process. The SA Reconstruction and Development programme (1994) states: ‘Regardless of race or sex, or whether they are rural or urban, rich or poor, the people of South Africa must together shape their own future…..It is about active involvement and growing empowerment, and Above all, the people affected must participate in decision-making….. It is, rather, an active process enabling everyone to contribute to reconstruction and development.

One of SA’s biggest challenges is that the society is heterogeneous in a number of ways. Some of these are differences in nationality, race, language groups and religions as well as a third and first world dualism. Each group has different expectations, values, beliefs, and ways in which to evaluate situations that lead to a high degree of complexity (Kriel, 1996) and a high level of conflict in social life.

This dualism is reflected in the SA information technology (IT) environment. The spectrum of the IT environment ranges from the highly sophisticated, for example, in the banking environment at the one end, to the opposite extreme of both computer and general illiteracy. The expectation is that further development in the use of IT can contribute to solving SA’s general problems with education, and a great deal of attention is given to this specific topic by government and private organisations. The IT environment in SA is, however, largely influenced by the system rationalist viewpoint of IT in which efficiency plays a major role. The system rationalist viewpoint does not take into consideration situations where a number of different groups with differing viewpoints are involved and the probability of conflict is high (Kling, 1980).

A further complicating factor is that IT is seen as an important resource in socio-economic development in third world countries (Avegerou & Madon, 1995). This poses a number of opportunities and threats that should be taken into consideration by the developing countries. The difficulties as identified by Avegerou & Madon (1995) are: a number of imperatives are imposed when developing countries participate in the international system; large numbers of individuals and groups are further marginalised; dependence is promoted instead of interdependence; self-determination is neglected; and there is a likely domination by a single culture. To address these difficulties technology should be implemented by delinking the technology from the source and allowing the
local context to determine the implementation (Amin, 1990). The question is, however, how this should be done in more practical terms.

The emerging situation in SA and the importance of IT for SA has an effect on the way in which IT systems are developed and adopted. Furthermore, IT can be used as a tool for emancipation in SA. One of the requirements underlying the SA science and technology policy, as identified in the White Paper on Science and Technology (Department of Arts, Culture, Technology and Science, 1996), is by promoting an information society that serves SA’s needs but does not echo that of other countries. The SA government has thus promoted the importance of IT at the governmental level thereby establishing an important social force for IT development in a developing country (Korpela, 1995).

Although the SA government has identified ethical and policy proposals for IT development, no concrete implementation issues have been identified (Korpela, 1995). SA needs to be proactive in identifying how the community’s information needs should be identified and put into practice. There are a number of research and development traditions within IT, but SA could turn to some inspiration on how to fulfill the expectations outlined above. These traditions should be based on democratic values with a strong social flavor and they should explicitly include the objective of emancipation. The Scandinavian countries have extensively used projects such as the trade union projects for emancipation of workers (Ehn, 1988) and the experiences are well documented. Scandinavian research and development traditions represent in this way an interesting source of inspiration, despite obvious differences between the two environments (see Figure 2). These traditions should be based on democratic values with a strong social flavor and they should explicitly include the objective of emancipation. The Scandinavian countries have extensively used projects such as the trade union projects for emancipation of workers (Ehn, 1988) and the experiences are well documented.

Scandinavian research and development traditions represent in this way an interesting source of inspiration, despite obvious differences between the two environments (see Figure 2): Scandinavian countries are homogeneous, with well functioning traditions for handling negotiations and cooperation, and their social democracy is well established.

Iivari & Lyytinen (1999) divide the Scandinavian IT research and development into eight different traditions. One of these traditions is the trade unionist approach. This tradition corresponds with the critical tradition in Bonsler (1989) and the collective resource approach in Ehn & Kyng (1987).

The basic ideas and values that underlie this tradition are identified by Bonsler (1989) as follows: ‘...researchers...deal with the use of information technology and workplace democracy. They want to strengthen the position of employees and unions vis-à-vis managers and capital owners.’ Because of the basic assumption of democracy, emancipation and a ‘people-driven process’, the trade unionist approach is one possible starting point for the development of a SA systems development tradition. In the following section we shall review some of the Scandinavian experiences and subsequently explore their possible relevance in the SA context. In doing so we will take the differences between the two contexts into account.

The research question that will be answered in this article is: What principles can be identified for socio-economic development of IT in the SA environment as inspired by the Scandinavian trade union research tradition? The article will firstly give a description of the Scandinavian projects. This will be followed by a theoretical base for identifying five types of principles in these projects and will furthermore identify what the principles were for these projects. Four projects for the SA environment based on the Scandinavian trade union projects will then be described. In the discussion that will follow the description of the SA projects, the principles for the SA environment will be developed. Finally, the conclusion summarises the implications for SA and also discusses the implications these principles will have for other developing countries.

THE SCANDINAVIAN PROJECTS

The Scandinavian trade union projects were initiated in the 1970s and 1980s. At that time, the use of computers and information systems were becoming a fact in everyday working life (Sandberg, 1979), that in many respects were conceived to have a negative effect on workers and the conditions of worklife (DUE project group, 1979). The trade unions decided to initiate projects about IT systems in working life to ensure and further develop the ideal of democracy in the workplace. There was also a demand for local trade union competence on how to influence the introduction of IT (Nygaa, 1979). Most of the projects were about computers, planning, and democracy.

In the trade unionist approach, two generations of projects can be identified. According to Kyng (1996) the first generation consists of: the Iron and Metal project started in January 1971 in Norway; the DEMOS (DEMOS is the Swedish acronym for: Democratic Control and Planning in Working Life: On Computers, Trade Unions and Industrial Democracy) started in 1975 in Sweden, and the DUE project (DUE is the Danish acronym for: Democracy, Development and EDP) started in 1977 in Denmark. The second-generation projects are: the Utopia project (Utopia is the Swedish acronym for: Training, Technology, and Product from the Quality of Work life Perspective) started in 1981 in Sweden, and the Florence Project started in 1984 in Norway.

These projects can be divided into three different types of projects: the Iron and Metal, DEMOS, and DUE projects were launched to research the influence of planning and IT systems on worklife; Utopia was a project to design computer artefacts for skilled work, while Florence was a project for the computerisation of the nursing profession. Each type of project had a different purpose, but the combining factor in all of these projects was that they were based on the interests of users and organised workers.

PRINCIPLES UNDERLYING THE SCANDINAVIAN PROJECTS

To obtain useful information for the SA situation, we shall examine the principles that underlie the trade union

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