# Are all swans white? Improving the Adaptive Response of British Telecom through the transformative fusion of cybernetics, systems dynamics and social capital

## Steve Brewis CEng (Chief Research Scientist, British Telecom)

Businesses have become very adept at managing individuals in the form of human capital - defined as the skills, knowledge and experience of individual employees within the company required to execute the 'task'. In the past, with relatively stable markets, this was adequate, but the current competitiveness in our markets have put pressures upon our margins as well as the need to respond quicker to our customers. It is therefore no longer sufficient to manage the individual assets within the business. In the knowledge economy of the 21st century businesses must manage the inter-connected assets of the business, moving it away from the individual and its associated cost paradigm to the network and its required adaptive paradigm. This new network is what we term Social Equity and is what connects various forms of human capital. Using social equity, cohered through highly effective conversation, we can tackle problems holistically coming up with solutions that generate more value.

BT serves the UK Customer base from a range of Network Technologies, its organisational structure comprises of a Networks Organisation that serves the customer through a number of Market facing units (MFU's). The challenge for the Networks Organisation is that it needs to adapt continuously to a changing environment whilst ensuring that the cost to 'serve the customer' through the MFU's is kept to a minimum'. How can the Business Dynamically create this optimised service oriented operating plan whilst running scenarios against various futures and distilling a given future at the speed of thought into a coherent operating plan. This talk will give you an insight of how the Research and Development unit have approached this problem and the range of tools and modelling techniques it has developed to support a 'social network approach' to network management.

**Steve Brewis** is a Chief Research scientist for BT. He is a Chartered Engineer and holds a first class honours degree in Engineering. He started his professional career as a Marine Engineer in the Merchant Navy where he was fascinated in experiential learning, i.e. having conversations with your environment, as he was fortunate to have a 'real ship' to experiment upon.

He later left to join the National Health Service where he was responsible for the commissioning and ongoing management of a large district general hospital. It was in this role he became involved in the design of self-adaptive control systems for the control of 'comfort' in operating theatres. Again he used his 'conversational approach' by having 'an empty operating theatre' to experiment upon. It was while he was having these conversations through the models of comfort that he discovered Ashby's law of variety. It was also in this role that Stephen won a National Award for his work in the field of Energy Management.

Stephen left the Health Authority to join BT where he has held a number of senior Management positions ranging from District Payphone Manager, Business Consultant for BT Telconsult which involved running external management courses for other telecommunication companies around the world.

Stephen now holds the position of Chief Research Scientist in BT where his research interests have come about from a greater awareness of organisational complexity and the challenge this possess for context and adaptation. It is in this area that he met the Late Stafford Beer and was fortunate to work with him in his later years. Stafford influenced Stephen's thinking significantly as well as many of his peers. As a lasting legacy Stephen became one of the co-founders of SCiO, setup to take his work forward. Stephen has continued to advance the thinking is this field that we know as organisational cybernetics and his given many talks and presentations on the subject.

Stephens current challenge is in Improving the Adaptive Response of BT through the transformative fusion of cybernetics, systems dynamics, social capital and Biological Stigmergy facilitating the creation of CONVERSATIONAL white spaces. Ideas need sex and these conversational white spaces provide the mating ground, the space of a shared understanding where novelty and creativity arise.