The role of Change Agents in an IT services corporation: A systems approach to developing a strategy for improvement.

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Abstract

This paper proposes a strategy for improving the role of Change Agents in a process of strategic business transformation in a large IT services corporation. An initiative to use Change Agents (CA Initiative) in this company is perceived to be operating below its potential. Two issues were identified as root causes of the problem. The issues were based on assumptions about how the CA Initiative may be viewed in an organisational and service-oriented context. The first issue was focussed internal to the initiative and relates to its purpose and principles of operation. The second issue was focussed externally to the initiative and highlights the need to understand the environment in which Change Agents market and deliver their services. An action research case study, using the Soft Systems Methodology was conducted to identify how this complex problem could be improved. The research process was also aimed at testing the validity of the models used and underlying assumptions made to describe the CA Initiative. The application of systems thinking in the action research process has provided a collaborative and holistic approach to understanding the problem situation. Furthermore, it has provided a basis for assisting in a process of identifying sustainable improvements to a corporate wide complex problem.

Introduction

Information Technology Corporation[1] (ITC) was established in 1994. For the first time it has developed a Strategy and Execution Plan and is in process of implementing this plan. ITC has trained and established a network of Change Agents from all levels of the organisation to assist in a corporate wide effort of strategic business transformation. Approximately 70 employees from a business unit of ITC were trained as Change Agents. Change Agents were required perform this role in a small part-time capacity. After commencing the initiative in early 1998 the Change Agent Initiative within the business unit of ITC is now perceived to be operating below its potential. Furthermore, the initiative is also perceived to be of insignificant operational value to project management and staff of the ITC (who for some Change Agents are the customers of the initiative). The ITC organisation has over 3000 employees and is the software delivery arm of an organisation which has been out-sourced from another corporate communications company. A key element of the implementation of this IT out-sourcing strategy is based on the view that the ITC is a value centre (Venkatraman & Loh, 1993: 1-20). It is currently intensely focussed on implementing processes to demonstrate software development maturity according to the software process Capability Maturity Model (CMM) (Paulk, Weber, Curtis & Chrisiss, 1998 : 10, 40).

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[1] : For the purpose of confidentiality a ficitious name has been used for the company concerned.

In response to the growing concerns of the Change Agents in ITC, a core group of Change Agents (hereafter referred to as the research team) instigated an action research case study. Given the complexities of the problem and the need for a participative approach, the research team employed the Soft Systems Methodology (Checkland & Scholes, 1990: 23-24) to explore how the situation could be improved. Although the research is still progress, this paper describes the root definition (Checkland & Scholes, 1990: 23-24) which was developed for the issues of concern during stage three of classical SSM process. The research team has referred to the root definition as the proposed strategy for improving the issues of concern.

Research assumptions

The action research case study has made the following assumptions :

1. The network of Change Agents created by the CA Initiative is an organisation of some form. This organisation can be characterised by some form of paradigm of operation (Constantine, 1993: 35). Hereafter this will be referred to as the *CA Organisation*.
2. Change Agents are service providers and therefore, the Change Agent organisation may be viewed as a service based organisation. That is, Change Agents do not exist for their own personal and professional development but to primarily be off service to a customer.
3. The market in which Change Agents deliver services is the area of business (environment) in which Change Agents operate in their near to full-time capacity. Their customers may be internal or external to ITC and may exist at any level of these organisations.
4. The CA Organisation is operating in a competitive environment. That is, the CA Organisation is competing with other providers of alternative or new (equivalent) services from other organisational entities, functions or initiatives.
5. The type of change facilitated by Change Agents is largely dependent on their official position (function) in the organisation or what is in their influence or control. That is, Change Agents in projects servicing short term needs of their customers will primarily be involved with operational changes. Change Agents servicing the long term needs of their customer (including opportunities to create competitive advantage) will largely be involved with tactical or strategic oriented change.
6. Any employee of ITC who is not a Change Agent is a potential customer of the corporate CA Initiative. This includes line managers of Change Agents and peers of Change Agents. (This raises an interesting question as to how appropriate is the belief which is shard by some employees of ITC, that all employees are Change Agents !)
7. Change Agents are relatively more informed about ITC's strategy and will use that information to provide context to the type of change they facilitate. Accordingly, the degree of coupling with operational change will be relatively less than that which is tactical or strategic in nature.
8. The CA Organisation operates as a cost centre. That is, it does not have direct financial profit making objectives.
9. Change Agents have a minimum standard service offering for its customers : To share ITC strategy, be conduits for two-way unfiltered feedback to senior management and to identify improvements and suggestions to business issues.

10. The scope of Change Agents services is driven by the strategic business transformation process. That is, ITC's strategy and strategic change associated with the implementation of this strategy is the immediate cause for the need for the Change Agents Initiative.

The study will attempt to test the validity of the above assumptions through an exploratory action research process. The two issues on which the study has been based will now be discussed. The issues and their corresponding models are based on the above assumptions.
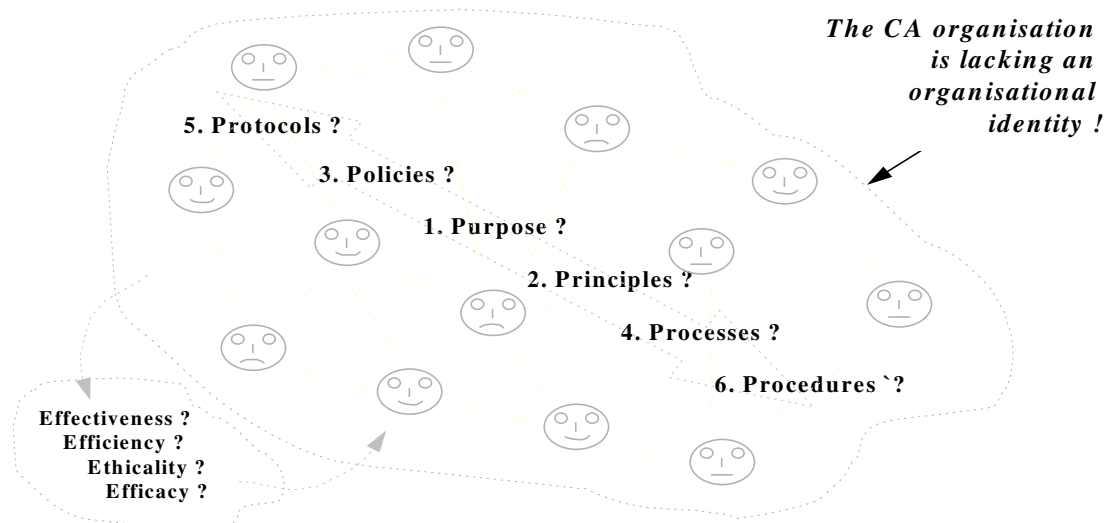

The CA organisation is lacking an organisational identity !

5. Protocols ?
3. Policies ?
1. Purpose ?
2. Principles ?
4. Processes ?
6. Procedures `?

Effectiveness ?
Efficiency ?
Ethicality ?
Efficacy ?

Diagram 1 : The CA Organisation in ITC is lacking a description of its characteristics and function (6 P's).

Root cause issue 1

The first root cause issues is, "The CA Organisation in ITC is lacking a description of its characteristics and function". The model illustrating this root cause issue is shown in diagram 1 and attempts to highlight that it is not clear for the CA Organisation :

- What is its *purpose* for the existence. That is, what objective is to be attained or what is the intention of Change Agent actions in the initiative?
- What are the *principles* under which the organisation should operate. That is, what are the moral rules, shared beliefs or agreed motives by which Change Agents conduct may be guided?
- What are the *policies* which govern behaviour and decision making with respect to the internal operation of and delivery of services from the organisation (Paulk, et al, 1998: 361, Robbins, 1988: 105). That is, what guiding rules and parameters should be adopted to influence and determine the decisions and behaviour of Change Agents?
- What are the *processes*, *procedures* and *protocols* which are required to support day-to-day operations of the organisation.
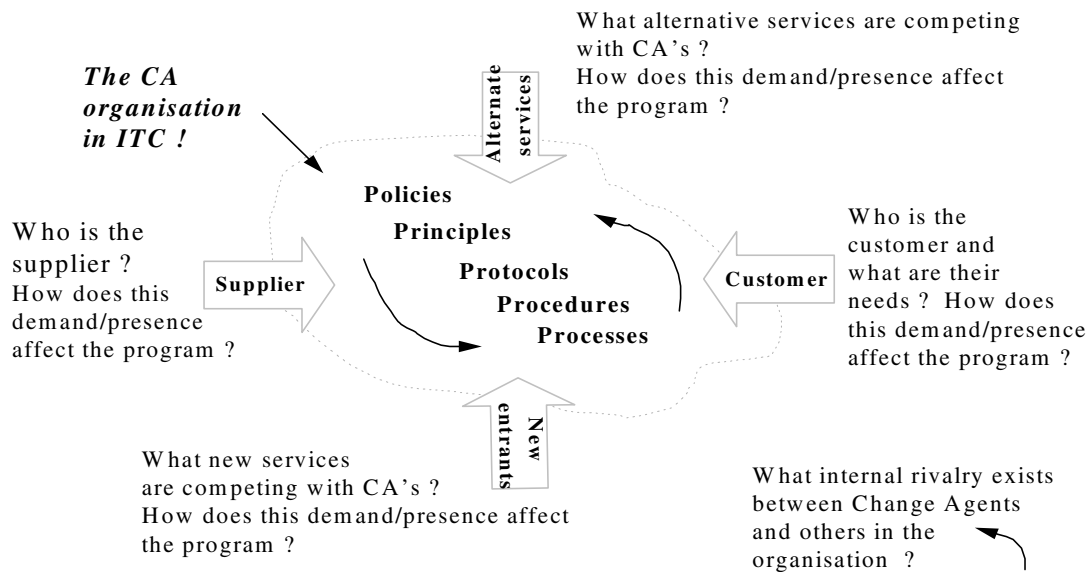
Diagram 2 : The market (environment) in which the CA Initiative operates.

Root cause issue 2

The second root cause issues is, "The CA Organisation in ITC is not perceived to be delivering value to its market (customer)". The model illustrating this root cause issue shown in diagram 2 and attempts highlight that it is not clear for the CA Organisation:

- What is the scope of its *market*?
- Who are its *customers*?
- Who are its *suppliers*?
- What *alternative services* are competing with those by the CA Organisation?
- What *new services* are competing with those offered by the CA Organisation?
- What *rivalry* exists between Change Agents and other participants of the initiative?
- How it is affected by the presence and demand of the above forces?

(Porter, cited by Frenzel, 1992: 45)

The strategy for improving these issues has been based on the CATWOE model :

- **C**ustomers (Beneficiaries and Victims)
- **A**ctors (Participants)
- **T**ransformation (Current and Improved Situations)
- **W**orldviews (Why is or why is the transformation not important?)
- **O**wner and Sponsorship
- **E**nvironmental constraints

(Checkland & Scholes, 1990: 37); (Wilson, 1984: 25)

The research team has chosen to frame this body of work as the "Strategy for improvement". The strategy will now be discussed and supported by key references from a literature review.

A strategy for improvement

At the core of the strategy for improving the issues of concern, is the need for a business transformation. The components of a transformation or root process definition (Checkland & Scholes, 1990: 31) analysed and developed by the research team is illustrated in diagram 3.
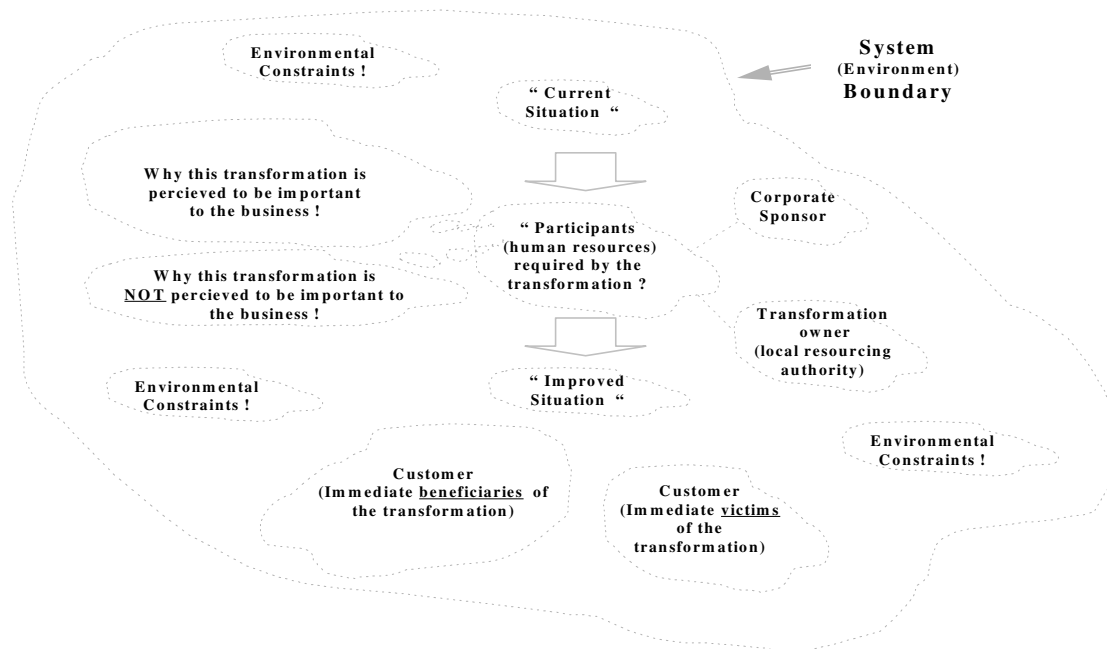

Diagram 3 : The components of the system under study.

Transformation

The description of the transformation involved has two parts; the current situation and the improved situation. The overall transformation has been uniquely described as, "Establishing a clearer identity for operation and a marketable service offering for the CA Organisation". The problem of operational identity reflects the need to address a problem internal to the CA Organisation, whereas the need to provide a marketable service offering addresses a challenge which lies in the environment external to the CA Organisation. The latter primarily refers to the environment in which the Change Agents operate in their near full-time capacity, ie in their core day-to-day project (functional) teams. Diagram 4 illustrates the proposed transformation.

The current problem situation - an internal perspective

Fundamental to the problem is that there is no documented statement clearly defining the purpose of existence of the CA Organisation. Furthermore, there is no value system which reflects the principles (Checkland & Scholes, 1990: 44-51) shared by the Change Agent community and the organisational paradigm characterised by this organisation (Constantine, 1993: 36). The absence of documented policies which govern acceptable behaviour and decision making in the CA Organisation, has led to disillusionment on and disagreement about what Change Agent work should be done. A question often asked is, "What is the scope of things that should be addressed by Change Agents?" There are many cases where Change Agents do not know what they are supposed to be do or what their core roles are despite a corporate wide Change Agent training program. Some Change Agents are searching for a structure and

direction and to dismiss some of the uncertainty. This suggests that some Change Agents prefer to operate in a traditional hierarchy organisational paradigm (Constantine, 1993: 36). Do Change Agents need a statement of requirements for what the customer wants? In the absence of knowing what resources are available Change Agents are unable to perform to expected levels, irrespective of whether the expectations of their peers or customers of their services are realistic (Schary, 1992: 342). Given that the roots of the CA Initiative is in a corporate wide strategic business transformation initiative, it is a constant challenge for Change Agents to balance a strategic and operational demands - each which calls for a different mindset, set of behaviours and as Change Agents have experienced a conflict between strategic and operational priorities and timeframes.
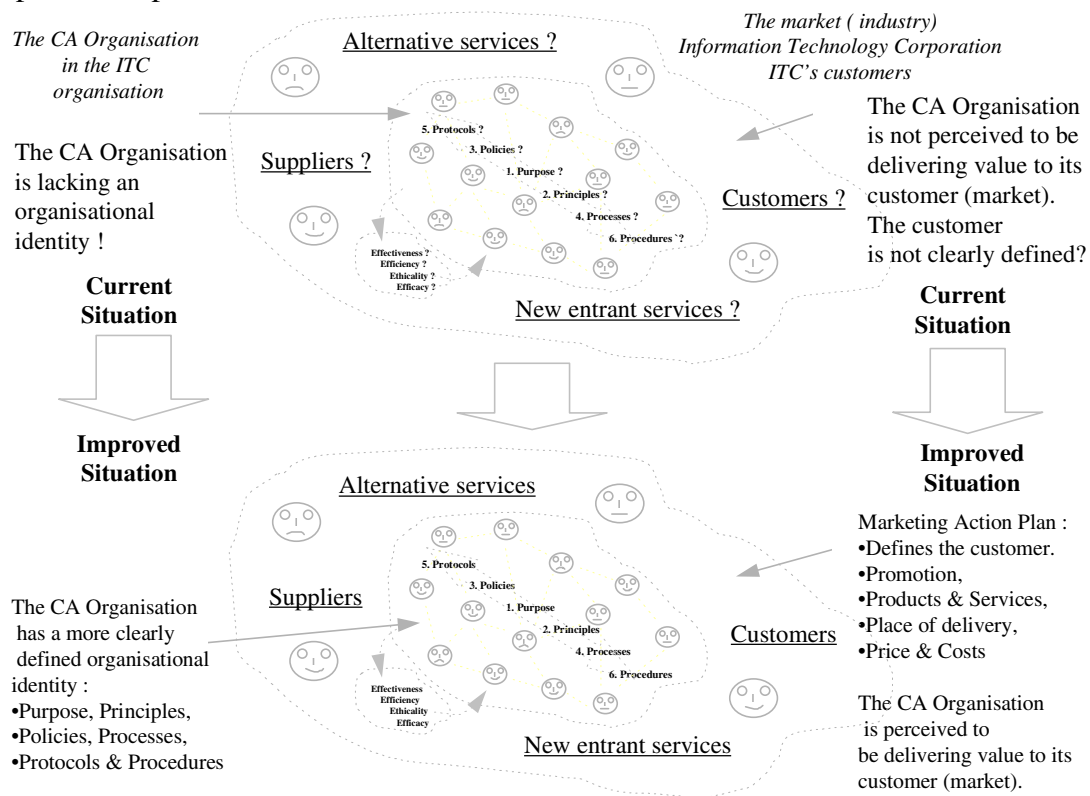

Diagram 4 : The proposed transformation defined in the strategy.

The current problem situation - an external perspective

Independent to the fundamental internal issue with the CA Organisation there is an apparent need to define who is its customer. There is also a need to communicate a consistent message to the target market (customer) at the right time and the right place of what services are being offered by Change Agents. Integral to this effort is the need to create greater visibility and credibility to promote the successes of Change Agents to-date. The CA Initiative has engaged Change Agents in a process of assisting line management in sharing the businesses strategy and execution plan. As a result of this, Change Agents have a better understanding of the strategic direction than their managers. Effective communication channels don't exist and therefore this information has not been communicated to ITC managers in a timely manner. Consequently operational management and Change Agents do not share a common understanding of the strategic direction. Change Agents are also not communicating effectively with management in order to understand their needs (Schary, 1992). Integral to the CMM implementation process is need to institutionalise sustainable

work practices (Paulk, et al, 1998: 10,40; Cummings & Huse, 1985: 477-485). Change Agents perceive that their customer view the process of institutionalisation in a very logical and hard manner. It also appears that the customer does not appreciate why institutionalisation interventions (Cummings & Huse, 1985: 477-485) deal with complex soft problems and that they require high orders of diagnosis and learning. This is another opportunity where Change Agents services can add value to their customers.

The improved situation - an internal perspective

The CA Organisation will have a more clearly defined organisational identity. In particular the purpose, operating principles and policies governing behaviours in the CA Organisation will be defined. Furthermore, the clarification of day-to-day processes and procedures will provide the necessary support for consistent and timely delivery of Change Agent services. This will give Change Agents a better understanding of their role which will support them to act with confidence and understanding. The processes developed will recognise senior management's need for a standard process of communication and two way unfiltered feedback. It is anticipated that by having a clear and effective communication between Change Agents, where a common vision exists, it will create a network of resources which is more productive. A climate will be created which involves Change Agents in a unified and collaborative manner which will lead to a dynamic culture of improvement. In this situation Change Agents will attempt to retain stability in response to dynamic change in a very inherent complex system. This is an example of homeostasis (Overman Loraine, 1994: 5; Schoderberk, Schoderberk, & Kefalas, 1990: 29). It is inevitable that this will lead to increased motivation and a greater desire of untapped passion for Change Agents to exceed their personal bests. An informal and fluid organisation of Change Agents who share an understanding of needed behaviours and rules of operation is likely to also emerge.

The improved situation - an external perspective

The customer of the CA Organisation will be defined. Change Agents will know who is the customer, what are the needs of the customer and what services must be delivered (Schary, 1992: 342). Change Agents will know who are their customers and will be able to better meet their expectations. The scope and target market will be clearer. The strategy for how Change Agents deliver services will be based on a Marketing Action Plan. This plan will outline the appropriate marketing mix (Baker, 1985:175) to promote the CA Organisation's identity and service offering. The marketing plan will target the customer base with the right message in the right place at the right time. The marketing plan will designed around the strengths and weaknesses of the CA Organisation. It will also consider the opportunities and threats of the strategic forces illustrated in diagram 2. Opportunities will emerge from within the Change Agent customer's organisation which will create a demand for Change Agent services. An example of this is where Change Agents support the customer in the implementation of a High Performance Service Culture. This role extends beyond the need for Change Agents to have good operational understanding of the strategy and draws on other strategic initiatives and knowledge. Integral to the marketing effort will be the communication to all customer staff and management of who and what Change Agents have to offer.

Rowland, C. J.

Transformation participants, owner and sponsor

The participants, owner and sponsor for the proposed transformation are illustrated in diagram 5. Given the large scale of the organisations involved there are two key management roles which will be required to support the implementation of the proposed transformation (strategy for improvement) :

- ITC Director of Operations (DoO) : The sponsor and person responsible for operationalising the CA Initiative. The DoO has taken over the responsibility from the ITC GM Strategy and Market Development who was the instigator of the initiative.
- ITC General Manager : Customer of the initiative. A senior manager who will be required to fund Change Agents services. This is required in addition to DoO sponsorship in order to provide local (operational) management support.

The following participants have been also identified as integral to the transformation process. The reasons for their involvement are also stated :

- Change Agent Support Team : A informal group of Change Agents in ITC who serve as a support network for all ITC Change Agents.
- ITC Director of Operations: To assist in marketing effort with senior ITC and customer management. Approve recommendations from research team.
- ITC GM Strategy and Market Development : Evaluate the performance of the CA Organisation in light of corporate strategic and marketing objectives.
- Middle level managers in ITC: Customer managers internal to ITC who will assist as local champions for micro initiatives. Provide a means to test recommendations.
- Change Agent Issue Management Initiative Team: The formal organisational identity for the action research team. Lead team of change agents.
- Change Agent Initiative Project Manager : Assist in the implementation of a communications plan.
- ITC Project staff : Customer staff internal and external to ITC who define the services required from Change Agents.
- Software Engineering Process Group Representatives (SEPG): Are these customers or competitors of Change Agents? The SEPG representatives are subject matter experts in the area of CMM institutionalisation and implementation. These staff will provide expert advice in local software process engineering and improvement initiatives.
- Change Agents in ITC: Assist in the implementation of macro or micro initiatives from the research.
- ITC Business Transformation Team : Incorporate recommendations in the current Change Agent training design and delivery initiatives.
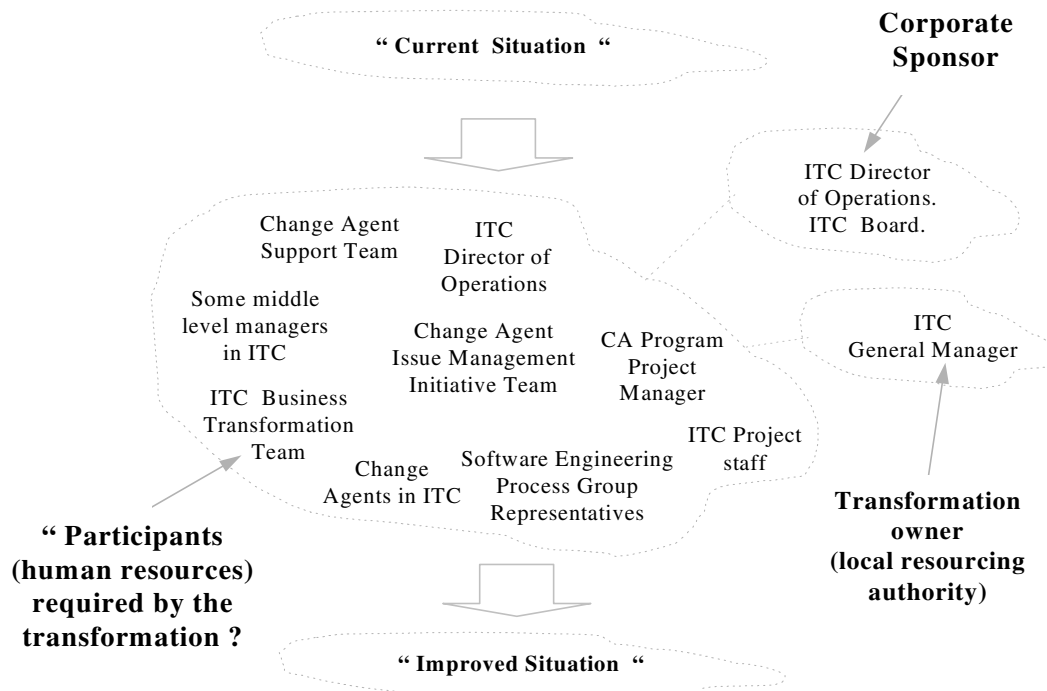
Diagram 5 : The proposed participants, owner and sponsor of the strategy.

Participant's worldviews

In addition to appreciating why participants perceive the importance of the transformation, the research team also recognised the need to also appreciate why participants thought the transformation was not important. This gave the team insights to the potential areas of risk and weaknesses in the strategy, particularly with respect to obtaining buy-in from participants. The worldviews also served a very powerful role in promoting the benefits of the transformation with stakeholders, customers and sponsors of the transformation. This was vital to the effort of obtaining management buy-in to the improvement process and associated recommended action plan. An appreciation of the differing perceptions created an awareness of where staff's view may be in support of corporate principles and policies. The team was overwhelmed with the degree of how many Change Agents perceived that they didn't offer any commercial value. Diagram 6 illustrates how the participants worldviews are represented in the system under study. The worldviews of participants also offer basis for testing the validity of the research assumptions outlined above.

Why is it important - an internal perspective?

The CA Initiative is a form of organisation. In order for it to grow, develop and serve its market (customer) competitively as an organisation it is important for it to have an understood, shared and defined paradigm of operation (Constantine, 1993). This will assist in developing a shared set of operating principles. A value system which is representative of the shared beliefs (Rouse & Watson, 1993:4) of Change Agents and paradigm of operation will also be realised. Clarification of purpose and operating principles will set the foundation for establishing an appropriate set of policies (Robbins, 1988: 105; Constantine, 1993; Paulk, et al, 1998: 361). The policies will be tailored for the organisational paradigm and purpose of existence. The policies will improve Change Agent morale and encourage Change Agent participation in the corporate initiative or any self-initiated activities. Accordingly, Change Agent services

can be better directed to facilitating change within their influence and control. Addressing this problem will assist in reducing wasted effort and disturbances from uncoordinated Change Agent activity. A clearer explanation of the role and function of the Change Agents will assist in setting realistic expectation between Change Agents and their customers. This is likely to assist in developing adaptive leaders through greater visibility and credibility of value added services, people influence and team work (Ezzamel, Lilley & Wilmont, 1993:99; Shareef, 1991: 60).

Why is it important - an external perspective?

By working within an agreed framework of principles and policies it will assist Change Agents to communicate a consistent message and deliver a quality service to their customers. This will improve the relationship between Change Agents and their customers and will assist in shaping realistic expectations of Change Agents (Schary, 1992: 342). Improvements to the relationship between the CA Organisation and its customers will also increase the perceived value of the services offered by Change Agents (Sawyer, 1995: 78). The strategy proposed by the research team recognises that the customers mindset needs to be challenged to see the potential of having Change Agent as part of their on-going business. This is similar to the challenge of convincing the customer that quality in the work that a supplier does is integral to the delivery process and not an optional extra. Change Agents can offer their services to assist the customer in institutionalising (Paulk, et al, 1998: 10,40; Cummings & Huse, 1985: 477-485) CMM work practices in project teams. This intervention requires an appreciation of the key practices of the CMM model. These practices are a structured approach to creating a mature project culture based on software process improvements (Paulk, et al, 1998). Change Agents are equipped with the competencies to add value in the planning and implementation activities in this area of their customer's business. A challenge facing the CA Organisation is to recognise that the SEPG staff have line control and full time responsibility for this area of work. Until now there has been rivalry between Change Agents and SEPG staff of the perceived value Change Agents can offer in this area of the business. It may be argued that the nature of activities proposed for the institutionalisation of CMM offers a very hard and structured approach to change, and that it maybe limited in offering sustainable change and process improvement. Is this weakness being addressed through the People Maturity Model (PMM) (Curtis, Hefley & Miller: 1995)? Irrespective of the potential weaknesses and strengths of CMM and PMM, there is an opportunity for Change Agents to add value to the current and future CMM related institutionalisation interventions. Consequently, this will assist the customer in meeting its strategic, tactical and operational objectives.

Why is it not important - an internal perspective?

As a Change Agent I want to do what I want and not what the organisation says I need to do. When Change Agents work in a organisation with shared values, principles and rules of behaviour I feel this will restrict my autonomy. Change Agents should not be viewed as service providers and do not have a customer - they are the customer! Change Agents don't generate income and therefore this strategy (transformation) deflects these resources away from other commercially viable opportunities. There is too much focus on "Hygiene Factors" and not enough on the "Motivation factors" for Change Agents (Robbins, 1988: 342). This type of initiative also distracts Change Agent from other current activities. I don't see any impact on me or my job if we fail

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to service our customers! I am happy doing nothing because I think if we ignore it, the problem will go away. Besides, I am comfortable with the mindset "its all too hard". There is too much ambiguity to what we are attempting - its more art (chaos) than science. It is clear to me that some Change Agents have clearly defined their goals (and conflicting visions) and don't won't to share them with others. This kind of disposition will hijack whatever attempts are made to work in an agreed manner.
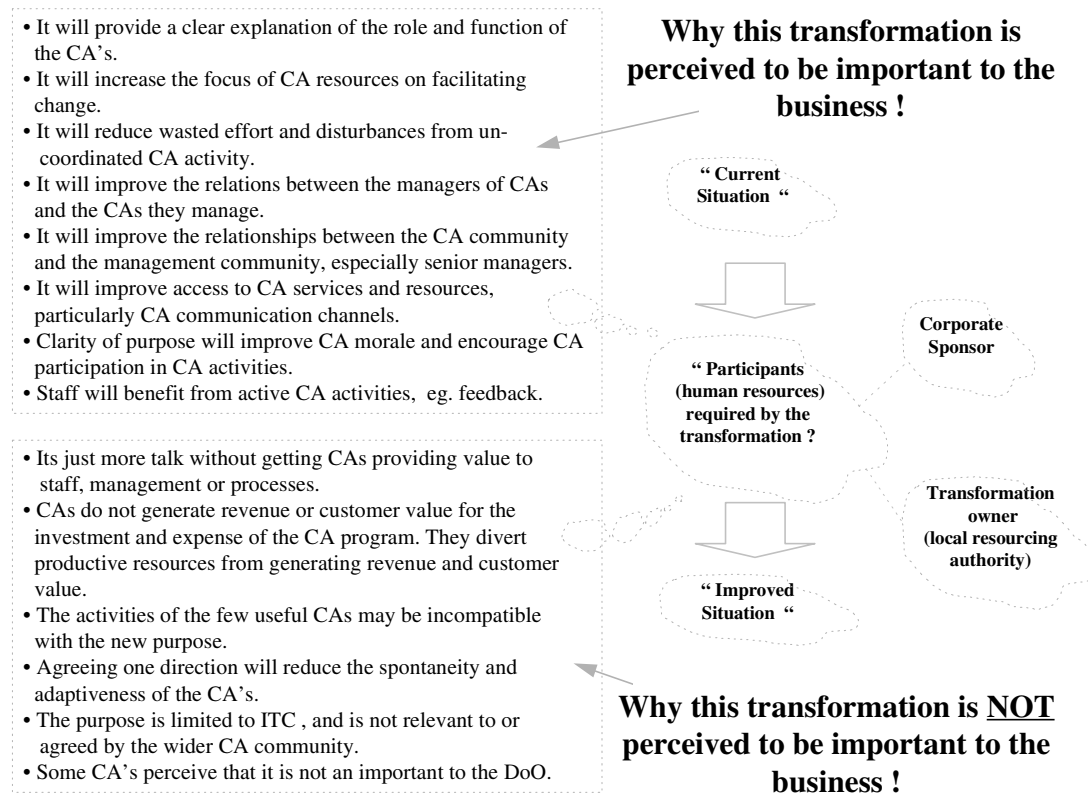
Why this transformation is perceived to be important to the business !

- It will provide a clear explanation of the role and function of the CA's.
- It will increase the focus of CA resources on facilitating change.
- It will reduce wasted effort and disturbances from un-coordinated CA activity.
- It will improve the relations between the managers of CAs and the CAs they manage.
- It will improve the relationships between the CA community and the management community, especially senior managers.
- It will improve access to CA services and resources, particularly CA communication channels.
- Clarity of purpose will improve CA morale and encourage CA participation in CA activities.
- Staff will benefit from active CA activities, eg. feedback.

- Its just more talk without getting CAs providing value to staff, management or processes.
- CAs do not generate revenue or customer value for the investment and expense of the CA program. They divert productive resources from generating revenue and customer value.
- The activities of the few useful CAs may be incompatible with the new purpose.
- Agreeing one direction will reduce the spontaneity and adaptiveness of the CA's.
- The purpose is limited to ITC , and is not relevant to or agreed by the wider CA community.
- Some CA's perceive that it is not an important to the DoO.

" **Current Situation** "

Corporate Sponsor

" **Participants (human resources) required by the transformation ?** "

Transformation owner (local resourcing authority)

" **Improved Situation** "

Why this transformation is <u>NOT</u> perceived to be important to the business !

Diagram 6 : The worldviews of participants and customers of the transformation.

Why is it not important - an external perspective?

Customers of the CA Organisation see this as another overhead for their staff. Change Agent services are only rendered providing that their core work is not impacted. There is no relevance of what Change Agents do to meet profitability and productivity targets and it appears that they do not generate customer value. Potential customers of the CA Organisation are heavily focussed on delivery to their customers and are not interested in internal process improvements.   Management are not interested in making the most of the communication channel and energy that the Change Agent offer. The CA Initiative is not meant to add support to operational initiatives - only strategic corporate wide initiatives. The focus should be on Change Agents and their work-life balance and not deliverables and products. It is not relevant to their customer day-to-day (operational) activities or their long-term (strategic) goals!

Customers of transformation

The research team viewed it to very important to understand who were the beneficiaries of the strategy. This would assist in their efforts of promoting the value of the improvement with stakeholders. It was also revealed that during the analysis of this area there were a number of potential groups who could be threatened by this

strategy. Collectively the groups who immediately benefited or were threatened by the strategy were referred to as customers of the transformation. Diagram 7 illustrates how the customers were referenced in the system under study. This information heightened the team's awareness of activities which could be used to minimise resistance during the implementation stages. This also provided vital information in the development of the Marketing Action Plan. A discussion of who are the potential beneficiaries and victims will now be discussed.
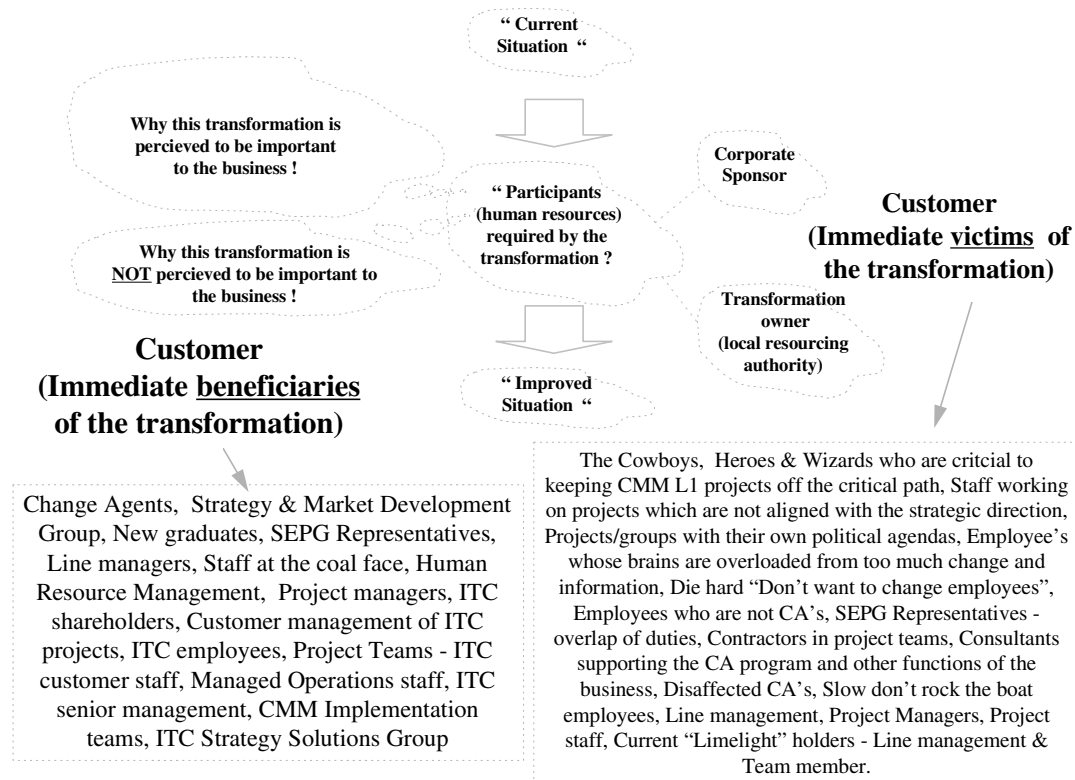
" Current Situation "

Why this transformation is percieved to be important to the business !

Corporate Sponsor

" Participants (human resources) required by the transformation ?

Customer (Immediate _victims_ of the transformation)

Why this transformation is NOT percieved to be important to the business !

Transformation owner (local resourcing authority)

Customer (Immediate _beneficiaries_ of the transformation)

" Improved Situation "

Change Agents, Strategy & Market Development Group, New graduates, SEPG Representatives, Line managers, Staff at the coal face, Human Resource Management, Project managers, ITC shareholders, Customer management of ITC projects, ITC employees, Project Teams - ITC customer staff, Managed Operations staff, ITC senior management, CMM Implementation teams, ITC Strategy Solutions Group

The Cowboys, Heroes & Wizards who are critcial to keeping CMM L1 projects off the critical path, Staff working on projects which are not aligned with the strategic direction, Projects/groups with their own political agendas, Employee's whose brains are overloaded from too much change and information, Die hard "Don't want to change employees", Employees who are not CA's, SEPG Representatives - overlap of duties, Contractors in project teams, Consultants supporting the CA program and other functions of the business, Disaffected CA's, Slow don't rock the boat employees, Line management, Project Managers, Project staff, Current "Limelight" holders - Line management & Team member.

Diagram 7 : The immediate beneficiaries and victims of the transformation.

Immediate beneficiaries

Change Agents and potential new Change Agents are the two groups internal to the CA Organisation who are perceived to be immediate beneficiaries of this transformation.

Other beneficiaries external to the CA Organisation are :
- Customers of the initiative : ITC Senior Management, ITC Project Management, and ITC Project Staff.
- Suppliers of the initiative : ITC Human Resources, Business Transformation Team in ITC, Change Agent Training Design and Delivery Team, Director of Service Operations.
- Customers of ITC.

Immediate victims - an internal perspective

This transformation may lead to some Change Agents feeling insecure or threatened. In particular this may affect Change Agents who are complacent, content with having the role poorly identified and do not have the responsibility to deliver anything. An example of this is where a Change Agent may not be service oriented and that they

use the initiative as a means to serve their personal agenda only. This transformation will raise the visibility and credibility of Change Agents and will reinforce shared beliefs, behaviours and expectations. Consequently, there will be a sector of the community who may be threatened by the stronger identity and newly established customer expectations. The purpose, principles, policies and the design and implementation of the marketing plan should recognise the impact of this group on how Change Agents delivers their services. The CA Organisation has a cross section of individuals whose orientation (mindset) is either predominantly operationally, tactically or strategically focussed. If Change Agents services are to be underpinned by ITC's strategy, those Change Agents whose focus is loosely coupled to the strategy (ie mainly operationally focussed) may find it difficult to deliver the service in the strategic context required. How does the research team anticipate addressing this dilemma?

Immediate victims - an external perspective

Some Change Agents have the perception that their immediate management (customer in this context) is insecure or threatened. This is may be based on the assumption that Change Agents are sub-ordinates to their managers and that strategic information should be communicated through formal hierarchical communication channels. This is an example of where the two organisational paradigms of operation (ie the CA Organisation and its customers) differ and cause conflict as opposed to a value added partnership. Change Agents also are delivering services to a customer organisation which has project cultures based on the successes from "Heroes", "Wizards", "Cowboys" and "Firefighters". This type of organisation is referred to as a being at CMM level one in terms of software process maturity model (Paulk, et al, 1998). This type of culture is reactive in nature and lacks institutionalised and repeatable work practices. This type of environment can potentially be threatened by the presence of Change Agents services, because such services are aimed at assisting in the creation of an environment where work practices and behaviours are institutionalised. This includes creating a culture which is more pro-active, and one where mature process improvements lead to sustainable change.

Customer staff working on projects which are not aligned with the strategic direction or projects which are not part of the strategic direction may also exhibit resistance to change. Customers working on projects which service low and diminishing markets may also be candidates for this behaviour. Change Agents have observed this concern with their customer projects and staff. Resistance from the customer has also occurred in an attempt to avoid the information overload and degree of change occurring in their environment. The converse has been observed, where there are customers who are very fixed in their professional and personal views. In this case these customers are not very receptable to change facilitated by Change Agents. This may also include customer staff who are not Change Agents and view change in an inequitable manner (Joshi, 1991). Other victims external to the CA Organisation may be the following service providers who are competing with Change Agents in the target market. These providers may be threatened if the customer choses the services of the Change Agents as an alternative :

- New entrants: These are service providers who offer services equivalent to those services of Change Agents.

Rowland, C. J.

- Alternative service providers: These are service providers who offer services which are an alternative (but serve equally as well) to those offered by Change Agents.

An example of new entrants to the market are the SEPG (Software Engineering Process Group) representatives. SEPG representatives duties are process improvement and institutionalisation oriented. The perception of many SEPG representatives is that, given the type of work they do, they are by default Change Agents. This view is not shared by the all Change Agents as some view them (SEPG representatives) as agents of change rather Change Agents (as defined by the corporate CA Initiative). Another example of this where staff who refer to themselves as Change Agents but who have been trained as Change Agents in another company. This highlights the potential of two competing service providers or Change Agents groups who have a different underlying set of motivations, principles and purpose for existence. How is the research team to interpret and deal with this situation?

An example of alternative service providers are consultants and contractors who are recruited internal or external to ITC to assist in the implementation of new initiatives. These initiatives require change and in varying degrees are typically resourced from staff under formal line control.

Many of the activities undertaken by new entrants or alternative service providers are tightly coupled with the strategic initiatives. Furthermore, it not very clear in a large organisation where the boundary and scope of this demarcation. Accordingly, there is a wider perception that service providers of change are not necessarily limited to Change Agents. Recognition of this problem is very important when the research team formulates the CA Organisation's marketing action plan.

Environmental constraints

The market in which Change Agents deliver services is the area of business (environment) in which Change Agents operate in their near to full-time capacity. Their customers may be internal or external to ITC and may exist at any level of these organisations. The constraints identified are those which exist in the environment as defined above. A greater knowledge of and information about the environment in which the strategy is to be operationalised will assist in greater monitoring and controlling of activities (Schoderberk, et al, 1990; Waldheim, 1991: 126). Furthermore, managerial effectiveness of the CA Organisation can may be improved when the environment is viewed as an adaptive self-regulating open system (Tsui & Ashford, 1994: 93-121). Diagram 8 illustrates how the environmental constraints are represented in the system under study.
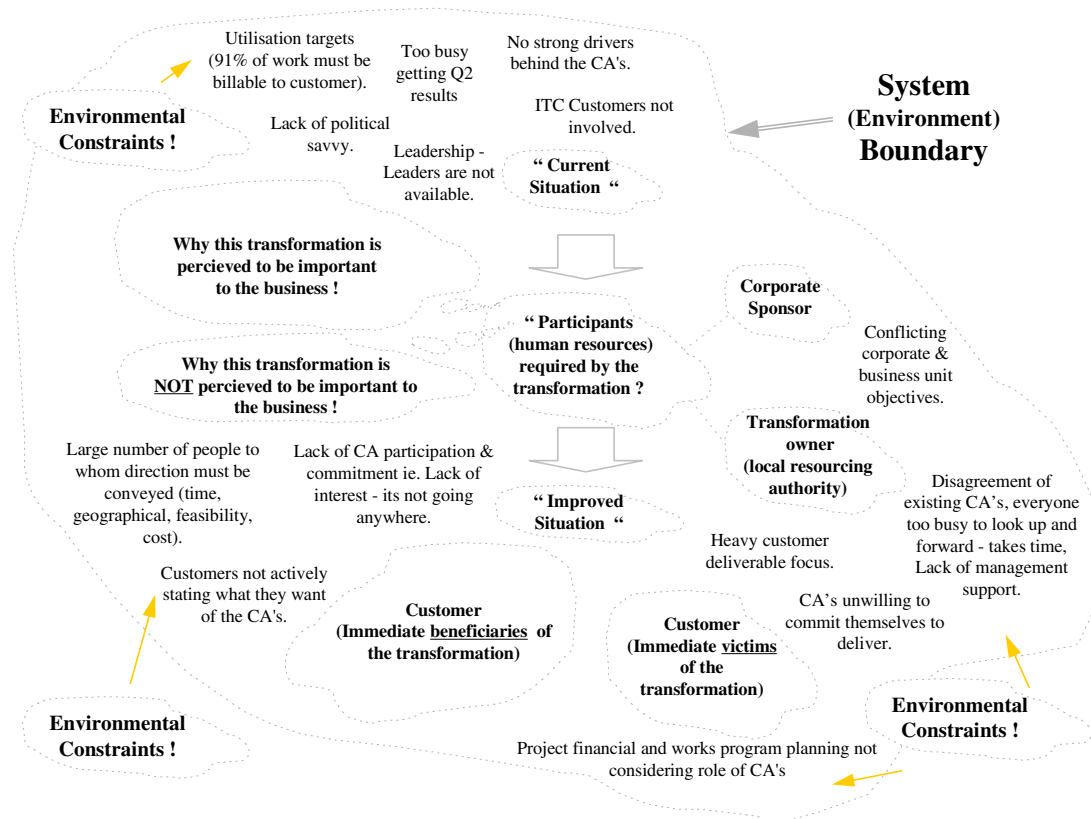
Diagram 8 : The potential environmental constraints faced by the transformation.

The CA Organisation has a large number of Change Agents to whom direction must be conveyed. There are different preferred means of communication and different paradigms through which information is filtered. Change Agents are unwilling to commit themselves to deliver services to their customers. The lack of active and consistent participation from Change Agents is in part due to an unclear expectation of their managers and the large variances in interpretation of the strategy. The major emphasis by Change Agents is on what is the operational implication of the strategy and how does it apply to an environment which is heavily deliverable and bottom line focussed. Although Change Agents are allocated a small proportion of time to perform their role, they often find it insufficient to perform the role effectively. Furthermore, there are diverse levels of support given by managers to allow Change Agent to balance their Change Agent responsibilities with their full-time responsibilities. The lack of information technology to access a shared information knowledge base, coupled with limited internet access to the global Change Agent community has and will continue to limit the potential value of the CA Organisation.

The customer is too busy obtaining the financial results for the current period and is not exploiting the services available to them to create operational or competitive advantage. There is a large number of line managers and project managers, but few examples of leaders in the customers environment. Many are observed by Change Agents to lack of political savvy. The most significant constraint (challenge) faced by Change Agents is dealing with decisions and implications which arise from priorities which are different at an operational level to those which are set at a corporate strategic level.

Rowland, C. J.

Conclusion

ITC has trained and established a network of Change Agents from all levels of the organisation to assist in a corporate wide effort of strategic business transformation. Two issues were identified as being a root cause for why the Change Agents organisation was perceived to be operating below its potential. These issues were based on number of assumptions about how the CA Initiative may be viewed as a service based organisation. The SSM was applied in an action research case study to identify how this complex problem can be improved and as a means to test the validity of assumptions made. This paper has presented a proposed strategy to improve the two issues raised. The strategy is the result of systems thinking stage of the SSM process. This paper has attempted to show the value of applied systems thinking in an action research process. A holistic perspective of a problem situation has created a greater awareness for research team members of factors outside their current worldviews and domain of responsibility. The research team now faces the challenge of exploring what potential activities are required to operationalise the strategy and how it can be monitored for business success. Another challenge facing the research team is to complete the remaining stages of the SSM process and develop a set of recommendations for the target culture and areas of business affected. It will be during these stages where the current set of research assumptions will be vigorously re-challenged. Accordingly, this will provide a foundation for identifying sustainable improvements to a corporate wide complex problem.

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