


## A Framework for Analyzing Change Management in Geomatics Development Projects

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## Change Management in Geomatics?

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- ✦ change may involve new technologies, new processes, integrated resources/sections, diverse project teams, new contexts
- ✦ management of change can assist the process
- ✦ results of non-, or poor management:
  - Budget overruns
  - failure to achieve the objectives of change
  - extended timeframes
  - dissatisfied employees and customers
  - change is not sustained
  - etc ...

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## What is a "Development Project"?

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- ✦ Development addresses (Seers, 1997):
  - poverty,
  - unemployment, and/or
  - inequality
- ✦ Geomatics development projects generally have primary goals relating to:
  - Poverty alleviation
  - Redressing inequality




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## Why Analyze Change Management?

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➔ to improve the way we do it

- ✦ challenging process: knowledge, skill and understanding

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## Is a new perspective required?

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- ✦ Traditional project perspective:
  - initial, transitory and closure stages
  - defined budgets and timeframes
  - measurable interim and final goals

➔

- closed systems (most are open systems)
- linear processes (most are cyclic)
- non-complex scenarios (most are complex)

Looking for a **Framework** of accepted norms of change management

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## Change and Complexity

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- ✦ Changes in
  - the environment
  - organisational priorities
  - organisational structures
  - the way work is done
  - personnel policies
  - roles
  - culture

(Beckhard and Harris, 1987)

➔ many of these = complex change

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## Forces of the System Driving Change

- ✦ conflict between forces driving change



strategic management  
strategy = set of choices from this tension

- ✦ Framework from Fahey (1994) adapted and extended to internal organizational forces



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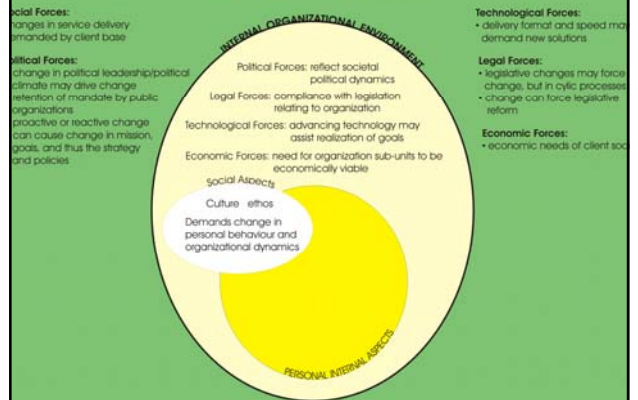
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## FORCES OF THE SYSTEM DRIVING CHANGE

### EXTERNAL ORGANIZATIONAL ENVIRONMENT



## Principles underlying transformation

- ✦ General ethos/"bottom line"/guiding principles/unstated rules by which the change game must be played
- ✦ May be part of mission, goals, vision of organization
- ✦ May be legislated (esp. in public organizations)
- ✦ Must be communicated effectively
- ✦ So, they must be determined
- ✦ Examples: fairness, transparency, inclusivity



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## Resistance To Change

- ✦ Systemic resistance

- ✦ *Cognitive*: due to a lack of knowledge, information, or skills
- ⇒ communication and information

- ✦ Behavioural resistance

- ✦ *Emotional*: derives from reactions, perceptions, and assumptions.
- ⇒ natural individual and group processes of addressing prejudice, assumptions, perceptions, and conclusion formulation



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## Kotter's Eight-Stage Process

- ✦ Stages: 1-4: creating the climate in which change can take place,
- ✦ Stages 5 - 7: introduction of new practices into the organization
- ✦ Stage 8: changing the organizational culture



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## Stage 1: Establishing a Sense of Urgency

- ✦ Why?

- ✦ overcome complacency
- ✦ generate energy for change effort

- ✦ How?

- ✦ examination of market and competitive realities
- ✦ identify/generate/discuss a crisis or potential crisis
- ✦ identify major opportunities



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## Stage 2: Creating the Guiding Coalition

- ✦ Guiding coalition = core group.
- ✦ Characteristics:
  - powerful
  - expertise for informed and intelligent decision-making
  - credible/respected
  - some should be proven leaders
  - some should be proven managers

## Stage 3: Developing a Vision and a Strategy

- ✦ Vision
  - directs the course for change
  - Is imaginable, desirable, feasible, focused, flexible and communicable
- ✦ Strategy
  - identify change priorities
  - set timeframes for changes
  - set timeframes for required feedback (may result in changing the targets)

## Stage 4: Communicating the Vision Internally

- ✦ Vertical Communication:
  - Guiding coalition: role model changed behaviour
  - Communicate vision in many ways
- ✦ Horizontal Communication:
  - Communication across different sections of the organisation/system e.g. IT division to production division

## Stage 4: Communicating the Vision Externally

- ✦ Why?
  - Outside role-players
  - Retain political mandate
  - Many and diverse constituencies
- ✦ Challenges: illiteracy, language diversity, educational levels

## Stage 5: Empowering Broad-based Action

- ✦ Bridge the "knowing-doing gap"
- ✦ Create an environment for change actions
- ✦ Remove obstacles through
  - Communication
  - Training
  - Removing managers who block change
  - Aligning systems and structures with change
- ✦ Encourage risk-taking and non-traditional approaches

## Stage 6: Generating Short-Term Wins

- ✦ Why?
  - Sustains the vision, encourages participants
- ✦ What?
  - Early positive feedback – interim targets
  - Visible, unambiguous and genuine achievements
  - Clearly related to the overall change effort
  - Visible recognition and reward
  - Cannot be left to chance – generated/planned/managed

## Stage 7: Consolidating gains and producing more change

- ✦ Systems, structures, policies may be further adapted to be in line with the vision
- ✦ Hiring, promoting and developing people
- ✦ Process can be reinvigorated with new projects, themes, and change agents



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## Stage 8: Anchoring new approaches in the culture

- ✦ Cultural change occurs through the process, but it can easily reverse
- ✦ New behaviours ↔ organisational success
- ✦ Change should not hinge on a particular leader/coalition: succession policy
- ✦ Change in organizational culture should be consolidated



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## Additions to the Kotter model

- ✦ Issue 1: Politics
  - Extra-organizational politics and public relations: developing and nurturing power contacts
- ✦ Issue 2: Engage Your Adversaries
  - Continuous engagement in dialogue
  - Minimize polarization
  - Maximize chance of finding common ground
- ✦ Issue 3: Legalwise
  - Legislation relating to the process of change
- ✦ Issue 4: Managing Race and Gender issues



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## Conclusions

- ✦ Systematic management – sustainable reform
- ✦ Framework for change management is identified for analysis of the effectiveness of a change process in geomatics development projects in the developing context
  - design is holistic, multifaceted
  - explores context of complexity, resistance to change, principles underlying reform
  - ....



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## Conclusions

- Forces driving change
  - systematically identified
  - categorized as exogenous or endogenous to the system
  - categorized into social, political, technological, legislative and economic dimensions
- Kotter's 8 stage process
  - plus some additions,
  - an appropriate model for managing change in geomatics development projects



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## “Steering the Course” of Complex Change requires

- ✦ awareness of the need for constant feedback and new input to the system,
- ✦ knowledge that the process is cyclic rather than linear,
- ✦ understanding of the organizational system including its environment
- ✦ knowledge of how to get best performance out of the system and, more importantly
- ✦ knowledge of the vision, or destination



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## Forces of the System Driving Change

### ✦ External Organizational Environment

- Social:
  - nature, level of service demanded
  - technology required: lags behind the state-of-the-art, rather the norm expected by the society (or a client subset of society).
- Political:
  - retain mandate (especially public organizations)
  - respond to new policies and goals
  - reactive or proactive action
  - substantial political reform  $\Rightarrow$  group and individual reform (cultural reform)



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## Forces of the System Driving Change

- Technological:
  - requirements of end-users and clients
  - speed of delivery
- Legislative:
  - Legislative reform can drive change
  - Change can also drive/lead legislative reform
    - Risky (unpredictable)
    - Time consuming
    - Defensible in a cyclic rather than linear approach to change



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## Forces of the System Driving Change

- Economic:
  - Economic forces of the client society of geomatics development projects
  - poverty of a community is a force for pro-poor housing initiatives
  - redistribution of wealth may drive changes in property valuation and taxation



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## Forces of the System Driving Change

### ✦ Internal Organizational Environment

- Social: reflection of external societal changes – HR changes etc.
- Political:
  - Internal reform may lag behind societal/legislated reform – political tension
  - Internal organizational politics – power struggles – can be a catalyst for reform if strongly polarized
  - Intra-organizational politics – organizations in the system can have different political paradigms and agendas



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## Forces of the System Driving Change

- ◆ Technological:
  - Advances improve possibility of achieving goals
  - Goals can be changed/expanded
- ◆ Legal:
  - Internal structures and processes - must comply with current legislation
- ◆ Economic:
  - income generated by an organizational units w.r.t. cost of the unit
  - e.g. teaching geomatics in an economically sustainable manner



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## Resistance To Change

- ✘ Individual, group and organizational attitudinal impediments to change
- ✘ Temporary suppression or true transformation?
- ✘ Consolidating change → sustainable transformation



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