GENERATIONS OF STRUGGLE IN STAGES OF GROWTH MODELING

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CONTENT

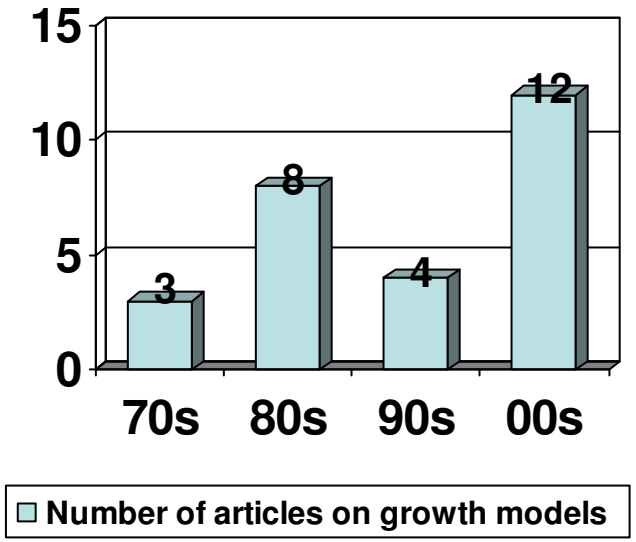
- Literature review on stages of growth modeling
- Modeling process for stage models
- Empirical model testing

THE CONCEPT OF STAGES

1. Stages are sequential in nature
2. Stages occurs as a hierarchical progression that is not easily reversed
3. Stages involve a broad range of organizational activities and structures

JOURNALS ANALYZED

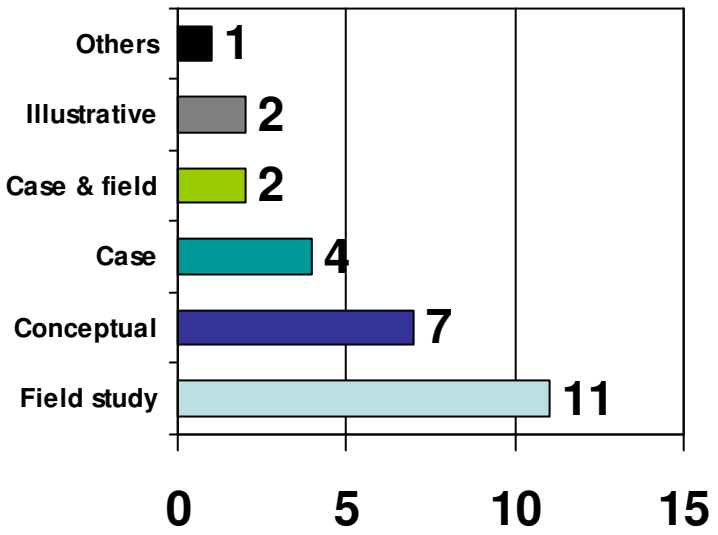
Journal(*)	*N*	%
CACM	3	11.1
JIT	3	11.1
MISQ	3	11.1
SMR, MITSMR	2	7.4
IMDS	2	7.4
DS	1	3.7
AMJ	1	3.7
HBR	1	3.7
Others	11	40.7
Total	27	100.0



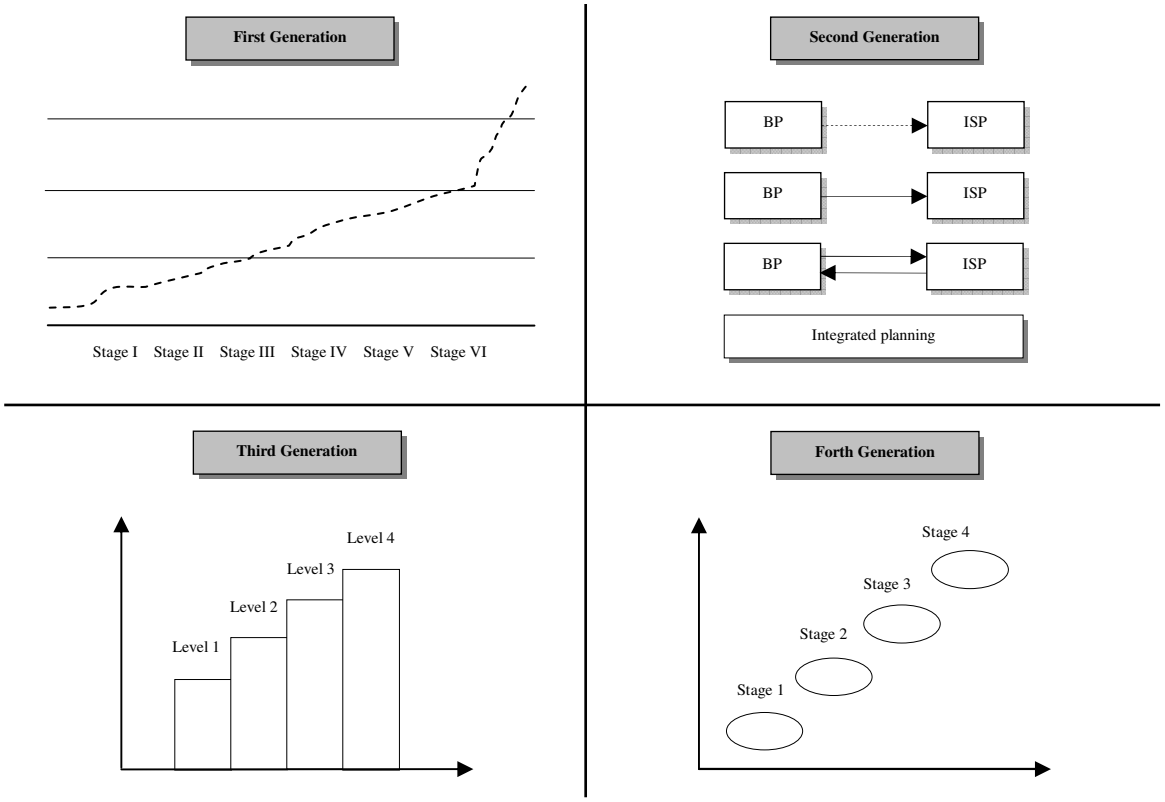
(*) The review included major IS journals which either contained "stages of growth" or "maturity model" in their title or key words (by Feb 2009).

RESEARCH METHODOLOGIES

- ***Conceptual studies*** describe structures, models or theories and provide explanations or reasons.
- ***Illustrative studies*** basically try to guide the practice, offer recommendations for action and explain stages to be fulfilled.
- ***Case studies*** analyze a phenomenon in its natural environment, obtaining data about it through direct observation; interviews; document analysis; etc.
- A ***field study*** normally analyses several organizations using an experimental design but little experimental control; researchers collect information about uncontrolled situations. A field study uses quantitative methods in analyzing the information.



FOUR GENERATIONS OF STAGE MODELS



FOUR CORE TOPICS EMERGE WHEN THEORIZING ON STAGES OF GROWTH

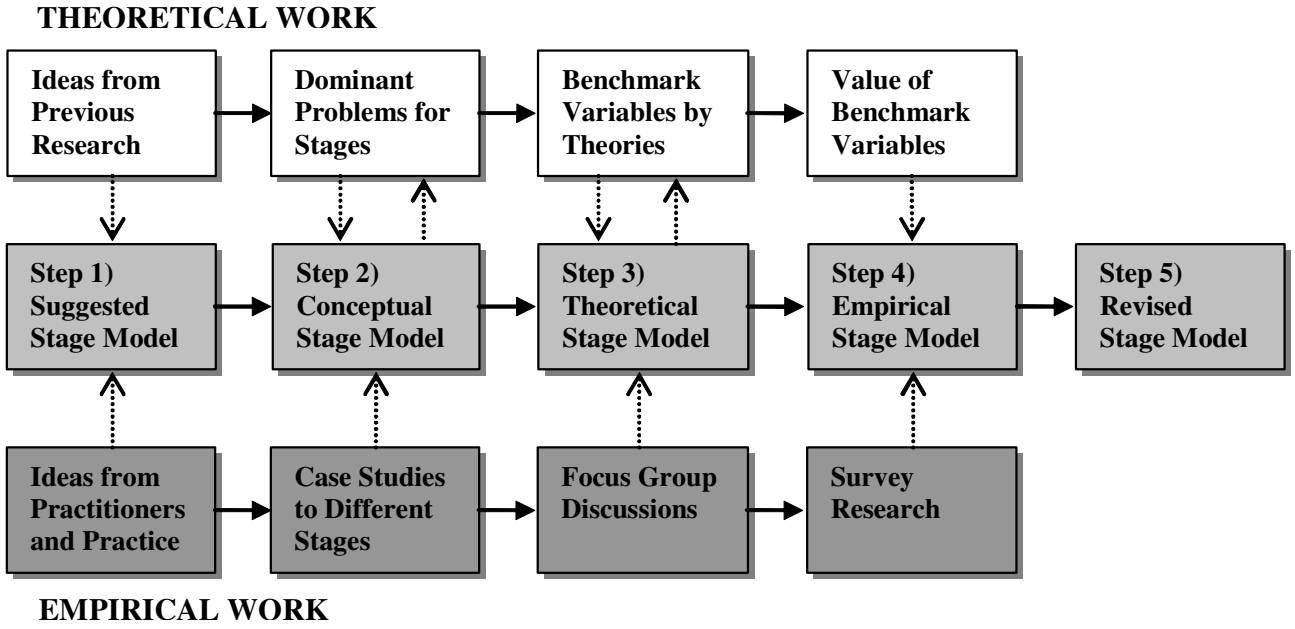
Number of stages	Dominant problems	Benchmark variables	Paths of evolution
Stage models have a limited number of stages. All stage should be conceptualized and defined as significantly different form each other.	A set of dominant problems is to be identified. There is a pattern of primary concerns for each stage.	Benchmark variables indicate the theoretical characteristics in each stage of growth.	From the initial stage via intermediary stages to the final stage.

A systematic analysis of the modeling process is currently lacking

MODELING PROCESS FOR STAGE MODELS

1. ***Suggested Stage Model*.** The initial stage model is based on ideas from both research and practice. Research literature has defined evolutionary aspects of the phenomenon, and practitioners perceive different maturity levels for the phenomenon.
2. ***Conceptual Stage Model*.** The number of stages and the contents of stages are developed in an iterative cycle involving dominant problems that seem different at various stages. Case studies are applied to illustrate content characteristics of each stage as well as significant differences between stages, where preceding and following stages have different kinds of dominant problems.
3. ***Theoretical Stage Model*.** Relevant theories are applied to explain stages, their contents as well as the evolution from one stage to the next stage. Benchmark variables are derived from these theories. At the same time, theories and benchmark variables are discussed in focus groups.
4. ***Empirical Stage Model*.** Each benchmark variable is assigned benchmark value for each stage of growth. A survey is carried out, where stages, evolution as well as benchmark values are empirically tested.
5. ***Revised Stage Model*.** Based on the empirical test from survey research, the empirical stage model is revised.

SUGGESTED PROCEDURE FOR THE STAGES OF GROWTH MODELING PROCESS



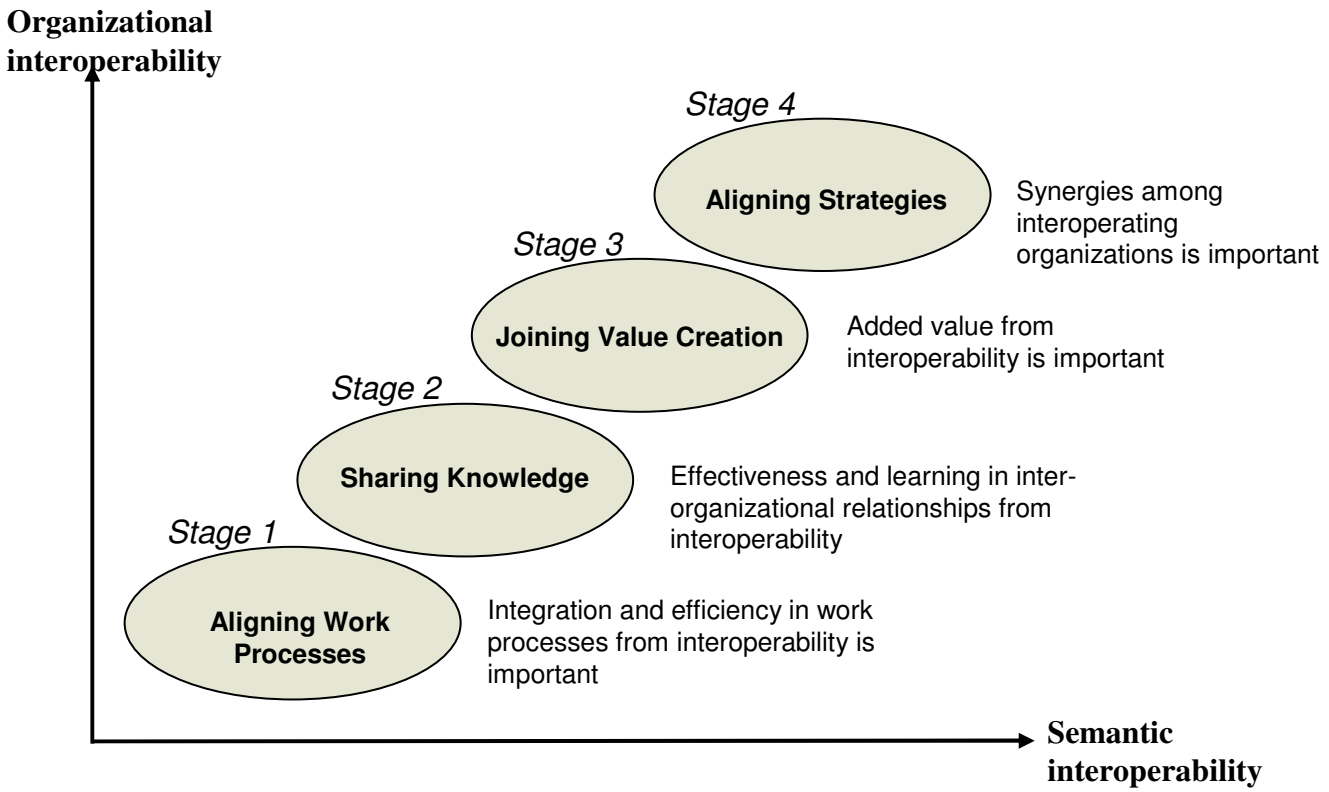
EMPIRICAL MODEL TESTING

- In s**tep 1**, we proposed a stage of growth model for e-government interoperability
- In **step 2,** we developed a conceptual stage model. Two cases were selected from cooperating government organizations in Norway and the idea was to use these two cases to test the proposed stages of growth model for e-government interoperability
- In **step 3** three we developed potential benchmark variables for each area
- The empirical work of **step 4** included a survey conducted among major government agencies, hospitals, and municipalities in Norway
- Based on the four first steps of the suggested procedure for stages of growth modeling, the researchers are able to revise the stage model (**step 5**) of e-government interoperability

EX. E-GOVERNMENT INTEROPERABILITY

- ***e-Government**, digital government and electronic government can be used synonymously about the use of information and communication technology i public sector (Pardo & Tayi, 2007)*
- ***[..] Interoperability can be defined as** "the organizational and operational ability of an enterprise to cooperate with its business partners and to efficiently establish, conduct and develop IT-supported business relationships with the objective to create value." (Legner & Lebreton, 2007)*

EX. STEP 1 – SUGGESTED STAGE MODEL FOR E-GOVERNMENT INTEROPERABILITY



Gottschalk & Solli-Sæther, 2008)

EX. STEP 2 – CONCEPTUAL STAGE MODEL

Stage *Benchmark area*	Aligning Work Process	Knowledge Sharing	Joining Value creation	Aligning strategies
Organizational interoperability	Efficient operation requires integration of activities and schemas (B) (A)	Best practices (A) Real-time knowledge transfer (A) Change of organizational culture	Cross-agency value configuration New services based on business cases Inter-organizational control mechanisms and trust	Political decision-making Socio-economic benefits
Semantic interoperability	High degree of specificity and common data definitions in certain areas (B)	Meta data specification (A) Knowledge management system	Service catalogues Information models	Adaptation of laws and regulations Business models
Technical interoperability	Physical or electronic data exchange among separate applications (B) Closed systems (B)	Common architecture (A) Technical standards (A)	Joint application development Common databases Information security (A)	Joint financing

(B) = Notification of birth, (A) = New information portal

EX. STEP 3 – BENCHMARK VARIABLES

DEL III - ORGANISATORISK INTEROPERABILITET

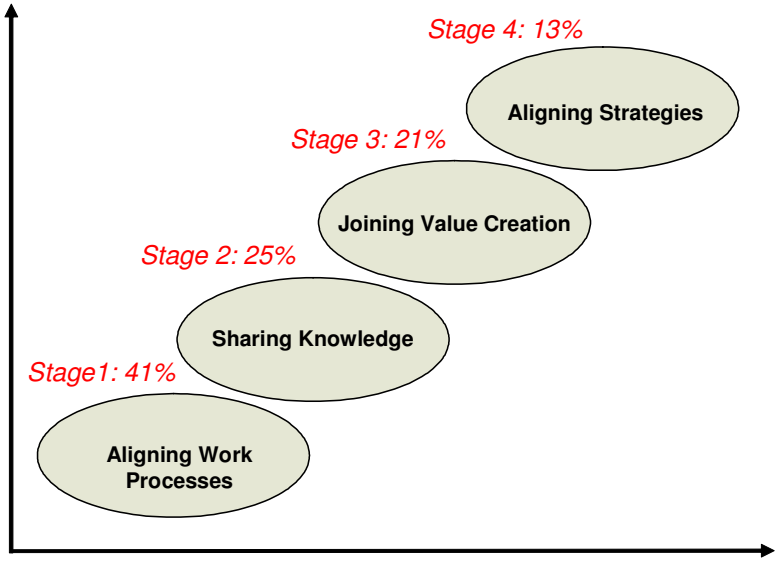
Interoperabilitet kan defineres som en virksomhets organisatoriske og operasjonelle evne til å samarbeide med sine partnere og til effektivt å etablere, gjennomføre og utvikle IT-støttede virksomhetsrelasjoner som skaper verdi.

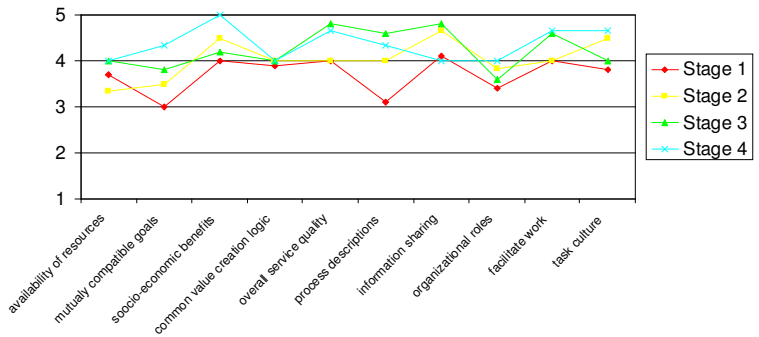
I diskusjoner med samarbeidspartner(e), fokuserer vi på:

1 - betyr "ikke viktig"
5 - betyr "svært viktig"

	1	2	3	4	5	Vet ikke
Gjensidig kompatible mål	○	○	○	○	○	○
Verdier uttrykt som normer	○	○	○	○	○	○
Prosessproduktivitet målt som servicenivå for tjeneste	○	○	○	○	○	○
Integrasjon av strategiske ressurser	○	○	○	○	○	○
Kompetanse i form av ferdigheter og kunnskap	○	○	○	○	○	○
Prosessinnovasjon	○	○	○	○	○	○
Organisatorisk rollefordeling	○	○	○	○	○	○
Tilgang til ressurser	○	○	○	○	○	○
Tilrettelegging av samarbeid	○	○	○	○	○	○
Overordnet tjenestekvalitet i form av bedre servicenivå for sluttbruker	○	○	○	○	○	○
Formell maktstruktur (og autoritet)	○	○	○	○	○	○
Kultur for oppgaveløsning	○	○	○	○	○	○
Samfunnsøkonomisk nytteverdi	○	○	○	○	○	○
Felles ressursbase	○	○	○	○	○	○
Informasjonsdeling	○	○	○	○	○	○
Kostnadsminimalisering gjennom operasjonell effektivitet	○	○	○	○	○	○
Gjensidig respekt blant partnere	○	○	○	○	○	○
Etablering av felles verdiskapning	○	○	○	○	○	○
Arbeidsbeskrivelser i form av retningslinjer og prosessbeskrivelser	○	○	○	○	○	○
Utveksling av personell	○	○	○	○	○	○

EX. STEP 4 – SURVEY RESEARCH





IMPLICATIONS

- Future research modeling organizational phenomena can follow the suggested modeling procedure
- In practical decision making, stages of growth models can be a framework for assessing current stage as well as determining future strategic direction

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