



Institut für
Maritimen
Tourismus



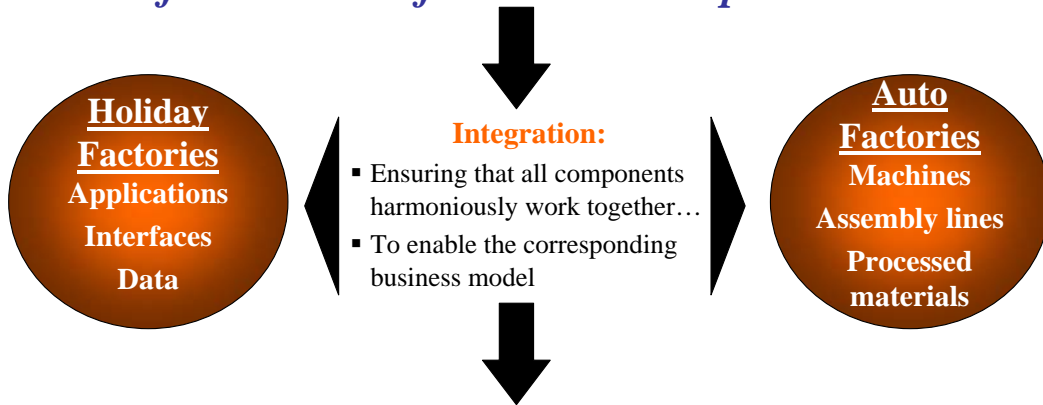
Strategic System Integration in Tourism

Interaction, Cola and Humming-Tops

Dr. Alexis Papathanassis

**THE SYSTEMS LANDSCAPE OF A TOURISM
COMPANY IS LIKE A HUMMING-TOP... IT NEEDS
TO KEEP TURNING AND IT TAKES EFFORT TO
KEEP IT TURNING!**

*“Systems landscapes are for tourism companies
what factories are for automobile producers”*



Tourism Software Integration \cong Tourism System Integration

Taking this analogy a bit further...

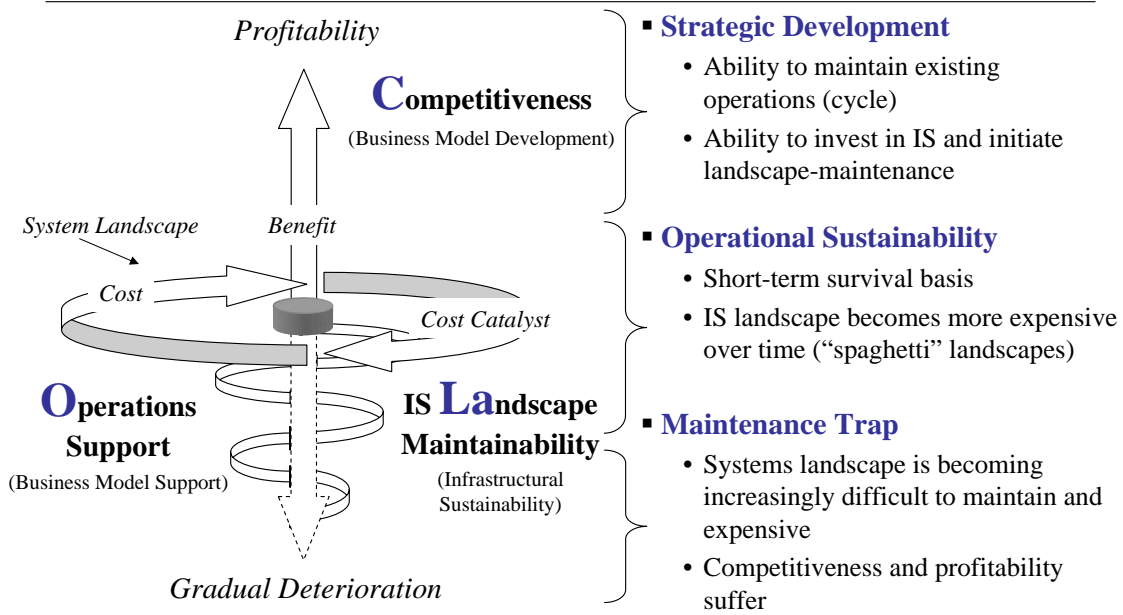
- 'Interfaces' represent 'assembly lines / conveyor belts'
- 'Hardware & applications' represent 'machine stations'
- 'Data' represents 'processed material'

There is more to a factory than materials and machines!!

- 'Users' represent the 'machine operators'
- 'Workflow & processes' represent 'work routines'
- 'Organisational structures' represent the 'factory setup'
- 'Inter- & Extra-organisational systems' represent 'supply & distribution chains'

**SYSTEM INTEGRATION IS ENSURING THAT ALL THE
AFOREMENTIONED COMPONENTS WORK TOGETHER...
WHAT KEEPS THE FACTORY PRODUCTIVE & THE COMPANY
PROFITABLE!**

Implications for Strategic Tourism IS Management & the C.O.L.A. Challenge (1)



Essentially this means that if a tourism company is to **SUSTAIN ITS OPERATIONS & REMAIN COMPETITIVE** in the short-term the system landscape needs to:

BE FUNCTIONAL (support operational processes)

AND

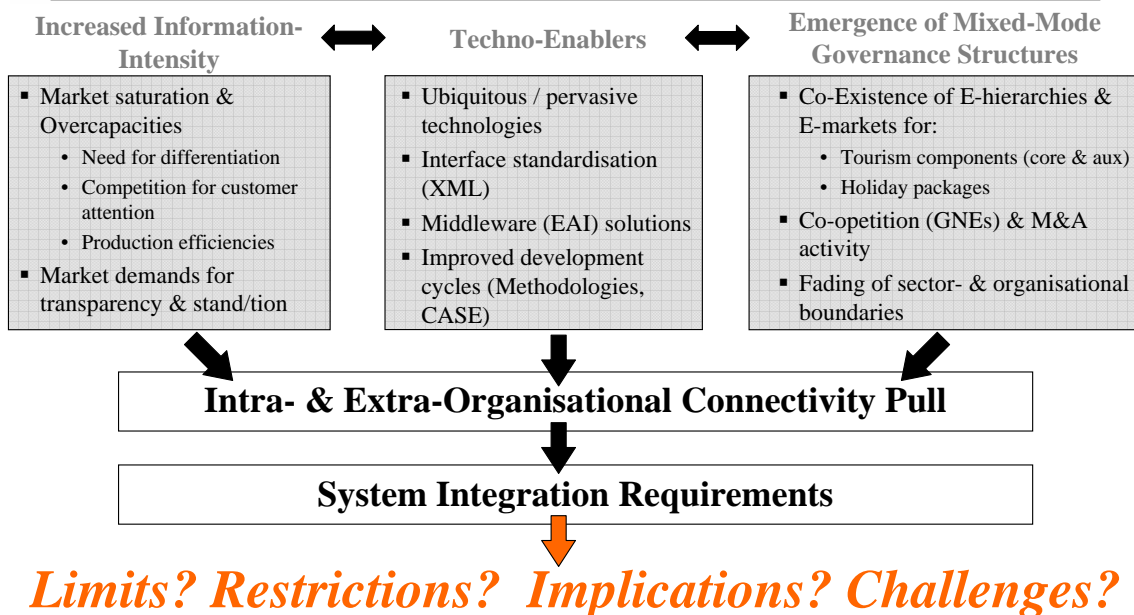
REMAIN SO OVER TIME (corrective, adaptive, perfective and preventive maintenance)

MAINTENANCE TRAP: Over time Maintenance tends to:

- Increase the complexity of the systems landscape
- Which can leads to a maintenance backlog (i.e. focus on corrective & adaptive maintenance)
- Which in turn, by neglecting preventive maint. Increases complexity
- Causing maintenance costs to explode at the expense of new development projects
- Discouraging IT staff and reducing development quality
- Negative reinforcement and gradual deterioration in the medium-term

IT TAKES MORE PHYSICAL EFFORT TO SPIN THE HUMMING TOP!!

E-Tourism Evolution & the Hyper Connectivity Hypothesis (abbr. HCH)



At a market-level we are experiencing:

- Rising customer demands for information
- Increasing content availability and magnitude
- And a derived need for transparency and standardisation

At the same time (technology front):

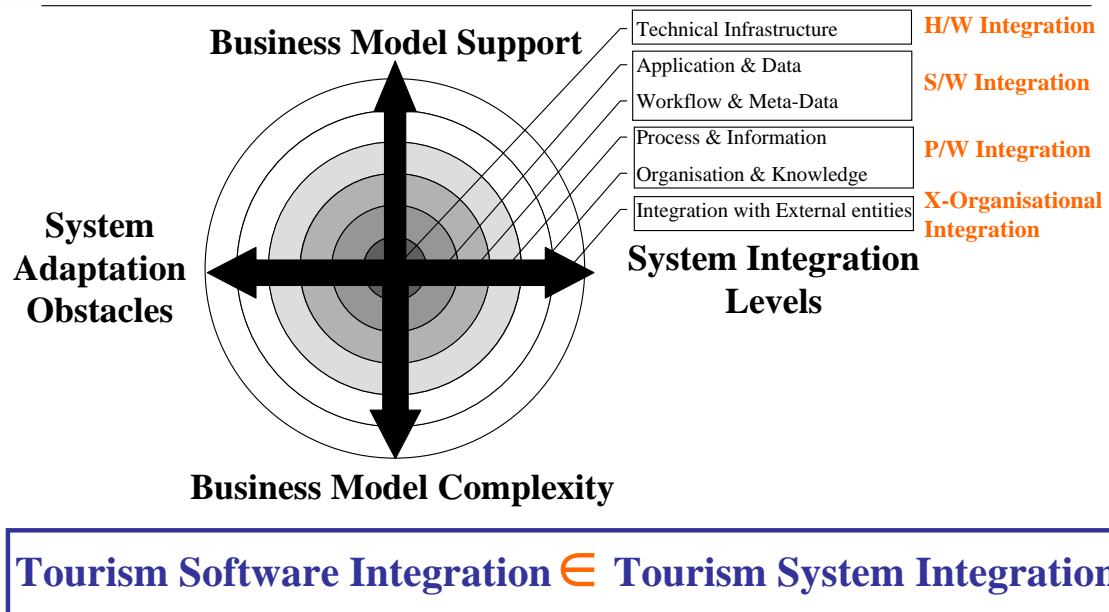
- Technology is becoming more pervasive, affordable and diffused at all level of business and society
- Enabling and simplifying application development and connectivity

The interplay between the mentioned MARKET-DRIVERS and TECHNOLOGY-ENABLERS has contributed to the emergence of:

- New business models in tourism...
- Fuelling new competitive as well as cooperative options...
- Expressed by the wave of M&A activity and joint ventures over the last years...
Not mentioning the more recent trend of Global New Entrants (competing with GDS)

In the light of all this one can expect a tendency for what I call hyper-connectivity, which in turn imposes significant requirements on system integration practices and approaches

Implications for Strategic Tourism IS Management & the C.O.L.A. Challenge (2)



As connectivity requirements increase:

- The meaning of Integration surpasses the notion of software integration
- Including additional business system components
- And extending beyond organisational boundaries

The increasing degree of integration is concurrently:

- A necessity for operational survival – Supporting the existing system model
- A maintainability-reduction factor – Eroding the efficiency of the current business model, whilst disabling its adaptation to future requirements

**The spinning top becomes heavier,
decreasing its spinning speed,
requiring more effort to spin it,
and is less likely to cruise along the floor / table!!**

Issues for Discussion Future Rotations...!!

- **Evaluation & potential implications of the HCH:**
 - Do you see evidence supporting this hypothesis?
 - How does this affect the future of 'traditional' tourism intermediaries?
 - To what extent is this relevant for Tourism E-intermediaries?
 - **Can we expect an 'E-Tourism Bubble'?**
- **Meeting the COLA challenge:**
 - Are current 'legacy system solutions' adequate?
 - EAI solutions?
 - Architectural schemas?
 - Development methodologies?
 - IS governance structures & management practices?
 - Where do we go from here?
 - **Are 'IT-legacies' simply replaced by 'E-Legacies'?**



APPENDIX A

(System Integration Levels)

Software Integration Level 1-3

Level 1

Data Exchange

- Point 2 Point data exchange
- Data export and import (proprietary or standardised formats)
- Benefit: Elimination of double data-entry
- Risks: Increased complexity with system evolution / maintenance



Level 2

Common Application Access

- Accessing a number of applications through a common GUI
- Application to application data exchange may be enabled by an automated translation procedure (macro)



Level 3

Common Data Access

- The different data sets from the various databases are maintained in a single logical database (physically centralised or distributed)
- Requires strong access and version management (sync rules / data merge functionality)
- Benefits: Improved data integrity, better MIS
- Challenges: Data semantics / meanings and manual translation

Software Integration (Cont'd) Levels 4-5

Level 4

Data Sharing

- Common data model utilised by the entire IS landscape (ERP Model)
- Benefits: No need for translation / data semantics
- Challenges: Standardisation



Level 5

Application Interoperability

- Common application access + data sharing
- Highest level of individual IS integration



Level 6

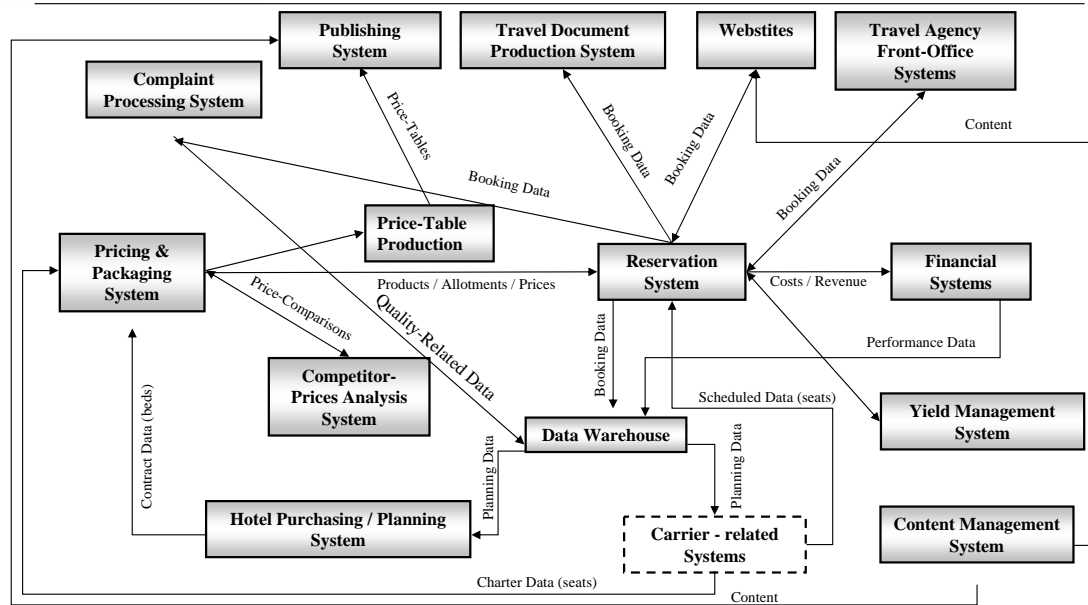
Full Integration

- Application interoperability + Metadata management & control
- Metadata Management: Object-model, workflow, applied architecture standards (i.e. embedded rules), automatic notification

APPENDIX B

(Evolutionary Systems Integration & Maintenance Trap)

Generic Tourism Systems Landscape* Evolutionary System Integration



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* Since this is a "Generic" SLI, we are talking about logical components and not separate applications (which may contain several components) 11

Trapped in Maintenance A Typical Series of Events

