LSE Business Cases: Rolls-Royce Marine Project Enabling Post-Merger & Acquisition Integration

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Rolls-Royce Marine (RRM) Case Study: Enabling Post-Merger Integration

RRM History and the ALD project

Complexity & Post-M&A Integration

Full Marine Market Reach and a Balanced Portfolio



The acquisition of Vickers in 1999 was a key enabler of the strategy



Marine has a Comprehensive Range of Products and Strong Brands



7,500 Employees 4,200 3,200 Sweden 464 Norway 2111 Canada 86 Finland 324 Denmark 57 Holland 27 Poland 356 China 20 France 9 USA 328 Italy 33 Germany 64 Spain 48 Middle East 11 Far East 98 India 71 Brazil 7 Australia 22 Manufacturing facilities in 8 countries **Rolls-Royce** Sales and service offices in 35 countries

The acquisition brought with it...

- 2,000 customers
- Hundreds of products
- Fast lead times
- Commercial quality standards
- Very international business
- Different national cultures
- 'Privately-owned' culture: Family
- Nervousness of Rolls-Royce / Lack of trust / History



But then your people tell you that it feels like this...



The 'Matrix'

And it's a bit like this...



So you take a look...

And you discover that in fact it looks more like this...



Or even this...



Formal chart vs.

Informal working relationships





NETMAP Ex. Knowledge sharing patterns

Key Issues Identified at Marine Conference

Need to:1. Clarify roles and responsibilities2. Improve cultural awareness

- i.e. diversity was seen as a problem
- Why? Diversity can be seen as a strength to build upon

• Coherence that accommodates diversity

METHODOLOGY

- Adopts a Collaborative Action Research approach
- Combines *qualitative and quantitative* tools and methods
- Emphasises co-creation with business partners

• & the development of *enabling environments* of social-cultural-technical conditions that facilitate the emergence of new organisational forms

TESTED WITH

- British Telecommunications
- BAe Systems
- Citibank, New York
- GlaxoSmithKline
- National Health Service
- Rolls-Royce (Aerospace & Marine)
- Shell (International, Finance, Shell Internet Works)
- World Bank, Washington DC
- etc

RRM-ALD Project Methodology

- Accelerated Leadership Development team introduced to ICoSS by HR Director Terry Stock
- I6 volunteers joined the ICoSS team
- Total of 4 teams
- Conducted 44 interviews with the RRM execs on top 3 levels in Finland, Norway, Sweden, UK and USA

Qualitative & Quantitative

- LoM with all 70 RRM executives
- Netmap with 1000s of exchanges
- Agent based model with HR team
- Visual representation
- 2-day facilitated workshop with all interviewers and sponsors
- Presentation to Marine Board & Conference
- Second set of interviews with ALD team for evaluation
- Joint LSE-RRM presentations, papers, etc

Landscape of the Mind (LoM) (Kate Hopkinson, Inner Skills, UK)

– Email questionnaire

Shows diagrammatically individual and group profiles of preferences

 Preferences can act as potential enablers or inhibitors in effective decisionmaking, strategic thinking, knowledge generation, etc

Tools: Landscape of the Mind

The universe of all "inner skill" (competencies)

ingenuity,	the known -	choices,
improvising,	facts & figures	judgements,
dealing with	details & context	decisions
unknown (practical)	analysis	based on logic
ambiguity, uncertainty,	the known -	choices,
visioning, invention,	communication,	judgements,
dealing with	relationships, status,	decisions based
unknown	impression	on values and
(conceptual)	management	intuition
divergence	convergence	evaluation
future	present	past

Agent-Based-Models (ABM) and simulations
 (Dr Ugur Bilge, Turkey)

- Email questionnaire tailored to requirements
- Shows connectivity using all media (email, face-to-face meetings, virtual conferencing, etc)
- 'What-if' exploration with simulator

Netmap (Prof. John Galloway, Australia)
 Maps email exchange (NOT content)
 Access to a server

ABM: Modelling Socio-Cult-Tech Network Evolution

- Identifies the topology dynamics of the informal network the patterns of interaction
- Models the interactions and some of the characteristic of heterogeneous agents
- Identifies lynchpins and the advice, trust, communication and innovation networks
- Measures the degrees of separation between the formal and informal networks
- 'What if' scenarios with dynamic simulator: If the interaction patterns change, how will this affect the structure, etc? How will the informal network evolve and be reshaped when a node is removed?

Tools: NetMap

Reciprocated relationships





Close up of where dominant relationships are - External



Relationships with 'External' parties



"External" has 1990 total links with the parties on the right.

("External" can be broken down for visualisation and analysis purposes, e.g. into Customers, Suppliers, etc. where made available in the data)



	EBS (STATE)
	13 Busan/Prad (4) 29 Dept Autamatian — Langva/Offshare Supply & Service 82 Dept Foundry — Bergen/Pattern Shap (2) 102 Dept Rudders & B — Hareid/Innkjp (4)
41 Dept Deck Mach - Brattvaag/After Market Services (8) 42 Dept Deck Mach - Brattvaag/BU Operation - Brattvaag (35)	104 Dept Rudders & B - Horeid/Produksjon (4) 108 Dept Ship-T - Nordvesteonsult/Admin - Fish (4) 142 Dept Steering G - Tenfjord/Finance (3) 170 Gniew/Purchasing (3)
43 Dept Deck Mach - Brattvaag/Merch Cust F - Brattvaag (12) 44 Dept Deck Mach - Brattvaag/Offshare 0585 / 0680 / Fish (13) 45 Dept Deck Mach - Brattvaag/Site Admin (0) 48 Dept Deck Mach - Brattvaag/Tug (3)	174 Gniew/Tech Project (3) 209 Head Office/IT Operations (15) 220 Head Office/QA (2) 279 Marine Esbjerg/Service (5)
	309 Roumo/AQM (33) 319 Roumo/Winches (28) 323 Rotterdom/Service (28)
	335 Singapare/Sales (9)

Close up – thickness of line is proportional here to no. of links (recip.)

There are two "emergent" groups only of recip relationships in just this one day's data.

Multi-colours indicate the cross-site nature.

An Emergent Group has more relationships 'within' than outside – i.e. heavily inter-related, e.g. 'natural' project groups/ teams that emerge and change over time.





Benefits of Network Mapping & Modelling



- Help to support internal and external networks of cooperation and collaboration
- & the transfer of learning within and between orgs
- Discover and nurture previously 'hidden' and 'tacit' knowledge flows and brokerage patterns
- Identify key people (lynchpins) and key intellectual assets: who knows what, who knows who knows what, and who knows how to get things done
- Determine barriers to knowledge or communication flows, including: Cultural, Functional, Locational, Technical/skills...

Benefits of Network Mapping & Modelling



... Mergers, acquisitions and outsourcing

• Minimise the risks in restructuring by identifying key business units and locations which act as 'hubs' in the work and information flows. In merger situations, Network Mapping can ensure 'hubs' are not unknowingly overlooked or dismantled

• Specify where cultural differences may act as a barrier to information and knowledge sharing

• Identify 'natural' workgroups to retain and strengthen, and

• Monitor network evolution over time



CHANGING THE EMPHASIS: FROM STRUCTURE TO RELATIONSHIP

Visual Representation & Visual Facilitation (Julian Burton, Delta7, UK)

A picture can capture the multiplicity of issues in one format

Can show very sensitive challenges

Act as catalyst for generative dialogue



Key outcomes in 4 broad areas...

Customer / Market Interface

- Account management process
- Customer Focus programme
- Product strategy process

Working the Matrix

• Training and support for working in a matrix

Leadership / Management / Process

- Marine Leadership Programme
- Co-ordinated change initiatives

Strategy / Structure / Synergy

- Strategy and strategic process
- Structure, roles & interfaces
- Synergistic benefits and knowledge sharing

1. Customer/market interface

Recommendations and outcomes

- Implement account management process across Marine including consistent establishment of the 'Customer Executive' role
- Develop a 'Customer-Focus' programme to reinforce, for example:
 - the benefits of a single point of contact in a complex environment
 - the importance of market information in product development
 - the need to put the "most appropriate" people in front of the customer

Training programmes/Pilot running in Merchant business

Clarify product strategy process
 Product strategy board structure implemented

Product Development Strategy Content / Format

- Overview of the business and market drivers
- Competitor assessment and competitive position
- Market size and requirements (current and future)
- 'New Product' opportunities and requirements
- Basic assessment of risk, cost, timescale and profitability for each potential 'new product'
- Outline development plans including supporting Research & Technology programme
- Recommendation for a prioritised set of potential 'new products' that should proceed to full business case, Project Policy Document and Project Requirement Document development

2. Working the matrix

Recommendations and outcomes

- Define desirable characteristics and ways of working in a matrix
- Training and support for working in a matrix

Development of 'interactive' presentation on how the matrix works

- Piloted in 2 businesses
- Released March 2004
- Video stories/engagement tool in preparation

3. Leadership/management/process

Recommendations and outcomes

Develop business leaders and managers in Marine
 "Marine Leadership Programme": first 3-module programme completed in 2003
 Two more underway in 2004
 'Community of managers' concept: Plenary at end 2004

Co-create change programmes rather than impose
Co-ordinate the approach to change initiatives (BPI)

Addressing four business priorities for 2004 (Quality, Customer Responsiveness, Efficiency, Growth) – co-created and coordinated

4. Strategy/Structure/Synergy

Recommendations and outcomes

Clearer communication of structure, roles and interfaces Marine organisation charts on Intranet – navigable Articles in in-house publications Video stories/engagement tool planned

Assemble an IPT to identify and drive out synergistic benefits/share knowledge

Common processes on supplier management: external savings of £11m in 2003 claimed Procurement and Engineering databases sharing knowledge 4. Strategy/Structure/Synergy – contd.

Clarify the strategic process
 Concluded and published

 Better and further communicate the strategy Various channels used to communicate strategy: publications, President's newsletter, President's road-shows, Marine card, scorecard, new video, conference

The difference that the LSE and the project made – by Terry Stock, RRM

12 work streams now being implemented

- Myth dispelled: National cultural diversity not a problem
 - LSE Complexity Group specifically brought:
 - Academic Rigour
 - Methodology and Analytical Tools
 - Complexity Thinking
 - Change in Emphasis

ICoSS Methodology and Rolls-Royce Marine Case Study:

Enabling Inter-Organizational Network Development [mergers & acquisitions]

RRM History & the ALD Project
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Theories

Natural sciences

Dissipative structures chemistry-physics (Prigogine)

Autocatalytic sets evolutionary biology (Kauffman)

Autopoiesis (self-generation) biology/cognition (Maturana)

Chaos theory

Social sciences

Increasing returns economics (B. Arthur) Generic characteristics of complex > evolving systems

self-organisation

emergence connectivity interdependence feedback

far from equilibrium

space of possibilities

co-evolution

historicity & time

path-dependence

creation of new order

Acquisition

Pushed the organisation *away-from-equilibrium* - i.e. away from established norms, ways of thinking and working

 Idea: to expand the market profile and to add Commercial Marine to Naval Marine i.e. to open up the *space-of-possibilities*

Space-of-possibilities

- Inappropriate procedures
- Complicated matrix structure
- Restricted and seriously reduced new product development
- Adversely affected responsiveness to customer and flexible response

Perceptions, assumptions, beliefs

 UK: Nordics seen as different
 We do not understand them and they (the Swedes, Norwegians and Finns) do not even understand each other!

 Nordics: RR wants to obliterate our identity & to impose their systems, procedures, structure, ways of working, etc

Instead

 Of an opening up and putting energy into exploring new possibilities, new markets, etc

• There was a defensive closing-in upon itself

Implications

 Dumping down and constraining *emergence* & self-organisation

- e.g. innovation, creativity, exploration
- i.e. the *creation of new order* was constrained
- In how the market was approached & in the creation of a *new organisational form*
- Significant external & internal implications

Critical events



At the same time ...

- New connectivities were being established
- Interdependencies were being appreciated (grudgingly)
- Improving feedback processes (helped by Marine Conference, by improving IT systems and by meetings)
- Reciprocal influence co-evolutionary process was taking place on different scales
- Lessening of the weight of **history**, of national cultures, different business models (naval & aero v entrepreneurial), etc

Better Connectivity

- 1. Matrix structure imposed on simple line management of small firms
- 2. Lack of clarity of roles and responsibilities
- 3. Perception that cultural diversity was a problem
- 4. Tried to overcome problem of matrix by strengthening the informal network
- 5. Facilitating informal networking and understanding Marine business better, changed the perceived problem into an asset

A complex evolving organisation

Facilitates (does not inhibit) emergence **Encourages self-organisation** Explores its space-of-possibilities Facilitates co-evolution Understands connectivity and interdependence (e.g. relationships, not isolation, fosters a collaborative culture)

Creates variability - large repertoire of responses (diversity – people, cultures, products, markets; speed and cost, cope with change) Copes in unpredictable environment Not too organised and not too random ("fuzzy matrix" **Emphasises enabling infrastructures** Facilitates the emergence of: New ways of working and relating **New organisational forms Creation of knowledge**