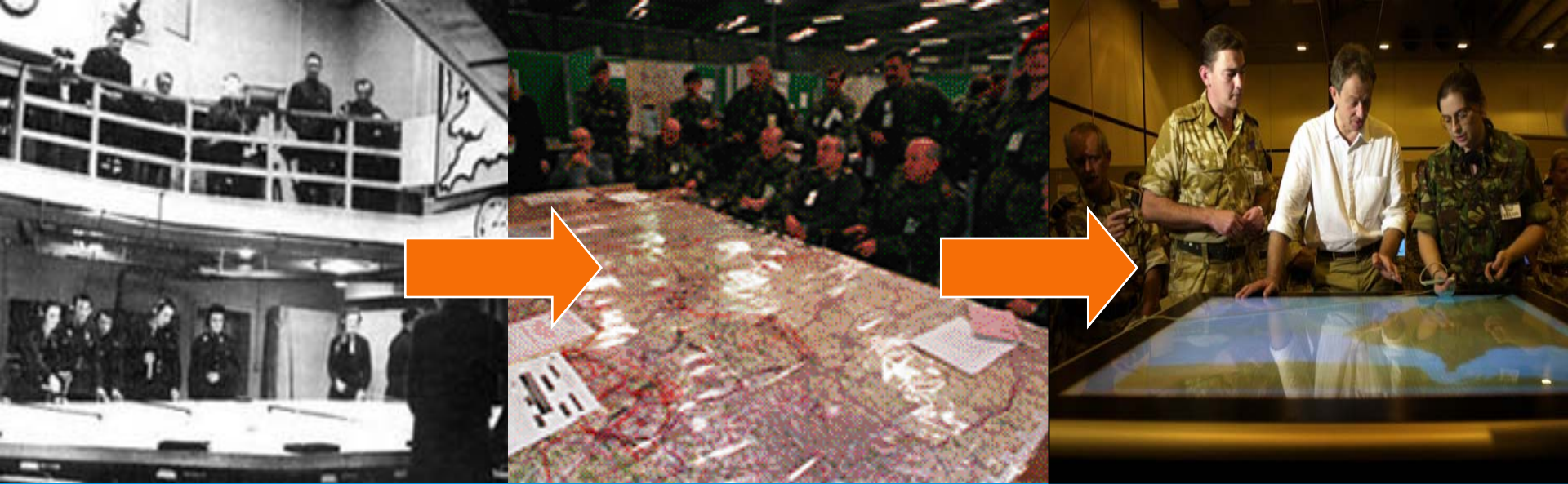QinetiQ

Lessons learned from commercial transformations to network centric operations

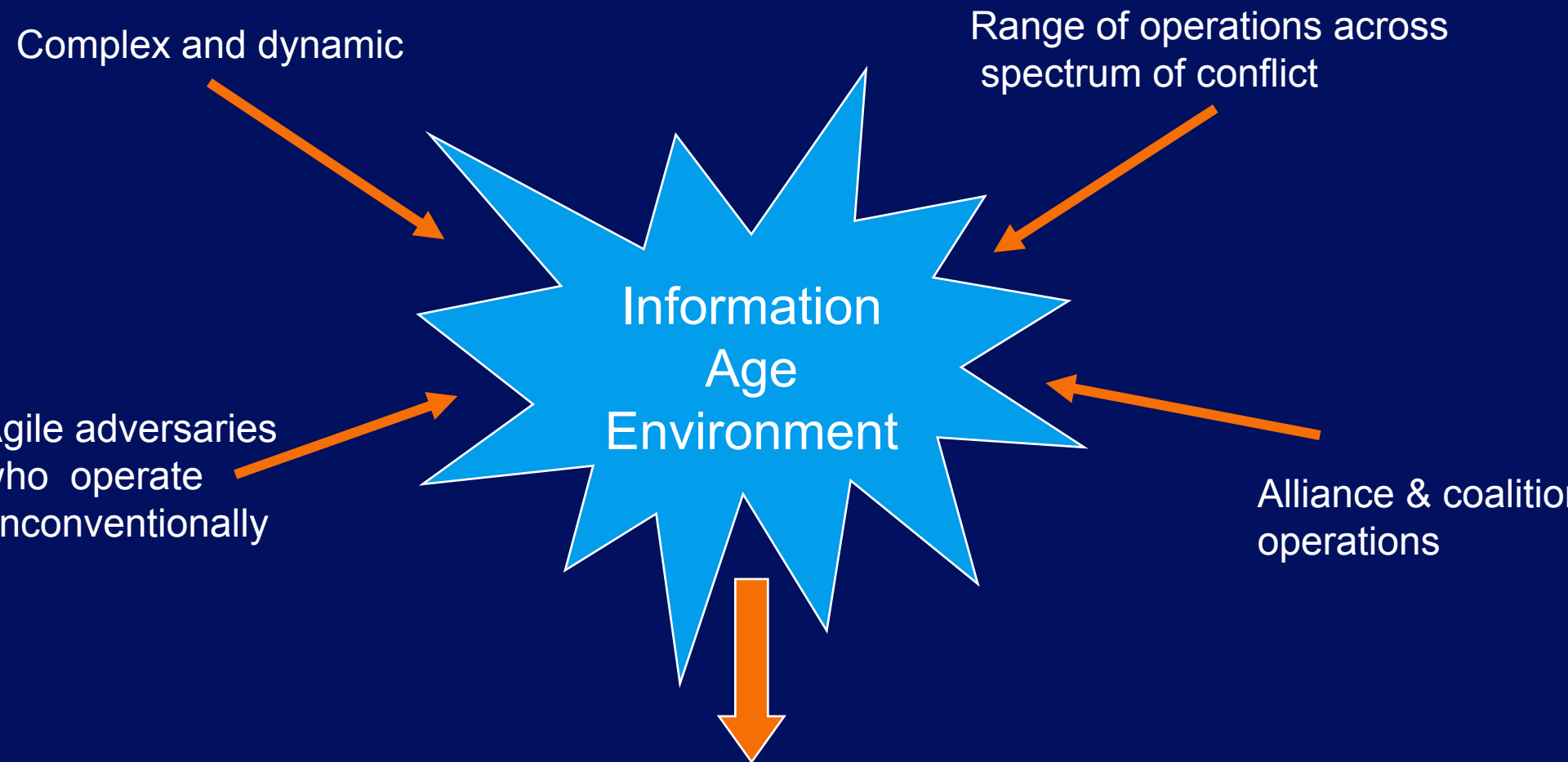C Macklin, P Phillips and P Louvieris

ICCRTS 2004 Paper 127
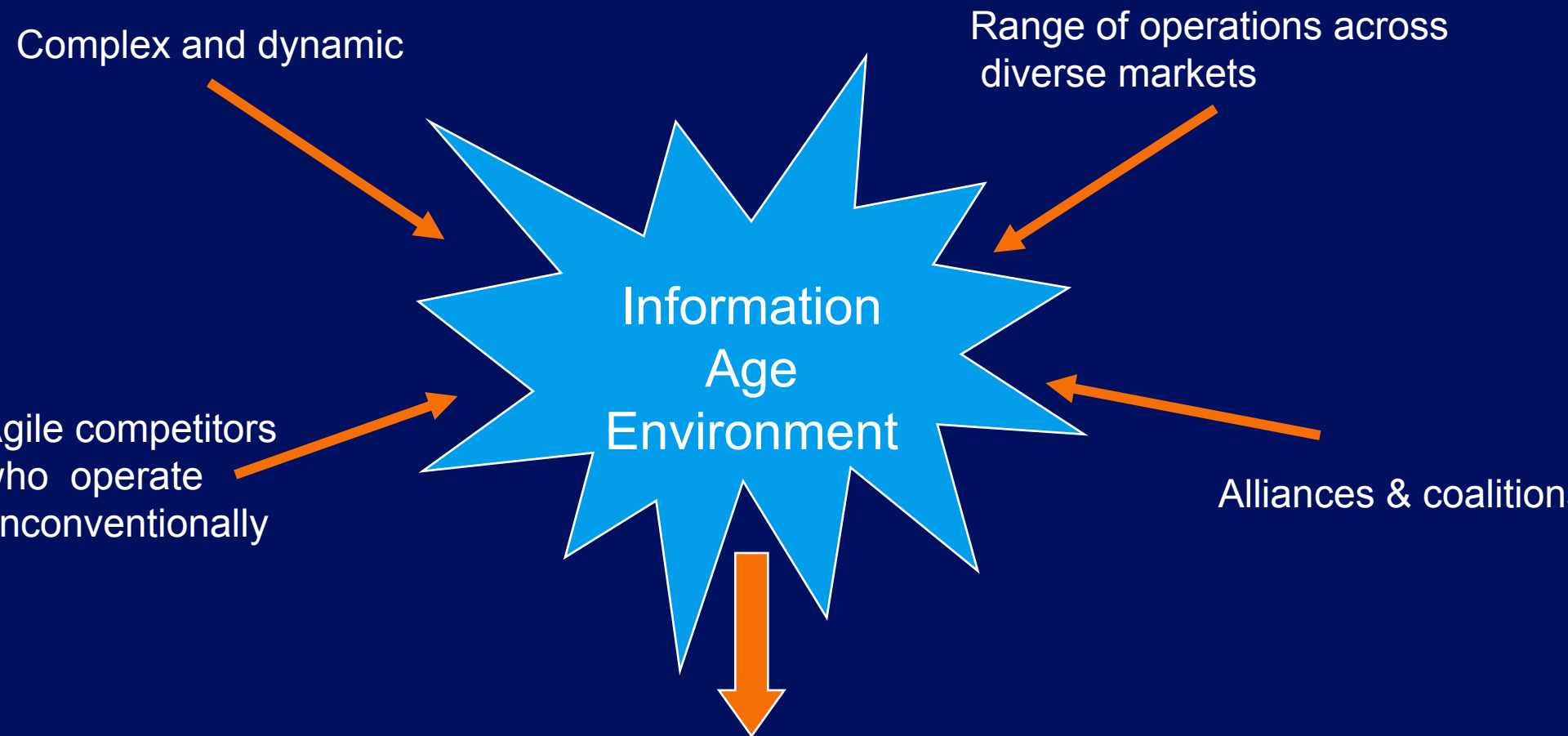
Contents of presentation

- Introduction

- Relevant concepts – network-enabled organisations

- UK MoD-funded research into lessons learned from commercial organisations

- Discussion of findings

- Critical success factors in the networked age

- Conclusions

QinetiQ

Issues facing military organisations

Complex and dynamic

Range of operations across spectrum of conflict

Information Age Environment

Agile adversaries who operate unconventionally

Alliance & coalition operations

Appropriate response requires:
flexible, adaptable and innovative organisation

QinetiQ

Issues facing commercial organisations

Complex and dynamic

Range of operations across diverse markets

Information Age Environment

Agile competitors who operate unconventionally

Alliances & coalition

Appropriate response requires:
flexible, adaptable and innovative organisation

QinetiQ

Organisational effectiveness in the information age

What are the Critical Success Factors of commercial organisations

? ? ? ?

Whilst maintaining reliability

Flexibility & Adaptability

Organisational effectiveness

QinetiQ

Method

- Literature review

- Questionnaires (N = 93)

  - Importance in network-enabled environment

  - Extent own organisation achieved

    - Rating 1- 5

- Case studies

  - Detailed semi-structured interviews

    - Senior managers responsible for e-business/network technology initiatives

QinetiQ

Findings
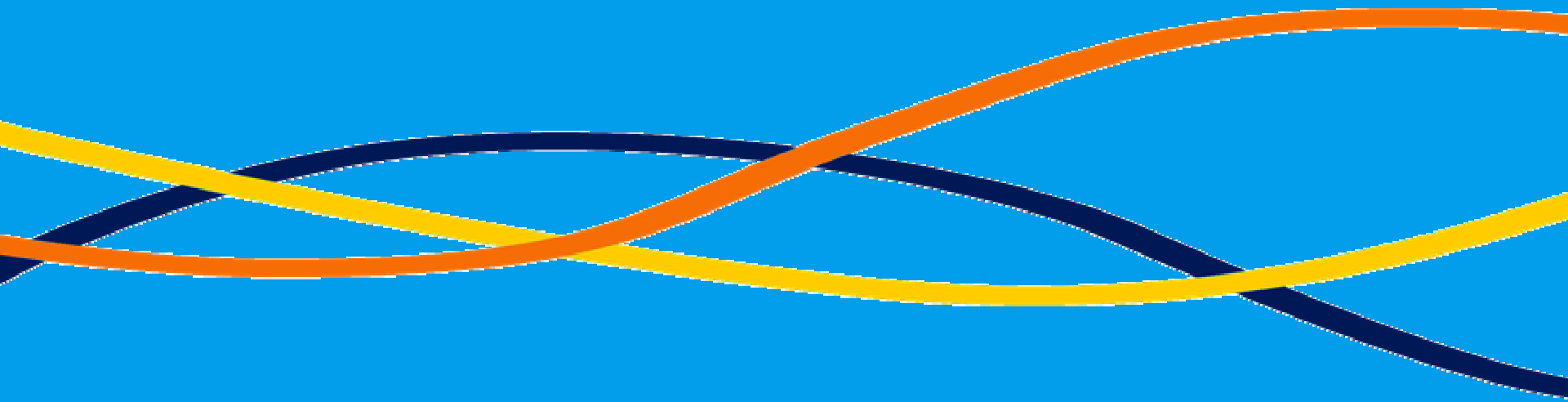
Most important areas for network enablement

- Transformation champion (4.29)

- Involvement and commitment (4.27)

- Learning and renewal (4.17)

- Respect and trust (4.11)

- Alliance performance expectations (4.11)

- Knowledge sharing (4.02)

- Leadership accountability (3.98)

- Alliance respect and trust (3.98)

QinetiQ

Success of commercial organisations

- Compared the importance and achievement ratings for all 32 questionnaire variables

    - paired sample t-test analysis

- Achievement ratings were significantly ($p<0.01$) lower than importance ratings on 31/32 questionnaire variables

- Upper quartile range of means of paired differences

    - identified 8 areas with the 'largest gap' between importance and achievement ratings
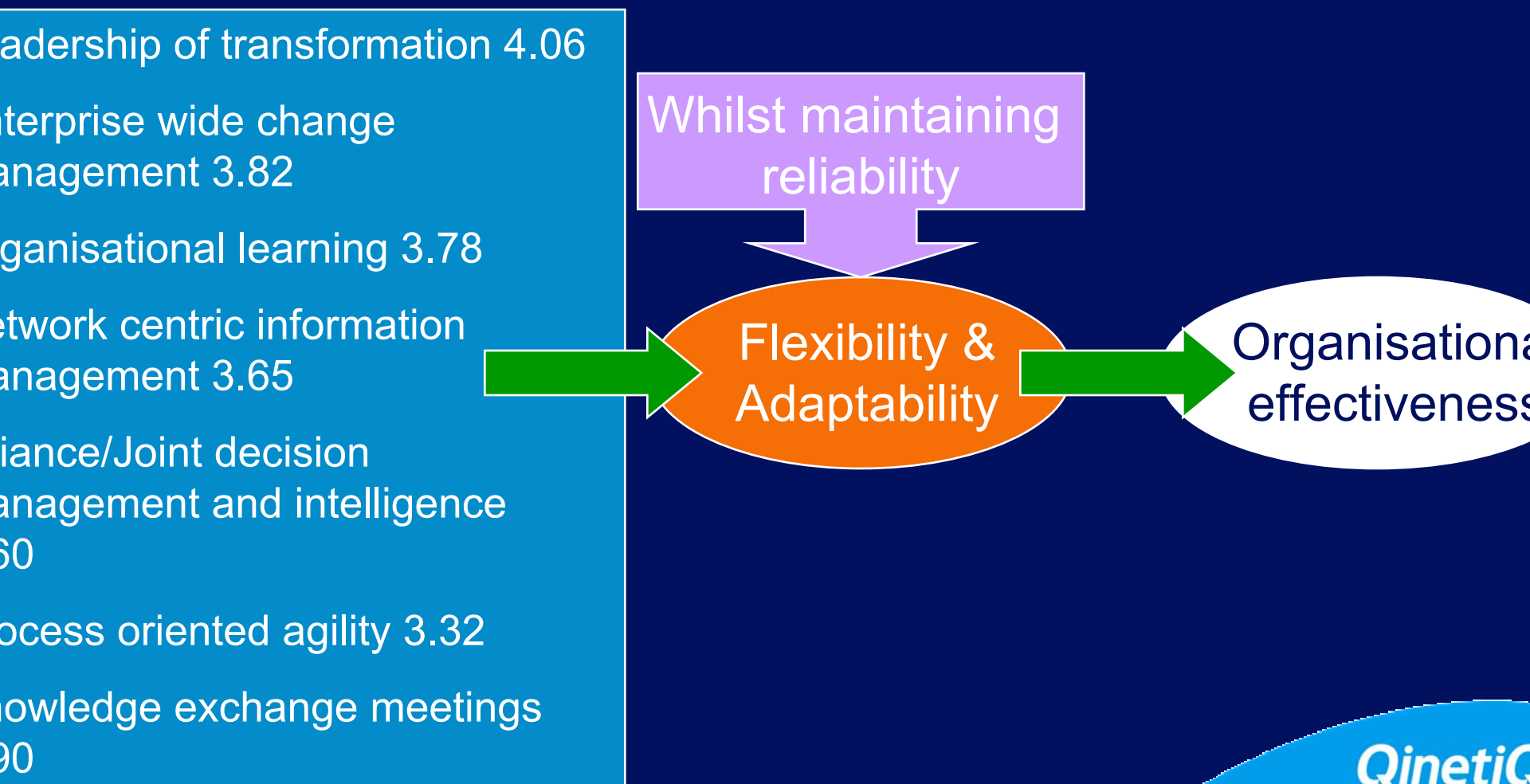
QinetiQ

Areas being least successfully addressed

- Transformation champion

- Involvement and commitment

- Learning and renewal

- Respect and trust

- Alliance performance expectations

- Knowledge sharing

- Standardisation and interoperability

- Agility and decision edge

QinetiQ

Further analysis

- Factor analysis identified seven factors critical to successful organisational performance in network centric environments

- Development of a 'digitization index'
  - target effective performance in a network centric environment

- A method of mapping an organisation's performance against target — to identify strengths and weaknesses in the seven areas critical to successful network centric operations

- Case studies identified example behaviours for each area

Critical success factors in network-enabled environments

Leadership of transformation 4.06

Enterprise wide change management 3.82

Organisational learning 3.78

Network centric information management 3.65

Alliance/Joint decision management and intelligence 3.60

Process oriented agility 3.32

Knowledge exchange meetings 3.90

Whilst maintaining reliability

Flexibility & Adaptability

Organisational effectiveness

QinetiQ

Aggregated sample's current and target effectiveness profile

Critical success factors of network-enabled organisations

Alliance/joint decision management and intelligence

- Alliances — future growth and survival, novel solutions and new opportunities

- Limited impact of network technologies on decision making
  - Increased *speed* of decision making
  - Limiting factor — human information processing

- Ensure that role and responsibilities are clear in alliances

- Develop respect and trust to establish and information sharing culture

QinetiQ

Enterprise-wide change management

- Driving/implementing organisational change by ensuring rapid implementation of good change management practices

- Significant organisational change necessary to achieve the potential benefits of network technologies

- All organisations stated:

  "It is essential in networked environments to take into account the people, their relationships and the organisational arrangements"

  (Phillips and Louvieris, 2002)

QinetiQ

Organisational learning

- Knowledge facilitates effective organisational response to environmental challenges

- A key activity throughout any successful organisation

- Focus on the people and process aspects of knowledge development, sharing and exploitation

- Case studies show technology-centred initiatives fail

QinetiQ

Process oriented agility

- Process is more important than structure in network-enabled environments

- Successful organisations identify critical processes within the organisation and gather knowledge about them to drive improvements

- Organisational agility = the extent to which the organisation possesses a variety of actual and potential procedures/processes and the speed by which it can implement them in response to task/environmental demands

QinetiQ

Network centric information management

- Addresses the technology and infrastructure aspects of the organisational learning, sharing and exploitation in the network-enabled organisation

- Interoperability reduces uncertainty, risk and costs - an important technical factor in making large distributed information projects successful

- Non-technical aspects of interoperability (processes, doctrine and culture) are also key

Leadership of transformation

- Driving/implementing organisational change by focusing on high visibility leadership to staff

  – Leadership advocacy and transformation champion

  – Relinquishing control and empowering staff at the 'edge' of the organisation

- Case studies indicate this is an important factor in in the ability to achieve organisational change

QinetiQ

Knowledge exchange meetings

- Role in organisations that derive value from electronically mediated meetings

  - BUT face to face meetings still important for relationship development

- Ability to communicate is key to development/dissemination of knowledge throughout organisation

QinetiQ

Conclusions

Critical success factors - key points

- Most important areas for network enablement are human factors areas

- Process is more important than structure in network-enabled environment

- Organisational learning & exploitation of knowledge are key to success

- Change is a key capability

- Technologies have little impact on how actual decisions made

More attention is required to the people side of the process than the technological side of the process, otherwise new IT systems will fail

(Phillips, Louvieris, Purvis, Kyriakidou and Gore, 2003)

QinetiQ

Authors' contact details

C. Macklin
Centre for Human Sciences
QinetiQ Ltd
Cody Technology Park
Ively Road
Farnborough
Hampshire GU14 0LX
United Kingdom.
cmmacklin@qinetiq.com

Prof P. Phillips
University of Kent
Canterbury Business School
Canterbury
Kent
CT2 7NZ
P.A.Phillips@kent.ac.uk

Dr P. Louvieris
University of Surrey
School of Management
Guildford
Surrey
GU2 7XH
Panos.Louvieris@surrey.ac.uk

QinetiQ