



academia  
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# Principles and Bases of Operation Art within the Information Era

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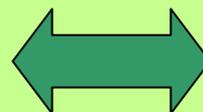
**Lt.Col. Paulo Nunes**





- 1. The information era**
- 2. Operational Art**
- 3. Operational Planning**
- 4. Network Operations**
- 5. Conclusions**

MILITARY



BUSINESS



# 1. *The Information Era*



- The information era emerged soon after the Industrial Revolution
- Its bases date back to the beginning of the 20th century with the invention of microcomputers, optical fiber and personal computers.
- It was at this time that worldwide computer networks emerged.
- The companies are presently living the Information Era intensely.





# 1. *The Information Era*



- “We are experiencing an exciting period in the Age of Information”, said Bill Gates (1995)
- Information Society generated a new strategic confrontation space for organisations in cyberspace, where they can develop competitive or even combat operations if considering the military approach.
- According to Manuel Castells (2002), productivity and competitiveness constitute the main processes of information/global economy.
- Modern society unfolds itself in computer networks connected among themselves, with or without wires, which is the Internet, an increasingly more global world, multiplying itself into successive intranets that work as management systems for several productive complexes and a service that supports Information Society (Santos, Loureiro, 2001).



# 1. *The Information Era - Challenges*

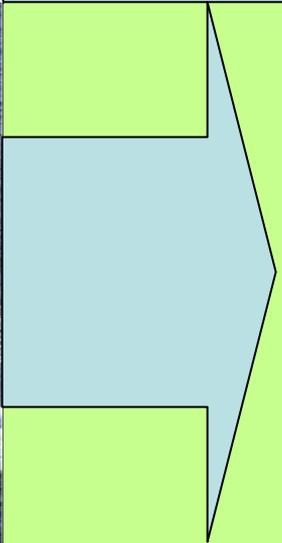


- Intense and ferocious competitiveness ;
- Global Markets ;
- Re-inforcing the importance of strategy (decisions on how to compete);
- Resource shortages (materials, fuel);
- Permanent operating cost Reduction;
- Increasing environmental worries (green products, recycling);
- Increasing ethical and social worries (social liability).





## 2. Operacional Art - Strategies



Upper Level

INTEGRAL STRATEGIES



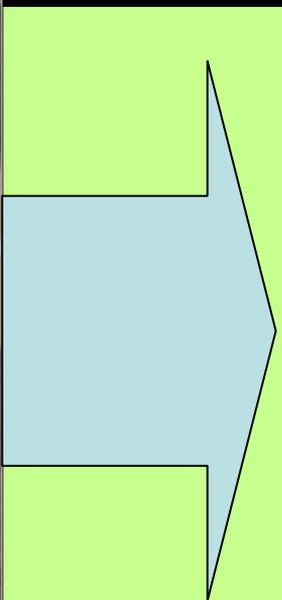
Middle Level

SECTORIAL STRATEGIES  
Diplomatic + Psychological + Economic and Political +  
Subversive Politics + Military



Lower Level

SPECIFIC STRATEGIES  
(ie: in Military Strategy)  
Land + Sea + Aerospace



Upper Level

INTEGRAL STRATEGIES



Middle Level

SECTORIAL STRATEGIES  
Supply + Production + Marketing + Finance + Organization +  
Information Systems



Lower Level

SPECIFIC STRATEGIES  
(ie: in Marketing Strategy)  
Research and Development + Prices + Distribution +  
Communication + Customer services



## 2. Operacional Art - Strategies

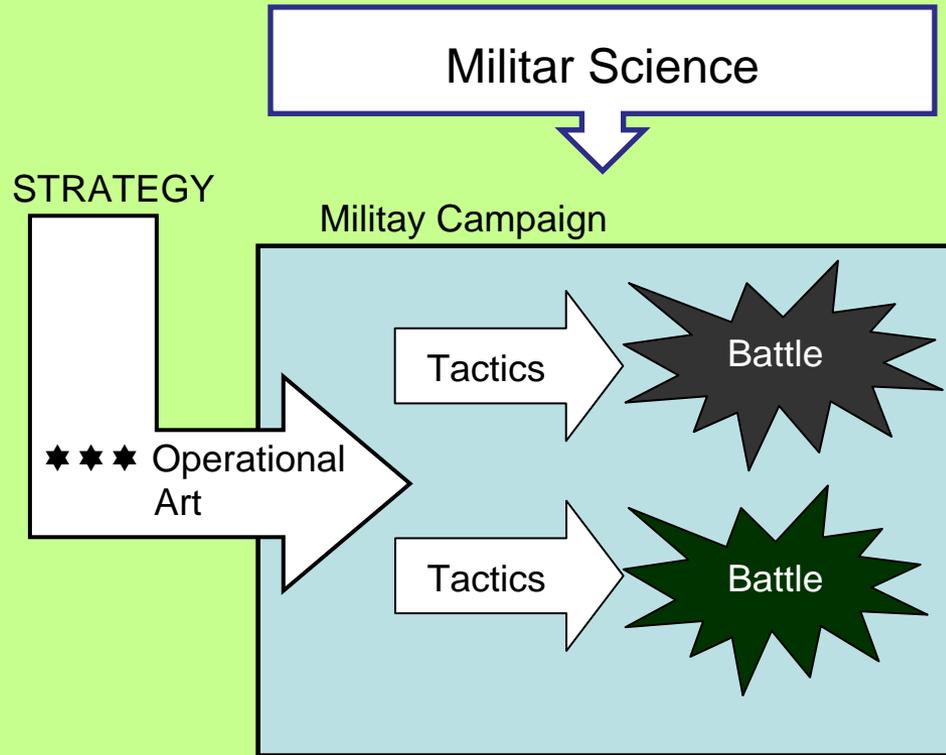
V. Chabltok collection  
<http://armor.yurteh.net/>



- On one hand, considering the perceived national interests, the Military Strategy is subordinated to political objectives, aiming to preserve national security and welfare.
- Business Strategy must ensure that it is possible to do better than competitors, and must guarantee a decisive advantage perceived by all its stakeholders and stockholders

## 2. Operacional Art - Tactics

V. Chabluk collection  
<http://armor.yurteh.net/>



Source: Dias, et al (2008)

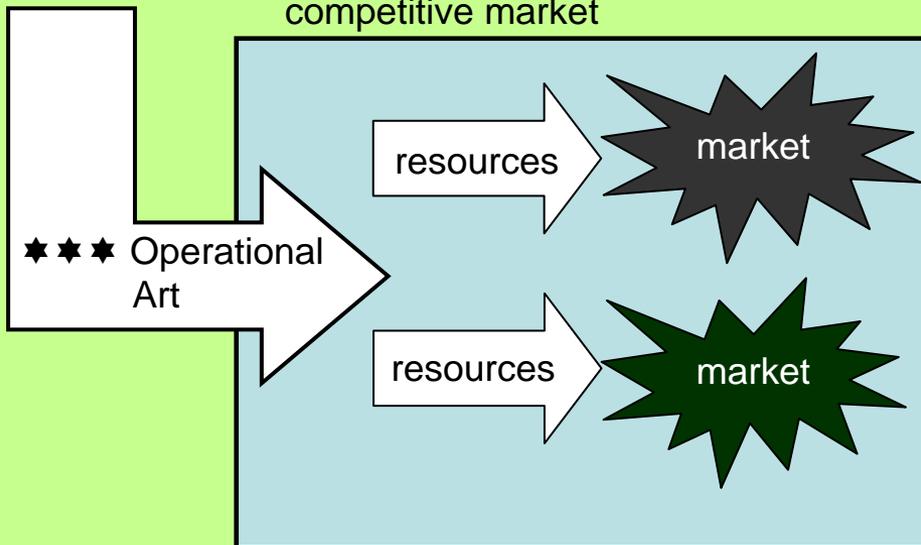


## 2. Operacional Art - Tactics

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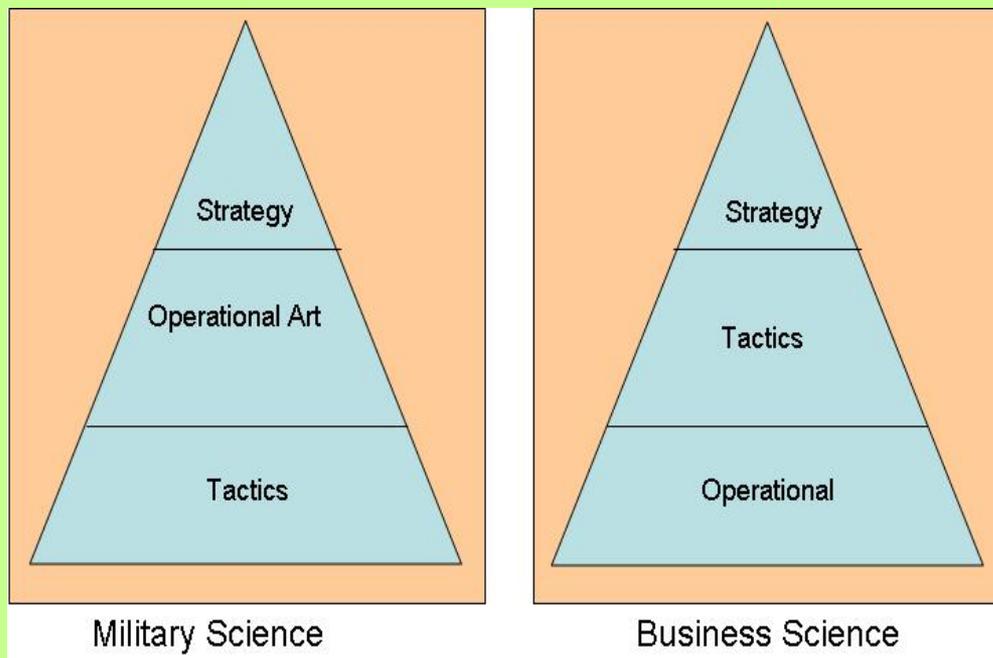
STRATEGY



Source: Dias, et al (2008) adapted by the author



## 2. Operacional Art



Source: Dias et al (2008)



## 2. *Operacional Art*

based on basic concepts

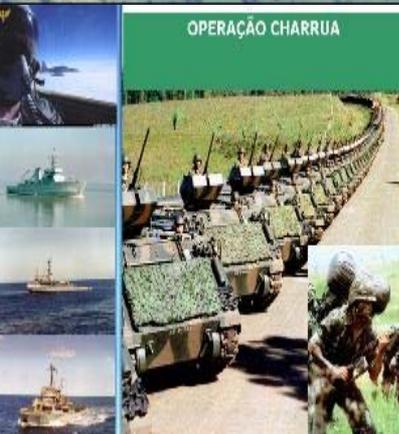
Desired Endstate  
Objectives  
Center of Gravity  
Success Criteria



### 3. Operational Planning - Objectives

Aims to achieve Endstate based upon  
Strategic Objectives

- Run the Operation in order to achieve strategic and operational objectives;
- Determine the necessary Force Capability to run the Operation;
- Projection and deployment of Forces into the Area of Operations;
- Logistic support;
- Explore and control the use of operational information;
- Command and Control arrangements;
- Cooperation with Civil Authorities;
- Forces Protection.



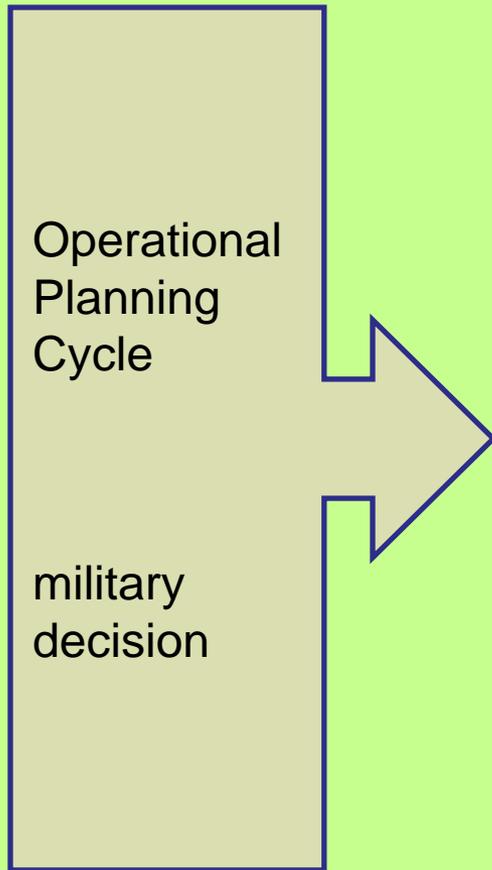


### 3. Operational Planning - Objectives

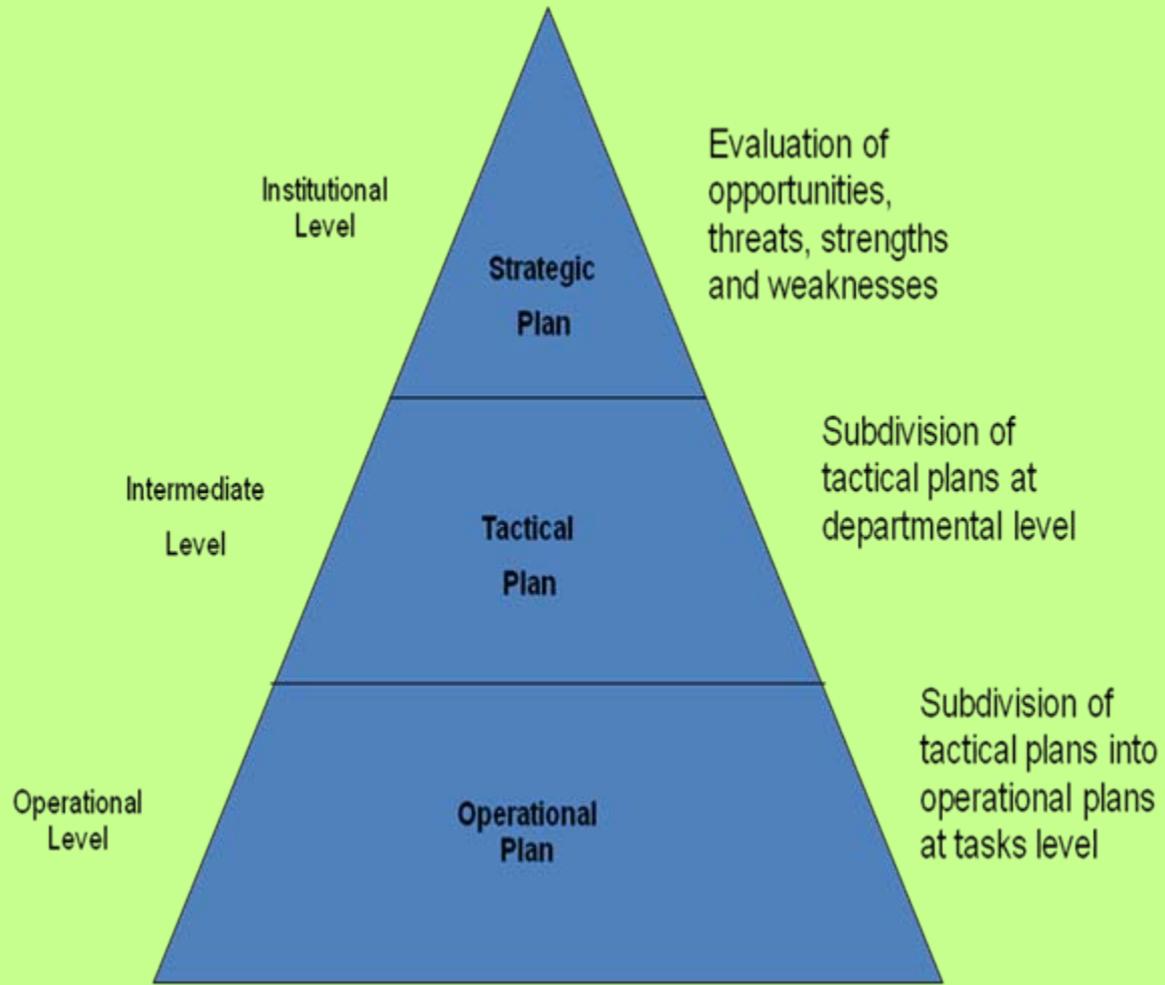


At Business arena, objectives are seen as the desired results in any activity and, when not explicitly defined, "goals" and "targets" are synonymous of objectives. The purpose of objectives definition is to make the Mission more concrete achieving a clearer vision of the future path to be followed by an organization. They must also be quantifiable and easily carried out.

### 3. Operational Planning - Planning Process



### 3. Operational Planning - Planning Process





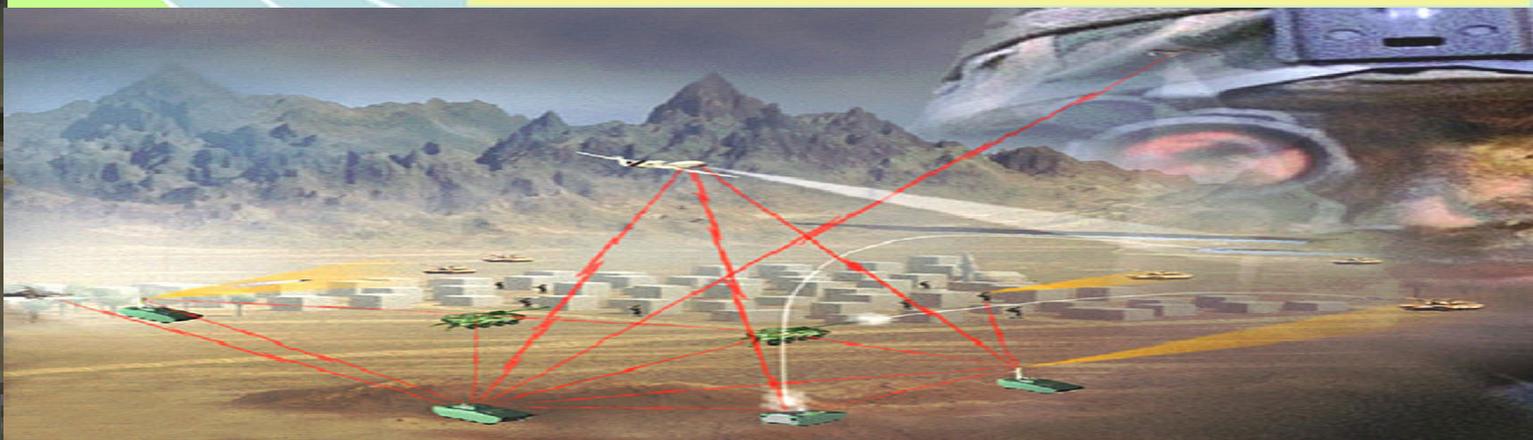
## 4. Network Operations - Military Arena



NATO suggests the adoption of the principles of Network Centric Operations (NCO), as an essential requirement for obtaining the operational desired effects.

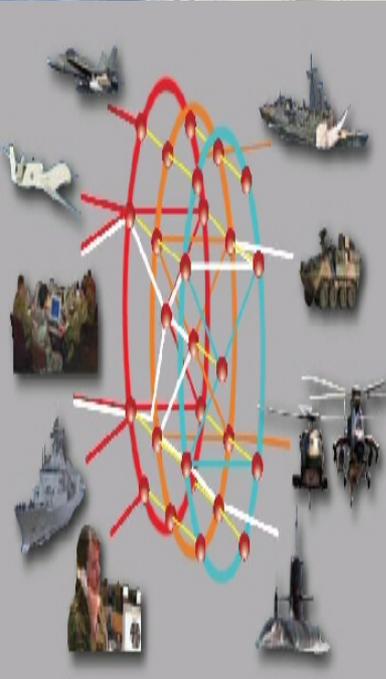
A Force with a strong netcentricity improves its information sharing. The network connection facilitates the interaction between Forces who are able to share information and develop innovative ways to work in close cooperation and collaboration with others

Sensors, decision-makers and producers of effects are all connected and work together in order to produce the desired effects





## 4. Network Operations - Military Arena



### Sensors

The sensors that collect data and convert them into information can be technological or human

### Decision-Makers

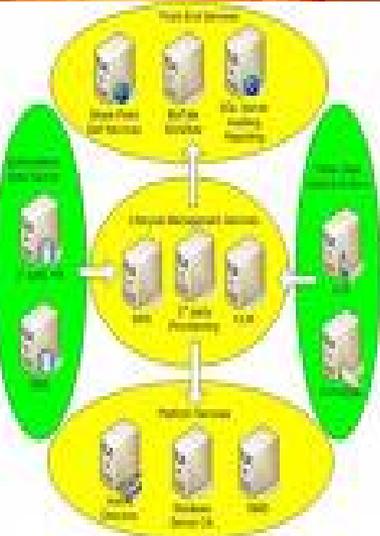
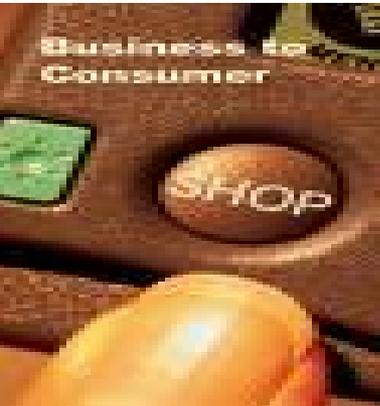
The decision-making elements come from all areas, capabilities or processes of evaluation, predictions, simulations and planning and decision-making activities that are needed to reach decision superiority

### Producers

Encompass all processes and capabilities in order to achieve the desired effect and so ambitious of superior performance



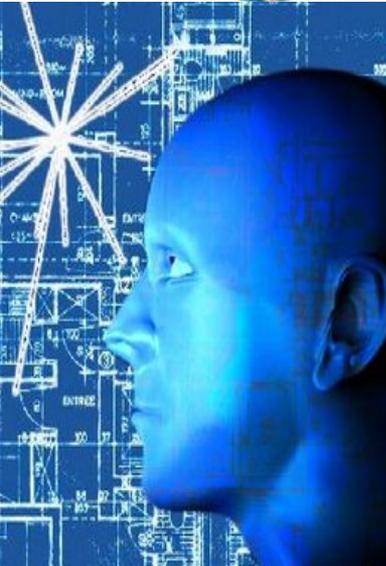
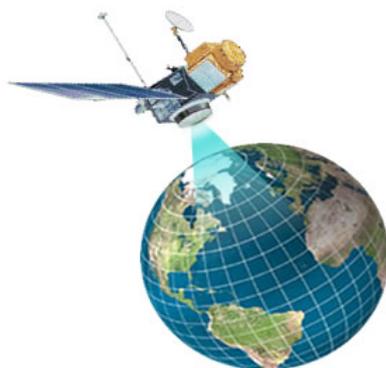
## 4. Network Operations - Business Arena



- As such, large companies began to organise themselves into networks according to their operational needs at an appropriate market scale, supported by communication technologies that allow them to overcome physical distances
- New information-based Economy, characterized by globalization and network operations become the product of the productive process.
- The Internet is comprised of a vast network of interconnected computers and data processing systems which exchange and share information
- e-business uses information technologies to support transactions between buyers, sellers and business partners, with the aim to improve customer service, reduce costs and increase operational flexibility of Organisations/Enterprises, allowing them to react and adapt to the dynamics of social interactions in the network.



## 5. Conclusões



- The purpose of this essay was to make an analogy between military and business related concepts and terminology, not only by understanding how common fields and associated areas may be defined but also by analysing how they complement each other and interact in the Information Society environment
- The growing importance of information systems and the need to protect and secure their performance within a global network environment, based on sophisticated and powerful means of communications, presently deserve priority attention from Enterprises and Armed Forces
- If for the Military Operational Planning is of vital importance to reach a desired Endstate, for Enterprises it also reveals itself to be an important tool, helping them to monitor markets more effectively, provide better quality of service and reduce costs in order to promote better business results



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