



International Civil Aviation Organization

SIP/2012/ASBU/Dakar-WP/31

Economic issues Formulation of Business cases

H. Sudarshan

WORKSHOP ON PREPARATIONS FOR AN-CONF/12 – ASBU METHODOLOGY
(Dakar, 16-20 July 2012)

Outline

- Economic aspects of Global ATM System
 - Costs
 - Benefits
 - Cost/benefit studies
 - Business Case
 - Funding
 - Cost recovery
- Organizational format

Economic and organizational aspects related to Global ATM Operational concept



- States should strive for the efficient and cost-effective implementation of the global ATM operational concept, using the **GANP as the implementation planning document**, through international cooperation and collaboration within the ATM community; and
- States should consider facilitating implementation of the global ATM operational concept by adopting, where appropriate, **a regional approach** in order to enhance transparency, efficiency, fairness, comparability and predictability of the costs of air transport infrastructure

Air Navigation infrastructure to Support ATM Operational Concept

- **ATM**
- **CNS**
- **AIM**
- **AGA**
- **MET**

Allocation of costs ...



Cost/ Benefit Item	CAA	Aircraft Operators	Total
Costs of Air Navigation System elements			
Capital costs and Recurring costs			
Ground	X	X	
Aircraft			
Training	X	X	
Purchases from intermediate service providers	X	X	
TOTAL	C1	C2	C

Allocation of Costs

- Resolution A32-19 provides guidelines.
- Cost allocation issues
 - multi-modal services
 - allocation options
- Categories
 - Aeronautical and non-aeronautical
 - Airport and en-route operations
 - Commercial and non-commercial users

Capital investment

Who is responsible?

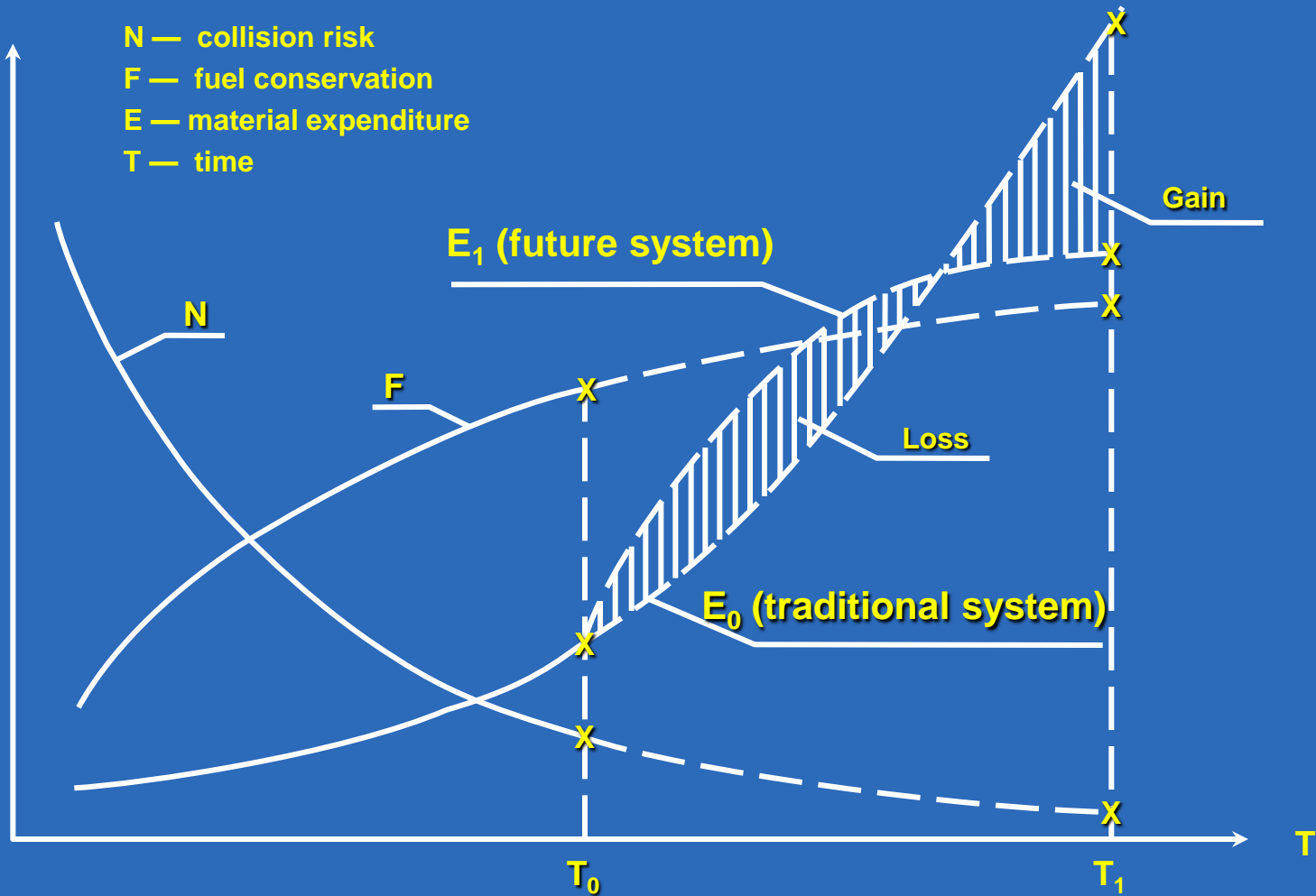


- States
- Service providers
- Airspace users

Again, how much?



*Depends on the
implementation options!*



General trend in the variation of the main factors of the ATM system

Benefits



Airlines benefits

- Route optimization (time, fuel)
- Optimum altitudes
- Dynamic aircraft route planning
- More alternate airports
- Reduced contingency fuel
- Possible reduced crewing
- Increased aircraft utilization
- Greater payload capability
- Greater revenue generation

State benefits

- Improved level of service
- Consolidation of facilities
- Reduced maintenance costs
- Avoided capital costs

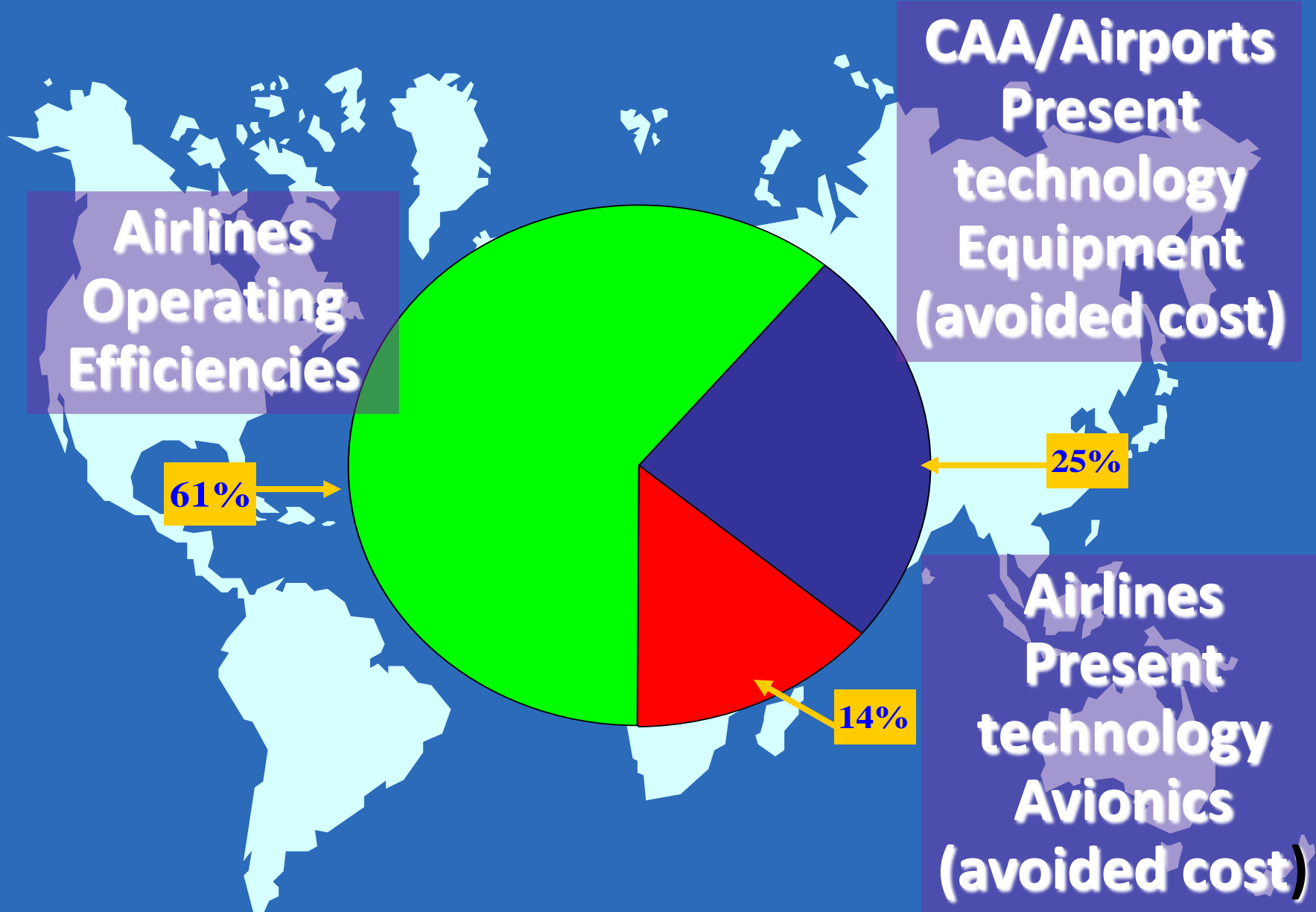
Airport benefits

- Increased airports capacity
- Improved airside management
- Decrease in diversions in instrument meteorological conditions
- Enhanced revenues
- Happy passenger

Allocation of benefits

Cost/Benefit Item	CAA	Aircraft Operators	Passengers	Totals
Benefits of Air Navigation Systems elements				
Avoided equipment costs (Present technology)				
Ground	X	—	—	
Aircraft	—	X	—	
Efficiency improvements	X	X	—	
Passenger time savings	—	—	X	
TOTAL	B1	B2	B3	B

Benefit shares



**Airlines
Operating
Efficiencies**

61%

**CAA/Airports
Present
technology
Equipment
(avoided cost)**

25%

**Airlines
Present
technology
Avionics
(avoided cost)**

14%

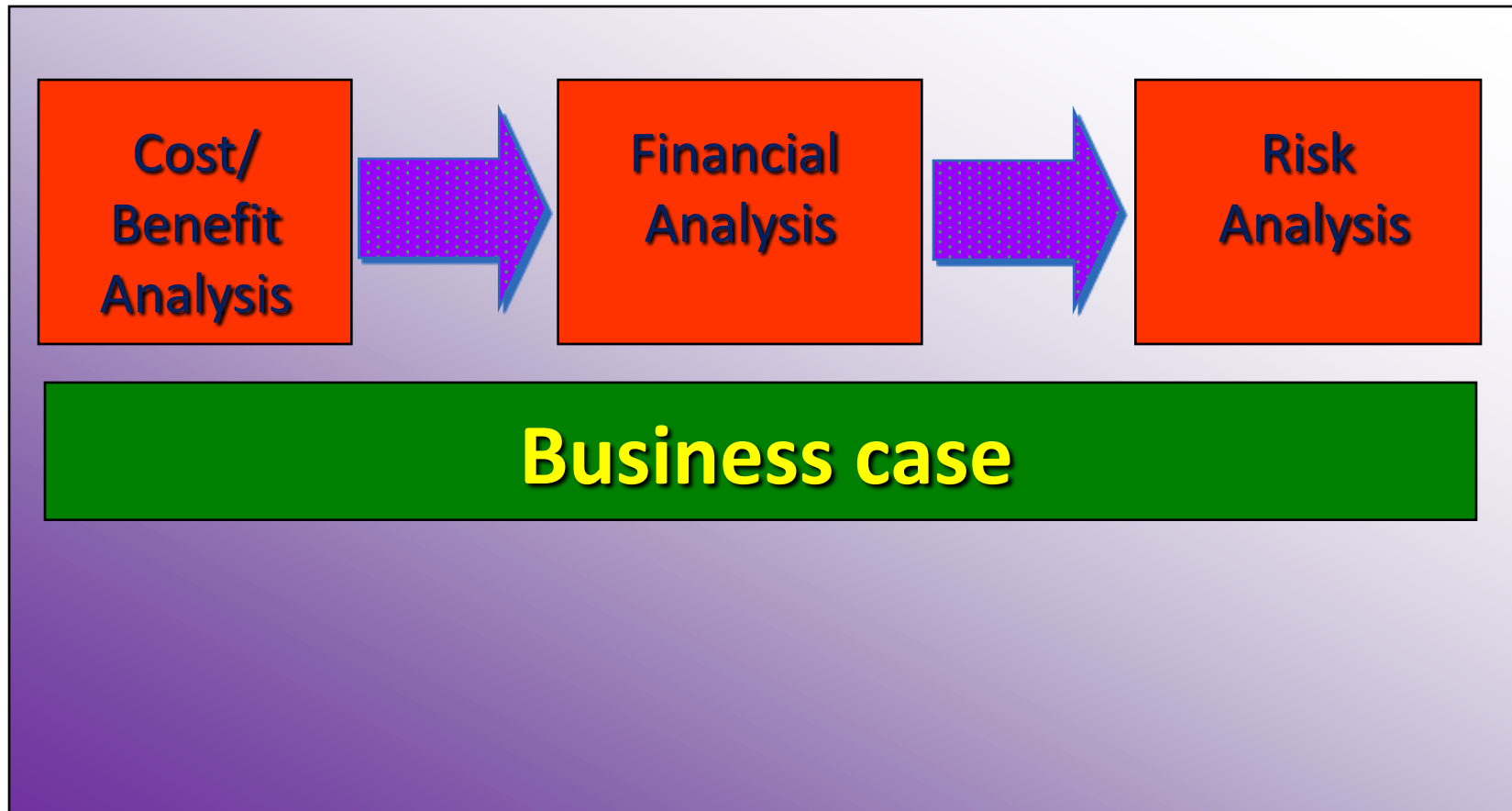
Cost/Benefit studies



- The cost/benefit study to address the financial viability and implementation options
- Measure of economic viability
 - Net present value (preferred method: Benefit-Costs>0)
 - Cost-effective
 - Least cost
 - Snapshot
 - Utility value
 - Pay-off period
- Sensitivity analysis
 - Analysis to ensure wide fluctuations in changing data conditions are taken into account
- Validate the model using the best judgment

What is Business case ?

A tool supporting planning and decision-making that can be used by public as well as private entities



Business Case and Business Plan

- A business case:
 - is specific to a project, a policy or a program proposal, and
 - covers the lifecycle of the proposal;
- A business plan
 - normally covers an entire organization or enterprise, and
 - is limited in time (typically 3 to 5 years)

Why do we need a Business case?

- To convince the target audience:
 - of the need for the proposal
 - of the feasibility of the proposal
 - that the proposal is cost effective and beneficial
 - that the proposal is financially viable
 - that the risks involved are manageable
- To be able to prioritize proposals

Content of a Business Case

- The main sections of a business case are:
 - Description of the proposal
 - Identification of the stakeholders / partners
 - Cost-benefit analysis
 - Financial analysis
 - Risk analysis and management

Funding

- Sources of financing include:
 - Contribution from governments (national or foreign)
 - Commercial sources (debt financing)
 - Accumulated excess of revenues over costs (profits)
 - Bonds
 - Equity financing (share capital)
 - Leasing

Cost recovery

- Cost allocation and cost recovery principles are set forth in ICAO Document 9082

- Methods of cost recovery
 - Direct collection from users
 - Joint charges collection agency
 - Delegation to external agency

Organizational format for ANSPs

Level	Type of Organization
National	Government department Autonomous public sector undertaking Private organization
Multinational/ Subregional/ Regional	Service provided by one government Service provided by group government Organization with own legal responsibility
Global	Service provided by one government Service provided by group government Organization with own legal responsibility

ICAO

Uniting Aviation on

Safety | Security | Environment

