Telecommunications Plans and Trends

Alex Graham
Principal Consultant
INPUT

Integrated Communications Program

Program Introduction

INPUT

NOTES:

JJ88-AG-1

Integrated Communications Program Development Considerations

Business

- Strategic Advantage
- Competitive Advantage
- Asset Utilization
- Cost Reduction
- Globalization

INPUT

NOTES:

JJ88-AG-2

Integrated Communications Program Development Considerations

Technological

- Improved Quality
- New Technology
- New Services
- Competition
- Regulations/Standards
- Greater Bandwidth

INPUT

NOTES:

JJ88-AG-3

Integrated Communications Program
Program Focus

Connectivity and the Organization

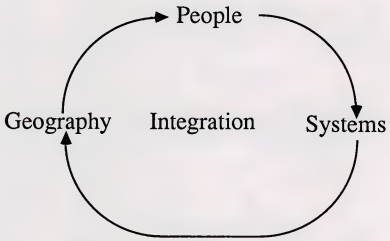
INPUT

NOTES:

JJ88-AG-3A

Integrated Communications Program

Program Focus



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NOTES:

JJ88-AG-5

Integrated Communications Program

Program Components

National Network Planning

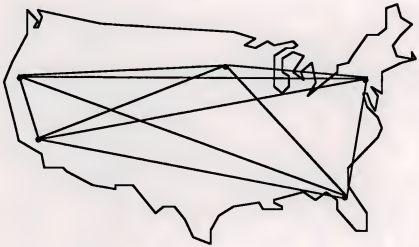
Multinational Network Planning

INPUT

NOTES:

JJ88-AG-6

National Network Planning



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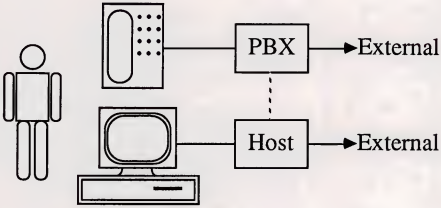
NOTES:

JJ88-AG-7

National Network Planning

Typical Office



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NOTES:

JJ88-AG-8

National Network Planning

Development Considerations

ISDN
Multiplexers
Public
Dedicated
SDN
Buy
T1
Lease
Fiber
Standards
CPE
LAN
Packet
PABX
VSAT
Satellite
Regulations

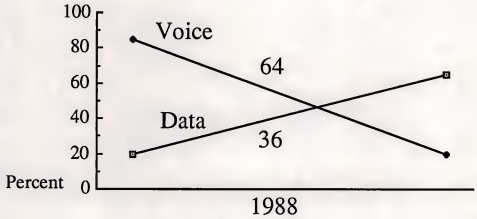
INPUT

NOTES:

JJ88-AG-9

National Network Planning

Development Considerations



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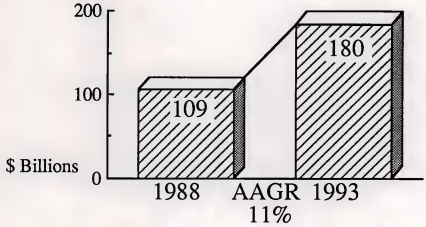
NOTES:

JJ88-AG-10

National Network Planning

Development Considerations



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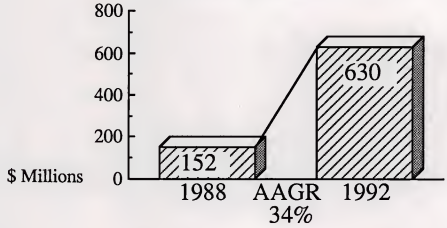
NOTES:

JJ88-AG-11

Telecommunications Industry
Industry-Specific Expenditures
Application Software



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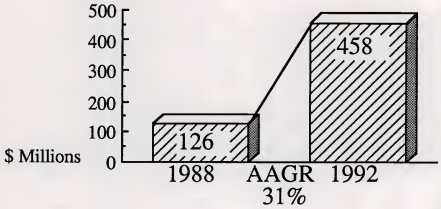
NOTES:

JJ88-AG-11A

Telecommunications Industry
Industry-Specific Expenditures
Mainframe/Mini Software



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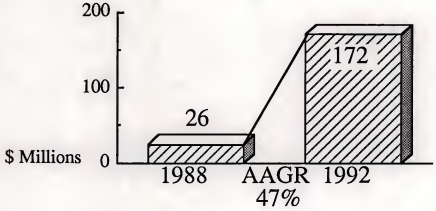
NOTES:

JJ88-AG-11B

Telecommunications Industry
Industry-Specific Expenditures
Micro Systems



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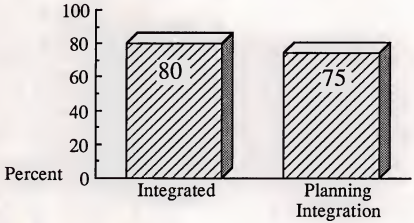
NOTES:

JJ88-AG-11C

National Network Planning

Development Considerations
(Voice/Data Integration)



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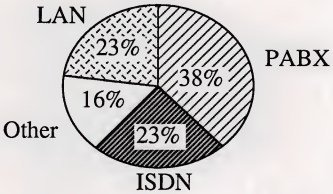
NOTES:

JJ88-AG-12

National Network Planning

Voice/Data Integration Method



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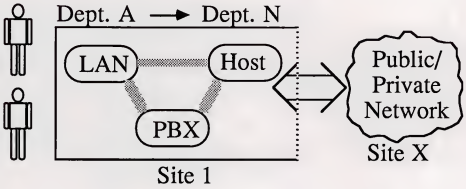
JJ88-AG-13

National Network Planning

Typical Office—1990's



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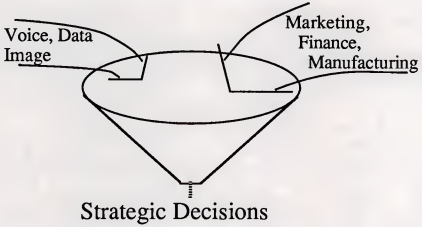
JJ88-AG-14

National Network Planning
Strategic Considerations



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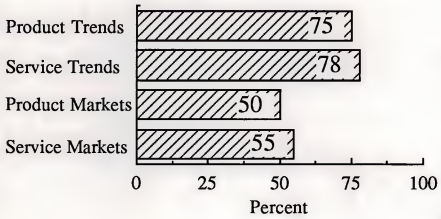
JJ88-AG-15

National Network Planning Development Considerations High/Very High Ratings



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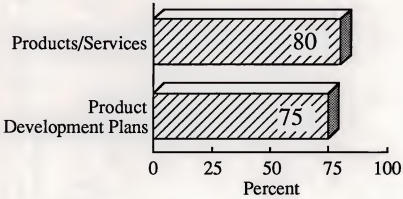
NOTES:

JJ88-AG-15A

National Network Planning Development Considerations High/Very High Interest



INPUT

NOTES:

JJ88-AG-15B

National Network Planning
Major Components

Key Vendor Profiles

Service Forecasts

Customer Support

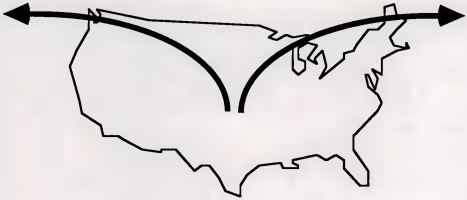
Major Issues

INPUT

NOTES:

JJ88-AG-16

Multinational Network Planning



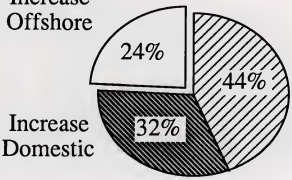
INPUT

NOTES:

JJ88-AG-17

Multinational Network Planning

Development Considerations
Future Production Plans



Source:
Boston University

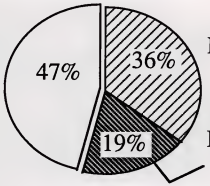
INPUT

NOTES:

JJ88-AG-18

Multinational Network Planning

Development Considerations
Future Purchases



Source:
Boston University
NOTE: Total greater than 100% due to rounding

INPUT

NOTES:

JJ88-AG-19

Multinational Network Planning
Influencing Factors

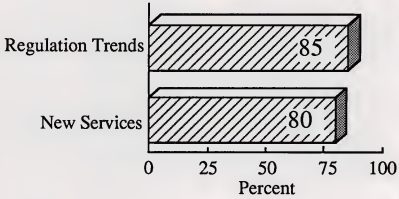
- PTT Policies and Practices
- Service/Circuit Availability and Usage
- Service Quality and Reliability
- Service/Equipment Incompatibility
- Service Delays and Costs

INPUT

NOTES:

JJ88-AG-20

National Network Planning Development Considerations High/Very High Rating



INPUT

NOTES:

JJ88-AG-20A

Multinational Network Planning

Major Components

Regional Service Analysis

Country Profiles

Specialized Reports

INPUT

NOTES:

JJ88-AG-21

Multinational Network Planning
Regional Service Analysis

Asia/Pacific

Europe/Middle East/Africa

North/Central/South America

INPUT

NOTES:

JJ88-AG-22

Multinational Network Planning
Regional Service Analysis

Services Trends and Developments

Regulatory Developments

Political/Economic Trends

Tariff Changes and Trends

Five-Year Projection

INPUT

NOTES:

JJ88-AG-23

Multinational Network Planning
Country Profiles

40 Countries

Administration Profiles

Services Available

Regulations

Tariffs

INPUT

NOTES:

JJ88-AG-24

Integrated Communications Program

Program Development

Current Development
- Issue Study
  - Network Management/User Requirements
- Regional Analysis
  - Asia/Pacific

Current Development
- Vendor Profiles
- Country Profiles

INPUT

NOTES:

JJ88-AG-25A,B

Planned Development

- Software and Services
- VSAT Service Opportunities
- Regional Analysis—Europe
- Network Services Quality
- Customer Premises Services

INPUT

NOTES:

JJ88-AG-25C

Alex Graham
Principal Consultant
INPUT

Alex Graham, a principal consultant, brings to INPUT more than 20 years of senior management experience in voice and data planning, network management planning, systems development, consulting, and marketing of telecommunications services. Additionally, he has wide-ranging experience in telecommunications, strategic planning, and development of customer support programs. He has been general manager of an international research and consulting firm, a senior consultant with Arthur D. Little, and a general manager for VISA International.

He holds an M.A. in international management from the American Graduate School and a B.A. in business from Grove City College.

Telecommunications Plans & Trends

Alex Graham
Principal Consultant
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Integrated Communications Program

Connectivity and the Organization

Program Introduction

Integrated Communications Program
Development Considerations
~~Driving Forces~~
Business

- Strategic Advantage
- Competitive Advantage
- Asset Utilization
- Cost Reduction
- Globalization

2

Integrated Communications Program
Development Consideration
~~Driving Forces~~
Technological

- Improved Reliability
- New Technology
- New Services
- Competition
- ~~Standards~~ Regulations / Standards
- Greater Bandwidth

3

AG-3A

Integrated Communications
Program
Program Focus

Connectivity and
the Organization

Integrated Communications Program
Program Focus
(Definitions)

Communications
. Access Between Persons or Places

Integrated
. Separate Parts United Together
. Form Complete, Coordinated Entity

network
. Interconnected Group or System

~~5~~ 4 (per author)

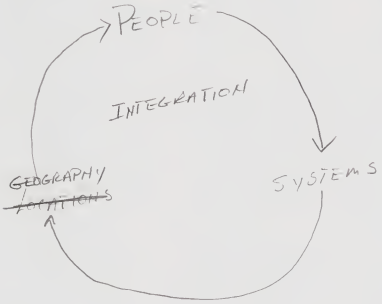
Integrated Community Program

~~Driving Forces~~

~~Common Elements~~

PROGRAM FOCUS

- ~~People~~
- ~~Place~~
- ~~Systems~~



4 5 (per author)

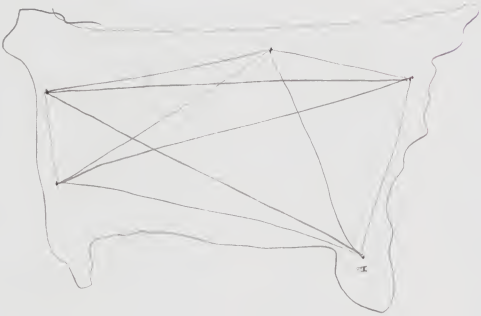
Integrated Communications Program
Program Components

National Network Planning

Multinational Network Planning

6

National Network Planning

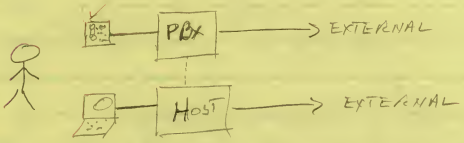


7

National Network Planning

Typical Office ~~today~~ Today

phone



8

National Network Planning

~~Employing Procedures~~ ~~Factors Affecting the Use~~ Influencing Factors

ISDN

DEDICATED

PUBLIC

MULTIPLEXERS OK

~~BUY~~ OK

~~LEASE~~ OK

FIBER

STANDARDS

T1

SDN

PACKET

CPE

LAN

~~PBX~~ OK

VSAT

SATELLITE

REGULATIONS

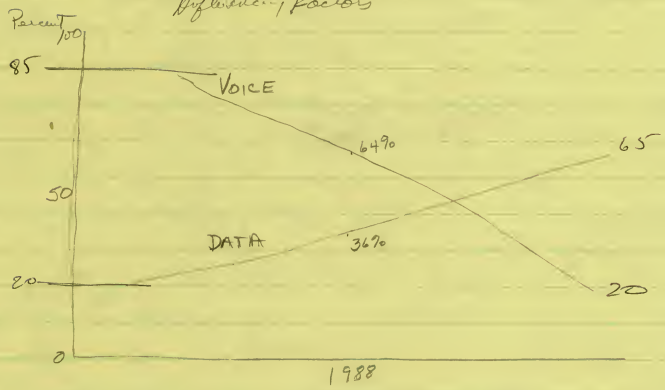
not enough room on slides (except last text) and cannot do ~~more~~ titles at an angle

??

AG- 9

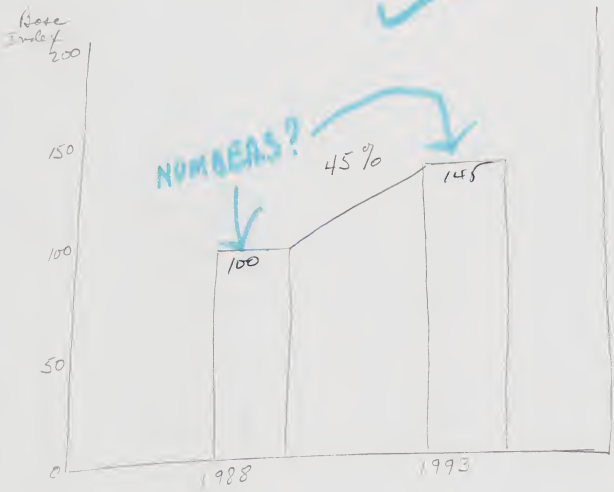
National Network Planning

~~Strategic Considerations~~
Influencing Factors



NEED DATA POINTS
TO PLOT

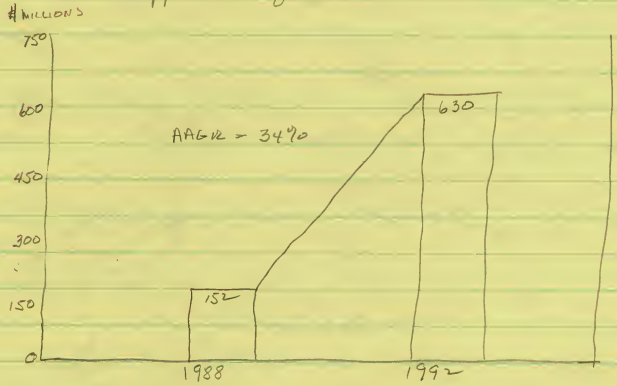
National Network Planning
Influencing Factors



11

AG 11A

Telecommunications Industry
Industry Specific Expenditures
Application Software

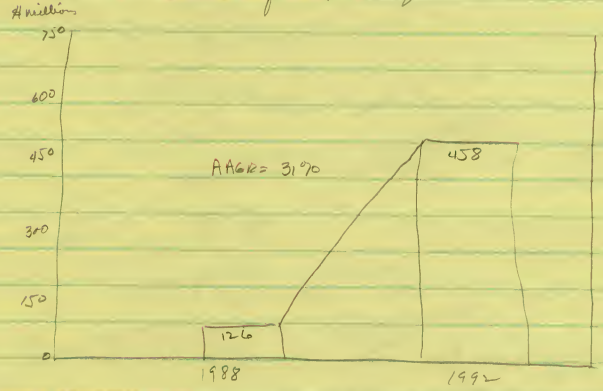


AG 11B

Telecommunication Industry

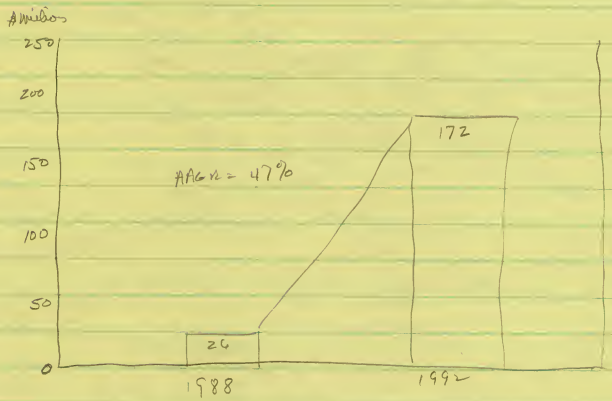
Industry Specific Expenditures

Mainframe / Mini Software

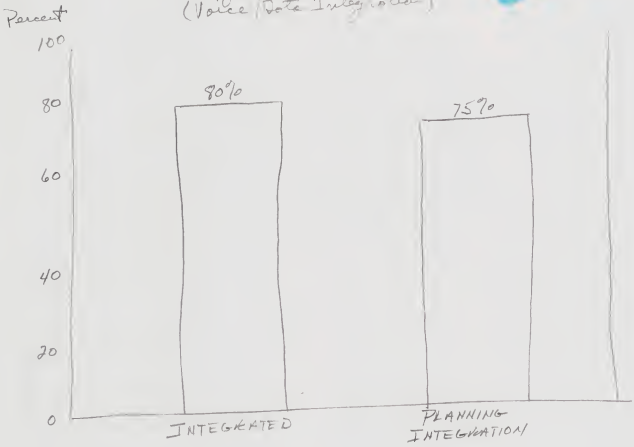


AG11C

Telecommunications Industry
Industry Specific Expenditures
Micro Systems

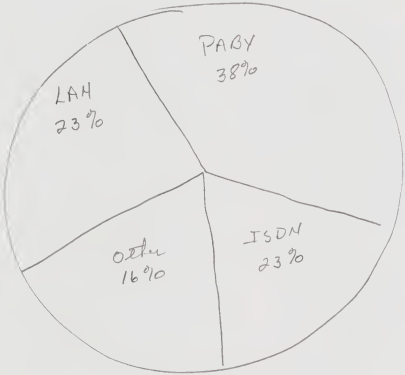


~~National Network Planning~~
~~Influencing Factors~~
National Network Planning
Influencing Factors
(Voice/Data Integration)



12

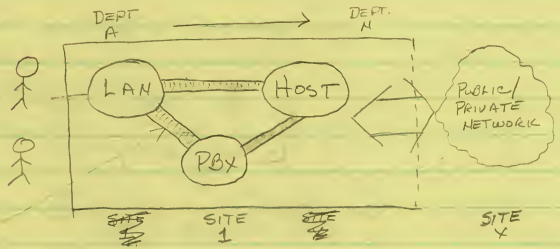
National Network Planning
Voice/Data Integration
method



13

National Network Planning

Typical Office -
Late 1990's

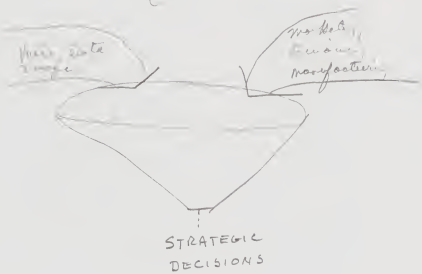


2070 Hale

14

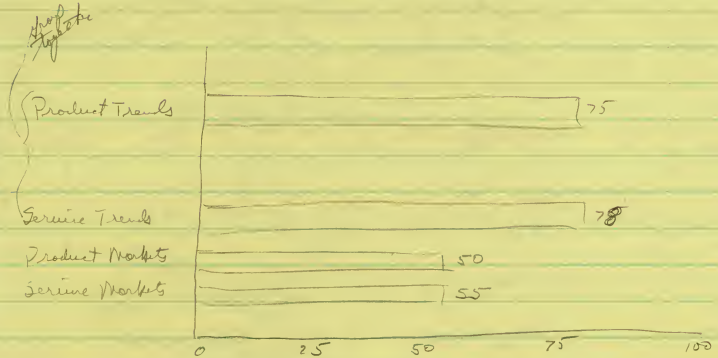
Network planning

Strategic Considerations



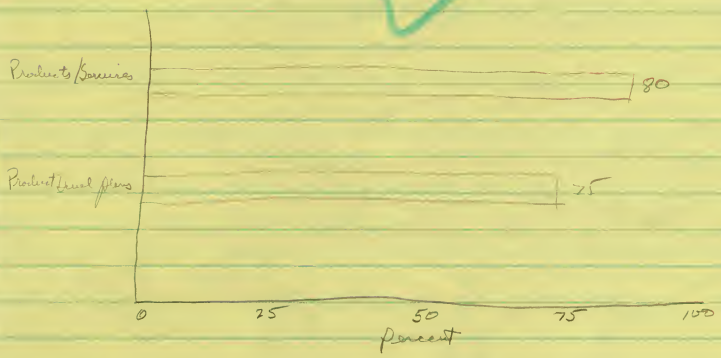
~~4~~ ~~5~~ ~~6~~ 15a

National Network Planning
Development Considerations
High / Very High Ratings



15b

National Network Planning
Development Consideration
High/Very High Interest



National Network Planning
Major Components

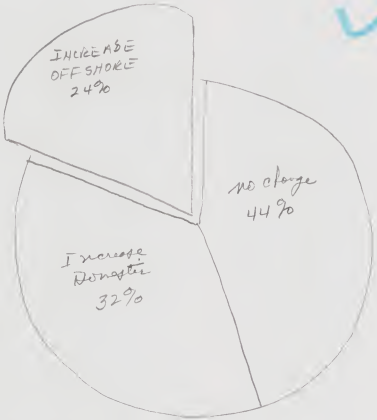
Key Vendor Profiles
Service Forecasts
Customer Support
Major Initiatives

16

Mastermind Network Planning

M

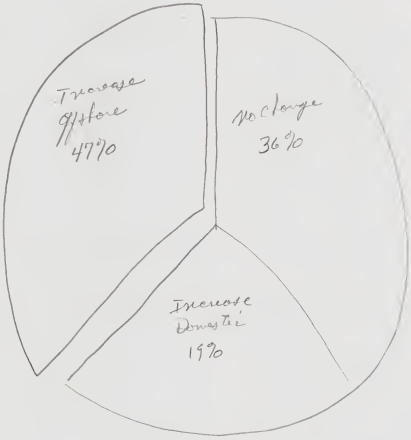
Multinational Network Planning
Influencing Factors
Future Production Plans



Source:
Baylor University

18

Multinational Network Planning
Influencing Factors
Future Purchases



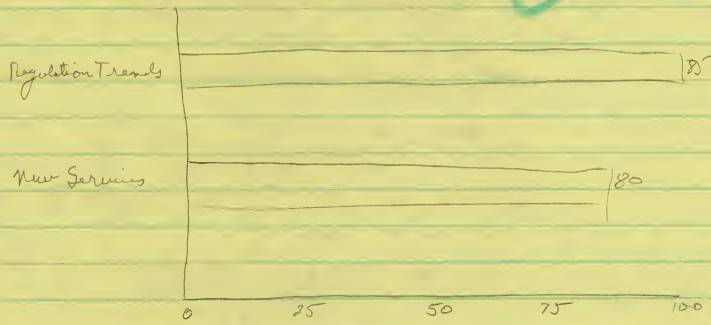
Source: Dayton University
NOTE! Total deviates from 100% due to rounding

Multinational Network Planning
Influencing Factors

- PTT Policies and Practices
- Service/Circuit Availability and Usage
- Service Quality and Reliability
- Service/Equipment Incompatibilities
- Service Delays and Costs

20a

Multinational Network Planning
Development Considerations
High/Very High Rating



Multinational Network Planning
Major Components

Regional Service Analysis
Country Profiles
Specialized Reports

21

Multinational Network Planning
Region of Service Analysis

Asia/Pacific
Europe/Middle East/Africa
North/Central/South America

22

Multinational Network Planning
Regional Service Analysis

3. Political / Economic Trends
2. Regulatory Developments
1. Service Trends and Developments
4. Tariff changes and Trends
5. Five year projection

Multimodal Network Planning
Country Profiles

40 Countries

Administration Profiles
Services Available
Regulations
Tariffs

24

Integrated Communications Program
~~Development Schedule~~
Program Development

Current Development

2. Regional Analysis
   Asia/Pacific
3. Vendor Profiles
   Issue Study
   Network Management/
   User Requirements

4 Country Profiles

Planned Development

- Software and Services
- VSAT Service Opportunities
- Regional Analysis
  Europe
- Network Services Quality
- Customer Premises Services

Second Quarter

25 A, B, C