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<th>The impact of new information technology on broadcasting, national economies and social structures: Kuala Lumpur, February 22-24, 1995: [a summary of proceedings]</th>
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A Summary Of Proceedings

By

Om Khushu
ABU-FES-ITU SEMINAR

ADOPTION OF NEW MEDIA TECHNOLOGIES:

TRENDS, OPPORTUNITIES AND ISSUES

KUALA LUMPUR, MALAYSIA

20 - 21 February, 1995

A SUMMARY OF THE PROCEEDINGS

BY

OM KHUSHU,

DIRECTOR, TECHNICAL DEPARTMENT, ABU
TECHNOLOGY TRENDS

- DIGITALISATION, INCLUDING TRANSMISSION PATH

- CONVERGENCE OF BROADCASTING, TELECOMMUNICATIONS AND COMPUTER TECHNOLOGY

- DIVERSIFIED METHODS OF DELIVERY
DIGITAL TECHNOLOGY

- THE TECHNOLOGY OF CONVERTING PICTURE OR SOUND SIGNALS INTO A STREAM OF NUMBERS FOR SUBSEQUENT PROCESSING AND RE-CONVERTING

- NOT ENTIRELY NEW (PREVIOUSLY USED IN DEVICES SUCH AS STANDARDS CONVERTORS, DVE SYSTEMS)

- FACTORS WHICH HAVE CONTRIBUTED TO INCREASING USE:

  • EFFICIENT COMPRESSION TECHNIQUES (BROADCASTING QUALITY NOW POSSIBLE)

  • ADVANCES IN MICROELECTRONICS (CHEAP DECODERS)
VIDEO COMPRESSION

- THE PROCESS OF REDUCING THE AMOUNT OF BANDWIDTH OR DATA RATE FOR VIDEO

- THE PICTURES ARE ANALYSED LOOKING FOR REDUNDANCY AND REPETITION

- UNNECESSARY DATA IS THEN DISCARDED
BENEFITS OF DIGITAL TRANSMISSION

- INCREASED PROGRAMME SUPPLY TO CONSUMER

- IMPROVED QUALITY OF REPRODUCTION

- ECONOMICAL USE OF FREQUENCIES

- DIVERSIFIED A/V CONSUMER PATTERNS

- ENABLES NEW TYPES OF SERVICE TO BE OFFERED

- ALLOWS TO SERVE NEEDS THAT OTHERWISE COULD NOT BE MET
DELIVERY OPTIONS

- TERRESTRIAL ANALOGUE SYSTEMS
- TERRESTRIAL DIGITAL SYSTEMS
- SATELLITE, DBS & DTH
- MMDS
- FIBER OPTIC BACKBONE NETWORKS
- COPPER WIRE (ADSL)

BOTTOM LINE: POSSIBLE FOR TELEPHONE CIRCUITS TO DELIVER TELEVISION AND CABLE CIRCUITS TO DELIVER TELEPHONY
DELIVERY ISSUES

- WILL ADDITIONAL SPACE SEGMENT RESULT IN LOWER TRANSPONDER PRICES?

- WILL THE ADVENT OF VOD SERVICES (INCLUDING PAY-PER-VIEW) FROM TELEPHONE COMPANIES HAVE A SIGNIFICANT IMPACT ON BROADCASTERS?
PROGRAMME PRODUCTION

- COMPONENT PROCESSING

- SPEEDIER, FILM STYLE
  NON-LINEAR EDITING

- PC BASED GRAPHICS &
  ANIMATION
  (FASTER PROCESSORS, CHEAPER
  PRICES)

- AUDIO WORKSTATIONS

- DESK-TOP PROGRAMME
  PRODUCTION

- DISC RECORDERS, (ACQUISITION
  THRO' POST-PRODUCTION)
- SNG

- MINICAMS ALLOWING OTHERWISE UNACHIEVABLE PERSPECTIVES

- ROBOTICS

- AUTO PLAYOUT, FEWER ERRORS
TYPES OF VIDEO SIGNALS

- COMPONENT SIGNAL
  LUMINANCE AND CHROMINANCE REMAIN SEPARATE

- COMPOSITE SIGNAL
  LUMINANCE AND CHROMINANCE ARE COMBINED USING ONE OF THE CODING STANDARDS - PAL, NTSC, SECAM
IMPLICATIONS FOR PROGRAMME MAKERS

- MULTICHANNEL ENVIRONMENT REQUIRES MORE OF EVERYTHING, THEREFORE FASTER AND CHEAPER OPERATIONS

- VARIATIONS ACROSS THEMES

- VARIATIONS IN DEPTH OR SLANT FOR THE SAME THEME

- VALUE ADDITION TO STOP DRIFT

- NEW MARKET TYPES
NEW OPPORTUNITIES

- TECHNOLOGIES WHICH THREATEN ALSO PROVIDE OPPORTUNITIES
- NEW TYPES OF SERVICE
- BOUQUET OFFERINGS (SETS OF CONNECTED SERVICES ON A PLURALITY OF CHANNELS)
- SOLVING DEVELOPING COUNTRY PROBLEMS
MOORE'S LAW

IN TEN YEAR'S TIME A DIGITAL SYSTEM WILL LIKELY BE TEN TIMES MORE POWERFUL THAN EXISTING SYSTEMS AT THE SAME PRICE,

OR ALTERNATIVELY

HAVE ONLY ONE-TENTH OF THE PRESENT PRICE FOR SAME POWER
DIGITAL AUDIO BROADCASTING

OBJECTIVES

- CD QUALITY, STREAMS OF PROGRAMMES
- RELIABLE RECEPTION ON MOBILE AND PORTABLE RECEIVERS
- SIMPLE PUSH-BUTTON TUNING
- FLEXIBILITY (CONFIGURATION, DELIVERY)

EUROPEAN IMPLEMENTATION IN 1995

CAN SERVE INTERNATIONAL AUDIENCES
POSSIBILITY TO ADD ANCILLIARY SERVICES

IN USA SEVERAL ORGANISATIONS ARE DEVELOPING TECHNOLOGIES TO ALLOW DIGITAL AUDIO SIGNALS TO BE SIMULTANEOUSLY BROADCAST WITHIN THE SAME FREQUENCY BAND AND ON THE SAME CHANNEL AS EXISTING AM & FM STATIONS (IBOC)

ALSO SATELLITE DELIVERED DIGITAL AUDIO RADIO SYSTEMS (DARS)
WIDESCREEN TELEVISION

- CINEMA LIKE EXPERIENCE

- SIXFOLD INCREASE IN BASIC PICTURE UNITS

- REQUIRES SOURCE MATERIAL PRODUCTION

- RECEIVER COST STILL HIGH

- BULKY RECEIVERS

- EUROPEAN IMPLEMENTATIONS OF PALplus
MULTIMEDIA AND INTERACTIVE SYSTEMS

- MULTIPLE SERVICES ON A FLEXIBLE BASIS (VOICE, VIDEO, ONE-WAY AND INTER-ACTIVE OPTIONS)

- INTER-ACTIVE SYSTEMS

  • BROADCAST - DELIVERED TV (RETURN PATH TO PROGRAMME PROVIDER)

APPLICATIONS: INFLUENCE PROGRAMME BY VOTING, REMOTE TRANSACTIONS, GAME INTERACTIONS
• DOWNLOADED SOFTWARE

APPLICATIONS: LOCALLY INTERACTIVE PROGRAMMES

• INTER-ACTIVE WIRE-DELIVERED TELEVISION

APPLICATIONS: - DIRECT INFLUENCE ON PROGRAMMES - ON-DEMAND SERVICES

- PACKAGED MULTIMEDIA: SELF CONTAINED COMPUTER SOFTWARE ON COMPACT DISC
APPRAISAL OF A NEW TECHNOLOGY

- IS THERE A MARKET?
  (INVESTMENT PROSPECT)

  • WILL IT INCREASE INCOME?
  • WILL IT REDUCE OPERATING COSTS?
  • WILL IT INCREASE MARKET SHARE BY OFFERING AN IMPROVED SERVICE?
  • WILL IT CREATE A NEW MARKET?
- IS IT FEASIBLE?

  • ARE FREQUENCIES AVAILABLE?
  • CAN THE EXISTING INFRASTRUCTURE BE ADAPTED?
  • IS FURTHER EVOLUTION POSSIBLE?
  • WILL NATIONAL REGULATIONS ALLOW IT?

- ARE THERE GOOD MANAGERIAL REASONS TO APPLY A PARTICULAR TECHNOLOGY
NECESSARY CONDITIONS FOR IMPLEMENTATION

- PLANNING

- REGULATIONS AND POLICY FRAMEWORK

- THE CAPACITY OF THE SUPPLY SIDE TO PROVIDE PROGRAMMING
PLANNING REQUIREMENTS

- APPRAISAL

- BUSINESS PLANS
  
  • COSTS & TIME REQUIRED TO ESTABLISH A NEW SERVICE, AND SCALE & TIMING OF POTENTIAL RETURNS

  • EXISTING MARKET : EXISTING COMPETITION

  • HOW WILL THE EXISTING MARKETS BE RETAINED?

  • FINANCING : WHO PAYS?
- ADMINISTRATIVE FRAMEWORK

- TRIALING

- HRD, A CRITICAL SUCCESS FACTOR

  • FORMAL TRAINING

  • USING TECHNOLOGY (VIDEO CONFERENCING, INFO NETWORKS LIKE COMPUSERVE)

  • PEER-TO-PEER EXCHANGES
STANDARDISATION ISSUES

- PROLIFERATION OF NON-STANDARD SYSTEMS

- EACH MANUFACTURER'S IMPLEMENTATION IS PROPRIETARY IN SOME WAY
A RIDDLE

Q. WHEN IS A STANDARD NOT A STANDARD?

A. WHEN IT IS ABROAD!
REGULATORY ISSUES

- WHO IS A BROADCASTER?
  
  • PROGRAMME PROVIDER?
  
  • DELIVERY SYSTEM OWNER?
  
  • SERVICE PROVIDER?

- REGULATE WHAT?
  
  • CARRIAGE?
  
  • CONTENT?

- CONVERGENCE

- HARMONISATION
CONCLUSION

- DRAMATIC ADVANCES ARE TAKING PLACE IN TECHNOLOGY, COMPARABLE IN THEIR IMPACT TO PROGRESS FROM RADIO TO TELEVISION, AND FROM B/W TELEVISION TO COLOUR TELEVISION

- NO BROADCASTER CAN REMAIN UNTouched BY THE CHANGES

- THERE ARE THREATS AS WELL AS OPPORTUNITIES

- EVERY NEW APPLICATION MUST BE EVALUATED BEFORE INTRODUCTION
- RIGHT CONDITIONS MUST PRE-EXIST FOR SUCCESSFUL IMPLEMENTATION

- PLANNING IS ESSENTIAL

- NOW IS THE TIME TO ACT