

# **Assessing the Benefits and Limitations of Using Judgemental Forecasting Techniques for Telecoms**

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**Coleago Consulting is a niche consulting practice specialising in the telecommunications, media and technology sectors**

## **Telecoms, Media and Technology**

### **Strategy**

Analysis, scenario planning, asset valuation and pricing, positioning, targeting, war gaming

### **Marketing**

Marketing strategy and planning, pricing, forecasting, market research, new services, revenue optimisation, churn reduction

### **Technical**

Network planning, capacity optimisation, cost analysis, auditing, training courses, traffic simulation

### **Regulatory**

LRIC and other cost modelling, interconnect rates, competition review

### **Business Planning**

Business modelling, due diligence, valuation, profitability analysis, risk analysis, cost reduction, planning support

**Underpinned with facilitation, project management and bespoke modelling skills**



## Presentation Structure

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- The relevance of quantitative and qualitative techniques to forecasting in the telecoms sector
- An overview of qualitative forecasting techniques including Conjoint Analysis and Delphi Techniques
- A detailed study of role-play forecasting or War Gaming in the mobile sector
- The benefits of combining qualitative and quantitative forecasts



# Quantitative and Qualitative Forecasting Techniques

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## Quantitative Techniques

- Statistically based
- Predictions based on observations of historic data
- Extrapolative or Causative

## Qualitative Techniques

- Judgemental, subjective
- Predictions based on conjecture about the future

## Extrapolative

- Time Series Analysis

## Causative

- Regression Techniques

## Conjoint Analysis

- Expert Opinion and Delphi Techniques
- Scenario Planning and War Gaming



# Optimum Time For Applying Quantitative Forecasting Techniques

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## ■ Requirements

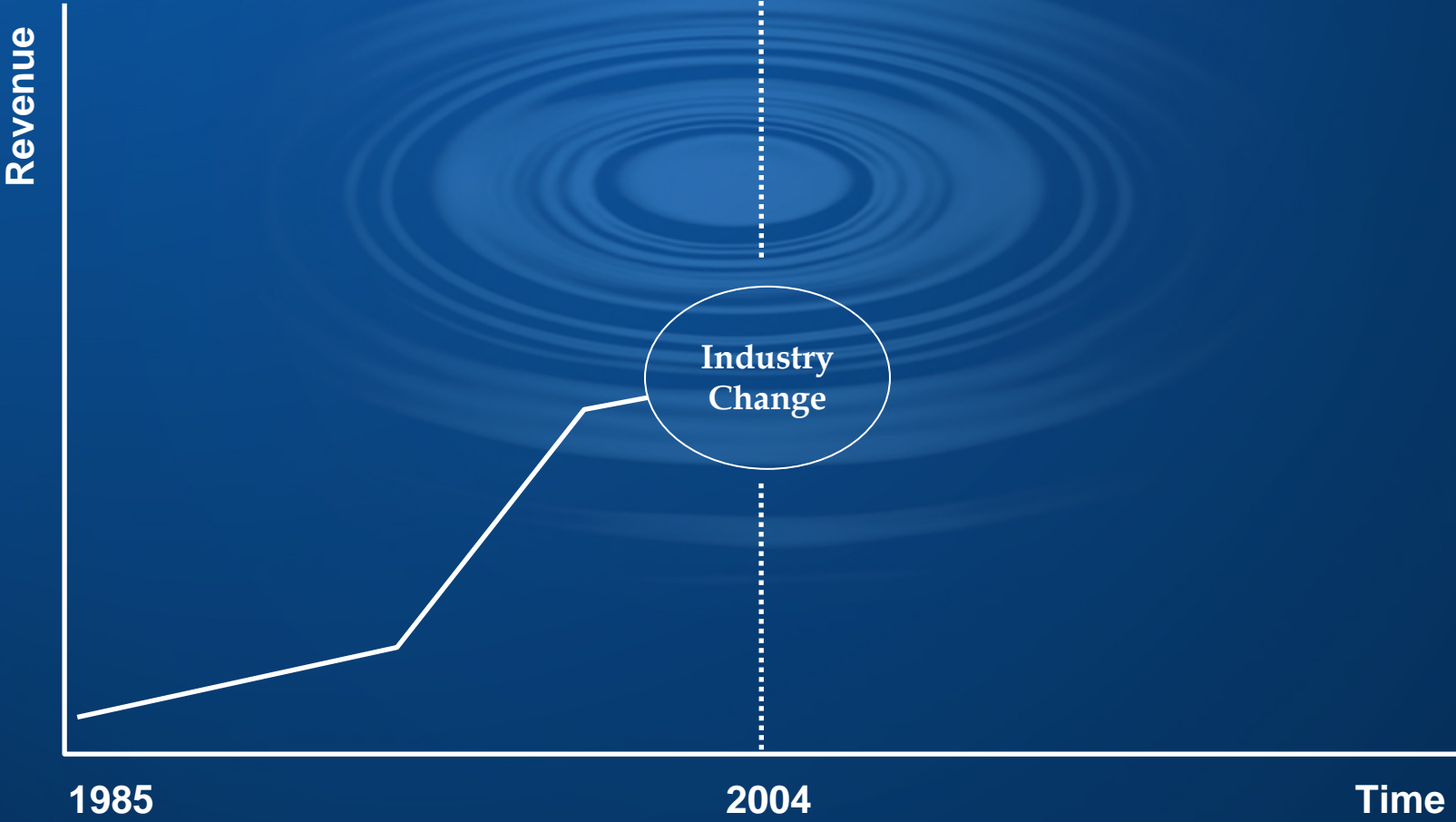
- Observable and measurable body of relevant, historic data
- Trends or relationships identifiable and expected to continue

## ■ Relevance

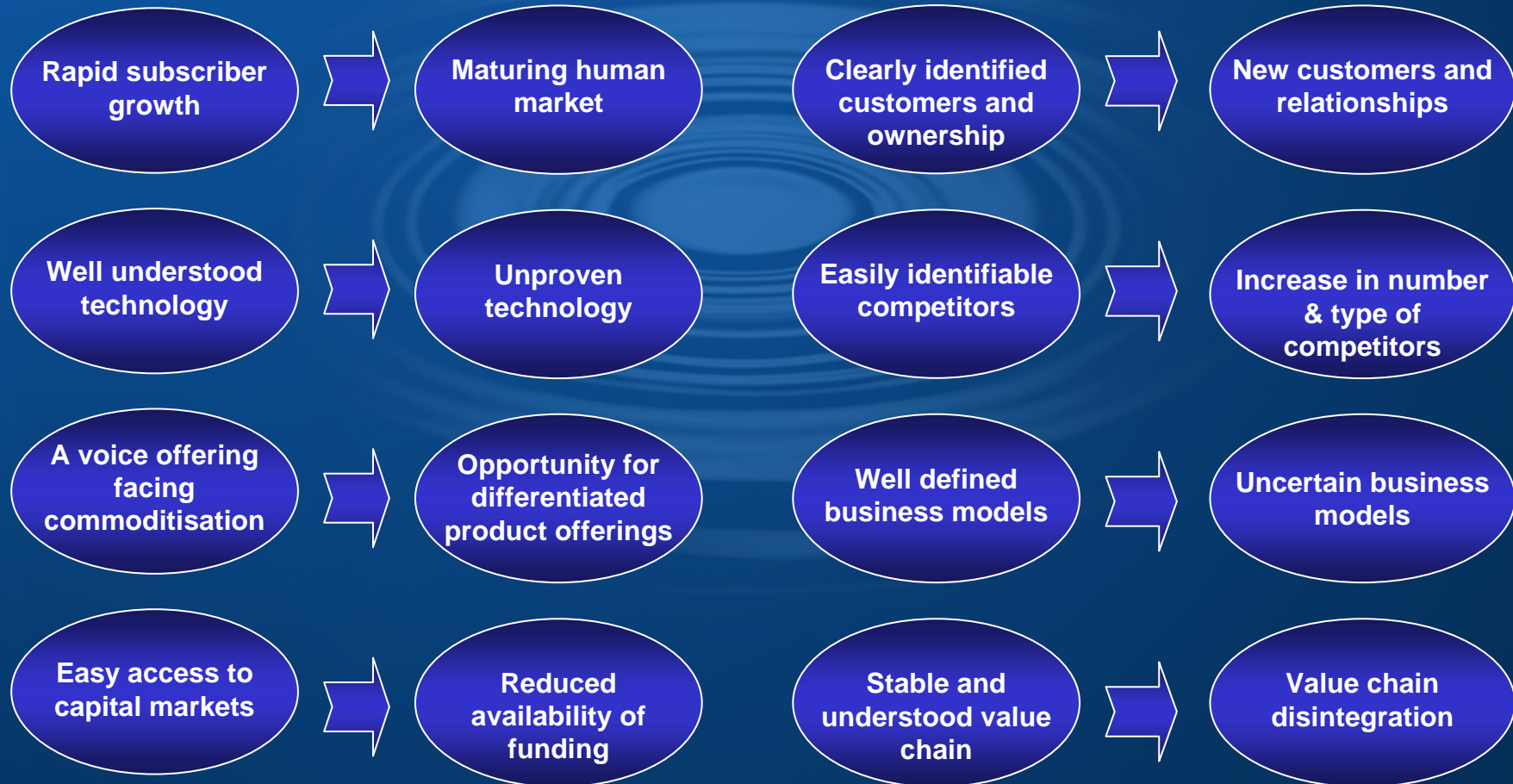
- Stable, mature businesses
- Markets not subject to dramatic change
- Existing products or services



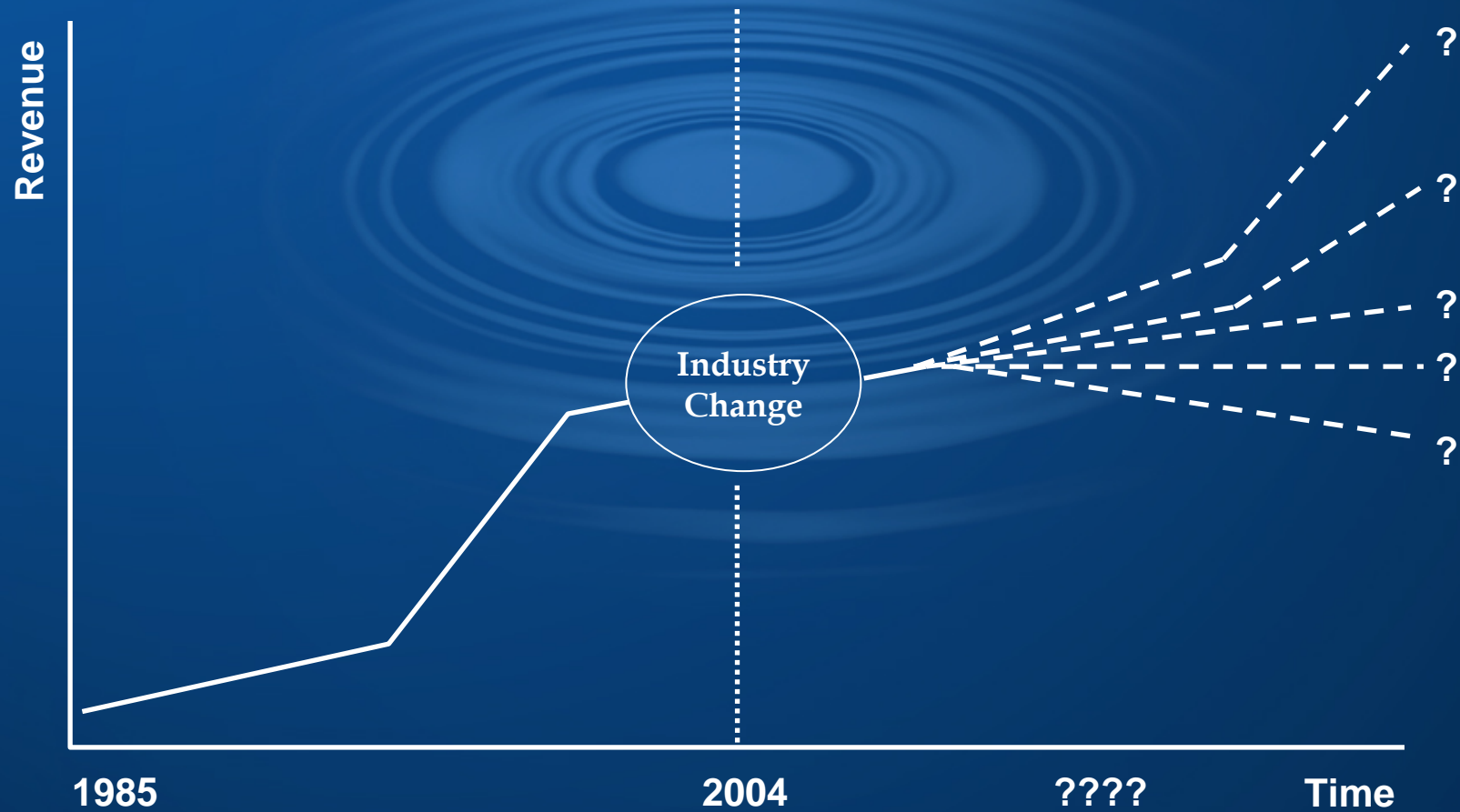
# The mobile telecommunications sector is at an inflection point



# The inflection point



The future may be unrecognisable from the past and so forecasts based on historic data may be poor predictors of the future



## Optimum Time For Applying Judgemental Forecasting

When	Telecoms Sector
New technologies	✓
New products and services	✓
New customers	✓
New competitors	✓
New pricing paradigms	✓
New business models	✓



## Benefits Of Judgemental Forecasting Techniques

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- The only viable forecasting solution available
- May provide a range of potential outcomes or forecasts
  - Aids tactical planning and risk management
- No historic data required and may avoid the need for extensive primary market research
- Can provide a holistic, broader view of the market place and the forecasting challenge
- Can incorporate market players' strategies, tactics and market dynamics



# Judgmental Forecasting Techniques

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<b>Technique</b>	<b>Who's Judgement</b>
Expert Opinion	Experts
Customer Intentions	Customers
Scenario Planning	Forecaster
War Gaming / Role Playing	Forecaster / Employees



# Expert Opinion

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- Principal

- Ask a group of experts to provide a consensus forecast

- Complication

- If a group of experts are placed in a room and told to reach a consensus, the quality of the forecast may be impaired due to the normal social dynamics of small groups
- The individual with the most forceful personality may have a greater influence over the group outcome even though his view of the future may be no more accurate than any other members of the group



# Expert Opinion

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## ■ Resolution – Delphi Technique

- A Delphi Manager is appointed to coordinate and facilitate the creation of a consensus forecast
- The experts provide their opinions anonymously to the Delphi Manager to avoid the social pitfalls of committees
  - The manager also provides structured, anonymous feedback such as one expert's forecast relative to the others, along with any justifications
- The process is repeated with experts either converging towards a consensus view, as they revise their opinions based on the feedback from other experts, or more than one possible outcome is identified



# Expert Opinion

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## ■ Strengths

- Good for answering one, specific, single-dimensional question
- No historic or primary market research is required
- Forecasts are generated by those best qualified to provide them
- No meetings are required

## ■ Weaknesses

- How does one select or even identify “experts”?
- Once identified they are likely to be expensive!
- The process is time consuming and the process itself can introduce bias
- Research shows that it is less successful for producing complex forecasts involving multiple factors



# Customer Intentions

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## ■ Principal

- Ask customers about their preferences for the attributes of a particular product or service

## ■ Complication

- Respondents in market research surveys find it difficult to value product or service attributes (such as data speeds) in isolation
- Many of the products and services that will be offered over 3G networks have not yet been identified



# Customer Intentions

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## ■ Resolution – Conjoint Analysis

- Products and services represent a combination of attributes such as price, speed and brand
- Conjoint Analysis attempts to measure the importance of each individual attribute to a customer's purchase decision
- Respondents choose between a series of alternatives, comprising different attributes
  - the results are analysed using dedicated software to generate utility functions for each attribute
- Based on the individual utility functions a forecast can be made for any new product or service provided it represents a grouping of the attributes that have already been measured



# Conjoint Analysis

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## ■ Strengths

- Particularly good for product specifications and tactical decision making
  - share of preference models can be used to determine market share
- Choosing between two alternatives is an easier choice for people to make rather than valuing attributes individually
  - It is also more efficient in terms of collecting data
- Once a forecaster understands a customer's preference for attributes, forecasts can be made for future services which have not yet been devised

## ■ Weaknesses

- Comprehensive primary market research required
- Complex to administer with scope for technical errors in its application
- Allows you to anticipate the impact of a reduction in price on demand but not whether competitors are likely to initiate a price war



# Scenario Planning

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- Process for developing and describing a range of contrasting, credible futures in which the business may have to operate



- 3G Mobile Licensing – Market Scenarios
  - “Mobile Armageddon”
  - “Mobile Nirvana”

# Scenario Planning

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## ■ Weaknesses

- May not actually identify the final outcome creating a “blind spot”
- Can be difficult to communicate
- Difficult to capture the full complexity of market dynamics

## ■ Strengths

- Creates a range of potential outcomes which can be used for risk management and testing how robust strategies
- Can be quick and relatively easy to perform
- No primary research or historic data required
- A great many uses can be made of the scenarios once constructed
  - The basis for War Gaming or Role Play



## Business Simulations, Role Play or War Gaming

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- Role Play is a technique for predicting the decisions of groups engaged in conflict
- It can compliment scenario planning by examining how players will interact in the context of a particular scenario
- It can be used to examine the inter-play of strategic and tactical decisions over multiple time periods



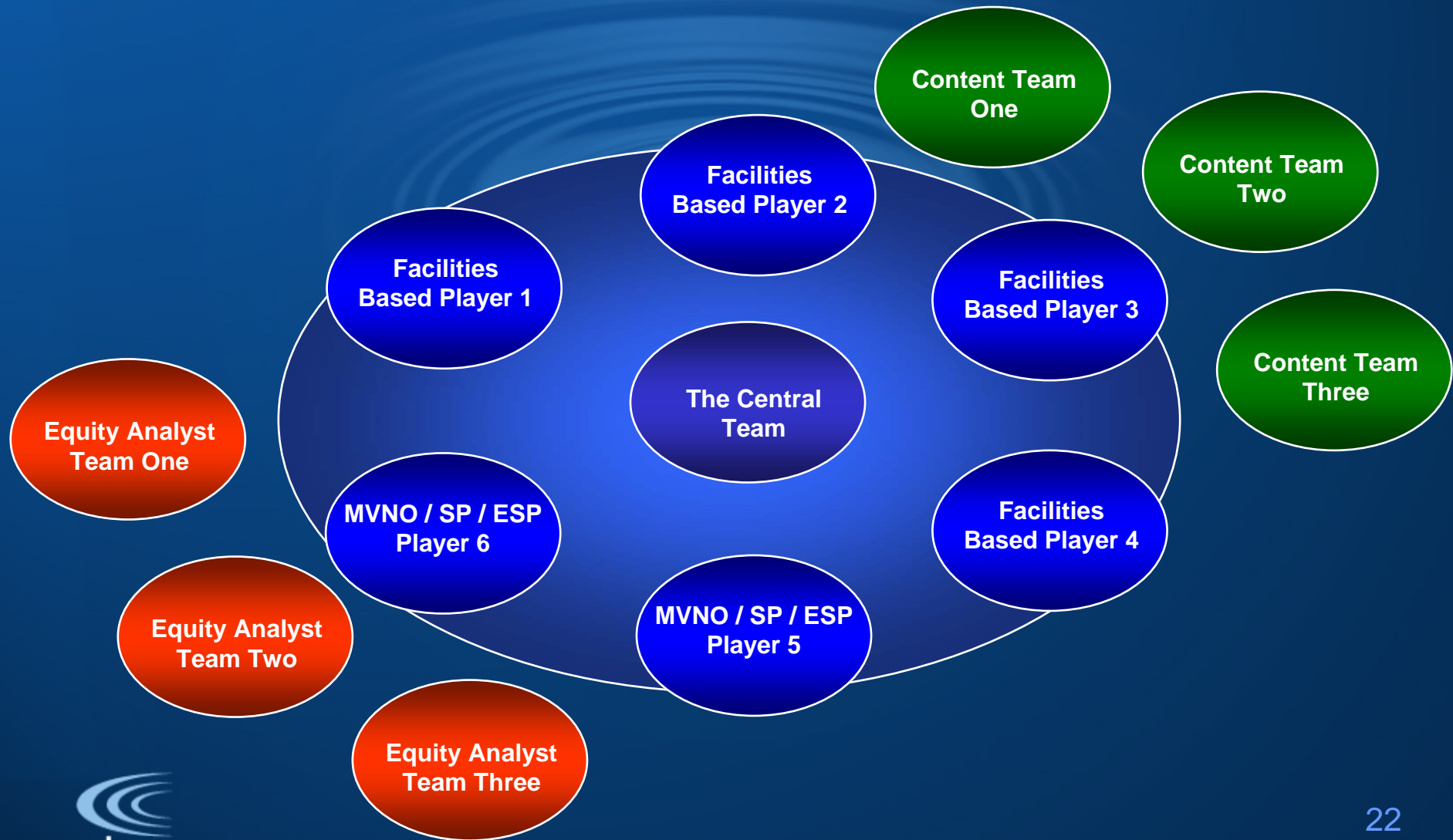
## War Gaming or Role Playing has lent itself particularly well to the following forecasting challenges in the mobile sector

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- Assessing the impact of a new entrant on an existing player
- Determining the entry strategy for a 3G only player to an existing market
- Examining the impact of a shift from 2G circuit switched services to GPRS and 3G packet based services
- Analysing the impact and preferred strategic response to the entry of an MVNO
- Predicting the commercial relationships between operators and content players



# Overview of War Game Structure



# Participants

Operators	Content Providers	Equity Analysts	Central Team
Play in character  Realistic Shareholder Objectives	Represent all Content and Application players	Provide financial analysis and commentary on individual operator performance	Regulator  Customer  Shareholders
Multi Disciplinary Team led by a CEO and FD	Negotiate content deals on best terms		Usually drawn from senior management



## Each round varies in length to focus on either short term tactical considerations or longer term strategic challenges

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Round 1 6 Months	Round 2 12 Months	Round 3 12 Months	Round 4 2-3 Years
All players prepare for the arrival of a new entrant	<p>The new player enters the market</p> <p>Examine the positioning, proposition and pricing points of the new entrant</p> <p>Examine how the preparations of other players impact the operator</p>	<p>The market responds to the new entrant</p> <p>Examine the impact of other players response on the operator</p> <p>Test the operator's own tactical response</p>	Examines the longer term impact of the new entrant on the market, other players and ultimately the operator



## Activities for operators during a typical round

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- Analyse the decisions of the other players
- Prepare a tactical marketing plan
  - Target segments
  - Pricing levels
  - Acquisition tactics and device subsidies
  - Retention spend and customer care staffing levels
- Negotiate with content players and MVNOs
- Lobby the regulator and respond to requests for comments on regulatory proposals
- Manage relationships with the financial analysts and shareholders



## Assessing Team Performance

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- The Central Team reviews the operators marketing plans against a set of Segment Specific Critical Success Factors on a round-by-round basis
  - to determine market share, adoption rates and usage levels
- A model is used to generate each players' financial results
- At the end of the four rounds the winner is the operator which best achieves its shareholder objectives



## War Games provide an holistic basis for forecasting, capturing many more aspects of the actual market place than other judgemental techniques

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- The War Game generates an holistic based forecast for
  - Price levels
    - Voice
    - SMS
    - MMS
    - 2G, 2.5G and 3G Data Conveyance
  - Device subsidisation levels
  - Market share and customer usage levels
  - Customer care staffing levels and retention spend
    - Key inputs in predicting churn levels
  - Individual financial performance and industry wide economics



# The Predictive Power of War Gaming

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- Client confidentiality limits the results that can be shared with the conference
  - 1999      New entrants seeking national roaming deals will find a partner (this result can be extended to those seeking MVNO deals)
  
  - 2001      Disparate initial GPRS pricing levels rapidly converge and commoditisation shortly follows
  
  - 2002      Differentiation for well established operators is extremely difficult and such operators are highly susceptible to niche plays – especially price competition from “no frills” competitors
    - » such competitors may be either desperate for customers or carrying out a deliberate strategy



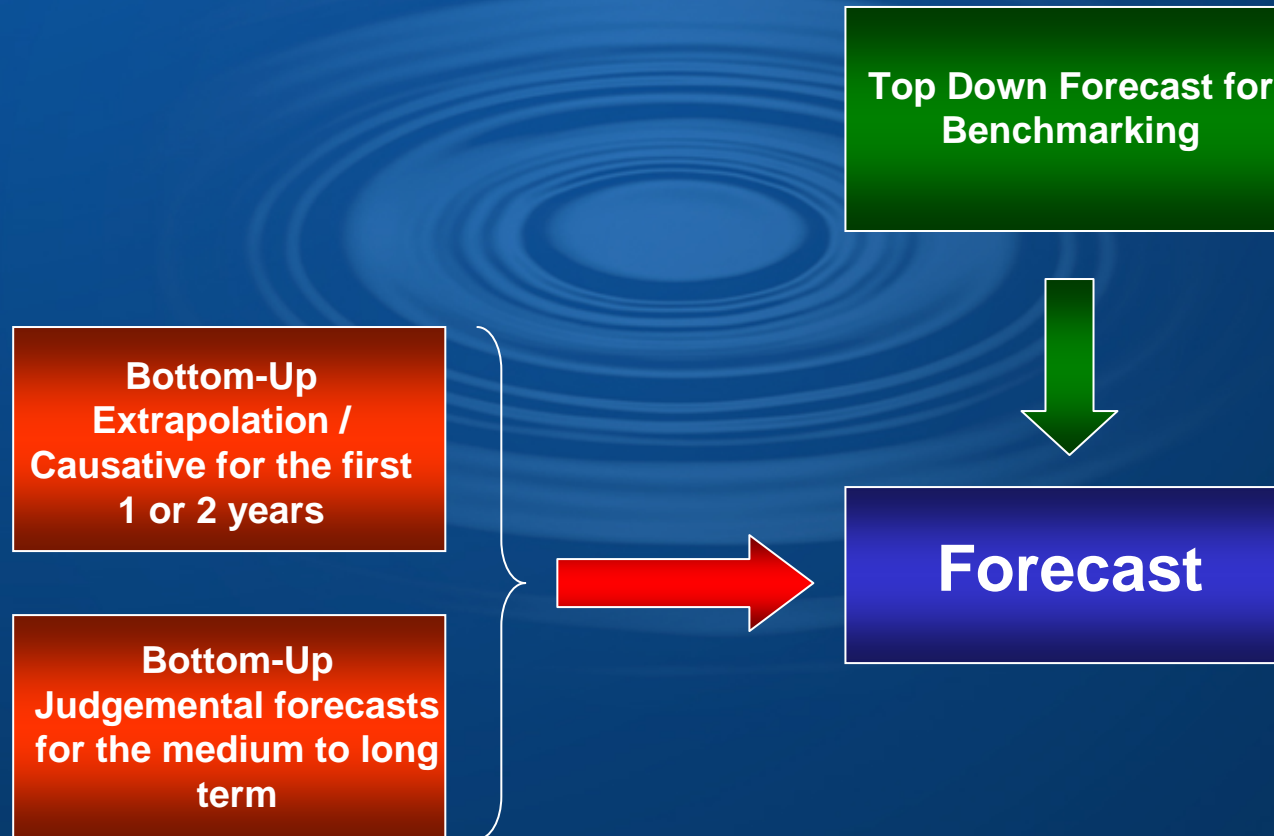
## Limitations of War Gaming

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- Can only explore one scenario – and it may not be the “right” scenario
- Complex to coordinate and manage
- Requires considerable resources if a full game is to be played
  - Smaller role-play exercises have also proven valuable



## Integrating Qualitative and Quantitative Forecasting Techniques – Business Planners should not rely on any one technique



## Conclusions

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- High levels of change within the telecommunications industry ensure a role for qualitative forecasting techniques
  - Occasionally they may be the only option
- There are a range of techniques available
  - Conjoint Analysis, Scenario Planning and War Gaming being the most commonly used
- Scenario Planning and Role Play provides a powerful combination
  - And is also great fun!



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