



# Data Visualisation for Business

## ANL 201

*Overview of Business Performance Measurement*  
*Study Unit 1*

January 2024



# Business Performance Measurement

Study Unit 1

# Business Performance Measurement

## *The big idea – Concepts*

- Business performance measurement is the process of establishing parameters within which resources, programmes, investments and acquisitions should be in order to achieve desired business results
- The ability to understand, manage and improve business performance is largely dependent on the ability to successfully measure business performance
- Organisations derive meaningful information from business performance measures and present them in a report or graphical presentation for review or evaluation

# What are Business performance measurement metrics?

- Business metrics are quantifiable measures used to track business processes to judge the performance level of your business
- There are hundreds of these metrics because there are so many different kinds of businesses, with many different processes
- Individual divisions or departments within a company, such as manufacturing, marketing and sales, are responsible for monitoring the metrics that track the performance of their respective parts of the business
- Senior executives track more general metrics

# Sales Metrics

- Measure and evaluate the sales-related performance and activities of an individual, team or company over a given period of time.
- Analysing sales metrics helps identify what is and isn't working and provides insights into actions to take to improve sales performance.
- Examples:
  - Net sales revenue
  - Quota attainment
  - Growth rate
  - Churn rate
  - Lead response

# Marketing Metrics

- Adopting key marketing metrics helps your marketing team determine how effective its methods and channels are in supporting the success of your business.
- Examples:
  - Return on marketing investment (ROMI)
  - Customer acquisition cost (CAC)
  - Customer lifetime value (CLV)
  - Customer retention
  - Customer engagement score

# Financial Metrics

- Financial metrics reflect the financial health of the business. After all, a company's survival hinges on its financial health.
  
- Examples:
  - Net income
  - Net profit margin
  - Gross profit margin
  - Working capital
  - Accounts receivable turnover ratio

# HR Metrics

➤ Human resources metrics can help indicate employee satisfaction and performance.

➤ Examples:

- Employee turnover rate
- Revenue per employee (R/e)
- Employee net promoter score (eNPS)
- Training spend



# Importance of tracking business performance metrics

Tracking the metrics that are most important to your business — and managing operations based on the results — maximises the business's chances of success.

- Performance improvement: Tracking the right business metrics tells you how well or poorly the business is doing and provides direction for how to improve operations
- Comparative analysis: Tracking business metrics reveals whether the business is over- or underperforming on key industry benchmarks.
- Alignment: Business metrics can be used to ensure the entire company is working toward shared organisational goals.
- Compliance: Mandates to track certain business metrics from governmental and other regulatory agencies require companies to monitor them to stay in compliance.

# Importance of tracking business performance metrics

- Communication: Reporting business metrics is a vital communications tool for customers, shareholders, employees or society at large.
- Identifying problems: Analysing business metrics can help identify emerging problems in time to correct them before they become major pain points.

# What Business Metrics Should You Use?

- In the absence of clarity around business goals, some organisations can go “metrics-crazy” and try to monitor too many things.
- While every business is different and, therefore, the metrics that matter are different for each of them.
- These three questions can be powerful tools to identify what matters most to any business:
  - Is the metric directly relevant to the performance of the business?
  - Does it help predict future performance in a useful way?
  - Can it be reasonably measured?

# Class Discussion 1

What are some of the relevant metrics for a Telecom service provider?



- What are some of the relevant metrics for a Telecom service provider?



## Example 1- Telecom

- Average revenue per user (ARPU)
- Churn rate
- Subscriber growth



# Class Discussion 1

- What are some of the relevant metrics for a Hospital?

# Class Discussion 1

- What are some of the relevant metrics for a Hospital?



## Example 2- Hospital

- Ratio of total revenues to total costs
- Average length of stay
- Bed occupancy
- Appointment waiting time
- Staff turnover
- Patient satisfaction



# The Balanced Scorecard



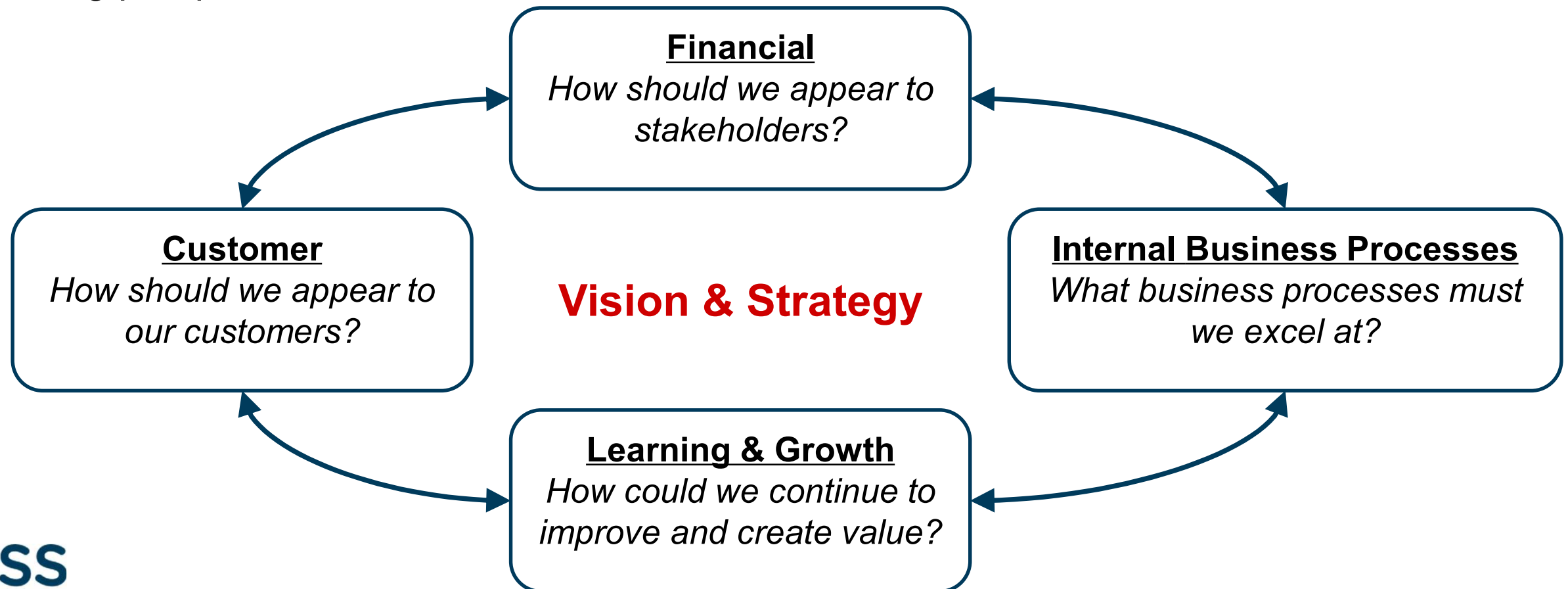
# Balanced Scorecard

## *Concepts of the Balanced Scorecard (BSC) Model*

- A robust model of business performance measurement requires measures to be established in all the areas so as to provide a holistic picture of organisation business performance now and in the future.
- In 1998, David Norton and Robert Kaplan (Harvard Business School) described how many world-class organisations have adopted business performance measurement systems way beyond looking only at financial objectives alone.
- The BSC enables organisations to clarify their visions and strategies, and puts them into action.

# The Balanced Scorecard (BSC) Perspectives

The BSC suggests that we view an organisation from four perspectives or dimensions, and we develop measures, collect data and analyse the data relative to each of the following perspectives:



# The Balanced Scorecard

## *The Financial Perspective*

- For any profit-oriented organisation, the bottom-line profitability is important.
- The measures in the financial perspective must eventually show gains in order for the organisation to conclude that its overall performance has indeed improved.
- The measures for the other three perspectives that relate to customer, internal business process and people must be appropriately selected in order (for financial performance) to yield results

# The Balanced Scorecard

## *The Customer Perspective*

- Under the Customer Perspective, an organisation needs to put “Customers First”
- Organisations have to establish goals for each key customer requirement
- Measures are then selected to gauge the organisation’s success in achieving these goals

# The Balanced Scorecard

## *The Internal Business Processes Perspective*

- Measures under this perspective allow managers to know how well their business is running
- Organisations must identify key business processes that need to be excelled
- Measures are then established to monitor the performance of these key business processes

# The Balanced Scorecard

*The Learning and Growth Perspective* - sometimes referred to as the innovation and development perspective

- This perspective includes employee training and corporate cultural attitudes
- Organisations have to establish goals that relate to innovation, growth and development
- Measures are then selected to gauge organisation's success in achieving these goals

# The Balanced Scorecard

*An illustration — Bank*

Perspective	Objective	Measure
Financial	Survival Growth Revenue development	Liquidity ratio Profit Margin ROI, Leverage ratio
Customer	Customer retention Increase market share	Customer satisfaction Growth of current and savings accounts, safety deposits
Internal Process	Increased digital presence Increase service excellence	Growth in online, mobile banking Customer complaint resolution time
Learning and Growth	Improve employee satisfaction Improve employee capabilities	Employee turnover Number of employees using IT in their work

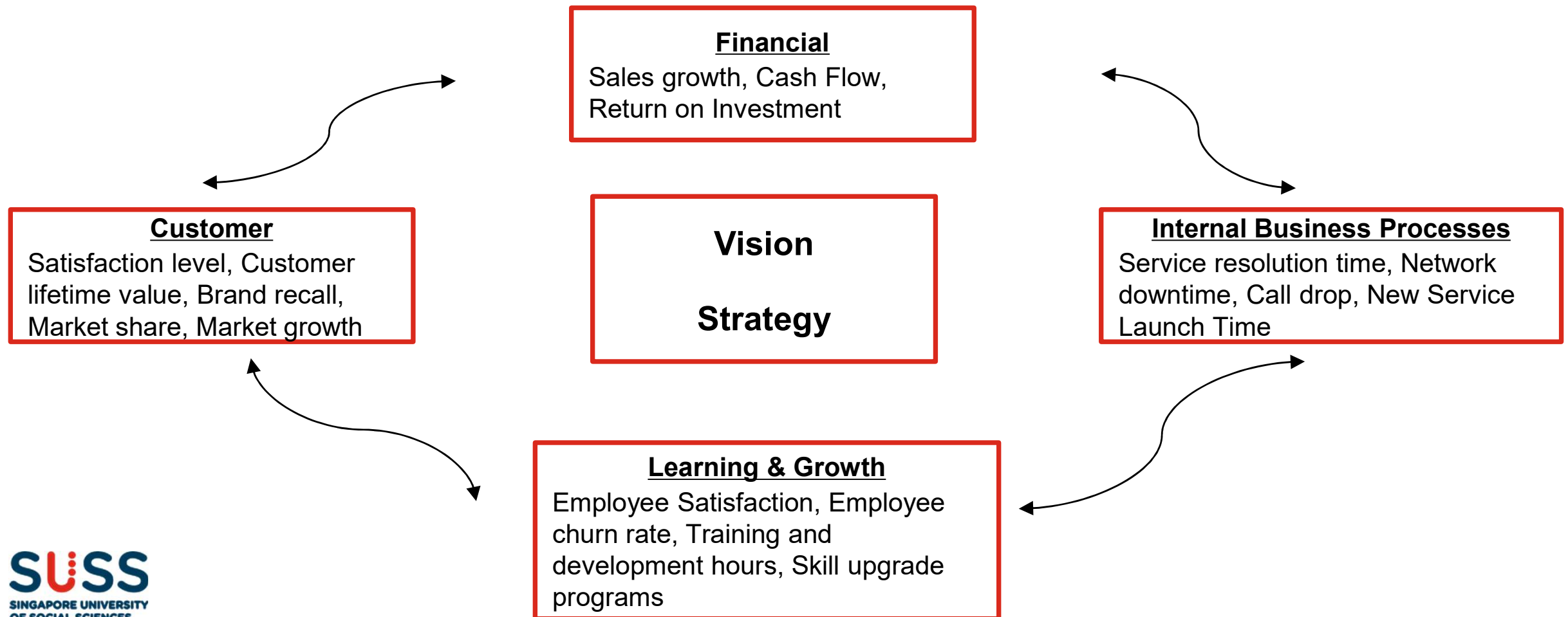
# Class Discussion 2

What are some of the possible measures for each of the four Balanced Scorecard perspectives for a Telecom service provider?



# Class Discussion 2

What are some of the possible measures for each of the four Balanced Scorecard perspectives for a Telecom service provider?





# The Strategy Map

# The Strategy Map

*What is a Strategy map?*

- The “strategy map” lays out the process of executing strategies through planned activities that are intended to achieve certain strategic objectives.
- Measurable business performance indicators are then established to track advancement towards strategic objectives, and to drive necessary improvement actions that will bring the organisation towards its intended strategic objectives.

Organization:

Vision:

Mission:

Strategy Theme:

Strategy Objectives and Strategy Map				Measures	Targets	Initiatives
Financial						
Customer						
Internal Business Process						
Organizational Capacity						

# The Strategy Map

## *Vision, Mission and Strategy*

- Vision Statement sets out the desired future state of the organization
- Mission Statement is the reason for the organisation to exist



Organization: EE, a British mobile network operator

Vision: We provide the best network and best service, so our customers trust us with their digital lives

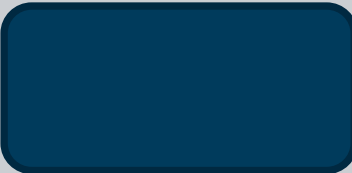
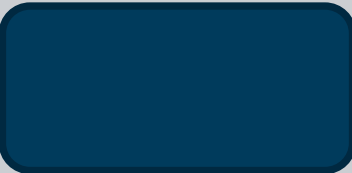
Mission: We run UK's biggest and fastest mobile network

Strategy Theme:

Strategy Objectives and Strategy Map

Measures

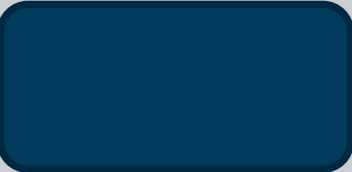
Financial



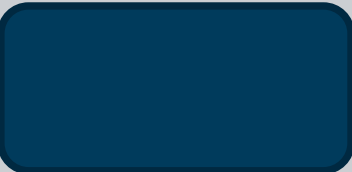
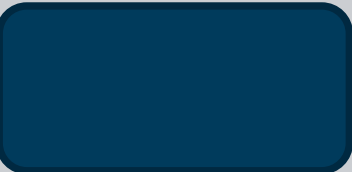
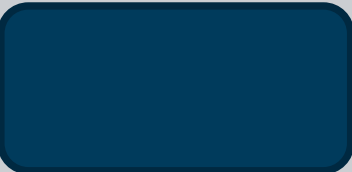
Customer



Internal Business  
Process



Learning and  
Growth



# Strategic Themes

- Strategic themes or strategic thrusts are the main high-level business strategies that an organisation must excel in in order to achieve its vision.
- Strategic themes knit together independent activities and focuses on effort and resources of functional groups that are significantly important.
- Strategic themes can be regarded as an organisation's pillar of excellence.
- They define what major areas the organisation will focus on to achieve its vision.

For example: Business growth, customer satisfaction and operational effectiveness for the mobile network operator

Organization: EE, a British mobile network operator

Vision: We provide the best network and best service, so our customers trust us with their digital lives

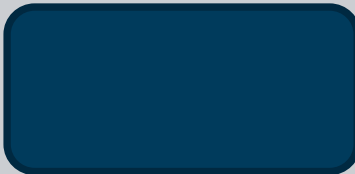
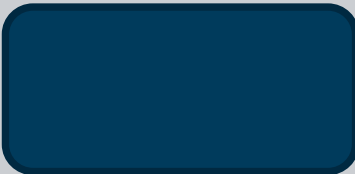
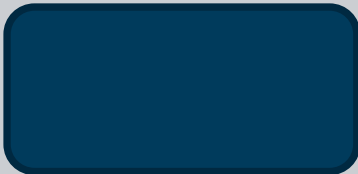
Mission: We run UK's biggest and fastest mobile network

Strategy Theme: Business growth, Customer satisfaction, Operational effectiveness

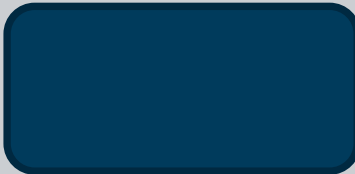
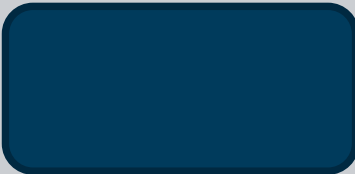
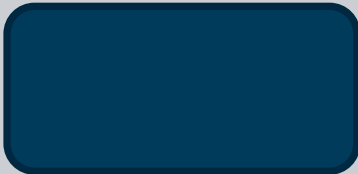
Strategy Objectives and Strategy Map

Measures

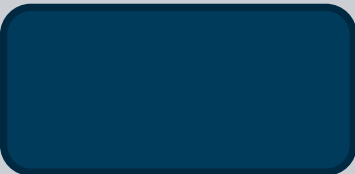
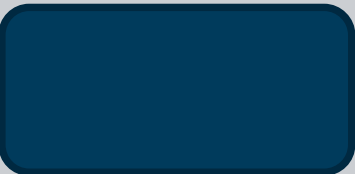
Financial



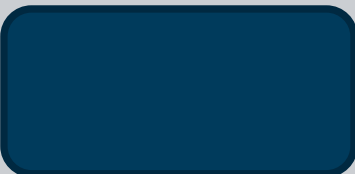
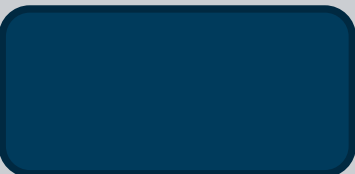
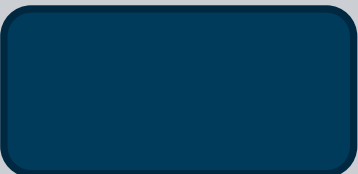
Customer



Internal Business  
Process



Learning and  
Growth





# The Strategy Map

*The need for Strategic Objectives (Goals)*

- Performance management begins with Strategic Objectives  
Examples: Launch a new product, increase profitability, grow market share
- Require further supporting information, initiatives and plans on how they can be achieved
- Strategic Objectives focus limited resources on things that matter most

Organization: EE, a British mobile network operator

Vision: We provide the best network and best service, so our customers trust us with their digital lives

Mission: We run UK's biggest and fastest mobile network

Strategy Theme: Business growth, Customer satisfaction, Operational effectiveness

### Strategy Objectives and Strategy Map

### Measures

Financial

Increase  
revenue

Increase  
profitability

Decrease  
operating  
costs

Customer

Improve  
communicat  
ion clarity

Improve  
market  
perception

Improve  
customer  
experience

Internal Business  
Process

Increase  
range of  
services

Improve  
integrated  
services

Improve end  
user  
interface

Organizational  
Capacity

Improve  
knowledge  
and skills

Improve  
telecom  
network

Improve  
technology

# Measures

- In order to monitor if the strategic objectives can be accomplished, the right measures must first be defined
- To select the appropriate measure, considerations that need to be made are:
  - Is it measurable?
  - Are the data currently available or easily available?
  - What should the frequency be?
- An effective and sustainable Business Performance Measurement should place balanced focus on the number of measures in all four BSC (Balance Scorecard) perspectives

Organization: EE, a British mobile network operator

Vision: We provide the best network and best service, so our customers trust us with their digital lives

Mission: We run UK's biggest and fastest mobile network

Strategy Theme: Business growth, Customer satisfaction, Operational effectiveness

### Strategy Objectives and Strategy Map

### Measures

Financial

Increase  
revenue

Increase  
profitability

Decrease  
operating  
costs

Net Profit  
Operating costs  
Revenue in target markets

Customer

Improve  
communicat  
ion clarity

Improve  
market  
perception

Improve  
customer  
experience

Market share growth  
CSI growth

Internal Business  
Process

Increase  
range of  
services

Improve  
integrated  
services

Improve end  
user  
interface

New products as %of sales  
Brand awareness score  
End user experience score

Organizational  
Capacity

Improve  
knowledge  
and skills

Improve  
telecom  
network

Improve  
technology

Employee development plans  
Technology training index  
Network efficiency index

# Class Discussion 3

- In designing the right measure, what are the important considerations?
- Measureable
- Refutable
- Non-actionable
- Data is easily available
- Determine the appropriate time period for every measure

# Class Discussion 3

- In designing the right measure, what are the important considerations?
- ✓ Measureable
- ✗ Refutable
- ✗ Non-actionable
- ✓ Data is easily available
- ✓ Determine the appropriate time period for every measure

# Measures

## *Constructing Appropriate Measures*

- The Balanced Scorecard should contain a mix of leading and lagging indicators

	Lagging	Leading
<b>Definition</b>	Measures focus on results at the end of a certain period.  Based on historical performance.	Measures that drive or lead to the performance of lag measures.  Measures intermediate processes and activities.
<b>Examples</b>	Revenue  Employee Turnover Rate	Punctuality  Absenteeism
<b>Advantages</b>	Often easy to identify and capture.	Predictive in nature, and allow an organisation to adjust based on results.
<b>Issues</b>	Historical in nature and do not reflect current activities. Lack predictive power.	May be difficult to identify and capture. Often, new measures have no history.

# Targets

## *Setting Appropriate Targets*

- Business performance targets are objective values that share the same unit of measurement as the measures per se.
- With the identified targets, the gap between current and intended performance level can be ascertained.
- The characteristics of a well-chosen target are:
  - Easily understood and communicated,
  - Clear in establishing expectations, and
  - Encouragements given to stretch performance



Organization: EE, a British mobile network operator

Vision: We provide the best network and best service, so our customers trust us with their digital lives

Mission: We run UK's biggest and fastest mobile network

Strategy Theme: Business growth, Customer satisfaction, Operational effectiveness

Strategy Objectives and Strategy Map				Measures	Targets
Financial	Increase revenue	Increase profitability	Decrease operating costs	Net Profit Operating costs Revenue in target markets	+5% y-o-y -3% y-o-y +12% y-o-y
Customer	Improve communication clarity	Improve market perception	Improve customer experience	Market share growth CSI growth	+3% y-o-y +5% next year and then stabilize
Internal Business Process	Increase range of services	Improve integrated services	Improve end user interface	New products as %of sales Brand awareness score End user experience score	12% this year +5% y-o-y >90% every reporting period
Organizational Capacity	Improve knowledge and skills	Improve telecom network	Improve technology	Employee development plans Technology training index Network efficiency index	95% in place 90% efficient 99.99% uptime

# Initiatives

- Initiatives are specific projects, programmes or planned activities directed at key processes for the purpose of enhancing their output performance.
- Such initiatives are directed at closing the gaps identified during routine business performance measurement.
- These improvement activities are incorporated as strategic initiatives.

# *Success Factors for Implementing and Sustaining Business Performance Measurement Systems*

1. Top management support
2. Project champion
3. Adequate resources
4. Employee participation
5. Concise reporting

# Summary

- Ability to understand, manage and improve business performance is largely dependent on the ability to successfully measure business performance.
- Business metrics are quantifiable measures used to track business processes to judge the performance level of your business.
- Balanced scorecard approach allows organisations to have a balanced view of its performance in all critical areas of the business.
- Strategy map is a system that provides linkages between vision, mission, strategic objectives, performance measures, targets and strategic initiatives
- Well defined Business Performance Measures gauge progress on Strategic objectives

# Discussion

## *Develop a strategy map*

- In groups of 3-4, describe and develop a strategy map for an organization of your choice. It could be a company that you have worked in. Make use of the Balanced Scorecard and other concepts to illustrate the strategy map.
- Use the template on Canvas to draw your strategy map
- Send to your instructor after the class
- Instructor will review your strategy map and point 1-2 groups to present in the next seminar
- Briefly present your strategy map to the class

# Tableau (Class Activity)



# Tableau (Class Activity)

1. Follow your instructor for the followings exercises:
  - Import Excel data: global\_superstore\_2016.xlsx (orders)
  - Build a simple worksheet

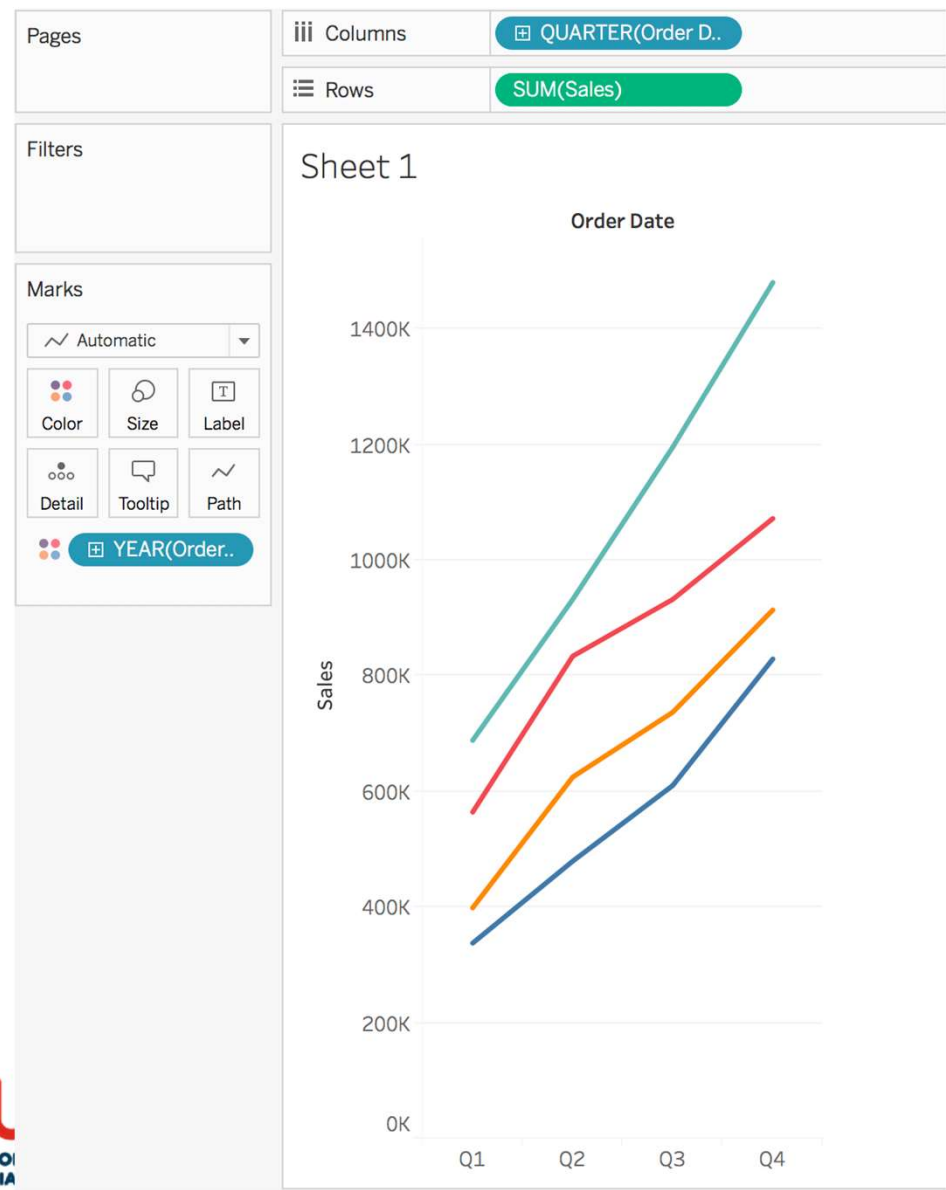
# Tableau (Class Activity)

The screenshot displays the Tableau interface. On the left, the 'Connections' pane shows a single connection named 'global\_superstore\_2016' with the data source type 'Excel'. Below this, the 'Sheets' pane lists available data sources: 'Orders', 'People', 'Returns', and 'New Union'. A checkbox for 'Use Data Interpreter' is present, with a note stating 'Data Interpreter might be able to clean your Excel workbook.' On the right, the 'Orders (global\_superstore\_2016)' data source is selected, and the 'Orders' sheet is highlighted. At the bottom, the 'Sort fields' dropdown menu is set to 'Data source order'.





# Tableau (Class Activity)





# Tableau File Extension

File Type	File Extension	Purpose
Tableau Workbook	.twb	It contains information on each sheet and dashboard that is present in a workbook. It has the details of the fields which are used in each view and the formula applied to the aggregation of the measures. It also has the formatting and styles applied. It also contains the data source connection information and any metadata information created for that connection.
Tableau Packaged Workbook	.twbx	This file format contains the details of workbook as well as the local data that is used in the analysis. Its purpose is to be share with other Tableau desktop or Tableau reader users assuming it does not need data from the server.
Tableau Data source	.tds	The details of the connection used to create the tableau report are stored in this file. In the connection details it stores the source type(excel/relational/sap etc.) as well as the data types of the columns.
Tableau Packaged Data source	.tdsx	This file is similar to the .tds file with the addition of data along with the connection details.
Tableau Data Extract	.tde	This file contains the data used in a .twb file in a highly compressed columnar data format. This helps in storage optimization. It also saves the aggregated calculations that are applied in the analysis. This file should be refreshed to get the updated data form the source.