

MGT705 – Advanced Cost and Management Accounting

Lecture 1 – 45 Slides

- The aims of JIT are to produce at the required quality, in the required quantity, and at the required time.

Batch sizes of one

- Set up time is the time required to adjust equipment and retool for a different product.
- Long set up time makes production of small batches uneconomic.
- However, production in large batches leads to substantial throughput delays and creation of high inventory levels.
- JIT philosophy is to reduce set up time to zero. By investing in advanced manufacturing technologies, some machine settings can be adjusted automatically.
- If setup time approaches zero, there is no advantage in producing in batches, and optimal batch size can be one.

JIT Purchasing Arrangements

- Delivery of materials immediately precedes their use.
- Frequent deliveries so stocks can be cut to a minimum.
- Suppliers to inspect material before delivery, and guarantee quality.
- More business to fewer suppliers and placing longer-term purchase orders.
- Reduction in paper-work arising from blanket long-term orders to a few suppliers

LECTURE # 30

JIT and Management Accounting*

- Management accounting must support just-in-time manufacturing by monitoring, identifying and communicating to decision makers, any delay, error and waste in the system.
- Emphasis on providing information on supplier reliability, set up times, throughput cycle times, percentage of deliveries that are on time, and defect rates.

Savings from JIT and determination of optimal selling price

- A Ltd manufactures and distributes three types of cars (the T1, T2, and T3). Each type of car has its own production line. The company forecast loss for the forthcoming year is as follows:

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Current operations – budgeted details for the next year:

	T1	T2	T3
Direct materials	2520	2924	3960
Direct labor	1120	1292	1980
Total direct cost	3640	4216	5940
Budgeted production (cars)	75000	75000	75000
Number of production runs	1000	1000	1500
Number of orders executed	4000	5000	5600
Machine hours	1080k	1800k	1680k

Savings from JIT and determination of optimal selling price

Annual Overheads	Fixed	Variable
Set ups	42660	13000 per prod run
Materials handling	52890	4000 per order
Inspection	59880	18000 per prod run
Machining	144540	40 per machine hour
Distribution and warehousing	42900	3000 per order

Impact of Proposed JIT system:

direct labor	increase by 20%
set ups	decrease by 30%
materials handling	decrease by 30%
inspection	decrease by 30%
machining	decrease by 15%
distribution and warehouse	eliminated

• Required (a)

Based on the budgeted production levels, calculate the total annual savings that would be achieved by introducing the JIT system.

Savings from JIT

Solution:

The annual cost savings are as follows:	(Rs 000s)
Direct labor $0.2(1120+1292+1980) \times 75000$	+65880
Variable set ups $(30\% \times 13000) \times 3500$	- 13650
Materials handling $(30\% \times 4000 \times 14600)$	-17520
Variable inspection $(30\% \times 18000 \times 3500)$	-18900
Machining $(15\% \times 40 \times 4560k)$	-27360
Distribution and warehousing (3000×14600)	- 43800
Fixed $[30\%(42660+52890+59880) + (15\% \times 144540) + 42900]$	<u>-111210</u>
Total savings	<u>166560</u>

Determination of optimal selling price

- The following table shows the price/demand relationship for each type of car per annum:

T1		T2		T3	
Price	demand	price	demand	price	demand
5000	75000	5750	75000	6500	75000
5750	65000	6250	60000	6750	60000
6000	50000	6500	45000	7750	45000
6500	35000	7500	35000	8000	30000

Determination of optimal selling price

- Required (b)
- Assuming that A Ltd adopts the JIT system and that the revised variable overhead cost per car remains constant (as per the proposed JIT system budget), calculate the profit-maximizing price and output level for each type of car.

The total variable overhead costs allocated to each product is as follows:

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(all 000s)	T1	T2	T3
Set up (9100 per prod run)	9100	9100	13650
Materials hand (2800/order)	11200	14000	15680
Inspection (12600/prod run)	12600	12600	18900
Machining (34 per mach hr)	36720	61200	57120
Total output	75	75	75
Variable overheads per car	928.26	1292	1404.67
Direct materials	2520	2924	3960
Direct labor	1344	1550.4	2376
Total variable cost per car	4792.26	5766.4	7740.67

Determination of optimal selling price

The above variable costs are now used to derive the contributions for the various price

levels: T1 car

Price	demand	unit contr	total
5000	75000	207.74	15581
5750	65000	957.74	62253
6000	50000	1207.74	60387
6500	35000	1707.74	59771

Similarly the total contributions for the other cars can be calculated.

The profit maximizing price and output level for T1 is Rs 5750 and 65000 respectively.

LECTURE # 31

Strategic Management Accounting*

- Strategy – to accomplish a task, win against an opponent.
- Information for formulation and implementation of organization strategy.

- To develop an integrated framework of performance measurement that can be used to clarify, communicate and manage strategy.
- Strategic decisions usually involve the longer term and have a significant effect on the organization.

External information about competitors

- To protect organization's strategic position, and determine future strategies.
- Help evaluate its competitive position relative to rest of industry.
- Collecting data on costs and prices, sales volumes and market shares, cash flows and resource availability for main competitors.
- Information available from public source i.e. annual reports, press, official institutions and informal sources. (sales personnel, consultants, industry specialist)

Strategic positioning*

- A firm has a choice of three generic strategies in order to achieve sustainable competitive advantage:
 - Cost leadership – compete on the basis of lower selling prices. Advantage may be due to economies of scale, access to favorable raw material prices, superior technology.
 - Differentiation – superior and unique products. E.g. dependability of product, after-sale service, wide availability.
 - Focus – on a narrow segment of the market that has special needs.

Accounting in relation to strategic positioning

- There will be more emphasis on particular accounting techniques depending on the strategic position adopted.
- Tight cost controls are more appropriate where cost leadership strategy is followed.
- Manufacturing cost standards are likely to be less important for a firm following product differentiation strategy.

Target costing and strategic management accounting

- Target costing falls within the domain of strategic management accounting.
- Justification for this is the external focus and the market-driven approach to product pricing and cost management.
- The aim is to achieve target cost, which involves examining cost reduction opportunities throughout the entire value chain.

The Balanced Scorecard

- Attention is being given to encourage behavior that is consistent with organization's strategy.
- Development of an integrated framework of performance measurement that can be used to clarify, communicate and manage strategy implementation.
- The approach will attempt to integrate both financial and non-financial measures, and incorporate performance measurement within the strategic management process.

The Balanced Scorecard

- Product quality, delivery, reliability, after-sale service and customer satisfaction have become key competitive variables.
- None of these were given much importance measured by traditional management accounting performance measurement systems.
- The need to integrate financial and non-financial measures of performance and identify key performance indicators that link to strategy, led to the emergence of the balanced scorecard.

LECTURE #32

The Balanced Scorecard philosophy*

- The balanced scorecard philosophy assumes that an organization's vision and strategy is best achieved when the organization is viewed from the following four perspectives:
 - Customer perspective (how do customers see us)
 - Internal business process perspective (what must we excel at)
 - Learning and growth perspective (can we continue to improve and create value)
 - Financial perspective (how do we look to shareholders)

The Balanced Scorecard

- The balanced scorecard is a strategic management technique for communicating and evaluating the achievement of the mission and strategy of the organization.
- (Insert fig 23 page 1002)
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The Balanced Scorecard

	Objectives	Measures	Targets	Initiatives	
FINANCIAL					
CUSTOMER					
INTERNAL BUSINESS PROCESS					
LEARNING AND GROWTH					

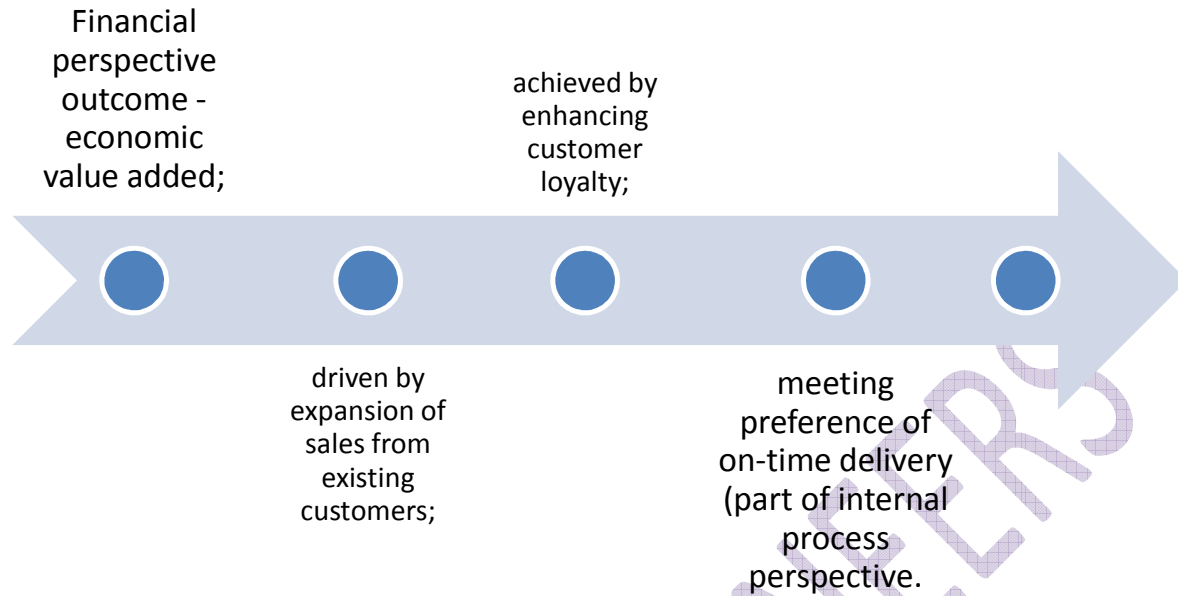
Implementation

- To implement the balanced scorecard, the major objectives of each of the four perspectives should be stated.
- The chart shows that these objectives should then be translated into specific performance measures.
- There may be one or more objectives to each perspective, and one or more performance measure linked to each.
- In the scorecard, firms should identify major initiatives for achieving each objective and also establish targets for each performance measure.

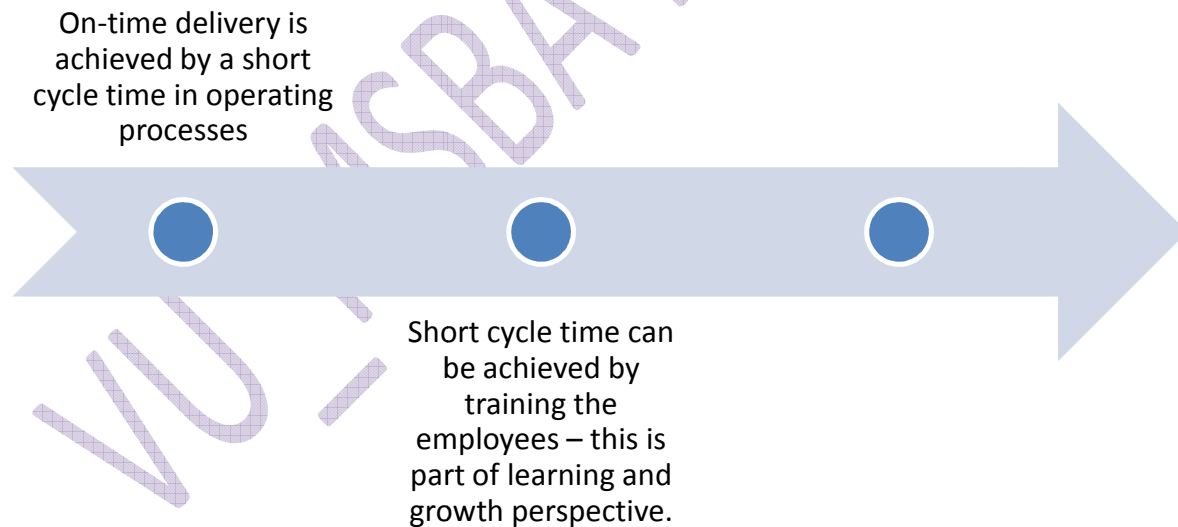
The aim of balanced scorecard

- The aim of the scorecard is to provide a comprehensive framework for translating a company's strategic objectives into a coherent set of performance measures.
- Only critical measures are incorporated in the scorecard.
- Cause and effect relationship encompasses all four perspectives of the balanced scorecard.

Cause and Effect



Cause and Effect



Non-financial measures

- So financial performance measures show financial impact of decisions, as their impact materializes. This can be long after the decisions were made.
- Drivers of future performance are the non-financial measures relating to the customer, internal business process and learning and growth perspectives.

Organization's strategy

- Most companies do not align performance measures to their strategy.
- Instead they try to improve performance of existing processes. (lower cost, improved quality, shorter customer response time).
- They do not identify the processes that are truly strategic. (i.e. those that require exceptional performance)
- The objectives and accompanying performance measures relating to each of the four perspectives, should reflect and operationalize an organization's mission and strategy.

Linkage between strategy and performance measurement

- A company following a low cost strategy will have different objectives and key performance measures than another which follows a product differentiation strategy.
- Experience shows where companies implement the balanced scorecard, they not only clarify and communicate strategy, but also manage strategy.
- The distinguishing features of a balanced scorecard approach are the linkages between strategy and performance measurement, and financial and non-financial performance measures, (cause and effect).

LECTURE #33

Southwest airlines – balanced scorecard analysis.

- Strategic theme: operating efficiency

- Financial: what will drive operating efficiency? Answer: more customers on fewer planes.
- Customer: how will we get more customers on fewer planes? Answer: attract segment of customers who value price and on-time arrivals.
- Internal: what must our internal focus be? Answer: fast aircraft turnaround time.
- Learning: how will our people accomplish fast turnaround time? Answer: educate and compensate ground crew, use employer stockholder programme.

Southwest airlines – balanced scorecard analysis.

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Southwest Airlines' Balanced Scorecard Framework.

	Objectives	Measurement	Target	Initiative
Financial	Profitability	Market value	30% CAGR	
	More customers	Seat revenue	20% CAGR	
	Fewer planes	Plane lease cost	5% CAGR	
Customer	Flight is on time	On-time arrival rating	#1	Quality management.
	Lowest prices	Market survey	#1	Customer loyalty program
Internal	Fast ground turnaround	On ground time	30 minutes	Cycle time
		On time depart	90%	optimization
Learning	Ground crew alignment	% ground crew trained	Yr 1 – 70%	ESOP.
		% ground crew stockholders	Yr 3 – 90%	Ground crew training
			Yr 5 – 100%	

Balanced scorecard as a strategic management system*

- The scorecard is being used to accomplish the following critical management processes:
 - Clarifying and translating vision and strategy into specific strategic objectives, and identifying the critical drivers of the strategic objectives.
 - Communicating and linking strategic objectives and measures. Establish local objectives that support global strategy.
 - Plan, set targets and align initiatives. Include and monitor the longer term (3 – 5 years) targets.
 - Enhance feedback and learning, strategy implementation can be monitored and adjusted.
- Measuring scale; tractor ploughing land, sowing of seeds, adding fertilizer, crops have grown.

• **Benefits:**

- A single report shows four perspectives on company performance.
- Developing major goals for four perspectives and translating these into specific performance.
- It helps managers to see whether improvements in one area may have been at the expense of another.
- The approach improves communication within the organization and promotes active formulation and implementation of organizational strategy.

Limitations

- Criticism mostly questions the assumption of cause and effect relationship on the grounds that they are too ambiguous, and lack empirical support.
- Others relate to omission of employee and environment perspectives. The response is that there is nothing to prevent additional perspectives. However too many perspectives should be avoided as a major benefit of the balanced scorecard is its conciseness and clarity of presentation.

LECTURE # 34

Establishing objectives and performance measures – Financial

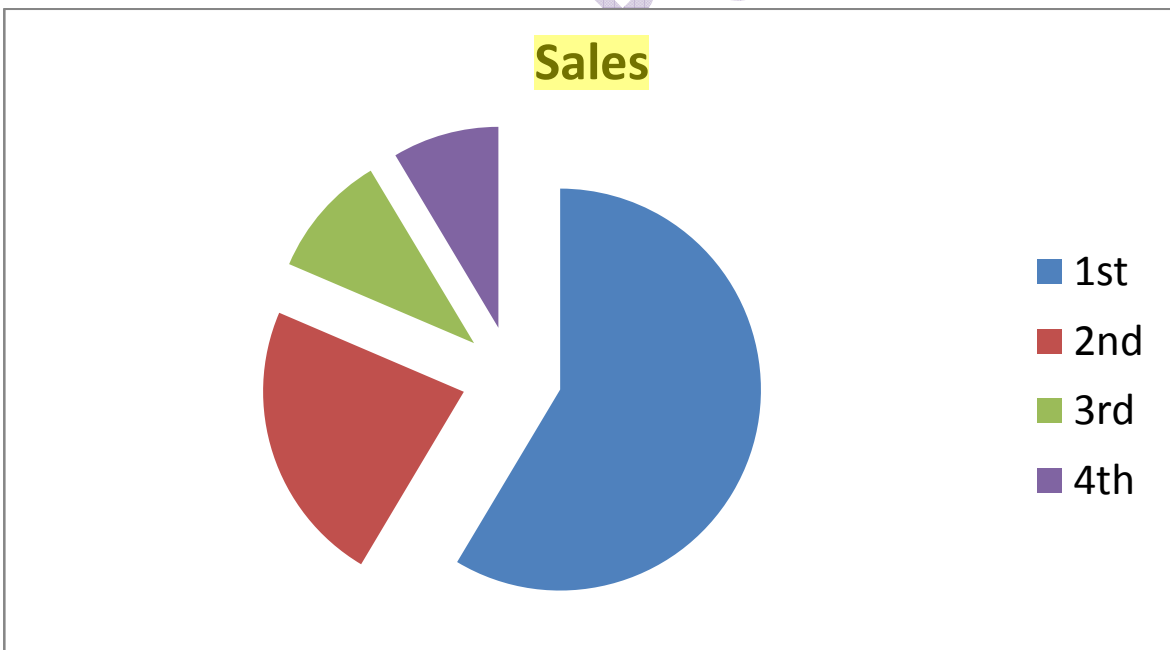
• **Objectives**

- operating profit, return on investment, net profit, economic value added. In addition, revenue growth, cost reduction and asset utilization.
- typical financial objectives are to increase return on investment by 20%, and/or to increase sales and operating income by 100% over the next five years.
- Financial measures provide feedback on whether improvements in operational performance measures are being translated into improved financial performance.

The Customer Perspective

- Objectives:
 - Market share
 - Customer retention
 - New customer acquisition
 - Customer satisfaction
 - Customer profitability
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Measuring Market Share



Measuring market share