

# BASIC FINANCE

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 **BIOCATALYSTS**  
exceeding enzyme expectations

- Profit & loss and cash
- Important financial concepts such as cash burn; ROI (return on investment); gearing
- J curves
- Lean

# Contents

# Profit & Loss

## Larry's Landscaping & Garden Supply Profit & Loss October 2011 through September 2012

	Oct '11 - Sep '12
<b>Delivery Income/Expense</b>	
Income	
Landscaping Services	87,800.00
Markup Income	815.00
Retail Sales	300.00
Service	6,880.00
<b>Total Income</b>	<b>95,800.00</b>
Cost of Goods Sold	
Cost of Goods Sold	4,229.25
<b>Total COGS</b>	<b>4,229.25</b>
<b>Gross Profit</b>	<b>91,570.75</b>
<b>Expense</b>	
Payroll Expenses	37,820.85
Automobile	758.05
Bank Service Charges	70.80
Delivery Fee	15.00
Insurance	1,855.00
Interest Expense	470.94
Job Expenses	2,427.25
Mileage Reimbursement	0.00
Professional Fees	375.00
Rent	2,400.00
Repairs	45.00
Tools and Misc. Equipment	755.00
Unallocated Expenses	0.00
Utilities	855.55
<b>Total Expense</b>	<b>47,889.94</b>
<b>Net Delivery Income</b>	<b>43,680.81</b>
<b>Other Income/Expense</b>	
Other Income	
Misc Income	700.50
Interest Income	51.11
<b>Total Other Income</b>	<b>751.61</b>
<b>Net Other Income</b>	<b>751.61</b>
<b>Net Income</b>	<b>44,432.42</b>



ROY WARREN

How to  
Understand  
and Use  
**Company  
Accounts**

REVISED AND  
UPDATED EDITION

# Cash is King

- Profitable companies go bust
- If you want to know how secure a company is find about it's cash position and cash flow forecast
- The term 'gearing' is used to describe company indebtedness

• £

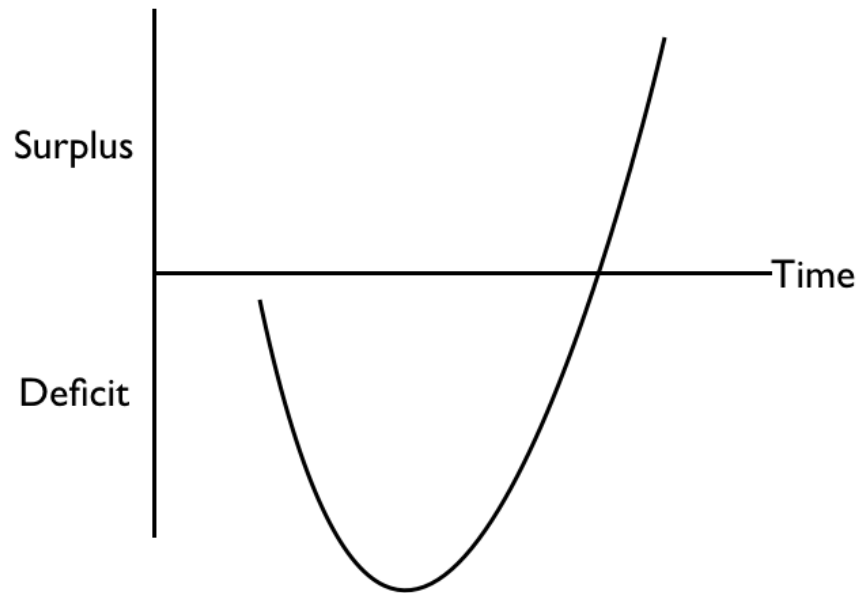
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# ROI – Return on investment

- Money spent on R&D projects has to deliver a return, just like putting money in the bank.
- If a company invests £100k in a R&D project then it needs that money back with interest in the future
- To get the money back you have to have profitable sales.
- Spending the money is easy getting a return for the shareholders is not so easy

# J curve or hockey stick



- Project overruns cost companies a fortune not just in the extra project costs but also in the lost sales revenue
- Good project managers are very valuable to companies



# What is 'LEAN'

The core idea is to maximize **Customer Value** while minimizing waste.

'Lean' means creating more value for customers with fewer resources.

'Lean' eliminates waste along entire value streams instead of at isolated points.

'Lean' creates processes that need less human effort.

'Lean' requires less space, less capital, less time.

# 'LEAN' History & Origin

- The history of '**Lean Manufacturing**' really starts with Toyota and the Toyota Production System (TPS).
- Engineer Taiichi Ohno is credited with developing the principles of lean production after World War II.
- His philosophy, which focused on eliminating waste and empowering workers, reduced inventory and improved productivity.

# Why use 'LEAN'

- A popular misconception is that lean is suited only for manufacturing:

**Not true.**

**Lean applies in every business and every process.**

- It is not a tactic or a cost reduction program, but a way of thinking and acting for an entire organization.

# The 'LEAN' Toolbox

## The Lean Tool Box

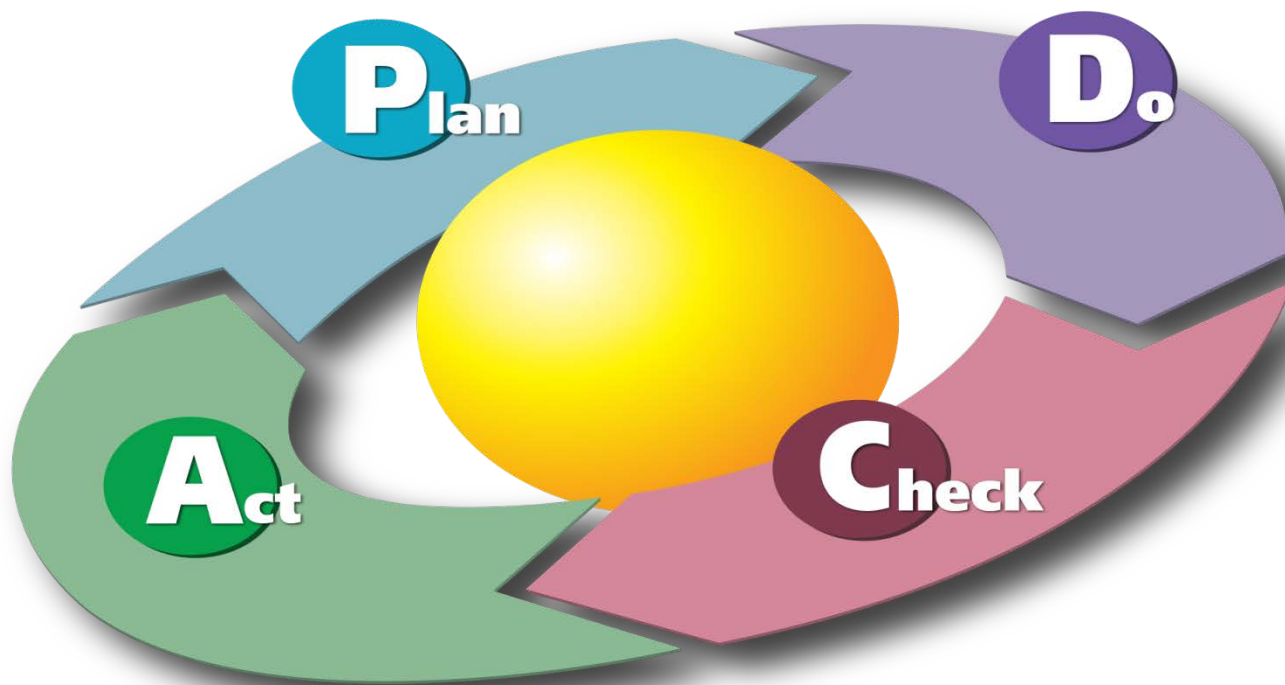
- ◆ Value Stream Maps
- ◆ 5S
- ◆ Visualisation
- ◆ Kaizen and Kaikaku
- ◆ Quick Changeover
- ◆ Point of Use Storage (POUS)
- ◆ Monuments and Remedies
- ◆ Lean Performance Measurement
- ◆ Batch Size Reduction
- ◆ Takt Paced Production & Delivery
- ◆ Fool Proofing
- ◆ Spaghetti charts
- ◆ Level Loading
- ◆ Kanban
- ◆ Work Cells



# The 7 Wastes of 'LEAN'



# 'Plan Do Check Act'



# Process Improvement

## Six Sigma & D.M.A.I.C.

The Lean Industry standard for process improvement is 'D.M.A.I.C' via Six Sigma.



- Define:** State problem, specify customer, identify goals, outline target process.
- Measure:** Decide what to quantify, the best way to measure, collect the data, conduct measurements by experiment.
- Analyze:** Identify gaps between actual and goal, determine causes, determine how process inputs affect outputs, rank improvement opportunities.
- Improve:** Devise potential solutions, identify solutions to implement, test hypothetical solutions, implement improvements.
- Control:** Generate a detailed solution monitoring plan, observe improvements.

## Six Sigma

A disciplined / data driven approach for defect elimination that strives for six standard deviations from the mean and nearest specification limit.

- To be a good employee you need to have some understanding of company finances, in general this is not being able to understand a set of company accounts
- Better things to learn about are:
  - The importance of cash in a company
  - Project management (PhD projects are usually poorly managed)
  - Return on investment and J Curves
  - Lean & 6 sigma
- If you know the basics of this material you will be a much more valued employee

## Summary



# BIOCATALYSTS

exceeding enzyme expectations

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