**MGT 388 Finance for Engineers**

**Overview of notes**

Definition of accounting

Understand how a knowledge and understanding of accounting can help you in your future career.

Understand the distinction between financial accounting, management accounting and financial management.

**What is Accounting?**

Accounting is concerned with collecting, analysing and communicating financial information.

“The process of identifying, measuring and communicating economic information to permit informed judgements and decisions by users of the information.”

1. Formulating organisational strategies and long-range plans

2. Resource allocation decisions- e.g. product and customer emphasis and pricing

3. Cost planning and cost control of operations and activities

4. Performance measurement and evaluation of people

5. Meeting external regulatory and legal reporting requirements

Horngren 2005

**How a working knowledge of accounting can help you in the future**

Accounting is a central part of a business’s information system. Decisions on future plans, projects, investments, fund raising and hiring of employees are not made without reference to the financial implications.

This is not only the case for a business with a profit making objective but also non-profit organisations, research and development centres will not be awarded funding unless there is evidence of a return or the potential for a return.

***Institute of Engineering and Technology***

To be successful in a competitive market you must combine your technical abilities with sound commercial judgement.

***National Career Service***

Typical aspects of an engineer’s role will include: Assessing if projects are feasible Planning the requirements of a project Preparing bids for tender Overseeing a processing plant and managing a team

***Civil Engineering***

You may be responsible for a project and a team, you will need to make sure you estimate your expenditure accurately and then seek to control those costs.

***Chemical Engineering***

Careers in the energy, waste food and pharmaceutical sectors are common place. You may be involved in researching a new product how will you decide if the benefit outweighs any costs. Which costs are relevant how you determine the financial benefit accruing at a future date? How do you determine whether to carry on? A project will need to be technically and commercially feasible.

***Materials engineer (YouTube)***

Developing adhesive material to use in commercial projects and whether to continue to full scale production.

***IT***

Will a project be profitable? If you are in business on your own account how do you determine the price for the service you provide? How do you assess the credit worthiness of customers? Where should you obtain funding from?

***Beverley Gibbs***

When I was a 22/23 year old Production Engineer in polymer processing I was asked to both identify and perform process improvement projects. I realised that by adding a crystallising agent to a polypropylene line I could speed up the cycle time. I designed a trial did the processing and compliance testing. This was successful so I calculated the extra costs for the material and the machine time that would be saved. This calculation produced a profit of £250,000 per year. However the project was not taken on this is because the extra cost of materials led to cash outflow but the machine time saved could not bring any extra revenue, and as it was a fixed cost did not reduce costs. So from a business perspective it was not commercially feasible.

**Financial Accounting**

The field of accounting that deals with the preparation of financial statements that are to be used by users external to an organisation.

**IASB Framework Objectives of Financial Statements**

The objective of financial statements is “to provide information about the financial position, performance and changes in financial position of an entity that is useful to a wide range of users in making economic decision.”

Financial position- wealth/worth

Performance – profit

(For a bank account the financial position would be the funds held in the account at a point in time. The financial performance of the bank account is the interest/profit that it has earned)

Economic decisions – to invest in the company, to work for the company, to supply the company with goods, to loan funds to the company

As the financial statements are prepared by an organisation for use by external decision makers the information must be regulated.

**Management Accounting**

Management accounting encompasses “*techniques and processes that are intended to provide financial and non-financial information to people within an organisation to make better decisions and thereby achieve organisational control and enhance organisational effectiveness.”*

**Wilson and Chua (1993, p.16)**

***Planning*** Management accountants help toformulate plans for different activities and co-ordinate these plans into budgets for the business as a whole

***Controlling*** Management accountants produce performance reports that compare actual outcomes with planned outcomes

***Organising*** Management accountants develop accounting reporting systems that are closely related to organisational structure to ensure organisational goals are followed by departments.

***Communicating*** Management accounting can aid the communication function by installing and maintaining an effective communication and reporting system (e.g. the budget and performance reporting process)

***Motivating*** The budgets and performance reports produced by accountants have an important influence on the motivation of managers and employees

***Decision-making*** Providing guidance for decision making and problem-solving

**A comparison of Financial and Management Accounting**

|  |  |  |
| --- | --- | --- |
| **Nature and purpose of the**  **reports produced** | General-purpose for use by  external stakeholders  Reports ensure accountability  to owners and can assist in  decision making by external  stakeholders | Specific-purpose (often)  Assist the management  at all levels within the  organisation with  planning, control and  decision making |
| **Level of detail** | Broad overview | Considerable detail |
| **Regulations** | Subject to accounting regulations  External audit  Stock exchange rules  Company law | No specific regulation  Reports can be customised  to the needs of a particular  organisation |
| **Reporting interval** | Annual basis or bi-annual | As frequently as required  Will have routine reports  budget  Ad hoc analysis-  investment opportunity |
| **Time horizon** | Backward-looking | Backward + Forward  looking |
| **Range and quality of**  **information** | Quantifiable information in  monetary terms for financial  Statements.  Annual reports contain  numerous non-financial  disclosures to aid users  understanding of the statements | Financial + non-financial  Information  The emphasis will depend on  the purpose the report is  being prepared for |

**Financial Management**

Financial Management is concerned with the ways in which funds for a business are raised and used.

Finance is “the acquisition and subsequent management of funds to support the achievement of business objectives” CIMA 1996

If funds are being raised for a new venture is a loan, overdraft, partnership or share issue the most appropriate form of finance.

Where a number of projects or business opportunities are competing for finance which one should be undertaken?

Financial management seeks to optimise the risk and return combinations from projects in order to enhance the value of the organisation.

**Reading:**

Business Accounting and Finance Third edition Catherine Gowthorpe

Notes for the suspicious pages 2&3

Financial and Management Accounts pages 21&22

Management and cost accounting pages 234-240