

Software Project Management

Fifth Edition



Chapter 11

Managing people in software environments

Main topics

What is organizational behaviour?

Staff selection and induction

Models of motivation – focus on the individual

The dark side of motivation - stress

The broader issues of health and safety

Some ethical and professional concerns

Before organizational behaviour

Frederick Taylor (1856-1915) 'the father of scientific management'

Focus:

- To select the best people for the job;

- To instruct them in the best methods;

- To give financial incentives in the form of piece work

One problem: 'group norms'

Hawthorne effect

1920's – series of experiments at the Hawthorne Plant of Western Electric, Chicago

Found that simply showing an interest in a group increased productivity

Theory X: there is a need for coercion, direction, and control of people at work

Theory Y: work is as natural as rest or play

Selecting the best people

Belbin distinguishes between **eligible** (having the right qualifications) and **suitable** candidates (can do the job).

The danger is employ someone who is eligible but not suitable

The best situation is to employ someone who is suitable but not eligible! For example, these are likely to be cheaper and to stay in the job.

Do good software developers have innate characteristics?

1968 study – difference of 1:25 in time taken by different programmers to code program

Other research found experience better than maths skills as a guide to software skills

Some research suggested software developers less sociable than other workers

Later surveys have found no significant social differences between IT workers and others – this could be result of broader role of IT in organizations

A selection process

Create a job specification.

Content includes types of task to be carried out.

Create a job holder profile

Describes the characteristics of the person who could do the job

Obtain applicants

Identify the media that potential job holders are likely to consult. Elicit CVs

A selection process - continued

4. **Select potential candidates from CVs.**

Do not waste everybody's time interviewing people whose CV clearly indicates are unsuitable.

5. **Further selection, including interview**

Selection processes could include aptitude tests, examination of work portfolios. Make sure selection processes map to the job holder profile

6. **Other procedures.**

e.g. taking up references, medicals etc

Instruction in the best methods

The induction of new staff should be carefully planned – worst case where new recruit is simply ignored and not given any tasks

Good induction leads to new recruit becoming productive more quickly

Need to review staff progress frequently and provide feedback

Need to identify training that could enhance staff effectiveness.

Motivation

Motivation and application can often make up for shortfalls in innate skills

Taylor's approach - financial incentives

Abraham Maslow (1908-1970)

motivations vary from individual to individual
hierarchy of needs – as lower ones fulfilled, higher ones emerge

Lowest level – food, shelter

Highest level – self-actualization

Herzberg

Herzberg suggested two sets of factors affected job satisfaction

Hygiene or maintenance factors – make you dissatisfied if they are not right e.g. pay, working conditions

Motivators – make you feel the job is worthwhile e.g. a sense of achievement

Vroom

Vroom and colleagues identified three influences on motivation

Expectancy – the belief that working harder leads to better performance

Instrumentality – the belief that better performance will be rewarded

Perceived value of the reward

Oldham-Hackman job characteristics

Identified the following characteristics of a job which make it more 'meaningful'

- Skill variety

- Task identity

- Task significance

Two other factors contributed to satisfaction:

- Autonomy

- Feedback

Methods to improve job satisfaction

Set specific goals

Provide feedback on the progress towards meeting those goals

Consider job redesign

- Job enlargement

- Job enrichment

Stress

Edward Yourdon quotes a project manager: *‘Once a project gets rolling, you should be expecting members to be putting in at least 60 hours a week....The project manager must expect to put in as many hours as possible.’*

1960 study in US: people under 45 who worked more than 48 hours a week twice the risk of death from coronary heart disease.

XP practice – maximum 40 hour working week

Stress can be reduced by good project management

Good project management should lead to:

- Reasonable estimates of effort

- Good project control leading fewer unexpected crises

- Making clear what is expected of each team member – reduces **role ambiguity**

- Reduced **role conflict** where a person is torn between conflicting responsibilities

Bullying tactics are a symptom of incompetent project management.

Health and safety

Apart from stress, health and safety less likely to be an issue compared to other engineering projects.

...but sometimes IT infrastructure may be set up as other building work is going on

UK law lays down that organizations employing over 5 staff should have a **written safety policy**

Management of safety should be embedded in project management.

Health and safety - continued

Top management must be committed to health and safety (H&S) policy

Delegation of responsibilities relating to H&S should be clear

Job descriptions should include H&S related responsibilities

Need to ensure those given H&S responsibilities should understand and accept them

Health and safety - continued

There should be a designated safety officer

Staff, particularly knowledgeable technical specialists, should be consulted about safety

There should be an adequate H&S budget

Ethical and professional concerns

Ethics relates to the moral obligation to respect the rights and interests of others – goes beyond strictly legal responsibilities

Three groups of responsibilities:

- Responsibilities that everyone has

- Responsibilities that people in organizations have

- Responsibilities relating to your profession or calling

Organizational ethics

There are some who argue that ethical organizational ethics are limited:

Stockholder theory (e.g. Milton Friedman). An employee's duty is to the owners of the business (which often means the stakeholders) above all others – although legal requirements must be met.

Competitive relationships between businesses. Competition may cause you to do things that could have a negative impact on the owners or employees of competitive businesses

Exercise

Identify some of the possible objections and criticisms that can be made of the stockholder business ethics model described above.

Professional ethics

Professionals have knowledge about the technical domain that the general public does not

Ethical duty of the expert to warn lay people of the risks involved in a particular course of action

Many professions, or would be professions, have codes of conduct for their members e.g.

<<http://www.bcs.org/upload/pdf/cop.pdf>>

<<http://www.ieee.org/web/aboutus/ethics>>

<http://www.apm.org/about/se_code>