# FIT2001: Systems Development - Workshop 2
# Support Material

## Activity 2: Information Systems

- Think of an information system that all or most of your team use.
  Work with your group and discuss the following:
  - Why is it an information system?
  - Is it a good information system? Why?

**A2.Q Discussion: Why is it an information system? Is it a good information system? Why?**

- *Teams should describe their information system in terms of components for collecting, storing, and processing data and for delivering information.*
- *They should discuss the technical components – hardware, system and application software, database, telecommunication networks AND the people component.*
- ***When assessing their information system they should consider the following:***
  - ***Accurate & Reliable -*** *Is the information accurate and reliable? Are the sources of data reasonable? Incorrect information leads to poor organisation decisions.*
  - ***Accessible -*** *The system must be designed to be easily accessible so that employees can do their job.*
  - ***Ease of use -*** *Helps use the system productively and accurately.*
  - ***Flexible -*** *It's essential to have a flexible information system that can be used by all divisions in a company. They should all be able to see valuable and important information for their division. For example, people in the production division need to see outgoing products in a sales database so they can keep production timely and estimate the amount of products to be produced.*
  - ***Secure -*** *Only authorised users are able to input and manipulate data so there must be access controls to the information. Information systems that have good security will keep all data including customers' data, cash flow, etc. secure*
  - ***Useful -*** *Is the information useful to run the business and make decisions?*
  - ***Timely -*** *If information is not received in a timely fashion it significantly affects decision making*
  - ***Complete -*** *An incomplete or partial presentation of information can lead to decisions that do not consider all possible effects.*

## Activity 3: Systems Development

**Activity 3.1**

- Read 'Bayside Bicycles' case study on Moodle - Week 2 Workshop resources
- Bayside Bicycles' has contacted your Consulting Group 'SS Consultants' to assess the feasibility of developing an information system for the rentals side of their business.
- Work with your group and discuss the following:
  1. Is the project feasible? Why / Why not? (make assumptions as required)
  2. Andrew would also like to know how you are going to develop his system. He would like an overview of the main tasks.

### A3.Q1 Discussion: Is the project feasible? Why / Why not

The following are some of the factors that should be considered when assessing the feasibility of a project:

#### Operational Feasibility

Is the proposed system likely to solve the business problems, or take advantage of the opportunities or not? How will it fit into the day-to-day operations of the business? If the system is developed, will it be used?

*Bayside Bicycles definitely has a number of issues:*

- **Performance -** Will the performance be reasonable?
  *Andrew has said that the current system is inefficient because it is forms based. During busy times customers can be kept waiting for a long time when they come to rent bikes.*
- **Information** - Will the information provided by timely, relevant, accurate and useful?
  *The information is unreliable and not in a format that is useful for decision making in the business. No reporting is available.*
- **Control** - Will it be protected against fraud? Will the data be secure?
  *It is impossible to guarantee the accuracy of the data. It depends on staff completing the forms correctly. Any staff member can complete a form - there is no security at all.*
- **Efficiency** - Will it be efficient, reliable, flexible, expandable?
  *The current system is quite inefficient as everything is done in the shop. If people could enter their details on-line pre-pickup it would save a lot of time. The service is not reliable at all because it is forms based and staff take short cuts at busy times. It is not expandable at all, as it is currently not coping with the increase in business.*

#### Economic Feasibility

- Is the project possible given the resources available and the constraints? Does current mode of operation provide cost-effective information services to the business? Could there be a reduction in costs and/or an increase in benefits? What are the development costs? Are the funds available to implement the project? This is often an issue in large projects. What are the on-going costs?

- *The current mode of business provides does not provide adequate information services to the business. Just a very simple computer based information system would offer significant productivity gains, and tracking and reporting capabilities. Andrew appears happy to pay what was paid for the previous system, so one can assume that he has the funds required. This is not much of an issue for this system because it is a small system. For bigger systems the high up-front costs can sometimes be a significant barrier to implementation. The on-going costs are usually on-going maintenance and enhancement software costs, and hardware maintenance.*

- What are the benefits – tangible and intangible?
  A cost-benefit analysis needs to be carried out to determine feasibility.
  Do the benefits outweigh the cost?

- *Will the proposed system increase the rental capability of the business? It appears that Andrew thinks that it will. The following benefits will need to be considered:*

- *Tangible benefits such as increased rentals, cost/error reductions, increased throughput/efficiency, more effective use of staff time, better tracking therefore reduced bicycle loss, better servicing of equipment – lasts longer, and*
- *Intangible benefits such as professional image – higher quality service, reduced stress for workers – improved morale, better customer relations and service*
- *These benefits will have to be weighed up against the start up costs as well as the on-going maintenance costs.*

### Technical Feasibility

- Is the project possible with current technology? Is the technology proposed mature and proven? Is the technical expertise available? Are there any technical risks? Is the technology readily available? If not, can it be easily acquired? Is it compatible with other systems?

- *The good news is that Bayside Bicycles already has technology in place that is suitable for the new system, so there is no issue with Technical feasibility.*

### Schedule Feasibility

- Is it possible to build the required system on time? What are the consequences if the project is delayed? Are there any schedule constraints?

- *It is possible to build the system on time, but as Andrew is the only client representative, his availability may be an issue as he appears to be very busy, and there is no one else who can discuss the requirements. So if he does not have the time the project will be held up.*
- *Andrew would like the system ready by summer, as that is when rentals are at their peak. However, there is approximately 2 months before the start of summer, so it is a tight timeline to complete the project. If things go wrong, it could be delayed. Any delays will effectively eat into profits and the business will continue to experience the problems they are having now.*

### Political Feasibility

- Is there support within the business, and across business locations for the project? Will employees within the business block or disrupt the project? A workable solution might fail because of resistance to change. It's not only important to evaluate whether a system **can** work but also evaluate whether a system **will** work.

- *As Andrew is the main sponsor for the system, as well as the main client contact, and he is very keen to get the system, commitment is not an issue. Because the business is small, we can assume that he is not going to face a lot of resistance.*

## Is the project feasible?

- *We would have to do a detailed cost-benefit analysis to make this call, but based on the size of the project, and the fact that they are not concerned with a preliminary estimate of the cost, it appears to be feasible.*

**A3.Q2 Discussion: Andrew would also like to know how you are going to develop his system, and an overview of the main tasks.**

**An overview of the list of tasks detailing how the system is going to be developed:**

- ***Initiation*** *– The first thing that is done is a feasibility study to check whether the project is possible given all the constraints. Once that is completed, we will have a reasonable idea of the scope of the system, and the key functional areas. We would then develop a high level project plan, which will need to be constantly revised based on what actually happens.*

*If we use an Iterative approach such as Agile to develop the system, then we would need to do the following within each iteration to deliver part of the functionality:*

- ***Planning:*** *We are going to look at the total requirements and prioritise what Andrew wants next … this will move to the requirements for this iteration.*
- ***Analysis:*** *We will gather detailed requirements for the specified functionality using a range of techniques*
- *We will* ***Design, Build, Test & Document*** *the specified functionality while regularly engaging with Andrew to ensure that we are getting it right.*
- *If Andrew is happy with the end product we will* ***Implement and Deploy*** *the functionality built in this iteration. Andrew and staff will be trained to use the delivered functionality.*
- *It is also important to let Andrew know that things may not work perfectly so you will need to have a* ***Support*** *plan for the system – this will not only include fixing bugs, but will also include adding any new functionality to the system.*
- *At the end of each iteration, we will* ***Review*** *to identify what we did well, and what did not go so well to improve future iterations.*