Chapter IV
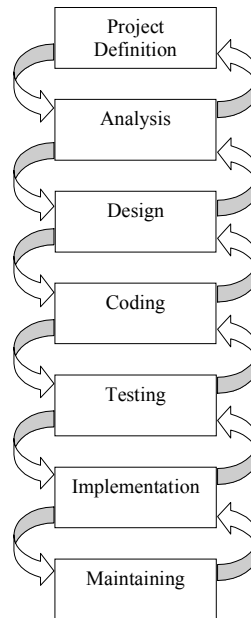
Enterprise Systems Implementation Issues

Many software development life cycles have been proposed in the past. Boehm's Waterfall Model (Figure 4.1), incorporates, project definition, analysis, design, coding, testing, implementation, and maintaining, with feedback at every stage to the previous stage.

The prototyping model (Figure 4.2) involves listening to the customer, building a prototype that reflects the customer's requirements, followed by testing of the prototype by the customer, and then listening to the customer again regarding the prototype, and then revising and rebuilding prototype. Then we again get the customer to test drive the prototype, and this goes on in benign cycles where the customer requirements are honed in as time progresses.

One of the most popular approaches for major software development projects nowadays is the rational unified process (RUP), with its iterative approach involving four major phases: inception, elaboration, construction, and transition (Figure 4.3). Each of the phases involve major workflows such as business

Figure 4.1. The Waterfall Model of software development (Boehm, 1981, p.36)

modelling, requirements, analysis and design, implementation, testing, and deployment, as well as supporting workflows such as project management, configuration, and change management. As we go through the rational unified process, we do multiple iterations of business modelling, requirements, analysis and design, implementation, testing, and deployment. But the effort that we spend on business modelling peters out as time progresses, whereas, there is more testing and deployment as we come towards the end of the phases. That is, in the earlier phases such as inception and elaboration, we do more of business modelling requirements, analysis, and design. And then during the construction phase, obviously, we do a lot more of design, implementation, and testing, and in the transition phase, we do a lot more of testing and deployment. And throughout all these phases, we have configuration and change management and project management to support each and every one of those phases. The spiral model of systems development is similar to the prototyping approach in terms of cycling/iterations, but closer to the waterfall method in terms of phases. Essentially, the spiral model has four major steps: *analysis*, *design*,

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